



(U 338-E)

# Southern California Edison Company's First Quarterly Report on 2020-2022 Wildfire Mitigation Plan for Class B Deficiencies

September 9, 2020

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**GUIDANCE-1**  
**LACK OF RISK SPEND EFFICIENCY (RSE) INFORMATION**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***Guidance-1***

**Name:** Lack of risk spend efficiency (RSE) information

**Category:** Analysis to Determine Most Effective Ways of Mitigating Catastrophic Wildfire

**Class:** B

**Deficiency:**

2020 WMP submissions contain sparse and sporadic detail regarding the RSE of WMP initiatives. RSE calculations are critical for determining whether utilities are effectively allocating resources to initiatives that provide the greatest risk reduction benefits per dollar spent, thus ensuring responsible use of ratepayer funds. Although RSE concepts have been considered for several years through Commission GRCs, utilities still display unrefined and limited abilities to produce such information. Considering that utilities propose to spend billions of dollars on WMP initiatives, not having quantifiable information on how those initiatives reduce utility ignition risk relative to their cost severely limits the WSD’s ability to evaluate the efficacy of such initiatives and each utility’s portfolio of initiatives, as outlined in 2020 WMPs.

**Condition:**

In its first quarterly report, each electrical corporation shall provide the following:

- i. its calculated reduction in ignition risk for each initiative in its 2020 WMP;
- ii. its calculated reduction in wildfire consequence risk for each initiative in its 2020 WMP;  
and
- iii. the risk models used to calculate (i) and (ii) above.

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**Response:**

On March 10, 2020, SCE submitted a model and documentation in response to the Wildfire Safety Division’s (WSD) data request “SCE-43895-X-379.” This data request asked for the methodology and model used to calculate risk reduction and risk spend efficiency (RSE). SCE is attaching an updated spreadsheet to this response for easy reference, which includes the calculation discussed in conditions (i) and (ii) below. Each worksheet in that model file, as an example “M01,” details the wildfire risk drivers and consequences and the associated mitigation effectiveness (refer to column E) that particular mitigation has on those components. The risk reduction<sup>1</sup> data provided in WMP Tables 21-30 was calculated using the expected reduction in likelihood/frequency and consequence as shown in the worksheet (“Summary”). The RSE, also

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<sup>1</sup> Risk reduction in WMP Tables 21-30 incorporates the useful life of a mitigation.

shown in 2020-22 WMP Tables 21-30, is calculated by dividing the risk reduction by the initiative cost. The calculations presented in WMP Tables 21-30 are consistent with the S-MAP settlement, including incorporating useful life of each mitigation into the risk reduction. Per the guidelines of this deficiency, SCE has separated the ignition risk and wildfire consequence risk reduction of each initiative in Table 1 below. SCE presented this data as an incremental percentage reduction by initiative and by year, without incorporating useful life of the asset or program for ease of understanding how much reduction is forecasted annually. SCE provides this information for the initiatives that directly mitigate wildfire risks.

As mentioned in SCE's 2020-2022 WMP, the letter<sup>2</sup> SCE submitted on July 13, 2020 in response to Resolution WSD-002, and in its Remedial Compliance Plan (RCP) in response to Guidance-3<sup>3</sup> submitted on July 27, 2020, RSE could not be calculated or is not meaningful for all WMP initiatives. For further clarification, SCE provides the rationale behind why RSE calculations were not performed for relevant initiatives in Guidance-1 Appendix B of this response. The WSD acknowledged that RSE may not be suitable for all WMP initiatives when it stated in Resolution WSD-002 that "the WSD will work with electrical corporations to determine whether there are some initiative categories that should be analyzed in a different manner from RSE (p. 39)." SCE looks forward to collaborating with the WSD on this topic.

SCE responds to this deficiency's conditions below.

**i. its calculated reduction in ignition risk for each initiative in its 2020 WMP**

Please refer to Table 1 – Guidance-1 below.

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<sup>2</sup> See Appendix A – SCE's Submission on Mitigation Measures that are Part of a Combined Program that Cannot be Disaggregated, pp. 8-11.

<sup>3</sup> See SCE's response to Class A Deficiency Guidance-3 in SCE's 2020-2022 WMP Remedial Compliance Plan (RCP), pp. 1-45.

**Table 1 – Guidance-1  
Risk and Consequence Reduction by SCE Wildfire Initiatives**

WMP ID	Description	Voltage	Ignition vs Consequence	% Incremental Reduction		
				2020	2021	2022
SH-1, SH-10	Wildfire Covered Conductor Program, Tree Attachment Remediation	Distribution	Ignition	6.4%	8.8%	9.6%
SH-2	Undergrounding Overhead Conductor	Distribution	Ignition	0%	< 0.1%	0.1%
SH-3	Fire-Resistant Composite Poles & Composite Crossarms WCCP	Distribution	Ignition	< 0.1%	< 0.1%	< 0.1%
VM-1	Hazard Tree Removals	Distribution	Ignition	0.7%	0.7%	0.8%
IN-1.1, SH-12.1, IN-5, SH-12.3	Distribution Detailed Overhead Inspections, Remediations - Distribution, Generation Inspections, Generation Remediation	Distribution	Ignition	1.3%	1.6%	1.4%
IN-3	Distribution Infrared & Corona Inspections	Distribution	Ignition	< 0.1%	< 0.1%	< 0.1%
VM-4	DRI Quarterly Inspections and Tree Removals	Distribution	Ignition	0.6%	0.5%	0.5%
IN-6.1	Distribution Aerial Inspections	Distribution	Ignition	1.3%	0.8%	0.8%
SH-4	Branch Line Strategy Replace	Distribution	Ignition	< 0.1%	< 0.1%	< 0.1%
VM-2	Expanded Pole Brushing	Distribution	Ignition	3.4%	2.2%	1.4%
IN-1.2, SH-12.2	Transmission Detailed Overhead Inspections, Remediations - Transmission	Transmission	Ignition	0.2%	0.2%	0.2%
IN-4	Transmission Infrared & Corona Inspections	Transmission	Ignition	0.0%	0.0%	0.0%
IN-6.2	Transmission Aerial Inspections	Transmission	Ignition	0.1%	0.1%	0.1%
SH-3	Fire-Resistant Composite Poles & Composite Crossarms WCCP	Distribution	Consequence	< 0.1%	< 0.1%	< 0.1%
SH-4	Branch Line Strategy Replace	Distribution	Consequence	< 0.1%	< 0.1%	< 0.1%
SH-6	Circuit Breaker Fast Curve Settings	Distribution	Consequence	< 0.1%	< 0.1%	< 0.1%
SH-5	Remote Controlled Automatic Reclosers Installations	Distribution	Consequence	< 0.1%	0.0%	0.0%
OP-2, SA-1, SA-3, SA-5-8, PSPS-1, PSPS-2, PSPS-3, PPS-5, PPS-7, SH-7	PSPS: Wildfire Infrastructure Protection Team Additional Staffing, Weather Stations, Weather forecasting, Fuel Sampling, Surface & Canopy Fuels Mapping, Remote Sensing/Satellite Fuel Moisture, Fire Science Enhancements, De-Energization Notifications, Community Resource Centers, Customer resiliency equipment incentives, MICOP Partnership, Community Outreach, PSPS driven grid hardening work	Distribution	Consequence	8.3%	8.2%	8.1%

Table 1 – Guidance-1 details the incremental risk reduction of each wildfire initiative that SCE scored by mitigation, voltage class, and risk reduction type (ignition vs consequence). SCE discussed in its RCP for Guidance-3 the rationale why certain initiatives were grouped together for purposes of calculating risk reduction and this aggregation of initiatives is shown in Table 1 – Guidance-1 (e.g., WMP IDs: SH-1 and SH-10). Note that SCE has only provided a single decimal place of precision.

Table 1 – Guidance-1 Notes:

- Because a significantly higher proportion of SCE’s overhead infrastructure is at Distribution voltages and SCE has historically experienced significantly higher frequency of ignitions on its Distribution system, its 2020-22 WMP focused more on initiatives that reduced Distribution system risk. With recent Transmission system ignition events in California, and the corresponding catastrophic consequences, SCE determined it was imperative to move beyond compliance-driven minimum inspection requirements, to enhanced and more frequent inspections of Transmission facilities to appropriately mitigate ignition risks in SCE’s High Fire Risk Area (HFRA). SCE is also evaluating the need for additional mitigation options targeting the Transmission system voltages.
- In some instances, risk reduction is low due to an artifact of modeling which relied on historically low or non-existent observed ignitions in SCE’s HFRA. An ignition driver with low or non-existent observed ignitions could nonetheless lead to catastrophic scenarios.
- Because Public Safety Power Shutoff (PSPS) is primarily activated during Red Flag Warning (RFW) days, and for purposes of risk modeling, PSPS was modeled as a consequence mitigation. By modeling this as a consequence mitigation, SCE could differentiate between different outcomes to the risk event (e.g., size of fire, and RFW vs Non-RFW) to portray conditions of activations as accurately as the model allows for.

**ii. its calculated reduction in wildfire consequence risk for each initiative in its 2020 WMP**

Please refer to Table 1 – Guidance-1 above.

**iii. the risk models used to calculate (i) and (ii) above**

SCE used the RAMP Model, as discussed in SCE’s RCP for deficiency Guidance-3, to calculate the risk reduction and RSE values in its WMP Tables 21-30 as well as to respond to the deficiencies in (i) and (ii) above. This RAMP Model is an enterprise level risk model used to perform driver analysis, determine program level risk reduction and calculate RSE values across the HFRA population in the case of wildfire risk. It first estimates baseline risk and then calculates the risk reduction of each mitigation by using a combination of mitigation effectiveness, scope and exposure. More details can be found in the model documentation that SCE submitted in response to WSD data request (“SCE-43895-X-379”) and is provided in Guidance-1 Appendix C (“2020 WMP Risk Model Whitepaper”) in this response.

SCE has included the model file natively in Excel as (“Wildfire Mitigation Template – DR-forecast.xlsx”) as Guidance-1 Appendix D. For calculations related to condition (i), please refer to worksheet “Fault-Ignition-Indiv” and for calculations related to condition (ii), please refer to worksheet “Consequence-Indiv.”

In light of the updated faults data provided in SCE’s RCP for deficiency SCE-2<sup>4</sup> and modeling updates, SCE is also providing an updated WMP Table 31 (forecast of ignitions) based on a portfolio level of mitigations in Guidance-1 Appendix E of this response. This forecast assumed a 5-year average weather condition and does not account for weather deviations and other exogenous factors. More details on this methodology can be found in SCE’s response to Class B Deficiency SCE-4 filed in this Quarterly Report.

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<sup>4</sup> See SCE’s response to Class A Deficiency SCE-2 in SCE’s 2020-2022 WMP RCP, Attachment A.

**Guidance-1 Appendix A**

July 13, 2020

Caroline Thomas Jacobs, Director  
Wildfire Safety Division  
California Public Utilities Commission  
505 Van Ness Avenue  
San Francisco, CA 94102

**SUBJECT:** Southern California Edison's Submission on Mitigation Measures that are Part of a Combined Program that Cannot be Disaggregated

Dear Ms. Thomas Jacobs,

Southern California Edison (SCE) submits the following information and attached tables in response to Resolution WSD-002 (Guidance Resolution) that requires utilities, by July 13, 2020, to provide a list of all mitigation measures that are part of a combined program that they claim they cannot disaggregate.<sup>1</sup>

### **INTRODUCTION**

In the Guidance Resolution, in response to Pacific Gas and Electric Company's (PG&E) comments<sup>2</sup> regarding the inability to comply with several conditions in draft Resolution WSD-002 requiring disaggregation of wildfire mitigation initiatives from an accounting, tracking, and risk perspective, the Wildfire Safety Division (WSD) instructs the electrical corporations to furnish a list of all mitigation measures that are part of a combined program that they claim they cannot disaggregate. The Resolution further informs that the WSD may subsequently provide additional guidance, hold workshops, or engage in other consultation, but that in any event the electrical corporations remain bound by all WSD-002 conditions requiring disaggregation of initiatives into individual mitigations or groups of related mitigation. SCE interprets the Guidance Resolution to require a description and a list of WSD-defined initiatives and SCE-defined wildfire initiatives that either do not have separate costs or risk information and to inform where initiatives were grouped and why they were grouped.

### **BACKGROUND**

The 2020 WMP Guidelines (Guidelines), issued on December 16, 2019, required the utilities provide details on 86 initiatives within 10 categories in their 2020 WMP submission.<sup>3</sup> Utilities were also given the flexibility to add initiatives where a utility's wildfire mitigation activities did not align to one of the 86 WSD-defined initiatives. SCE's

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<sup>1</sup> WSD-002, p. 39.

<sup>2</sup> WSD-002, p. 38-39.

<sup>3</sup> See Guidelines, Section 5.3, pp. 49-51.

2020 WMP includes 69-specific wildfire initiatives. SCE aligned its 69 wildfire initiatives to the WSD-defined initiatives where possible and provided information for these in addition to each WSD-defined initiative beyond SCE's wildfire initiatives, where information was available. This alignment resulted in cases where many SCE wildfire initiatives mapped to one WSD-defined initiative (many-to-one), one SCE wildfire initiative mapped to many WSD-defined initiatives (one-to-many), one SCE wildfire initiative mapped to one WSD-defined initiative (one-to-one), and cases where either a SCE wildfire initiative or a WSD-defined initiative did not align at all. In total, this resulted in 136 unique initiatives.

## **OVERVIEW**

The attached tables provide information on the population of WSD-defined initiatives and SCE wildfire initiatives that SCE does not uniquely and separately track costs or risk information and informs where initiatives were grouped for cost or risk evaluation purposes. In the tables, SCE describes why either the costs or risk information is not available at the initiative level or was grouped with another initiative.

This information is arranged by the categories, tables, and initiative numbering/descriptions included in Section 5.3 of the Guidelines and SCE's description of its wildfire initiatives.<sup>4</sup> The majority of initiatives that do not have unique costs are WSD-defined initiatives where the work is performed by cross-functional resources as part of their regular job responsibilities, and for which SCE does not separately track incremental labor costs. For example, the initiative entitled, "A summarized risk map showing the overall ignition probability and estimated wildfire consequence along electric lines and equipment" within the Risk Mapping and Simulation category is a collection of work efforts across many resources and departments. SCE's Geographic Information System (GIS) resources is one set of resources that support this initiative by plotting ignition and consequence data (developed by other resources) in our GIS products. These GIS resources perform hundreds of mapping activities supporting numerous efforts including wildfire mitigation. The incremental costs for these activities are relatively small, and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately for GIS mapping of ignition probability and wildfire consequence data for wildfire mitigation work.

Regarding risk information by initiative, SCE has previously described why many initiatives do not have separate risk spend efficiency (RSE) scores.<sup>5</sup> SCE focused its RSE calculations for initiatives that directly mitigate probability or consequence of ignitions, where reliable and more objective data is available to perform the analysis, and where risk analysis and RSEs can be used to inform decision-making. To

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<sup>4</sup> SCE wildfire initiatives have their own unique identifier and, where applicable, are identified by a subset of the WSD-defined initiatives, e.g., the WSD-defined Continuous monitoring sensors initiative in the Situational Awareness Category has three SCE wildfire initiatives identified as 2.1, 2.2 and 2.3 in addition to the SCE-unique identifiers.

<sup>5</sup> See, for example, SCE's Reply to Public Comments at pp. 7-8 and SCE's response to WSD data request SCE43879-E-64.

summarize, many wildfire initiatives either do not directly mitigate ignition risk (e.g., the Allocation methodology development and application initiative in the Resource allocation methodology category) or are traditional programs that have been performed for many years (e.g., vegetation management to achieve clearances around electric lines and equipment for which the baseline risk, had the work not been performed, is not available). SCE appreciates the WSD's acknowledgement of the differences in application of risk analysis to different initiatives and its willingness to work with electrical corporations to determine whether there are some initiative categories that should be analyzed in a different manner from RSE.<sup>6</sup> SCE has provided high-level rationale in the attached table "No Risk Information," but notes that in SCE's responses to the Class A and Class B conditions SCE will provide additional information on how risk analysis informed decision making along with the alternate approaches taken to decision making if risk analysis was not available or used. Such information should provide the means for WSD to determine and evaluate which wildfire initiatives are effective and why they are needed or appropriate. SCE believes this information will be more relevant for WSD in assessing the efficacy of wildfire mitigation initiatives that do not directly reduce wildfire risk.

SCE understands and supports WSD's desire for increased consistency across the utilities so that cost, risk, effectiveness, and scope of wildfire risk mitigation activities can be compared. SCE does not believe a completely unified set of initiatives across all utilities is necessary to achieve that goal. SCE supports further discussions with the utilities, WSD and stakeholders to develop a consensus on the areas of the WMP filings where consistency and alignment are necessary to drive better outcomes for all stakeholders.

SCE looks forward to continued discussions on wildfire risk mitigation initiative tracking, costs, and risks to eliminate catastrophic wildfires associated with utility equipment. If you have any questions, or require additional information, please contact me at [carla.peterman@sce.com](mailto:carla.peterman@sce.com).

Sincerely,

//s//

Carla Peterman  
Senior Vice President, Regulatory Affairs  
Southern California Edison

cc: R.18-10-007 service list  
[CALFIREUtilityFireMitigationUnit@fire.ca.gov](mailto:CALFIREUtilityFireMitigationUnit@fire.ca.gov)

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<sup>6</sup> WSD-002, p. 39.

No  
Cost  
Information

No Cost Information

Category	Table # / Sec #	Initiative #	Initiative	Rationale For No Cost Information	Referenced Initiative
Risk Mapping and Simulation	Table 21 / Sec 5.3.1	1	A summarized risk map showing the overall ignition probability and estimated wildfire consequence along electric lines and equipment	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 21 / Sec 5.3.1	2	Climate-driven risk map and modelling based on various relevant weather scenarios	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 21 / Sec 5.3.1	3	Ignition probability mapping showing the probability of ignition along the electric lines and equipment	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 21 / Sec 5.3.1	4	Initiative mapping and estimation of wildfire and PSPS risk-reduction impact	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 21 / Sec 5.3.1	5	Match drop simulations showing the potential wildfire consequence of ignitions that occur along the electric lines and equipment	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 21 / Sec 5.3.1	6	Weather-driven risk map and modelling based on various relevant weather scenarios	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
Grid Design and System Hardening	Table 23 / Sec 5.3.3	2.2	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Meter Alarm Down Energized Conductor (MADEC) (AT-1)	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 23 / Sec 5.3.3	3.3	Covered conductor installation: Alternative Technology Implementation - Vibration Dampers (AT-4)	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 23 / Sec 5.3.3	4	Covered conductor maintenance	Covered conductor maintenance is performed as part of inspection-driven remediation. Work orders for inspection remediation can include maintenance and remediation of different asset types including covered conductors. Costs are forecast and tracked for all assets together and not separately by asset type. The costs for this initiative are included with other initiative	Initiative SH-12.1, Table 23, Row 12.1
	Table 23 / Sec 5.3.3	5	Crossarm maintenance, repair, and replacement	Crossarm repair and maintenance is performed as part of inspection-driven remediation. Work orders for inspection remediation can include maintenance and remediation of different asset types including cross arms. Costs are forecast and tracked for all assets together and not separately by asset type. The costs for this initiative are included with other initiative	Initiative SH-12.1, Table 23, Row 12.1
	Table 23 / Sec 5.3.3	6.3	Distribution pole replacement and reinforcement, including with composite poles: Poles Identified During Inspections	Distribution pole replacement and reinforcement is performed as part of inspection-driven remediation. Work orders for inspection remediation can include maintenance and remediation of different asset types including poles. Costs are forecast and tracked for all assets together and not separately by asset type. The costs for this initiative are included with other initiative	Initiative SH-12.1, Table 23, Row 12.1
	Table 23 / Sec 5.3.3	8.1	Grid topology improvements to mitigate or reduce PSPS events: PSPS Driven Grid Hardening Work (SH-7)	Analysis will not be available until after 2020 WMP filing	
	Table 23 / Sec 5.3.3	8.2	Grid topology improvements to mitigate or reduce PSPS events: Microgrid Assessment (PSPS-8)	Microgrids strategy will be finalized in Microgrids OIR filing in February 2020	
	Table 23 / Sec 5.3.3	10	Maintenance, repair, and replacement of connectors, including hotline clamps	SCE does not track/unitize hotline clamps in its asset management system	
	Table 23 / Sec 5.3.3	11	Mitigation of impact on customers and other residents affected during PSPS event	Included mitigations that reduce impacts on customers affected during PSPS events in Section 5.3.6.5 as that WSD-defined initiative entitled "PSPS events and mitigation of PSPS impacts" seemed duplicative and SCE included six wildfire initiatives in this section	Initiative 5, Table 26 (PSPS Events and mitigation of PSPS Impacts)
	Table 23 / Sec 5.3.3	12	Other corrective action	Other corrective action is performed as part of inspection-driven remediation. Work orders for inspection remediation can include maintenance and remediation of different asset types. Costs are forecast and tracked for all assets together and not separately by asset type. The costs for this initiative are included with other initiative	Initiative SH-12.1, Table 23, Row 12.1
Table 23 / Sec 5.3.3	17	Updates to grid topology to minimize risk of ignition in HFTDs	Scope is TBD		
Table 23 / Sec 5.3.3	18	Transmission Overhead (TOH) Review (SH-9)	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately		
Asset Management and Inspections	Table 24 / Sec 5.3.4	9.1.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Asset Defect Detection Using Machine Learning Object Detection (AT-5)	Scope is TBD	
	Table 24 / Sec 5.3.4	10.2.1	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations: Assessment of Partial Discharge for Transmission Facilities (AT-6)	Scope is TBD	
	Table 24 / Sec 5.3.4	12	Patrol inspections of transmission electric lines and equipment	Patrol inspections are performed as part of its Transmission Inspection and Maintenance Program (TIMP) described in Section 5.3.4.2. Costs are therefore tracked as part of that program	Initiative 2, Table 24 (Detailed inspections of Transmission electric lines and equipment)
	Table 24 / Sec 5.3.4	14	Quality assurance / quality control of inspections: Quality Oversight / Quality Control (IN-2)	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 24 / Sec 5.3.4	15.1	Failure Modes and Effects Analysis (FMEA) (IN-7)	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
Vegetation Management and Inspection	Table 25 / Sec 5.3.5	1	Additional efforts to manage community and environmental impacts	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 25 / Sec 5.3.5	4	Emergency response vegetation management due to red flag warning or other urgent conditions	Conditions do not drive additional scope	
	Table 25 / Sec 5.3.5	5	Fuel management and reduction of "slash" from vegetation management activities	Because "slash" from vegetation management activities are disposed or recycled by trimming/removal contractors	
	Table 25 / Sec 5.3.5	14	Recruiting and training of vegetation management personnel	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	

No Cost Information

Category	Table # / Sec #	Initiative #	Initiative	Rationale For No Cost Information	Referenced Initiative
	Table 25 / Sec 5.3.5	15	Remediation of at-risk species	SCE does not track this activity separately	
	Table 25 / Sec 5.3.5	18	Substation vegetation management	This activity is not broken out of the routine compliance program	
Grid Operations and Protocols	Table 26 / Sec 5.3.6	1.1	Annual SOB 322 review (OP-1)	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 26 / Sec 5.3.6	2	Crew-accompanying ignition prevention and suppression resources and services	Not a current SCE initiative/activity	
	Table 26 / Sec 5.3.6	4	Protocols for PSPS re-energization	Costs incurred for re-energization are included in Initiative 5 - PPS events and mitigation of PPS impacts as SCE tracks costs by PPS event	Initiative 5, Table 26
	Table 26 / Sec 5.3.6	5.2	PSPS events and mitigation of PPS impacts: Customer Resiliency Equipment Incentives (PSPS-3)	Pilot - costs still to be determined	
	Table 26 / Sec 5.3.6	5.4	PSPS events and mitigation of PPS impacts: MICOP Partnership (PSPS-5)	Spend is unknown because future funding is determined on a yearly basis and evaluated based on program execution and Corp Contributions budget	
	Table 26 / Sec 5.3.6	5.5	PSPS events and mitigation of PPS impacts: Independent Living Centers Partnership (PSPS-6)	Spend is unknown because future funding is determined on a yearly basis and evaluated based on program execution and Corp Contributions budget	
	Table 26 / Sec 5.3.6	6	Stationed and on-call ignition prevention and suppression resources and services	Not a current SCE initiative/activity	
Data Governance	Table 27 / Sec 5.3.7	2	Collaborative research on utility ignition and/or wildfire	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 27 / Sec 5.3.7	3	Documentation and disclosure of wildfire-related data and algorithms	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 27 / Sec 5.3.7	4	Tracking and analysis of near miss data	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
Resource Allocation Methodology	Table 28 / Sec 5.3.8	1	Allocation methodology development and application	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 28 / Sec 5.3.8	2	Risk reduction scenario development and analysis	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 28 / Sec 5.3.8	3	Risk spend efficiency analysis	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
Emergency Planning and Preparedness	Table 29 / Sec 5.3.9	3	Customer support in emergencies	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 29 / Sec 5.3.9	4	Disaster and emergency preparedness plan	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 29 / Sec 5.3.9	6	Protocols in place to learn from wildfire events	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
Stakeholder Cooperation and Community Engagement	Table 30 / Sec 5.3.10	1	Community engagement	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 30 / Sec 5.3.10	2	Cooperation and best practice sharing with agencies outside CA	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 30 / Sec 5.3.10	3	Cooperation with suppression agencies	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	
	Table 30 / Sec 5.3.10	4	Forest service and fuel reduction cooperation and joint roadmap	Costs incurred for this initiative are for work performed by departmental resources and SCE has currently not set up separate accounting to track or estimate labor hours or costs separately	

No  
RSE  
Information

No RSE Information

Category	Table # / Sec #	Initiative #	Initiative	Rationale For No RSE	Referenced Initiative
Risk Mapping and Simulation	Table 21 / Sec 5.3.1	1	A summarized risk map showing the overall ignition probability and estimated wildfire consequence along electric lines and equipment	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 21 / Sec 5.3.1	2	Climate-driven risk map and modelling based on various relevant weather scenarios	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 21 / Sec 5.3.1	3	Ignition probability mapping showing the probability of ignition along the electric lines and equipment	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 21 / Sec 5.3.1	4	Initiative mapping and estimation of wildfire and PSPS risk-reduction impact	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 21 / Sec 5.3.1	5	Match drop simulations showing the potential wildfire consequence of ignitions that occur along the electric lines and equipment	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 21 / Sec 5.3.1	6	Weather-driven risk map and modelling based on various relevant weather scenarios	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
Situational Awareness and Forecasting	Table 22 / Sec 5.3.2	2.1	Continuous monitoring sensors: Distribution Fault Anticipation (DFA) (AT-2.1)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 22 / Sec 5.3.2	2.2.	Continuous monitoring sensors: Early Fault Detection (EFD) Evaluation (AT-7)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 22 / Sec 5.3.2	2.3	Continuous monitoring sensors: Transmission Open Phase Detection (SH-8)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 22 / Sec 5.3.2	3	Fault indicators for detecting faults on electric lines and equipment	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 22 / Sec 5.3.2	7	Develop Asset & Reliability & Risk Analytics Capability: Expansion of risk analysis (RA-1), Develop Asset Reliability & Risk Analytics Capability (SA-4)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
Grid Design and System Hardening	Table 23 / Sec 5.3.3	1	Capacitor maintenance and replacement program	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 23 / Sec 5.3.3	2.1	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: maintenance	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 23 / Sec 5.3.3	2.2	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Meter Alarm Down Energized Conductor (MADEC) (AT-1)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	23.1	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Ground Fault Neutralizer (GFN) (AT-3.1)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	2.3.2	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Arc Suppression Coil (AT-3.2)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	2.3.3	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Isolation Transformer (AT-3.3)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	2.4	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Distribution Open Phase Detection (AT-3.4)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	2.5	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - High Impedance Relay Evaluations (AT-8)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	2.6	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: circuit breaker replacements	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 23 / Sec 5.3.3	3.3	Covered conductor installation: Alternative Technology Implementation - Vibration Dampers (AT-4)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	6.3	Distribution pole replacement and reinforcement, including with composite poles: Poles Identified During Inspections	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	Costs are included with initiative IN-1.1 - HFRI-D, Table 24, Row 9.1
	Table 23 / Sec 5.3.3	8.2	Grid topology improvements to mitigate or reduce PSPS events: Microgrid Assessment (PSPS-8)	Microgrids strategy will be finalized in Microgrids OIR filing in Feb 2020	
	Table 23 / Sec 5.3.3	10	Maintenance, repair, and replacement of connectors, including hotline clamps	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
Table 23 / Sec 5.3.3	12	Other corrective action	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk		

No RSE Information

Category	Table # / Sec #	Initiative #	Initiative	Rationale For No RSE	Referenced Initiative
	Table 23 / Sec 5.3.3	14	Transformers maintenance and replacement	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 23 / Sec 5.3.3	15	Transmission tower maintenance and replacement	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 23 / Sec 5.3.3	17	Updates to grid topology to minimize risk of ignition in HFTDs	Scope is TBD	
	Table 23 / Sec 5.3.3	18	Transmission Overhead (TOH) Review (SH-9)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 23 / Sec 5.3.3	19	Legacy Facilities (SH-11)	Insufficient data to model risk	
Asset Management and Inspections	Table 24 / Sec 5.3.4	3	Improvement of Inspections	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 24 / Sec 5.3.4	6	Intrusive pole inspections (IPI)	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 24 / Sec 5.3.4	9.1.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Asset Defect Detection Using Machine Learning Object Detection (AT-5)	Scope is TBD	
	Table 24 / Sec 5.3.4	9.2.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Unmanned Aerial Vehicles (UAV) (AT-2.2)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 24 / Sec 5.3.4	9.2.2	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: UAS Operations Training (OP-3)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 24 / Sec 5.3.4	10.2.1	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations: Assessment of Partial Discharge for Transmission Facilities (AT-6)	Scope is TBD	
	Table 24 / Sec 5.3.4	11	Patrol inspections of distribution electric lines and equipment	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 24 / Sec 5.3.4	12	Patrol inspections of transmission electric lines and equipment	Included with other initiative	Initiative #2, Table 24 (Detailed inspections of Transmission electric lines and equipment)
	Table 24 / Sec 5.3.4	13	Pole loading assessment program to determine safety factor	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 24 / Sec 5.3.4	14	Quality assurance / quality control of inspections: Quality Oversight / Quality Control (IN-2)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 24 / Sec 5.3.4	15	Substation inspections	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 24 / Sec 5.3.4	15.1	Failure Modes and Effects Analysis (FMEA) (IN-7)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 25 / Sec 5.3.5	1	Additional efforts to manage community and environmental impacts	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 25 / Sec 5.3.5	2	Detailed inspections of vegetation around distribution electric lines and equipment	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 25 / Sec 5.3.5	3	Detailed inspections of vegetation around transmission electric lines and equipment	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
	Table 25 / Sec 5.3.5	4	Emergency response vegetation management due to red flag warning or other urgent conditions	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 25 / Sec 5.3.5	5	Fuel management and reduction of "slash" from vegetation management activities	Because slash from vegetation management activities are disposed or recycled by trimming/removal contractors	
	Table 25 / Sec 5.3.5	5.2	Fuel management and reduction of "slash" from vegetation management activities: Expanded Clearances for Legacy Facilities (VM-3)	Insufficient data to model risk	
	Table 25 / Sec 5.3.5	6	Improvement of inspections	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	Initiative #13, Table 25 (VM-5)
	Table 25 / Sec 5.3.5	8	LIDAR inspections of vegetation around transmission electric lines and equipment	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	

No RSE Information

Category	Table # / Sec #	Initiative #	Initiative	Rationale For No RSE	Referenced Initiative
Vegetation Management and Inspection	Table 25 / Sec 5.3.5	11	Patrol inspections of vegetation around distribution electric lines and equipment	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 25 / Sec 5.3.5	12	Patrol inspections of vegetation around transmission electric lines and equipment	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 25 / Sec 5.3.5	13	Quality assurance / quality control of inspections: Quality Control (VM-5)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 25 / Sec 5.3.5	14	Recruiting and training of vegetation management personnel	Costs are embedded in personnel time, and not broken out	
	Table 25 / Sec 5.3.5	15	Remediation of at-risk species	SCE does not track this activity separately	
	Table 25 / Sec 5.3.5	16	Removal and remediation of trees with strike potential to electric lines and equipment	Included with other initiative	Initiative 16.1, Table 25 (VM-1)
	Table 25 / Sec 5.3.5	17	Substation inspections	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	Initiative 15, Table 24 (substation inspections)
	Table 25 / Sec 5.3.5	18	Substation vegetation management	This activity is not broken out of the routine compliance program	
	Table 25 / Sec 5.3.5	19	Vegetation inventory system	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 25 / Sec 5.3.5	20	Vegetation management to achieve clearances around electric lines and equipment	No RSE was calculated as this is already a compliance program and not a WMP initiative. Addressed by a Traditional Program	
Grid Operations and Protocols	Table 26 / Sec 5.3.6	1.1	Annual SOB 322 review (OP-1)	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot.	
	Table 26 / Sec 5.3.6	2	Crew-accompanying ignition prevention and suppression resources and services	Not a current SCE initiative/activity	
	Table 26 / Sec 5.3.6	3	Personnel work procedures and training in conditions of elevated fire risk	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	Initiative 8, Table 29
	Table 26 / Sec 5.3.6	5.3	PSPS events and mitigation of PSPS impacts: Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program (PSPS-4)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 26 / Sec 5.3.6	5.5	PSPS events and mitigation of PSPS impacts: Independent Living Centers Partnership (PSPS-6)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 26 / Sec 5.3.6	5.8	PSPS events and mitigation of PSPS impacts: Self Generation Incentive Program (SGIP) Resiliency	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation. Under assessment/pilot	
	Table 26 / Sec 5.3.6	6	Stationed and on-call ignition prevention and suppression resources and services	Not a current SCE initiative/activity	
Data Governance	Table 27 / Sec 5.3.7	1	Centralized repository for data	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 27 / Sec 5.3.7	2	Collaborative research on utility ignition and/or wildfire	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 27 / Sec 5.3.7	3	Documentation and disclosure of wildfire-related data and algorithms	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 27 / Sec 5.3.7	4	Tracking and analysis of near miss data	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
Resource Allocation Methodology	Table 28 / Sec 5.3.8	1	Allocation methodology development and application	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 28 / Sec 5.3.8	2	Risk reduction scenario development and analysis	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 28 / Sec 5.3.8	3	Risk spend efficiency analysis	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 28 / Sec 5.3.8	4	Organizational Support - PMO, OCM, and wildfire-related IT support	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	

No RSE Information

Category	Table # / Sec #	Initiative #	Initiative	Rationale For No RSE	Referenced Initiative
Emergency Planning and Preparedness	Table 29 / Sec 5.3.9	1	Adequate and trained workforce for service restoration: SCE Emergency Response Training (DEP-2)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 29 / Sec 5.3.9	2	Community outreach, public awareness, and communications efforts: Customer Education and Engagement (DEP-1.1, 1.2, 1.3), IOU Customer Engagement (DEP-3)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 29 / Sec 5.3.9	3	Customer support in emergencies	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 29 / Sec 5.3.9	4	Disaster and emergency preparedness plan	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 29 / Sec 5.3.9	5	Preparedness and planning for service restoration	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 29 / Sec 5.3.9	6	Protocols in place to learn from wildfire events	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 29 / Sec 5.3.9	7	Customer Research and Education (DEP-4)	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
Stakeholder Cooperation and Community Engagement	Table 30 / Sec 5.3.10	1	Community engagement	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 30 / Sec 5.3.10	2	Cooperation and best practice sharing with agencies outside CA	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 30 / Sec 5.3.10	3	Cooperation with suppression agencies	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	
	Table 30 / Sec 5.3.10	4	Forest service and fuel reduction cooperation and joint roadmap	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk	

**Guidance-1 Appendix B**

**APPENDIX B – Rationale for not calculating risk reduction by WMP activity**

<b>ID</b>	<b>Initiative Name</b>	<b>Rationale for not calculating risk reduction</b>
IN-2	Quality Oversight / Quality Control	Does not directly mitigate ignition risk, but rather enables effectiveness of inspection programs. Therefore SCE did not calculate an RSE for this initiative.
IN-7	Substation Failure Modes and Effects Analysis (FMEA)	This initiative will not reduce wildfire risk by itself, but rather analysis of the failure modes can inform substation equipment risks analysis when used for field inspections and maintenance activities.
VM-3	Expanded Clearances for Legacy Facilities	Sufficient historical ignition information was not available for these assets and drivers to quantify risk reduction.
VM-5	Quality Control	This initiative does not directly mitigate ignition risk, but rather enables effectiveness of vegetation management programs. Therefore SCE did not calculate an RSE for this initiative.
N/A	Vegetation Management to Achieve Clearances Around Electric Lines and Equipment	The inherent risk if no mitigation was in place cannot be estimated as SCE has had line clearance programs to meet the minimum required clearances in the past. Moreover, the line clearance scope in HFRA is driven by Commission requirement and recommendations to mitigate wildfire risks and not informed by RSE estimates.
SH-8	Transmission Open Phase Detection	This is a pilot initiative that cannot reduce wildfire risks by itself. The objective is to evaluate technology that can help mitigate wildfire risks if deployed.
SH-9	Transmission Overhead Review	This initiative entails detailed review of its transmission and subtransmission design and construction standards, identify improvements necessary and develop modifications needed to help further reduce the likelihood of electric system-related ignitions, especially during extreme wind events. It cannot reduce wildfire risk as a standalone item but can only help when used during design and field construction.
SH-11	Legacy Facilities	There is insufficient data prior to completion of this initiative to estimate potential risk reduction if changes are implemented in the future as a result of this assessment.
OP-1	Annual SOB 322 Review	Updating guidance to system operators does not directly mitigate wildfire risk, but further supports better operational practices.
OP-3	UAS Operations Training	A training program is required to ensure UAS operators can operate unmanned drones safely through wire-environment in response to wildfire prevention and mitigation. This does not directly mitigate wildfire risk but ensures its safe and reliable operation.

<b>ID</b>	<b>Initiative Name</b>	<b>Rationale for not calculating risk reduction</b>
DEP-1.1-1.3	Customer Education and Engagement	These initiatives are essential to support customer preparedness, outreach, education and engagement.
DEP-2	SCE Emergency Response Training	
DEP-4	Customer Research and Education	
DEP-3	IOU Customer Engagement	No longer being pursued in 2020 as a WMP activity.
PSPS-4	Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program	These initiatives do not reduce the probability nor consequence of ignitions, but instead support customer needs during a PSPS event.
PSPS-6	Independent Living Centers Partnership	
PSPS-8	Microgrid Assessment	
RA-1, SA-4	Expansion of risk analysis Develop Asset Reliability & Risk Analytics Capability	This initiative builds out modeling and forecasting capabilities that indirectly, rather than directly, reduces risk. Augmenting and enhancing SCE's risk modeling capability will not reduce wildfire risks by itself.
AT-1	MADEC	These initiatives are pilot projects to test out new technologies to evaluate if they can mitigate wildfire risks. Though they are deemed to be promising, they are not proven technologies and SCE cannot quantify the risk reduction associated with any of these initiatives until the pilots are completed and the pilot results have been analyzed. If a pilot is successful, it can be deployed broadly to mitigate wildfire risks, and that point the results of the pilot can help the calculation of RSEs.
AT-2.1	Distribution Fault Anticipation (DFA)	
AT-2.2	Unmanned Aerial Vehicles (UAV)	
AT-3.1	Rapid Earth Current Fault Limiter – Ground Fault Neutralizer	
AT-3.2	Rapid Earth Current Fault Limiter – Arc Suppression Coil	
AT-3.3	Rapid Earth Current Fault Limiter – Isolation Transformer	
AT-3.4	Distribution Open Phase Detection	
AT-4	Vibration Dampers	
AT-5	Asset Defect Detection Using Machine Learning Object Detection	
AT-6	Assessment of Partial Discharge for Transmission Facilities	
AT-7	Early Fault Detection (EFD) Evaluation	
AT-8	High Impedance Relay Evaluations	

**Guidance-1 Appendix C**

# 2020 WMP Risk Model Whitepaper

## Model Framework

SCE leveraged the RAMP model that was used in the SCE 2018 RAMP filing as the backbone for calculating risk reduction and RSE in the 2020-2022 WMP. As background, Chapter 2 of the RAMP report discusses in detail the risk bowtie methodology and how MARS (Multi Attribute Risk Score) is used as the currency of risk. In this iteration and as part of continually improving risk methodology and processes, SCE incorporated two new functionalities: 1) useful life of the asset and 2) Risk Spend Efficiency (RSE) based on incremental deployment. These two concepts are further discussed below in the next sections.

## Risk Reduction Methodology

The following are the primary inputs to the model:

Input	Description	Example
<b>Exposure</b>	Overall scope of the risk	Number of circuit miles in HFRA
<b>Scope</b>	Forecasted yearly deployment of mitigation “widgets”	Incremental number of covered conductor circuit miles deployed by year
<b>Useful life</b>	Estimated lifetime of the mitigation asset	Estimated lifetime of covered conductor is 45 years
<b>Mitigation effectiveness (ME)</b>	Estimated risk reduction percentage at the risk driver(s) or consequence(s) level, based on 100% deployment	Estimated 60% reduction for the vegetation risk sub-driver

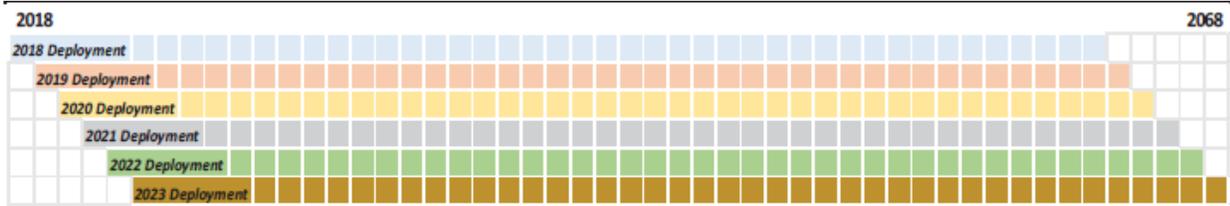
Below are the steps to calculate the annual risk reduction<sup>1</sup>:

1. Calculate the Baseline risk – SCE used the average historical ignitions in HFRA, over 2015-2019, as the starting set of ignition frequency broken down by risk driver to calculate the baseline risk. This calculation can be found in SCE’s model file (worksheet: BASELINE\_DISTR)
2. “Scaled ME”: In most cases, it may take several years to fully deploy a mitigation program. Accordingly, the ratio of incremental scope and exposure is multiplied by the ME in order to calculate a scaled mitigation effectiveness for that particular scope of deployment. For example, if the exposure is 100, scope is 10, and the Mitigation effectiveness (ME) is 25%, then the “Scaled ME” is  $\frac{10}{100} (25\%) = 2.5\%$
3. Use this Scaled ME and multiply it with the corresponding risk driver it mitigates to get the residual frequency. For example, the vegetation risk driver has a baseline frequency of 10 and the Scaled ME is 2.5%. The residual frequency after deploying this mitigation is  $10 * (1 - \text{“Scaled ME”}) = 10 * (1 - 2.5\%) = 9.75$ .
4. Recalculate the new risk score using the new set of scaled down residual frequency by risk driver.
5. The risk reduction is the difference between the Baseline risk and this new risk score.

<sup>1</sup> A comprehensive example to calculate risk reduction is provided in SCE’s RAMP filing, Chapter 2, Section I.

6. The risk reduction for subsequent years is based on the difference in risk score from the previous year, except in years where the useful life is reset.

SCE utilizes useful life to incorporate the benefit stream of the mitigation deployment. In the figure below, each year of deployment has a benefit stream.



For this example, if a mitigation asset has a useful life of 45 years, the annual risk reduction score is multiplied by 45.

The benefit stream is then net present valued using a discount factor of 3%<sup>2</sup>.

### Risk Spend Efficiency Methodology

The annual risk spend efficiency is the ratio of risk reduction (calculated above) and spend in the deployment year, where spend is in constant 2019 dollars.

As discussed in the 2020 WMP, there are limitations in using RSEs as the only metric in determining a risk mitigation plan.

*“The RSE metric does not take into account certain operational realities, including planning and execution lead times, resource constraints, work management efficiencies, an activity’s total risk reduction potential on targeted areas of the system, and regulatory compliance requirements. SCE considers these additional factors while determining the type and volume of work undertaken to reduce wildfire risks in a timely manner, while managing customer impact of mitigation measures.”<sup>3</sup>*

### Model Worksheet Flow

Below is a summary of the primary worksheets in the model.

Worksheet Name	Description
BASELINE_DISTR	Baseline risk calculation for HFRA - Distribution
BASELINE_TRANS	Baseline risk calculation for HFRA - Transmission
Summary	Summary page of the risk reduction and spend for each of the mitigations that SCE scored. The “Mitigation ID” column

<sup>2</sup> See Centers for Disease Control and Prevention, Dataset Number SD-1002-2017-0, *Economic Burden of Occupational Fatal Injuries in the United States Based on the Census of Fatal Occupational Injuries, 2003-2010* (August 2017) (citing 1996 recommendation from U.S. Department of Health and Human Services Panel on Cost-Effectiveness in Health and Medicine).

<sup>3</sup> SCE 2020-22 Wildfire Mitigation Plan, page 6.

	is the name of the corresponding worksheet where the mitigation inputs and calculation for that particular mitigation resides.
<b>M01, M02, etc....</b>	Each of these pages contains the risk reduction calculation for a specific mitigation. Input cells are in green.
<b>Master Detail Summary Sheet</b>	Long term forecast of scope and spend for wildfire activities
<b>SPEND</b>	Summary of forecasted spend (O&M and Capital) from the Master Detail Summary Sheet
<b>UNITS</b>	Summary of forecasted mitigation activity scope from the Master Detail Summary Sheet

There are other supporting worksheets that tie directly to certain mitigations. These links and references can be found in the corresponding individual mitigation activity worksheets (e.g. M01, etc..)

**Guidance-1 Appendix D**

(provided only in excel version)

**Guidance-1 Appendix E**

**Table 31a: Change in drivers of ignition probability taking into account planned initiatives, for each year of plan (Distribution)**

Detailed risk driver	Number of incidents per year			Average percentage			Number of ignitions per year		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
All type of object contact	722	618	521	2.4%	2.4%	2.4%	17.4	14.9	12.6
Animal contact	193	162	132	2.0%	2.0%	2.0%	3.8	3.2	2.6
Balloon contact	117	100	84	3.5%	3.5%	3.5%	4.1	3.5	3.0
Vegetation contact	190	152	119	2.2%	2.2%	2.2%	4.2	3.3	2.6
Vehicle contact	179	166	153	2.0%	2.0%	2.0%	3.6	3.3	3.1
Unspecified CFO	42	38	33	3.9%	3.9%	3.9%	1.7	1.5	1.3
All types of Equipment	1913	1758	1621	0.4%	0.3%	0.3%	7.7	6.0	4.8
Capacitor bank failure	10	9	9	1.3%	0.8%	0.5%	0.1	0.1	0.0
Conductor failure—all	245	202	164	1.1%	1.1%	1.1%	2.7	2.3	1.8
Conductor failure— wires down	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuse failure—all	276	276	275	0.1%	0.1%	0.1%	0.2	0.2	0.2
Fuse failure—conventional blown fuse	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lightning arrestor failure	60	54	50	0.0%	0.0%	0.0%	-	-	-
Switch failure	24	23	22	0.0%	0.0%	0.0%	-	-	-
Transformer failure	827	790	756	0.1%	0.1%	0.1%	1.2	1.1	1.1
Crossarm	131	107	86	0.1%	0.0%	0.0%	0.1	0.1	0.0
Insulator	34	27	21	1.8%	1.1%	0.7%	0.6	0.3	0.1
Splice/Clamp/Connector	128	105	85	1.5%	1.5%	1.5%	1.9	1.5	1.2
Other Equipment Types	180	165	152	0.5%	0.3%	0.2%	0.9	0.5	0.3
Wire-to-wire contact / Contamination	15	13	10	7.4%	7.4%	7.4%	1.1	0.9	0.8
Other	1,928	1,927	1,925	0.2%	0.2%	0.2%	4.8	4.8	4.8

Cells that contain "NA" means SCE does not track this specific component failure or map it directly to ignitions

**Table 31b: Change in drivers of ignition probability taking into account planned initiatives, for each year of plan (Transmission)**

Detailed risk driver	Number of incidents per			Average percentage			Number of ignitions per year		
	2020	2021	2022	2020	2021	2022	2020	2021	2022
All type of object contact	19	19	19	14.7%	14.7%	14.7%	2.8	2.8	2.8
Animal contact	8	8	8	17.9%	17.9%	17.9%	1.4	1.4	1.4
Balloon contact	2	2	2	26.7%	26.7%	26.7%	0.6	0.6	0.6
Vegetation contact	3	3	3	7.7%	7.7%	7.7%	0.2	0.2	0.2
Vehicle contact	3	3	3	11.8%	11.8%	11.8%	0.4	0.4	0.4
Unspecified CFO	3	3	3	6.7%	6.7%	6.7%	0.2	0.2	0.2
All types of Equipment	22	22	22	2.7%	2.6%	2.6%	0.6	0.6	0.6
Capacitor bank failure	-	-	-				-	-	-
Conductor failure—all	12	12	11	0.0%	0.0%	0.0%	-	-	-
Conductor failure— wires down	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuse failure—all	0	0	0	0.0%	0.0%	0.0%	-	-	-
Fuse failure—conventional blown fuse	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lightning arrestor failure	1	1	1	0.0%	0.0%	0.0%	-	-	-
Switch failure	1	1	1	0.0%	0.0%	0.0%	-	-	-
Transformer failure	0	0	0	0.0%	0.0%	0.0%	-	-	-
Crossarm	1	1	1	0.0%	0.0%	0.0%	-	-	-
Insulator	1	1	1	0.0%	0.0%	0.0%	-	-	-
Splice/Clamp/Connector	1	1	1	0.0%	0.0%	0.0%	-	-	-
Other Equipment Types	6	6	6	10.3%	10.3%	10.3%	0.6	0.6	0.6
Wire-to-wire contact / Contamination	2	2	2	0.0%	0.0%	0.0%	-	-	-
Other	133	133	133	0.0%	0.0%	0.0%	-	-	-

Cells that contain "NA" means SCE does not track this specific component failure or map it directly to ignitions

**GUIDANCE-2**  
**LACK OF ALTERNATIVES ANALYSIS**  
**FOR CHOSEN INITIATIVES**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***Guidance -2***

**Name:** Lack of alternatives analysis for chosen initiatives

**Category:** Analysis to Determine Most Effective Ways of Mitigating Catastrophic Wildfire Loss

**Class:** B

**Deficiency:**

2020 WMP submissions contain little to no detail regarding utilities' process for comparing potential WMP initiatives. While most WMP initiatives are generally assumed to reduce utility wildfire risk, there are typically several alternatives that can address specific drivers of utility ignitions and near misses. However, 2020 WMPs generally do not include any discussion of which alternatives were considered, how the utility evaluated the efficacy of each alternative, and how the utility ultimately decided upon the suite of initiatives presented in its 2020 WMP.

**Condition:**

In its first quarterly report, each electrical corporation shall provide the following:

- i. all alternatives considered for each grid hardening or vegetation management initiative in its 2020 WMP;
- ii. all tools, models, and other resources used to compare alternative initiatives;
- iii. how it quantified and determined the risk reduction benefits of each initiative; and
- iv. why it chose to implement each initiative over alternative options.

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**Response:**

Southern California Edison has outlined the alternatives considered for its System Hardening and Vegetation Management activities pursuant to the requested condition. For each activity, SCE provides a summary of the rationale for selecting the WMP initiatives over the alternative options.

The 19 activities in System Hardening & Vegetation Management included in this response are:

- SH-1 – Covered Conductor
- SH-2 – Undergrounding Overhead Conductor
- SH-3 – WCCP Fire Resistant (FR) Poles
- SH-4 – Branch Line Protection Strategy
- SH-5 – Installation of System Automation Equipment – RAR/RCS
- SH-6 – Circuit Breaker Relay Hardware for Fast Curve
- SH-7 – PSPS-Driven Grid Hardening Work
- SH-8 – Transmission Open Phase Detection
- SH-9 – Transmission Overhead Standards (TOH) Review
- SH-10 – Tree Attachment Remediation
- SH-11 – Legacy Facilities
- SH-12.1 – Remediations – Distribution
- SH-12.2 – Remediations – Transmission
- SH-12.3 – Remediations – Generation
- VM-1 – Hazard Tree Management Program
- VM-2 – Expanded Pole Brushing
- VM-3 – Expanded Clearances for Legacy Facilities
- VM-4 – Drought Relief Initiative (DRI) Inspections and Mitigations
- VM-5 – Vegetation Management Quality Control

<b>WMP Activity ID:</b> SH-1	<b>2020-2022 WMP Section:</b> 5.3.3.3.1
<b>Activity Name:</b>	<b>SH-1 – Covered Conductor</b>

**Activity Background:**

SCE is replacing bare wire with covered conductors (CC) in High Fire Risk Areas (HFRA) to reduce the utility ignition risks associated with distribution overhead electrical system facilities. When faults occur on SCE’s overhead distribution system, it can lead to equipment failure or arcing, which poses an ignition risk in HFRA. Over the past five years, a large majority (> 90%) of SCE’s CPUC reportable ignitions have occurred on distribution circuits as compared to transmission circuits. Within the distribution system, the data shows that over the past five years, approximately 58% of the ignition frequency were associated with Contact from Object (CFO) and Wire-to-Wire contact. Covered conductor mitigates these, and other equipment related drivers, as described in SCE’s response to SCE-19.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Based on SCE's analysis of risk drivers, the following alternatives were considered:

- **Undergrounding of overhead conductor:** Conversion of existing overhead primary voltages to underground
- **Bare Conductor:** Replace existing conductor with new, appropriately sized, bare conductor
- **Partial Covered Conductor:** Replace only one or two phases with new, appropriately sized covered conductor
- **Insulated Sleeves/Wraps:** Retrofit existing bare conductor, if size and condition are good, with insulated sleeves

Line rerouting was conducted in very limited areas in HFRA where existing circuit lines were reconfigured or rebuilt to reduce the ignition risk associated with the circuit.

While SCE does consider more expansive use of Public Safety Power Shutoffs (PSPS) as a theoretical alternative to covered conductor, it was not an alternative considered in practice given the significant societal impacts and risks associated with its use.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

SCE used historical fault and ignition data to analyze the mitigation effectiveness of covered conductor and possible alternatives. Fault history was obtained from SCE's Outage Database and Reliability Metrics (ODRM). The fault data analyzed was focused on events observed on distribution circuits for portions of distribution circuits traversing SCE's HFRA. Similar analysis was conducted using CPUC reportable ignition data, associated with distribution voltage and occurring within SCE’s HFRA reportable.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Using fault and ignition data, a fault-to-fire mapping analysis was performed to calculate the relative potential likelihood that a specific type of fault could be associated with an ignition event. Next, SCE conducted a comprehensive review of mitigation alternatives and their effectiveness at reducing or eliminating faults. This analysis relied on engineering subject matter expertise to identify how much each generated fault type could be mitigated by each potential initiative. The results of both analyses were combined to calculate the mitigation effectiveness factors for each initiative. The calculated mitigation effectiveness factors were used in combination with unit costs per mile to estimate mitigation-cost ratios (e.g., 0.50 for bare wire, 1.4 for covered conductor, 0.33 for undergrounding).<sup>5</sup>

Additionally, SCE benchmarked with other utilities that have deployed covered conductor. These utilities indicated that covered conductor reduced contact-from-object faults in their system. SCE also conducted empirical testing to evaluate the covered conductor's effectiveness against contact-from-object faults. Testing illustrated that covered conductor can withstand contact from objects, such as vegetation, wildlife, metallic balloons, and wire-to-wire contact, without experiencing fault current or arcing. The results of these studies and benchmarks were provided in the 2021 GRC testimony as the SCE Covered Conductor Compendium<sup>6</sup>. Due to the extensive studies that SCE performed on covered conductor technology, and the technical drawbacks with the partial covered conductors and insulated sleeves technology described in condition iv below, additional analysis of quantitative risk reduction benefits on the alternative options was not explored.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

Covered conductor yielded the highest RSE among the alternatives, and based on benchmarking and engineering judgements, is expected to be more effective at mitigating the risk from CFO than all alternatives considered except undergrounding. The lead time for planning and deployment also make covered conductor deployment more operationally feasible than undergrounding. For further details on why SCE has selected covered conductor as a cornerstone of its wildfire mitigation efforts, please see SCE's response to SCE-19. Prior to selecting covered conductor, SCE considered replacing existing conductors with new and larger sized bare conductor. Larger sized conductor can withstand a higher fault duty, which can prevent conductor damage and wire downs when a fault occurs. Through the process described in Condition iii, bare conductor was calculated to have a 15% mitigation effectiveness factor and covered conductor was calculated to have a mitigation effectiveness factor of approximately 60%. When taking into account both the cost and mitigation effectiveness (mitigation-cost ratio), SCE concluded that while reconductoring with bare conductor would have a lower cost,

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<sup>5</sup> Refer to the 2018 GSRP filing Table IV-9

<sup>6</sup> The SCE Covered Conductor Compendium has been made public by the CPUC. It can be accessed on pages A14-A256 in our rebuttal testimony.  
<https://docs.cpuc.ca.gov/PublishedDocs/SupDoc/A1908013/2745/340234737.pdf>

reconductoring with covered conductor will have a greater overall value. A dollar spent reconductoring with covered conductor provides nearly three times as much value in wildfire risk mitigation as a dollar spent reconductoring with bare conductor.

Additionally, SCE evaluated two other alternative options but decided not to pursue these options because they are not effective in mitigating phase-related faults. These options are (1) installing covered conductor on one phase, typically the center phase of the conductor span, and (2) retrofitting existing bare conductor with an insulated sleeve. First, installing covered conductor on one phase does not mitigate many types of contact-related faults such as palm fronds blowing in and contacting all phases of a conductor span. Covering a center phase does not prevent the contact between the outer phases. In addition, covering one phase does not address phase to ground contact related faults. Resource requirements and costs for deployment of one-phase installation of covered conductor is comparable to covered conductor deployment on all phases, but the benefits, as explained, are lower. Second, SCE piloted an installation of insulated sleeves over existing bare conductors and determined that the retrofitting option was technically infeasible and ineffective. One of the major technical issues was that it was not possible to install insulated sleeve over long span of conductor and maintain the sleeve intact. The sleeve would shrink or detach over time, create the exposed sections of the bare conductor and render the mitigation ineffective in preventing contact-related faults.

Line rerouting circuits was not originally considered as an alternative to covered conductor but is being utilized on a very targeted basis. In many cases, the ability to reconfigure or reroute a circuit is not feasible, either due to terrain, existing development, or local permitting. It would in most cases be more costly even when possible, and certainly more time intensive given the planning and permitting that would need to take place. That said, SCE does consider this a potential option in very select circumstances and will continue to do so, just not as a comprehensive alternative to covered conductor or other hardening initiatives.

<b>WMP Activity ID:</b> SH-2	<b>2020-2022 WMP Section:</b> 5.3.3.16
<b>Activity Name:</b>	<b>SH-2 – Undergrounding Overhead Conductor</b>

**Activity Background:**

In general, undergrounding of overhead conductor provides greater wildfire mitigation effectiveness compared to other alternatives but is significantly more costly and has other operational issues, such as long installation times and is not always feasible depending on local terrain and site conditions. Undergrounding is specifically targeted in areas where SCE believes covered conductor would not sufficiently mitigate wildfire risk, as described in the Activity Background for SH-1 (covered conductor). SCE is targeting six miles in 2021, and eleven miles in both 2022 and 2023.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Based on SCE's analysis of risk drivers, the following alternatives were considered:

- **Covered Conductor:** Replace existing conductor with new, appropriately sized, covered conductor
- **Bare Conductor:** Replace existing conductor with new, appropriately sized, bare conductor

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Please see discussion for SH-1 (covered conductor) above.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Please see discussion for SH-1 (covered conductor) above.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

SCE selected covered conductor in most cases for reasons described in SH-1 above, both over bare conductor and undergrounding. Future studies will evaluate available data to determine if primary risks are not due to contact from object, or wire to wire faults suggesting a targeted undergrounded approach opposed to covered conductor application. That said, undergrounding was utilized on selectively targeted circuit segments that would most benefit from this approach such as areas where customers may require electric service to provide essential public health and safety services. Considerations were also applied to circuit segments where ingress/egress issues may arise due to overhead poles & facilities should a fire occur, making it challenging to evacuate. As mentioned in SCE's Remedial Compliance Plan for Guidance 3, SCE evaluated circuit segments for undergrounding based on multiple criteria such as wildfire risk scoring from WRM, terrain, grid topography, construction complexity, PSPS impacts in limited areas, and cost. Future underground work would target segments that would reduce the number of impacted customers based on historical PSPS events.

<b>WMP Activity ID:</b> SH-3	<b>2020-2022 WMP Section:</b> 5.3.3.6.1 & 5.3.3.6.2
<b>Activity Name:</b>	<b>SH-3 – WCCP FIRE RESISTANT (FR) POLES</b>

**Activity Background:**

SCE utilizes two types of fire resistant poles, a composite pole with a fire resistant sleeve and a wood pole with a fire resistant wrap. Both types of fire resistant poles provide a resiliency benefit such that if the pole experiences a fire, the pole will still have structural integrity supporting the equipment and conductors. A fire resistant composite pole provides the additional benefit of ignition prevention from electrical tracking that can occur at the pole top or from catching fire during an equipment failure event. It also provides a natural deterrent for woodpecker activity. With these benefits in mind, SCE is targeting poles that support equipment or are in areas prone to woodpecker activity for replacement with fire resistant composite poles. All other locations are targeted for wood poles with fire resistant wrap.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: SCE investigated alternative fire resistant materials to improve the fire resistance of its utility poles such as:

- Paint-on fire resistance materials
- Spray-on fire resistance materials
- Fire blanket on existing unprotected wood poles

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

SCE evaluated the viability of the alternatives based on product specifications such as fire resistance properties, thermal properties, supply availability and cost.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

FR poles are expected to reduce both the frequency and consequence of ignitions. SCE used historical fault data and engineering judgement to estimate the effectiveness of FR poles in reducing faults associated with pole mounted equipment failure. FR poles remaining intact during fires will also facilitate service restoration, thus reducing the consequence of wildfires. Risk reduction benefits are shown in 2020-2022 WMP Table 23 as activity SH-3.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

The life expectancy of paint-on/spray-on products is approximately 10 years compare to greater than 45 years for FR poles. While FR poles provide heat resistance in addition to the fire-resistant properties, paint-on/spray-on products do not. Furthermore, the recurring cost to reapply paint-on/spray-on products required to boost the expected life greatly increases the cost of adding fire resistance to poles due the added material and labor cost to apply the product. The fire blanket offered similar fire and thermal resistant properties to FR poles, but the cost was

approximately twice as high, and the life expectancy was expected to be less than 15 years. Also, SCE had concerns with water retention behind the blanket causing pole deterioration.

<b>WMP Activity ID:</b> SH-4	<b>2020-2022 WMP Section:</b> 5.3.3.7
<b>Activity Name:</b>	<b>SH-4 – Branch Line Protection Strategy</b>

**Activity Background:**

This activity is primarily focused on replacing existing conventional fuses with current-limiting fuse (CLF) designs in HFRA to minimize fault energy generated in the event of a fault, assess branch line recloser technology, and complete installation of new fusing locations. The fuse replacements predominantly target expulsion type fuses and fuses with historical performance issues, such as vintage liquid fuses.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives considered: See Below

- Single phase reclosers for branch line protection was considered as an alternative for fusing replacements.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Current limiting fusing offers substantially more fault energy reduction capabilities than recloser devices. Fault energy is proportional to both time and the square of the current. In general, Reclosers limit energy through reduction of interruption time, while current-limiting fuses can reduce both current magnitude and duration. SCE evaluated this activity based on fault energy reduction and conducted a cost comparison to single phase recloser usage both supporting the application of current limiting fusing.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

As covered in condition (ii), SCE evaluated each technology based on fault energy reduction and cost. Reducing fault energy was one of the primary risk reduction benefits and this activity directly addresses the high risk associated with conventional fuses with CLF devices. The risk reduction benefits on reducing ignitions are shown in 2020-2022 WMP Table 23 in activity SH-4.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

SCE applications of current limiting fuses was selected based on further fault energy reduction benefits compared to recloser devices. Additionally, fusing was able to be applied at lower cost and faster deployment than the alternative.

<b>WMP Activity ID:</b> SH-5	<b>2020-2022 WMP Section:</b> 5.3.3.9
<b>Activity Name:</b>	<b>SH-5 – Installation of System Automation Equipment – RAR/RCS</b>

**Activity Background:**

SCE is expanding its system automation equipment strategy to target both Remote Controlled Automatic Reclosers (RARs) and additional sectionalizing devices to provide important isolating capabilities that could minimize the frequency and scale of customer outages during PSPS and other outage events. In certain cases, these other sectionalizing devices, such as Remote Controlled Switches (RCSs), can be a cost-effective alternative to RARs for more granular sectionalizing than previously anticipated, particularly for underground sections serving overhead systems for PSPS de-energization functionality.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives considered:

- Installation of manually operated switches
- Leave the current circuit configuration as-is

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

SCE engineers reviewed circuit maps that include the HFRA boundaries to determine whether a device would provide additional benefits. This analysis and circuit review compared the benefits for application of new RAR and RCS equipment versus retaining the existing circuit configuration without the additional remote controlled devices. Manually operated switches as an alternative must consider an assessment of operational realities (primarily drive time to get to a device) especially during a large scale PSPS events such as Santa Ana Winds where there may be too many manual switches to operate relative to available personnel in an area.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

The risk benefits of RAR in mitigating wildfire consequences are shown in 2020-2022 WMP Table 23 in activity SH-5.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

This system hardening activity included installation of RAR devices, RCS devices, and instances where the existing configuration was retained without the addition of additional devices. All three options were selected as part of the engineering review of the HFRA circuits due to desire to add sectionalizing devices to reduce the impact of PSPS to as many customers as possible. Resource constraints during PSPS events generally limited the use of manually operated switches in favor of remote controlled devices to avoid associated drive time, given local operating requirements of manual switches.

<b>WMP Activity ID:</b> SH-6	<b>2020-2022 WMP Section:</b> 5.3.3.2.7
<b>Activity Name:</b>	<b>SH-6 – Circuit Breaker Relay Hardware for Fast Curve</b>

**Activity Background:**

SCE implemented fast curve protection settings that can be toggled on circuit breakers and remote automatic reclosers to reduce the amount of fault energy in HFRA during red flag warning events. Some protection equipment on circuits that traverse HFRA did not have relay equipment with functionality to allow toggleable settings. This activity covers the replacement of the older equipment with equipment capable of implementing toggleable fast curve settings.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: See Below

SCE is investigating all options to reduce energy/fault duration in the System Hardening and Alternative Technology space which include SH-4 Branch Line Protection Strategy and SH-8 Transmission Open Phase detection.

Other system hardening alternatives to reduce fault energy/durations are being investigated as the AT-3.1 to AT-3.4 initiative efforts for Rapid Earth Fault Current Limiters (REFCL) and Distribution Open Phase Detection, but both are still in early/pilot phases and not alternatives today. While fast curve settings reduce the fault energy throughout HFRA, REFCL significantly further reduce fault energy in phase to ground faults and Open Phase Detection strives to de-energize circuits once an open phase condition is recognized preventing sparking conditions.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not applicable as the other alternatives were initiated.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

SCE’s Fast Curve settings activity has benefits for ignition reduction. Fast Curve Operational settings capabilities are activated to reduce fault energy during elevated fire threat conditions. The risk reduction benefits were shown in 2020-2022 WMP Table 23 in activity SH-6.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

The benefit of enabling fast curve settings during elevated fire threat conditions is the reduction in potential fault energy generated which may reduce the chance of a utility cause ignition and this activity was selected based on that risk reduction. All other alternatives aimed at reducing the amount of fault energy has been listed as a System Hardening activity or are in the early study/pilot phases.

<b>WMP Activity ID:</b> SH-7	<b>2020-2022 WMP Section:</b> 5.3.3.8.1
<b>Activity Name:</b>	<b>SH-7 – PSPS-Driven Grid Hardening Work</b>

**Activity Background:**

The purpose of this activity is to evaluate circuits for potential PSPS mitigation opportunities through switching projects and limited circuit upgrades such as small segments of covered conductor or undergrounding. These projects are generally targeted to mitigate communities where the electrical equipment within the community does not present a wildfire risk but is still impacted by PSPS. This occurs when a community is in the HFRA but has underground service, or the community is located outside the HFRA but is served by overhead lines that run through the HFRA. Prioritization is given to PSPS impacted areas considering historical events and expected future events (based on current information) as well as areas with higher percentages of key customer categories (e.g., Medical Baseline, Critical Care). The initiative will analyze potential projects using various criteria, and the outcome will be a prioritized list of recommended projects.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: None

The alternative would be to not evaluate circuits for PSPS mitigation opportunities, and this is contrary to SCE’s goal of reducing frequency and scope of PSPS events

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not Applicable.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Please refer to SCE-3 and Guidance-4 for more details on PSPS initiatives and commitments.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

Not applicable as there are no alternatives to consider.

<b>WMP Activity ID:</b> SH-8	<b>2020-2022 WMP Section:</b> 5.3.2.2.3
<b>Activity Name:</b>	<b>SH-8 – Transmission Open Phase Detection</b>

**Activity Background:**

The fundamental issue this activity is aiming to address is to detect broken transmission line conductors. SCE evaluated a protection scheme to detect open phase conditions (broken conductors) on its transmission system. This scheme was validated through RSCAD (Real time digital Simulator Computer Aided Design - a power system simulation software) and through simulation testing that successfully detected an open phase condition allowing de-energization of the line before it could contact a grounded object resulting in a fault/ignition event. This scheme has been deployed on six transmission lines in “alarm only” mode. SCE plans to transition to “trip” mode once the protection scheme is fully validated. Beyond 2020, SCE intends to evaluate the feasibility of deploying open phase detection to additional transmission line configurations such as those with three or more terminals.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternative Considered:

- Provide additional reinforcement of transmission conductors (e.g. bone spacers, conductive yolk plates)

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

No tools/models were used compare this activity as this is an SCE developed protection scheme and the alternative reinforcement option would have higher costs with unknowns such as effectiveness, cost, and difficulty of installation etc.

This activity is similar to AT-3.4 Distribution Open Phase Detection, but it is not considered an alternative technology pilot due to it being able to utilize existing hardware while AT-3.4 would require additional hardware for network communication.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

The protection scheme is designed to detect a falling conductor and de-energize it before it can contact the ground preventing a ground fault and subsequent utility ignition thus the risk buy down is significant.

As this initiative is implementing a new protection scheme to detect failing equipment, the required effectiveness metrics such as true positive versus false positives detections (switching events, faults, lightning strikes, etc.) are still being collected before an appropriate risk reduction benefit can be calculated.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

The alternative of adding mechanical reinforcement to existing transmission lines is significantly more expensive than introducing a new protection detection scheme as it would require identifying the primary cause of equipment failure, the associated reinforcement equipment, new construction standards, installation costs and associated transmission outages and so on. Thus, this alternative for Transmission Open Phase Detection was not given serious consideration compared to exploring this new approach.

<b>WMP Activity ID:</b> SH-9	<b>2020-2022 WMP Section:</b> 5.3.3.18
<b>Activity Name:</b>	<b>SH-9 – Transmission Overhead Standards (TOH) Review</b>

**Activity Background:**

This activity is SCE’s effort to proactively review its transmission/sub-transmission construction and design standards for opportunities to help reduce wildfire threats, especially during extreme wind events, and further reduce the likelihood of electric system-related ignitions. Example topics include reviewing grounding and clearances for transmission and sub-transmission facilities, closer examination of switch configurations, insulated guy wires and avian protection. Findings from this review may increase the insulation effectiveness between energized and grounded sub-transmission equipment, reducing the likelihood of generating an arc. SCE will develop a report of its findings along with any identified actions for design improvements.

**Condition i:** All alternatives considered for each grid hardening or vegetation management initiative

Alternatives Considered: See Below

The alternative would be to maintain the status quo and not conduct a TOH Standards review specifically for reducing wildfire threats and would only update as needed based on any incoming GO 95/128/165 rule changes.

**Condition ii:** All tools, models, and other resources used to compare alternative initiatives

No tools/models were developed to compare to other initiatives as this was considered due diligence.

**Condition iii:** How SCE quantified and determined the risk reduction benefits of each initiative

SCE expects to identify ignition probability reduction recommendations as part of the analysis for circuitry in HFRA.

**Condition iv:** Why SCE chose to implement each initiative over alternative options.

SCE believes it to be prudent and proactive to revisit its transmission overhead structure standards with an eye towards further mitigation ignition risk and considers this work due diligence.

<b>WMP Activity ID:</b> SH-10	<b>2020-2022 WMP Section:</b> 5.3.3.3.2
<b>Activity Name:</b>	<b>SH-10 – Tree Attachment Remediation</b>

**Activity Background:**

This initiative assessed an older obsolete construction method of using existing trees to support overhead conductors in forested service area. As tree decays due to drought and bark beetle infestation, tree attached electric lines have higher probability of failure. In addition, there is higher probability of contact with vegetation. By removing aging electrical lines off decaying, or potentially decaying trees, SCE will reduce the subsequent risk of ignition.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: None

The alternative would be to leave the utility attachments to the tree and/or reinforce the tree attachment. However, since this process is obsolete, SCE intends to replace all tree attachments.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not applicable. The alternative is an obsolete work practice that increases wildfire risk.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

SCE utilized Subject Matter Expert knowledge to understand that the risk exposure and potential ignition reduction associated with remediating tree attachments.

In tree attachments, the tree essentially functions as an electrical pole with fully insulated aerial bundled cable attached to the tree. Aerial bundled cable can withstand permanent contact with objects when the insulation is in good condition. However, when the insulation of the aerial cable starts to degrade, it no longer has the ability to insulate the conductor from other objects (vegetation in this case). SCE’s observations in regions with high concentration of tree attachments indicate faults and damages are related to branches falling from the tree to which utility equipment are attached. In this situation, and especially when the tree starts to decay due to drought or bark beetle infestation, there is a greater risk of an ignition event. Additionally, as the tree decays, it loses strength and the ability to support the line, which increases risk of wire down.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

No alternatives were considered for this activity.

<b>WMP Activity ID:</b> SH-11	<b>2020-2022 WMP Section:</b> 5.3.3.19
<b>Activity Name:</b>	<b>SH-11 – Legacy Facilities</b>

**Activity Background:**

SCE’s Legacy Facilities activity focuses on SCE owned and maintained generation assets, of which many are located in densely forested HFRA’s. This program looks at multiple components associated with these assets that SCE is assessing from a risk-based approach to determine and develop site-specific remediations that would lower ignition risk. SCE has identified four specific tracks for this activity:

- **Hydro Control Circuits** - Assess distribution lines that feed generation assets
- **Low Voltage Sites Hardening** - Review sites that would reduce ignition risk by eliminating or hardening secondary lines via microgrids, covered conductor, and undergrounding.
- **Avian and Wildlife Protections** - Ensure SCE has proper mitigations to prevent animal interruptions and ignitions
- **Grounding Studies** - Analyze the existing grid on certain legacy facilities

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: None

SCE believes that the work identified as part of this activity is necessary and aligned with industry best practices. Accordingly, SCE did not specifically review any alternatives associated with this activity.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not applicable, as not analyzing the four tracks would mean to do nothing to lower the ignition risk at generation asset facilities. Instead, SCE utilized the knowledge and expertise of engineering and operational resources, as well as other subject matter experts, to determine the initiatives that were to be evaluated as part of this activity.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Discussion and evaluations with T&D Engineering personnel involved in various programs validated the need to further assess these assets. Technosylva’s Wildfire Risk Reduction Module will assist in simulating and developing wildfire consequences for SCE’s generation assets. Risk reduction benefits were not calculated at this time as generation assets were not included in the risk model and but will be quantified as information becomes available.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

SCE selected the four items to be assessed and analyzed as part of this activity based on their potential for wildfire risk. The alternative, which was to not analyze these assets, was not one that was given consideration.

<b>WMP Activity ID:</b> SH-12.1	<b>2020-2022 WMP Section:</b> 5.3.3.12.1
<b>Activity Name:</b>	<b>SH-12.1 – Remediations – Distribution</b>

**Activity Background:**

This activity encompasses SCE’s effort to remediate all notifications in SCE’s HFRA identified by distribution inspections that are either risk-informed/driven or compliance-driven.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: None

No alternative activities were assessed in place of this activity as this work is a CPUC requirement to remediate distribution issues identified by SCE’s IN-1.1, IN-3 and IN-6.1 activities. Once SCE identifies a condition adverse to quality, a notification is created, and it becomes a compliance issue where remediation is required. SCE piloted risk-based remediation in 2020 and will engage with the CPUC in the future to transition to a risk-informed remediation protocol. Please see SCE’s response to Guidance-7 for more information on its enhanced inspection programs.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not applicable as it is a remediation activity based on CPUC requirements.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Not applicable as it is a remediation activity based on CPUC requirements.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

Not applicable as it is a remediation activity based on CPUC requirements.

<b>WMP Activity ID:</b> SH-12.2	<b>2020-2022 WMP Section:</b> 5.3.3.12.2
<b>Activity Name:</b>	<b>SH-12.2 – Remediations – Transmission</b>

**Activity Background:**

This activity encompasses SCE’s effort to remediate all notifications in SCE’s HFRA identified by transmission inspections that are either risk-informed/driven or compliance-driven.

**Condition i:** All alternatives considered for each grid hardening or vegetation management initiative

Alternatives Considered: None

No alternative activities were assessed in place of this activity as this work is a CPUC requirement to remediate transmission issues identified by SCE’s IN-1.2, IN-4 and IN-6.2 activities. Once SCE identifies a condition adverse to quality, a notification is created, and it becomes a compliance issue where remediation is required. SCE piloted risk-based remediation in 2020 and will engage with the CPUC in the future to transition to a risk-informed remediation protocol. Please see SCE’s response to Guidance-7 for more information on its enhanced inspection programs.

**Condition ii:** All tools, models, and other resources used to compare alternative initiatives

Not applicable as it is a remediation activity based on CPUC requirements.

**Condition iii:** How SCE quantified and determined the risk reduction benefits of each initiative

Not applicable as it is a remediation activity based on CPUC requirements.

**Condition iv:** Why SCE chose to implement each initiative over alternative options.

Not applicable as it is a remediation activity based on CPUC requirements.

<b>WMP Activity ID:</b> SH-12.3	<b>2020-2022 WMP Section:</b> 5.3.3.12.3
<b>Activity Name:</b>	<b>SH-12.3 – Remediations – Generation</b>

**Activity Background:**

This activity encompasses SCE’s effort to remediate all notifications in SCE’s HFRA identified by generation inspections that are either risk-informed/driven or compliance-driven.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: None

No alternative activities were assessed in place of this activity as this work is a CPUC requirement to remediate transmission issues identified by SCE’s IN-5 activity. Once SCE identifies a condition adverse to quality, a notification is created, and it becomes a compliance issue where remediation is required. SCE piloted risk-based remediation for distribution in 2020 but will engage with the CPUC in the future to transition to a risk-informed remediation protocol for generation. Please see SCE’s response to Guidance-7 for more information on its enhanced inspection programs.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not applicable as it is a remediation activity based on CPUC requirements.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Not applicable as it is a remediation activity based on CPUC requirements.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

Not applicable as it is a remediation activity based on CPUC requirements.

<b>WMP Activity ID:</b> VM-1	<b>2020-2022 WMP Section:</b> 5.3.5.16.1
<b>Activity Name:</b>	<b>VM-1 – Hazard Tree Management Program</b>

**Activity Background:**

SCE’s Hazard Tree Management Program assesses the structural condition of trees in HFRA that are not dead or dying but could nevertheless fall into or otherwise impact electrical facilities and potentially lead to ignitions and outages.

Historically, a significant number of faults in SCE’s HFRA were caused by trees “falling in” or branches / fronds “blowing in” to SCE lines and equipment. These trees were typically outside of the compliance clearance zone. Some visually healthy trees that were far enough from SCE lines and equipment to meet clearance requirements still pose a threat of falling during high wind conditions and striking SCE facilities depending on condition of the tree and other site-specific factors. Branches or fronds getting dislodged from trees near electrical facilities also have a higher probability of blowing into the lines and equipment and causing faults that can potentially initiate an ignition.

**Condition i:** All alternatives considered for each grid hardening or vegetation management initiative

Alternatives Considered:

- Aggressive Pruning
- Covered conductor
- Underground the overhead lines

**Condition ii:** All tools, models, and other resources used to compare alternative initiatives

SCE benchmarked against industry activities and best practices to inform mitigation options. SCE uses a Tree Risk Assessment Calculator to determine whether removal of a tree is necessary or if other remediations (for example, aggressive trimming, topping or branch removal) would suffice.

For trees in HFRA that are within the strike zone of overhead facilities, arborists perform detailed assessments and classify tree hazards based on tree characteristics (e.g., deteriorated trunk, roots or limbs, dead palm fronds, etc.) and site characteristics (e.g., soil condition, previous fire damage, high wind areas, etc.). Each tree is assigned a risk score ranging from 0 to 100 using a tree risk calculator. Arborists can apply professional judgment in adjusting these risk scores as well. Trees that score 50 or more are typically mitigated as they are considered more vulnerable to falling or have branches or leaves that are more vulnerable to dislodging and striking nearby electrical facilities.

**Condition iii:** How SCE quantified and determined the risk reduction benefits of each initiative

SCE used historical data for tree caused outages as a baseline and subject matter expertise to estimate the effectiveness of HTMP. VM-1 risk reduction benefits are shown in 2020-2022 WMP Table 25.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

Tree removal is considered more effective than aggressive tree trimming as it prevents re-occurrence of the risk despite higher initial cost. While covered conductor can prevent contact from object faults, it cannot prevent a fault in cases where a tree falls against a line with enough force to break the pole/conductor.

SCE used operational and cost considerations to rule out undergrounding as a viable option as undergrounding, as mentioned previously, is expensive, not always operationally feasible and requires significant lead time to implement. Where undergrounding was not deemed to be a viable option, remediating the hazard trees is the only remaining option.

<b>WMP Activity ID:</b> VM-2	<b>2020-2022 WMP Section:</b> 5.3.5.5.1
<b>Activity Name:</b>	<b>VM-2 – Expanded Pole Brushing</b>

**Activity Background:**

This activity expands SCE’s pole brushing activities to inspect and clear brush on all distribution poles in HFRA to a 10-foot radial clearance in addition to poles requiring brushing in accordance with California Public Resource Code § 4292. The expanded pole brushing program removes fast-growing vegetation at the base of distribution poles to reduce the chance of ignition and/or fire spread due to a spark or contact with failed equipment by removing the fuel source associated with ignition. It also provides ingress/egress access for field crews. SCE has historically brushed approximately 75,000 distribution poles annually, but given the increasing wildfire risks, SCE considers all poles in HFRA to be at risk.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives considered:

- Only brush as required by regulations
- Apply fire retardants/suppressants at base of pole

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

SCE relied upon feedback from other utilities’ vegetation management practices and the working experience of its vegetation management professionals, as well an on-going analysis, to compare pole brushing to alternatives such as fire retardant/suppressants.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

The RSE for this initiative is very high reflecting the effectiveness of this program in reducing the propagation of a fire for a relatively low cost of implementation.

Based on SME’s judgment on the ignition reduction potential of this activity, the inputs were incorporated into the risk reduction benefits shown in activity VM-2 in 2020-2022 WMP Table 25.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

Cost of reducing risk was significantly lower using expanded pole brush clearance than application of temporary fire retardants/suppressants. Pole brushing also provides access clearance around the pole for field crew which fire retardants do not provide. Fire retardant efficacy at reducing ignition risk and long-term environmental impacts are still being studied at this time. Lastly, fire retardants/suppressants have time limited value associated with application and would require follow up applications.

<b>WMP Activity ID:</b> VM-3	<b>2020-2022 WMP Section:</b> 5.3.5.5.2
<b>Activity Name:</b>	<b>VM-3 – Expanded Clearances for Legacy Facilities</b>

**Activity Background:**

SCE’s Expanded Clearances for Legacy Facilities activity focuses on our Generation owned and maintained assets, many of which are located in densely forested areas of SCE’s HFRA. During SCE’s 2019 enhanced inspection efforts, a general need was identified for expanded clearances around many of SCE’s ground generation assets such as substations, electrical panels and miscellaneous electrified assets. SCE is utilizing existing standards such as NERC Standard FAC-003-1 and Cal Fire recommended clearances to decrease the chances of vegetation ignitions associated with these facilities. Once the program is completed, it will be maintained by SCE’s existing annual vegetation program to maintain the expanded clearance zones.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: None

SCE believes that the work identified as part of this activity is necessary and aligned with industry best practices, SCE’s treatment of similar transmission and distribution assets and Cal Fire clearance guidelines. As such, SCE did not specifically review any alternatives associated with this activity.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not Applicable, as this was an effort to update SCE facilities with vegetation best practices.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Not Applicable, as this was an effort to update SCE facilities with vegetation best practices.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

Not Applicable, as this was an effort to update SCE facilities with vegetation best practices.

<b>WMP Activity ID: VM-4</b>	<b>2020-2022 WMP Section: 5.3.5.16.2</b>
<b>Activity Name:</b>	<b>VM-4 – Drought Relief Initiative (DRI) Inspections and Mitigations</b>

**Activity Background:**

This activity identifies trees in HFRA that are dead or dying that could fall into or otherwise impact electrical facilities and potentially lead to ignitions and outages.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered: None

This is an existing CPUC program to identify hazard trees caused by drought and not a new/enhanced activity.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

No tools were used to compared against other activities as there were no other alternatives considered. An RSE was calculated for this activity using the RAMP model and the value was relatively high compared to other mitigations.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

SCE reviewed and quantified the effectiveness by assessing vegetation caused outages tracked in Tree Cause Circuit Interruption (TCCI) for this initiative (VM-4). These inputs were incorporated into the risk reduction calculations as shown in activity VM-4 in 2020-2022 WMP Table 25.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

This is an existing program, part of CPUC ESRB-4 requirement<sup>7</sup>, to identify hazard trees caused by drought and there were no other alternatives considered.

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<sup>7</sup> The CPUC ESRB-4 resolution arose out of the January 2014 Drought State of Emergency Proclamation. ESRB-4 directs SCE to enact necessary measures to reduce the likelihood of fires such as vegetation inspections; removing hazardous, dead and sick trees and other vegetation near electric power lines and poles. <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M096/K415/96415169.pdf>

<b>WMP Activity ID:</b> VM-5	<b>2020-2022 WMP Section:</b> 5.3.5.13
<b>Activity Name:</b>	<b>VM-5 – Vegetation Management Quality Control</b>

**Activity Background:**

This activity performs independent quality control (QC) inspections of vegetation adjacent to SCE facilities to identify vegetation to conductor clearance conditions that have not met program standards. Results of inspections are used to initiate corrective actions and ultimately drive performance improvement with achieving required clearances. SCE established the vegetation management QC program in April of 2019 and expanded it in 2020 to ensure wildfire risk was appropriately mitigated. Due to the importance of wildfire mitigation, the QC program uses personnel independent of the line/operations organization for an unbiased look at quality and meeting program expectations. Prior to program expansion, VM had 25 operational technical specialists conducting field verification.

**Condition i: All alternatives considered for each grid hardening or vegetation management initiative**

Alternatives Considered:

- Use the past practice of technical specialist oversight only in lieu of expanding QC contractors

However, SCE believes that due to the importance of Wildfire mitigation, having a department or group of inspectors independent of the line organization would provide a more detailed and thorough review at quality, and therefore the continued use of technical specialists was not suggested by SCE.

**Condition ii: All tools, models, and other resources used to compare alternative initiatives**

Not Applicable, as the alternative would be to not conduct QC which is not realistic. VM would still utilize technical specialists for oversight rather than QC.

**Condition iii: How SCE quantified and determined the risk reduction benefits of each initiative**

Not performing QC may result in vegetation trimming and removal work not being performed to expected standards and adverse to quality which could result in risk reduction benefits of vegetation management not being realized.

**Condition iv: Why SCE chose to implement each initiative over alternative options.**

SCE believes strongly that QC of VM work is a good practice. Prior to 2019, SCE used internal VM resources who were ISA certified arborists to perform oversight of VM work. Due to increased WMP requirements, it was determined additional oversight was required and the QC program was implemented, which uses independent QC personnel who are ISA certified arborists. These independent QC inspections supplement continued oversight from the internal

certified resources. The combination of internal and external oversight forms the basis of our defense-in-depth oversight strategy.

**GUIDANCE-4**  
**LACK OF DISCUSSION ON PSPS IMPACTS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***Guidance -4***

**Name:** Lack of discussion on PSPS impacts

**Category:** WMP Initiative Impacts on PSPS

**Class:** B

**Deficiency:**

Across 2020 WMP submissions, utilities indicate goals of reducing the scope, frequency and duration of PSPS events but also indicate intentions of continuing to implement PSPS as a wildfire mitigation measure in the immediate future. Considering the rapid expansion of PSPS use as a wildfire mitigation measure, and the numerous hardships, inconveniences and hazards created by its vast implementation, it is concerning that 2020 WMPs provide no discussion of how the chosen portfolio of initiatives will allow the utility to achieve its goals for reducing PSPS impacts. Specifically, no 2020 WMPs discuss the relationship between various grid hardening, vegetation management, and asset management initiatives and the corresponding impacts on thresholds for initiating PSPS events.

**Condition:**

In its first quarterly report, each electrical corporation shall detail whether and how each initiative in its WMP:

- i. affects its threshold values for initiating PSPS events;
- ii. is expected to reduce the frequency (i.e. number of events) of PSPS events;
- iii. is expected to reduce the scope (i.e. number of customers impacted) of PSPS events;
- iv. is expected to reduce the duration of PSPS events; and
- v. supports its directional vision for necessity of PSPS, as outlined in Section 4.4 of its WMP.

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**Response:**

**Condition i.-iv.:**

The following response provides an overview of how SCE's wildfire mitigation work in each category (e.g., Grid Design and System Hardening, Vegetation Management and Inspections, etc.) affects the threshold values, frequency, scope and duration of PSPS events. For details on whether and how each WMP initiative impacts PSPS threshold values, frequency, scope and duration (conditions i. - iv.), please see Guidance-4 Appendix A. For SCE's estimation of PSPS reduction in 2020 and further discussion around scope, frequency and duration, please see SCE's response to SCE-03.

## **Grid Design and System Hardening:**

The condition of the electrical grid is a key factor in making PSPS activation, de-energization and re-energization decisions, and therefore Grid Design and System Hardening initiatives can have significant impact on reducing the frequency and scope of PSPS events. Scope is expected to reduce because grid design workstreams lead to more operational flexibility, allowing for more granular differentiation during decision making and de-energizations. Frequency can be driven down because grid hardening projects lead to a more robustly constructed and maintained circuits or circuit segments that can withstand more punishing environmental factors.

For example, replacing bare overhead conductor with insulated, covered conductor (SH-1) significantly reduces the risk of phase-to-phase contact from a foreign object, allowing SCE's PSPS Incident Management Teams (IMTs) to keep HFRA circuits energized at higher wind speeds than would have previously been advisable. De-energization triggers of circuits with full deployed covered conductor for overhead lines can potentially be raised to the National Weather Service High Wind Warning level (40 mph sustained winds, 58 mph gusting winds) instead of using circuit-specific historical wind speeds, which are typically lower. This means there will likely be reduced frequency of PSPS events as more covered conductor is deployed. This is also likely to result in a reduced duration, should an event need to be called, because re-energization would be initiated at higher winds speeds. System hardening resulting from remediations of inspection findings can also be used in PSPS decisions, as described under Asset Management and Inspections below.

Another key activity of grid design and system hardening is the installation of additional sectionalizing devices (remote automated reclosers and remote-controlled switches (SH-5)). These devices allow SCE to limit the scope and frequency of PSPS de-energizations to only portions of a circuit that are experiencing environmental conditions warranting proactive action. Installation of these devices is regularly updated in SCE's circuit-specific switching plans so that PSPS IMTs have the most up to date planning factors and can act accordingly. For example, if only one section of a circuit is experiencing potentially damaging wind, the upstream portion can remain energized by opening a sectionalizing device, de-energizing a smaller portion of the line. This practice is also key in allowing underground customers and those in non-HFRA to remain energized, where similar sectionalizing could be performed.

## **Vegetation Management and Inspections:**

Vegetation Management and Inspections is another key wildfire mitigation category that can reduce the frequency, scope and duration of PSPS de-energizations. By removing particularly high-risk vegetation (Hazard Tree Management Program (VM-1)) and maintaining adequate clearances, SCE reduces the potential for vegetation to threaten lines and equipment in HFRA circuits during windy conditions, which in turn reduces the probability of imminent threats and de-energization to maintain public safety. While vegetation can become airborne and affect circuits even when adequate clearance is maintained, proactive vegetation management (e.g., Expanded Clearances and Drought Relief Inspections (VM-4)) is an effective tool in mitigating this likelihood, and in mitigating the frequency of PSPS events driven by vegetation concerns.

Year-round fuel sampling, along with the circuit vegetation review process mentioned below in the Situational Awareness and Forecasting section, assures that Fire Potential Index (FPI) vegetation inputs most accurately reflect the potential fire danger on any given circuit, and help to reduce PSPS frequency which may otherwise have been driven by overly general inputs. Along with wind speed, FPI is one of the primary determinants of fire risk and the decision whether to conduct a PSPS de-energization.

### **Asset Management and Inspections:**

Asset Management and Inspections (e.g., Distribution and Transmission High Fire Risk Informed Inspections in HFRA (IN-1.2, IN-1.2, and IN-5) Aerial Inspections (IN-6.1 and IN-6.2)), and Inspection Remediations (SH-12.1, SH-12.2 and SH-12.3) allow SCE to have up-to-date information about each circuit or circuit segment. Regular detailed ground and aerial inspections of all HFRA assets, enable SCE to identify and remediate asset conditions that are identified. If a circuit or circuit segment has outstanding inspection findings that have not yet been remediated, SCE considers those risks as part of its PSPS protocols until the work is completed.

While real-time information helps identify existing concerns, SCE is also exploring machine learning models (AT-5) to determine the possible risk of future asset failure and factor that into thresholds. This advance knowledge would allow SCE to find and correct grid vulnerabilities so that PSPS circuits are more robustly constructed and can sustain environmental factors. Another Alternative Technology SCE is pursuing is to perform pre- and post-event patrols using drones beyond line of sight instead of having to patrol on foot or via trucks and helicopters (AT-2.2). This can significantly reduce the time to restore energy, and therefore lessen the impact of PSPS on customers.

### **Situational Awareness and Forecasting:**

Situational Awareness and Forecasting is crucial to predicting the location and timing of PSPS events and ignition consequence. Increasing sophistication and granularity of SCE's forecasting and modeling tools (e.g., Weather Stations (SA-1), Fire Potential Index (FPI) Phase II (SA-2), Fuel Sampling Program (SA-5)) will facilitate accuracy and precision of modeling and forecasting. Also, increased in-event situational awareness helps with more operational flexibility, allowing SCE to target locations of concerning environmental factors so that the scope of PSPS events are contained to only those areas.

FPI is a tool that utilizes weather data, fuel conditions, vegetation moisture content and other factors to rate the current fire potential across SCE's service territory. The fuel condition variables in FPI are driven by SCE's ongoing Fuel Sampling Program<sup>8</sup> and other regional vegetation characteristics. For specific circuits where the lack of vegetation presents a much lower risk than comparable circuits in that region, SCE undergoes an evaluation process to

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<sup>8</sup> See Section 5.3.2.4.2 of SCE's 2020-22 Wildfire Mitigation Plan.

modify the FPI calculation specific to that circuit. These modeling adjustments allow for a more accurate representation of the circuit-specific fire danger, reducing the scope for PSPS.

SCE is also implementing Technosylva products FireSim and FireCast. These programs will allow SCE to improve its modelling of fire propagation and spread and will become a key feature in the development of PSPS thresholds and triggers.

### **Risk Assessment and Mapping:**

SCE's efforts in Risk Assessment and Mapping are focused on Expansion of Risk Analysis (RA-1). SCE has recently completed an initiative to utilize its Wildfire Risk Reduction Model (WRRM) to factor in risk of failure and contact from foreign object on an asset-level, using a multitude of equipment characteristics and historical data. The model takes key factors into account, like the ongoing asset management and grid hardening discussed above, in order to accurately reflect the benefits of SCE's wildfire mitigation work on its PSPS protocols. This may have an influence on future changes to threshold and trigger calculations, with ongoing and continuous improvement of the PSPS protocols.

### **Public Safety Power Shutoff (PSPS):**

All of the PSPS-related WMP initiatives help with mitigating the impact of PSPS on customers and communities. For example, PSPS notifications (PSPS-1.1 to PSPS-1.4), customer programs (e.g., Community Resource Centers (PSPS-2), and Customer Resiliency Equipment Initiatives (PSPS-3)) that are intended to reduce the impact of PSPS. While these activities don't have a direct impact on the scope, frequency or duration of PSPS events, they do seek to provide customers and public safety partners timely and relevant information so that they can undertake appropriate preparations for a potential loss of power. Also, programs that provide goods, services, information and rebates are meant to lessen the burden felt by customers from PSPS de-energizations.

### **Operational Practices:**

Operational Practices also focus on adding personnel for PSPS and wildfire mitigation activities (e.g., Wildfire Infrastructure Protection Team Additional Staffing (OP-2), Unmanned Aerial (UAS) Operations Training (OP-3)). SCE's new dedicated staffing to support PSPS activities will bolster the company's PSPS response and management including forecasting and modeling, customer care, public outreach, circuit monitoring, decision making, etc.

### **Emergency Planning and Preparedness:**

Emergency Planning and Preparedness initiatives enable PSPS education and awareness efforts, for SCE and the public. Outreach and engagement efforts (Customer Education and Engagement (DEP-1.1 to DEP-1.3)) seek to promote resilience steps that can be taken to better prepare for de-energization events. For SCE, training and education (SCE Emergency Response Training (DEP-2)) helps ensure that employees are fully prepared for consistent and appropriate application of Incident Command System and PSPS protocols.

In conclusion, because of the granularity of SCE's weather and fuel forecasting capabilities, broad network of weather stations, plans to operate sectionalizing devices pre and during event,

and circuit-specific intelligence on environmental and asset concerns, SCE is able to use consequence, location and circuit-level risk to develop circuit and circuit segment-specific de-energization triggers to limit the frequency, scope and duration of PSPS events while appropriately accounting for wildfire risks during inclement weather.

SCE notes, that though the many WMP initiatives directly or indirectly support PSPS decisions, qualitative factors, such as communicated concerns from local and state government agencies, county emergency management officials (including law enforcement, and fire authorities), the potential effect of de-energization on public safety partners and other critical infrastructure, and real-time operational considerations play important roles in deciding when and where de-energization occurs. These decisions are complex, and though data and analytics can significantly enhance accuracy and precision, they cannot always be reduced to mathematical equations.

**Condition v.:** How the initiatives in the 2020-22 WMP support the directional vision for necessity of PSPS.

While some of the Wildfire Mitigation Plan activities in Guidance-4 Appendix A do not directly impact PSPS thresholds or result in a reduction to scope, frequency or duration of PSPS events, they are still vital parts of the overall portfolio of initiatives that support the directional vision of PSPS at SCE.

Prime examples of this are customer programs targeted educating customers; encouraging their resilience; and providing rebates, goods, services and information to lessen the burden of PSPS de-energizations. These programs do not directly impact how SCE exercises PSPS protocols, but they do boost public safety by better preparing SCE's customers and communities for Public Safety Power Shutoffs and their potential impacts. See Guidance-4 Appendix A for commentary on how each initiative supports the directional vision of PSPS.

**Guidance 4 Appendix A**

**Guidance-4 - Appendix A  
PSPS Impact by Activity**

2020-22 WMP Activity		Category	i. Does this Affect Threshold Values for Initiating PSPS	ii. Expected to Reduce Number of Events	iii. Expected to Reduce Customers Impacted	iv. Expected to Reduce Duration	How Does the Initiative Support Directional Vision of PSPS
RA-1	Expansion of Risk Analysis	Risk Assessment & Mapping	Yes	Potentially, depending on specific circumstances			High tech consequence modeling that simulates potential wildfire spread and will inform the creation of PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate PSPS thresholds
OP-1	Annual SOB 322 Review	Grid Operations & Protocol	Yes	Yes	Yes	Yes	Using historical PSPS events to gather lessons learned that can inform changes to PSPS protocols in SOB322 to ensure continuous improvement <b>Changes in Thresholds:</b> PSPS protocols to be reviewed for lessons learned/improvements. Changes codified in this document for training/operations <b>Reduction of Events:</b> Codified improvements can lead to reduction once trained and put into practice <b>Reduction of Customers:</b> Codified improvements can lead to reduction once trained and put into practice <b>Reduction of Duration:</b> Codified improvements can lead to reduction once trained and put into practice
OP-2	Wildfire Infrastructure Protection Team Additional Staffing	Grid Operations & Protocol	Potentially, depending on specific circumstances			Hiring full time staff allows the most trained, practiced men and women to execute PSPS protocols and manage events, leading to a consistent, appropriate and effective response that will serve to reduce the frequency, scope and duration of SCE's PSPS events, wherever appropriate	
OP-3	Unmanned Aerial (UAS) Operations Training	Asset Management & Inspections	Potentially, depending on specific circumstances			Building upon aerial drone capabilities that are used to inspect HFRA assets and identify needed maintenance in order to harden the grid and raise PSPS thresholds	
IN-1.1	Distribution High Fire Risk Informed Inspections in HFRA	Asset Management & Inspections	Yes	No	No	No	Inspect HFRA assets and identify needed maintenance in order to harden the grid and raise PSPS thresholds <b>Change in Thresholds:</b> Inspections can actually lower thresholds because they alert SCE of maintenance items that are needed to harden the grid. Until fixed, those outstanding maintenance items would result in a lower threshold.
IN-1.2	Transmission High Fire Risk Informed Inspections in HFRA	Asset Management & Inspections	Yes	No	No	No	Inspect HFRA assets and identify needed maintenance in order to harden the grid and raise PSPS thresholds <b>Change in Thresholds:</b> Inspections can actually lower thresholds because they alert SCE of maintenance items that are needed to harden the grid. Until fixed, those outstanding maintenance items would result in a lower threshold.
IN-2	Quality Oversight / Quality Control	Asset Management & Inspections	Potentially, depending on specific circumstances			Confirm the quality and consistency of inspection program outputs to ensure the grid is appropriately maintained and hardened	
IN-3	Infrared Inspection of Energized Overhead Distribution Facilities and Equipment	Asset Management & Inspections	No	No	No	No	High-tech inspection of HFRA assets to identify needed maintenance in order to harden the grid and raise PSPS thresholds
IN-4	Infrared Inspection, Corona Scanning, and High Definition Imagery of Energized Overhead Transmission Facilities and Equipment	Asset Management & Inspections	No	No	No	No	High-tech inspection of HFRA assets to identify needed maintenance in order to harden the grid and raise PSPS thresholds
IN-5	Generation High Fire Risk Informed Inspections in HFRA	Asset Management & Inspections	No	No	No	No	Inspect HFRA assets and identify needed maintenance in order to harden the grid
IN-6.1	Aerial Inspections - Distribution	Asset Management & Inspections	Yes	No	No	No	Aerial inspection of HFRA assets to identify needed maintenance in order to harden the grid and raise PSPS thresholds <b>Change in Thresholds:</b> Inspections can actually lower thresholds because they alert SCE of maintenance items that are needed to harden the grid. Until fixed, those outstanding maintenance items would result in a lower threshold
IN-6.2	Aerial Inspections - Transmission	Asset Management & Inspections	Yes	No	No	No	Aerial inspection of HFRA assets to identify needed maintenance in order to harden the grid and raise PSPS thresholds <b>Change in Thresholds:</b> Inspections can actually lower thresholds because they alert SCE of maintenance items that are needed to harden the grid. Until fixed, those outstanding maintenance items would result in a lower threshold
IN-7	Failure Modes and Effects Analysis (FMEA)	Asset Management & Inspections	Potentially, depending on specific circumstances			Identify potential modes of failure or grid vulnerabilities to ensure continuous delivery of power	
SH-1	Covered Conductor	Grid Design & System Hardening	Yes	Yes	Yes	Yes	Grid hardening work that decreases the probability of phase-to-phase contact and contact from foreign object, leading to increased PSPS thresholds <b>Change in Thresholds:</b> A fully covered circuit or circuit segment would have its thresholds raised to the NWS High Wind Warning level, according to current practices <b>Reduction of Events:</b> As circuits have their thresholds raised, they are able to sustain higher wind speeds and are less likely to be de-energized <b>Reduction of Customers:</b> If circuits are de-energized less, less customers are affected by PSPS <b>Reduction of Duration:</b> If less circuits or shorter circuit segments are interrupted during a PSPS event, re-energization patrols will be quicker and events will end sooner
SH-2	Undergrounding Overhead Conductor	Grid Design & System Hardening	Yes	Yes	Yes	Yes	All but eliminating catastrophic fire danger posed by an HFRA circuit, allowing it to be removed from PSPS scope <b>Change in Thresholds:</b> Undergrounding a previously overhead line will completely remove it from PSPS scope <b>Reduction of Events:</b> Undergrounding a previously overhead line will completely remove it from PSPS scope <b>Reduction of Customers:</b> Undergrounding a previously overhead line will completely remove it from PSPS scope <b>Reduction of Duration:</b> Undergrounding a previously overhead line will completely remove it from PSPS scope
SH-3	WCCP Fire Resistant Poles	Grid Design & System Hardening	No	No	No	No	Replacing traditional wood poles with fire resistant poles hardens the grid to environmental threats and means that associated hardware is replaced with new material
SH-4	Branch Line Protection Strategy	Grid Design & System Hardening	No	No	No	No	Replace existing fuses with superior replacements that minimize potential causes of ignition and boost public safety
SH-5	Installation of System Automation Equipment – RAR/RCS	Grid Design & System Hardening	No	Yes	Yes	Yes	Increase sectionalizing capabilities on HFRA circuits to allow operational flexibility when de-energizing and reducing potential PSPS scope <b>Reduction of Events:</b> When SCE is able to limit de-energization events only to the area where potentially damaging winds are occurring, customers upstream of that de-energization will not have a PSPS event <b>Reduction of Customers:</b> When SCE uses a RAR/RCS to de-energize a portion of a circuit instead of a circuit breaker to de-energize an entire circuit, less customers are impacted <b>Reduction of Duration:</b> If less circuits or shorter circuit segments are interrupted during a PSPS event, re-energization patrols will be quicker and events will end sooner
SH-6	Circuit Breaker Relay Hardware for Fast Curve	Grid Design & System Hardening	No	No	No	No	Harden grid to decrease potential failures and increase public safety
SH-7	PSPS-Driven Grid Hardening Work	Grid Design & System Hardening	Potentially, depending on specific circumstances			Evaluate distribution circuits within HFRA to determine if modifications may improve sectionalizing capability and reduce PSPS scope	
SH-8	Transmission Open Phase Detection	Grid Design & System Hardening	No	No	No	No	Harden grid to decrease potential failures and increase public safety
SH-9	Transmission Overhead Standards (TOH) Review	Grid Design & System Hardening	Potentially, depending on specific circumstances			Continuous review of engineering standards to determine if changes can be made to reduce failure modes and reduce PSPS events	

**Guidance-4 - Appendix A  
PSPS Impact by Activity**

2020-22 WMP Activity		Category	i. Does this Affect Threshold Values for Initiating PSPS	ii. Expected to Reduce Number of Events	iii. Expected to Reduce Customers Impacted	iv. Expected to Reduce Duration	How Does the Initiative Support Directional Vision of PSPS
SH-10	Tree Attachment Remediation	Grid Design & System Hardening	Yes	Yes	Yes	Yes	Harden the grid to decrease potential failures, increase public safety and raise PSPS thresholds <b>Change in Thresholds:</b> Remediating all know circuit health concerns leads to an increase in PSPS thresholds <b>Reduction of Events:</b> If thresholds are raised, circuits are less likely to be de-energized <b>Reduction of Customers:</b> If circuits aren't de-energized, less customers are impacted <b>Reduction of Duration:</b> If less circuits are de-energized, more resources can perform patrols and re-energization can happen more quickly
SH-11	Legacy Facilities	Grid Design & System Hardening	Yes	Yes	Yes	Yes	Harden the grid to decrease potential failures, increase public safety and raise PSPS thresholds <b>Change in Thresholds:</b> Remediating all know circuit health concerns leads to an increase in PSPS thresholds <b>Reduction of Events:</b> If thresholds are raised, circuits are less likely to be de-energized <b>Reduction of Customers:</b> If circuits aren't de-energized, less customers are impacted <b>Reduction of Duration:</b> If less circuits are de-energized, more resources can perform patrols and re-energization can happen more quickly
SH-12.1	Remediations - Distribution	Grid Design & System Hardening	Yes	Yes	Yes	Yes	Harden the grid to decrease potential failures, increase public safety and raise PSPS thresholds <b>Change in Thresholds:</b> Remediating all know circuit health concerns leads to an increase in PSPS thresholds <b>Reduction of Events:</b> If thresholds are raised, circuits are less likely to be de-energized <b>Reduction of Customers:</b> If circuits aren't de-energized, less customers are impacted <b>Reduction of Duration:</b> If less circuits are de-energized, more resources can perform patrols and re-energization can happen more quickly
SH-12.2	Remediations - Transmission	Grid Design & System Hardening	Yes	Yes	Yes	Yes	Harden the grid to decrease potential failures, increase public safety and raise PSPS thresholds <b>Change in Thresholds:</b> Remediating all know circuit health concerns leads to an increase in PSPS thresholds <b>Reduction of Events:</b> If thresholds are raised, circuits are less likely to be de-energized <b>Reduction of Customers:</b> If circuits aren't de-energized, less customers are impacted <b>Reduction of Duration:</b> If less circuits are de-energized, more resources can perform patrols and re-energization can happen more quickly
SH-12.3	Remediations - Generation	Grid Design & System Hardening	Yes	Yes	Yes	Yes	Harden the grid to decrease potential failures, increase public safety and raise PSPS thresholds <b>Change in Thresholds:</b> Remediating all know circuit health concerns leads to an increase in PSPS thresholds <b>Reduction of Events:</b> If thresholds are raised, circuits are less likely to be de-energized <b>Reduction of Customers:</b> If circuits aren't de-energized, less customers are impacted <b>Reduction of Duration:</b> If less circuits are de-energized, more resources can perform patrols and re-energization can happen more quickly
VM-1	Hazard Tree Management Program	Vegetation Management & Inspections	No	No	No	Yes	Removal of potential ignition sources and fuel, boosting public safety <b>Reduction of Duration:</b> Taking care of potential foreign objects that can potentially fly into lines and require removal will mean that re-energization patrols will be shorter
VM-2	Expanded Pole Brushing	Vegetation Management & Inspections	No	No	No	No	Removal of potential ignition sources and fuel, boosting public safety
VM-3	Expanded Clearances for Legacy Facilities	Vegetation Management & Inspections	No	No	No	Yes	Removal of potential ignition sources and fuel, boosting public safety <b>Reduction of Duration:</b> Taking care of potential foreign objects that can potentially fly into lines and require removal will mean that re-energization patrols will be shorter.
VM-4	Drought Relief Initiative (DRI) Inspections and Mitigations	Vegetation Management & Inspections	No	No	No	Yes	Removal of potential ignition sources and fuel, boosting public safety <b>Reduction of Duration:</b> Taking care of potential foreign objects that can potentially fly into lines and require removal will mean that re-energization patrols will be shorter
VM-5	Vegetation Management Quality Control	Vegetation Management & Inspections	No	No	No	No	Inspection of HFRA circuits to identify potential ignition sources and fuel, boosting public safety
SA-1	Weather Stations	Situational Awareness & Forecasting	No	Yes	Yes	No	Enhance situational awareness allowing more sectionalization and reduced PSPS scope <b>Reduction of Events:</b> Increased situational awareness provided by more weather station coverage allows SCE to make more granular de-energization decisions. This means that only portions of circuits can be de-energized, allowing certain customers to avoid de-energization <b>Reduction of Customers:</b> Smaller de-energization footprints mean that less customers will be impacted by PSPS de-energizations
SA-2	Fire Potential Index (FPI) Phase II	Situational Awareness & Forecasting	Yes	Potentially, depending on specific circumstances			Enhance forecasting and modeling to provide more accurate PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate FPI and PSPS thresholds
SA-3	High-Performing Computer Cluster (HPCC) Weather Modeling System	Situational Awareness & Forecasting	Yes	Potentially, depending on specific circumstances			Enhance forecasting and modeling to provide more accurate PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate FPI and PSPS thresholds
SA-4	Asset Reliability & Risk Analytics Capability	Situational Awareness & Forecasting	Yes	Potentially, depending on specific circumstances			High tech consequence modeling that simulates potential wildfire spread and will inform the creation of PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate PSPS thresholds
SA-5	Fuel Sampling Program	Situational Awareness & Forecasting	Yes	Potentially, depending on specific circumstances			Gather enhanced situational awareness inputs that inform PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate FPI and PSPS thresholds
SA-6	Surface and Canopy Fuels Mapping	Situational Awareness & Forecasting	Yes	Potentially, depending on specific circumstances			Gather enhanced situational awareness inputs that inform PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate FPI and PSPS thresholds
SA-7	Remote Sensing / Satellite Fuel Moisture	Situational Awareness & Forecasting	Yes	Potentially, depending on specific circumstances			Gather enhanced situational awareness inputs that inform PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate FPI and PSPS thresholds
SA-8	Fire Science Enhancements	Situational Awareness & Forecasting	Yes	Potentially, depending on specific circumstances			Gather enhanced situational awareness inputs that inform PSPS thresholds <b>Change in Thresholds:</b> New modeling inputs that are used to calculate FPI and PSPS thresholds
PSPS-1.1	De-Energization Notifications	Grid Operations & Protocol	No	No	No	No	Information sharing to increase public safety and preparation
PSPS-1.2	De-Energization Notifications	Grid Operations & Protocol	No	No	No	No	Information sharing to increase public safety and preparation
PSPS-1.3	De-Energization Notifications	Grid Operations & Protocol	No	No	No	No	Information sharing to increase public safety and preparation
PSPS-1.4	De-Energization Notifications	Grid Operations & Protocol	No	No	No	No	Information sharing to increase public safety and preparation for all members of the public
PSPS-2	Community Resource Centers	Grid Operations & Protocol	No	No	No	No	Centers providing goods, services and information to reduce burden/impact of PSPS de-energization on the public
PSPS-3	Customer Resiliency Equipment Incentives	Grid Operations & Protocol	No	No	No	No	Rebates designed to encourage customer resiliency and lessen the burden of potential PSPS de-energizations
PSPS-4	Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program	Grid Operations & Protocol	No	No	No	No	Fully subsidized program that provides battery backup needs to power life safety equipment for select customers

**Guidance-4 - Appendix A  
PSPS Impact by Activity**

2020-22 WMP Activity		Category	i. Does this Affect Threshold Values for Initiating PSPS	ii. Expected to Reduce Number of Events	iii. Expected to Reduce Customers Impacted	iv. Expected to Reduce Duration	How Does the Initiative Support Directional Vision of PSPS
PSPS-5	MICOP Partnership	Grid Operations & Protocol	No	No	No	No	PSPS information sharing to increase public safety and preparation
PSPS-6	Independent Living Centers Partnership	Grid Operations & Protocol	No	No	No	No	PSPS information sharing to increase public safety and publicize potentially applicable SCE programs (e.g., Medical Baseline Program)
PSPS-7	Community Outreach	Grid Operations & Protocol	No	No	No	No	Centers providing goods, services and information to reduce burden/impact of PSPS de-energization on the public
PSPS-8	Microgrid Assessment	Grid Operations & Protocol	No	No	No	No	Evaluation efforts to determine the feasibility of islanded microgrids that can provide power to customers during PSPS and other de-energization events
DEP-1.1-1.3	Customer Education and Engagement	Emergency Planning & Preparedness	No	No	No	No	Information sharing to increase public safety and preparation
DEP-2	SCE Emergency Response Training	Emergency Planning & Preparedness	Potentially, depending on specific circumstances				Strengthen rigor and core competencies to aid in the execution of PSPS protocols and decrease frequency, scope and duration of PSPS events, where appropriate
DEP-3	IOU Customer Engagement	Emergency Planning & Preparedness	No	No	No	No	Information sharing to increase public safety and preparation
DEP-4	Customer Research and Education	Emergency Planning & Preparedness	No	No	No	No	Information sharing to increase public safety and inform SCE customer programs
AT-1	Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC)	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-2.1	Distribution Fault Anticipation (DFA)	Situational Awareness & Forecasting	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-2.2	Advanced Unmanned Aerial Systems Study	Grid Design & System Hardening	Potentially, depending on specific circumstances				Determine efficacy of UAS patrols which can potentially be introduced to reduce PSPS duration
AT-3.1	Alternative Technology Evaluations: Rapid Earth Fault Current Limiter (REFCL) - Ground Fault Neutralizer (GFN)	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-3.2	Alternative Technology Evaluations: REFCL - Resonant Grounded Substation with Arc Suppression Coil	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-3.3	Alternative Technology Evaluations: REFCL- Isolation Transformer	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-3.4	Alternative Technology Evaluations – Distribution Open Phase Detection	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-4	Alternative Technology Implementation – Vibration Dampers	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce modes of failure, boosting PSPS thresholds
AT-5	Asset Defect Detection Using Machine Learning Object Detection	Asset Management & Inspections	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-6	Assessment of Partial Discharge for Transmission Facilities	Asset Management & Inspections	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-7	Early Fault Detection (EFD) Evaluation	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources
AT-8	High Impedance Relay Evaluations	Grid Design & System Hardening	Potentially, depending on specific circumstances				Advanced technology solution that can potentially reduce public safety hazards and ignition sources

**GUIDANCE-5**  
**AGGREGATION OF INITIATIVES INTO PROGRAMS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***Guidance -5***

**Name:** Aggregation of initiatives into programs

**Category:** Aggregation of Initiatives

**Class:** B

**Deficiency:**

In their 2020 WMP submissions, electrical corporations often combine various initiatives into broader programs and report cost, risk and other related data at the program level. This aggregation of initiatives and bundled reporting creates several issues. First, because cost data is typically reported across programs and not individual initiatives, it is not possible for the WSD to evaluate the efficacy of each initiative. Second, when initiatives are bundled and reported together as programs, it prevents WSD from being able to assess which initiatives are effectively reducing utility wildfire risk. Consequently, this creates the challenge that ineffective elements of broad programs cannot be determined and future considerations of initiatives within programs can only be done collectively.

**Condition:**

In its first quarterly report, each electrical corporation shall:

- i. break out its programs outlined in section 5.3 into individual initiatives;
  - ii. report its spend on each individual initiative;
  - iii. describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence;
  - iv. list all data and metrics used to evaluate effectiveness described in (iii), including the threshold values used to differentiate between effective and ineffective initiatives; and
  - v. provide the information required for each initiative in section 5.3 of the Guidelines.
- 

**Response:**

**Condition i:**

SCE did breakout its wildfire initiatives in Section 5.3 of its 2020-2022 WMP. Please see the Guidance-5, Condition 1 Appendix A for programs outlined in Section 5.3 of SCE's 2020-2022 WMP broken out into individual initiatives. The first three columns provide the WMP narrative and table location for each of the initiatives included in the 2020 WMP Guidelines. The last two columns map each of SCE's 2020-2022 WMP wildfire initiatives (69) to the initiatives in the first three columns.

**Condition ii:**

Please see the Guidance-6 Appendix A for spend from 2019-2022 for each of SCE's 69 wildfire initiatives included in SCE's 2020-2022 WMP. The table shows the breakdown of total per initiative spend into capital expenditure and operating expenses.

**Condition iii & Condition iv:**

To monitor WMP progress, it is imperative to monitor effective implementation of WMP initiatives along with the effectiveness of the WMP initiatives. As stated in previous filings and submittals, tracking program targets for approved WMP activities are therefore key to determining progress in the near-term. Progress and outcome metrics, on the other hand, help inform the effectiveness of wildfire mitigation activities, and can also help identify improvements and necessary changes. These metrics, however, are often influenced by exogenous factors outside the utilities control such as weather, fire suppression efforts, fire response, etc. Therefore, progress and outcome metrics must be normalized to review trends over time, and not in any single year, when using them to assess WMP effectiveness. Prudent grid operations, maintenance, and upgrades will not eliminate risk entirely; but, over time and cumulatively, are expected to result in overall improvements in outcome metrics, such as ignition events associated with SCE's electrical infrastructure.

Please see Table 2 to Table 10 below for SCE's response to Guidance 5 conditions iii. and iv. for each of SCE's 69 wildfire initiatives included in the 2020-2022 WMP. SCE has described the effectiveness of each WMP initiative that supports the reduction of ignition risk or wildfire consequence along with data, metrics, and threshold values used to measure each initiative's effectiveness.

Though SCE has provided the information at the WMP initiative level as requested in the conditions, assessing overall effectiveness of the WMP at the initiative level would be impractical and cumbersome using all the initiative level metrics provided in the table. WMP portfolio level metrics can provide a comprehensive integrated assessment of utilities' progression in reducing the risk of any ignition associated with electrical infrastructure that has the potential to become a catastrophic wildfire. WMP portfolio level metrics also provide continuity in evaluating trends that is infeasible with initiative level metrics as WMPs are dynamic and the portfolio or scope of initiatives can change when lessons learned are incorporated. The key metrics that comprehensively evaluate WMP portfolio-level effectiveness are:

- CPUC reportable ignitions in HFRA (total and by key drivers such as CFO, wire-to-wire, Tree Caused Circuit Interruptions, equipment failure)
- Faults in HFRA (total and by key drivers mentioned above)
- Wire down incidents in HFRA
- Number of customers and average duration of PSPP events
- Timeliness and accuracy of PSPP notifications

Notably, as mentioned above, it is important to determine pertinent success measures for these portfolio-level metrics that adequately account for WMP deployment scope and location in any given time period (e.g. faults associated with circuit segments where covered conductor has been deployed), risk exposure or population size of assets (e.g. metrics normalized for total overhead circuit miles in a utility’s HFRA), and exogenous factors such as weather (e.g. metrics normalized for number of red flag warning days) or third-party causes. Given the variability of exogenous factors, portfolio level metrics shown above should only be used to identify longer term improvement trends and not necessarily used to set a specific annual goal nor compliance target, and as such, should be normalized to adjust for factors such as variability of climate/weather conditions, fuel/drought conditions, size of the infrastructure, etc. Our ability to construct and measure these key metrics is still maturing as we improve our data availability, data governance, and analytics, and we look forward to collaborating with the WSD, IOUs and other stakeholders in developing success measures for the portfolio level metrics shown above to appropriately measure what utilities WMPs can and should influence.

WSD has proposed some additional metrics such as number of injuries or fatalities, acres burned, structures destroyed, etc., provide reasonable measures of the status of wildfire safety in California, they are not suitable to measure effectiveness of *utility* WMPs as they are impacted by events and circumstances largely outside of the utility’s control.

**Guidance-5 Tables (Conditions iii. & iv.)**

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**Table 2 – Guidance-5 Alternative Technology**

1. Category: Alternative Technology (Please see SCE’s response to Guidance 9 for additional details)  
 2020 – 2022 WMP Sections 5.3.2 and 5.3.3

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
AT-1	Alternative Technology Pilots – Meter Alarming for Down Energized Conductor (MADEC)	Evaluating algorithm improvements to detect downed, energized, covered conductors, which may behave differently than bare conductors	Detection and prevention of downed energized covered conductor is an important aspect of public safety and of wildfire risk reduction. The MADEC system can limit the total time a downed energized covered conductor is energized after falling to earth, clearly providing improvement to public safety. Application of covered conductor is expected to greatly reduce the quantity of fault events and in turn also greatly reduce electric system related ignition events and other associated hazards.	This pilot will be deemed successful if MADEC’s ability to detect energized covered conductor is confirmed using sufficient sample data as more covered conductor is installed in the field, and actionable changes needed to make MADEC more effective are identified (i.e. distinct voltage signature patterns that are validated by actual field conditions). While all event data is valuable, algorithm improvements will require significantly more data on downed energized covered conductor before the algorithm to detect them automatically can be implemented. Threshold values are not applicable.
AT-2.1	Distribution Fault Anticipation (DFA)	Evaluate technology performance on fault anticipation technology and future deployment	DFA systems have the potential to more accurately detect potential equipment failures from conductor degradation or repeated contact with foreign objects using electrical signatures. Early detection will allow time to take proactive remedial action and reduce faults and potential ignitions.	Effectiveness measures include ability to track and analyze incipient events and other line conditions to determine potential for ignition risk, ability to accurately detect incipient faults sufficiently early to allow time for remediations, as well as minimizing equipment failure from the DFA vendor (SCE is working with the DFA vendor to bring this equipment failure ratio to less than 1% failure upon equipment commissioning.)

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
AT-2.2	Advanced Unmanned Aerial Systems (UAS) Study	Conduct additional Extended Visual Line of Sight (EVLOS) demonstration through UAS flights using lessons learned from 2019 study and validate aerial patrol findings via truck, foot, or helicopter	If pre- and post-event patrols can be performed using drones beyond line of sight instead of having to patrol on foot or via trucks and helicopters, it can significantly reduce the time, and therefore the impact of PSPS on customers. Pre-event patrols can also help with deciding where and when PSPS de-energizations are necessary, thus reducing probability of ignitions. If viable, the technology can be expanded to inspection programs which can improve the efficiency of identifying and remediating asset conditions that help reduce ignition risk.	This pilot will be deemed successful if (1) the technical feasibility of patrolling lines using remote aerial patrol beyond Line of Sight (LOS) is validated, (2) if the regulatory and permitting barriers are identified and overcome, and (3) if the video footage captured provides adequate information to QEWs to effectively identify findings.  Thresholds are not applicable to the first two metrics. The effectiveness threshold for the third metric is if the video footage captured is comparable to the visual in-person ground or helicopter inspections.
AT-3.1	Alternative Technology Evaluations: Rapid Earth Fault Current Limiter (REFCL)-Ground Fault Neutralizer (GFN)	Initiate engineering design and order equipment for a GFN field installation	Based on benchmarking, GFN technology is expected to reduce ignition risk from phase to ground faults.	SCE expects significant reduction in ignitions associated with phase to ground faults where GFN is deployed when compared to historical averages.
AT-3.2	Alternative Technology Evaluations: REFCL – Resonant Grounding with Arc Suppression Coil (ASC)	Initiate engineering design to convert a typical substation to resonant grounding	Based on benchmarking, REFCL with ASC technology is expected to reduce n ignition risk from phase to ground faults.	SCE expects significant reduction in ignitions associated with phase to ground faults where ASC is deployed when compared to historical averages. Threshold values have not been determined.
AT-3.3	Alternative Technology Evaluations – REFCL and Resonant	Install one Rapid Earth Fault Current Limiter - Isolation Transformer	SCE's Equipment Demonstration and Evaluation Facility (EDEF) Testing indicates that, when applied at the boundary of an HFRA, this REFCL	The effectiveness metrics include for the unit installed will be: <ul style="list-style-type: none"> <li>• Ability of SCE’s Distribution equipment design able to withstand</li> </ul>

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
	Grounded Transformer		technology with the isolation transformer can significantly reduce ignition risk from phase-to-ground faults.	<p>the overvoltage caused during a ground fault</p> <ul style="list-style-type: none"> <li>• Ability to detect ground faults down to 0.5amps.</li> <li>• Isolation bank does not create operational impacts that cannot be resolved.</li> <li>• Determine implementation costs for feasibility of broad scale deployment</li> </ul>
<b>AT-3.4</b>	Alternative Technology Evaluations – Distribution Open Phase Detection (OPD)	Complete pilot installation of OPD for five circuit locations	If successful at detecting all open phase conditions and isolating lines, prior to the lines contacting ground, the OPD system is expected to significantly reduce ignition probability for ignitions caused by wire downs. The success rate for detecting open phase conditions and isolating lines in the required time is still under review. For further information, please refer to Guidance-9 'Wildfire Risk Reduction Benefits'.	<p>Effectiveness evaluation includes:</p> <ul style="list-style-type: none"> <li>• Ability to identify and isolate an open phase condition within 1.2 seconds</li> <li>• System reliability impacts from false detections with an operational OPD scheme</li> <li>• Reduction in number of wire down events</li> <li>• Costs for broad scale deployment of OPD systems</li> </ul> <p>Threshold values have not been determined.</p>
<b>AT-4</b>	Alternative Technology Implementation – Vibration Dampers	Evaluate damper technologies for both small and large diameter covered conductor applications and develop standards for small and large diameter covered conductors	Installing dampers shall mitigate the risk of premature failure of covered conductors. Dampers have been proven to prevent the bare conductor, conductor connections and attachments from degrading due to vibration.	Effectiveness would be measured by significant reduction in covered conductor strain after damper installation.
<b>AT-5</b>	Asset Defect Detection Using Machine Learning Object Detection	Standardize data collection for future Machine Learning (ML) related to inspection activities. Develop ML tools and processes to evaluate use cases	This initiative uses machine learning to identify assets and defects from inspection imagery in the field and potentially identifies defects prior to	The effectiveness metric for this pilot is the platform’s ability to manage and access incoming inspection data streams and ability to detect defects accurately. Threshold values are not applicable.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
		and feasibility to support objective evaluation of inspection assets. The primary goal will be to improve prioritization of inspection resources allocation and improve defect identification rates.	inspections, thereby reducing potential ignition risks.	
<b>AT-6</b>	Assessment of Partial Discharge for Transmission Facilities	Evaluate the use of a remote Partial Discharge assessment technology to assess the health of in-service transmission assets	Detecting partial discharge from deteriorated equipment will help identify potential failures proactively, thus reducing the risk of faults and associated ignitions.	Effectiveness measured by technology's ability to detect in-field partial discharge accurately such that the data can be used to proactively identify imminent equipment failure. Threshold values have not been determined.
<b>AT-7</b>	Early Fault Detection (EFD) Evaluation	Develop installation standards, install, and commission at least 10 EFD sensors with up to an additional 90 sensors for evaluation. Gather data to determine requirements to support the potential for larger system deployments.	EFD sensors can continuously monitor lines and proactively detect imminent faults that can reduce the probability of faults and associated ignitions.	Effectiveness metrics include ability to accurately detect faults sufficiently early to allow time for remediations, assessment of technical feasibility, and assessment of maintenance needs. Threshold values have not been determined.
<b>AT-8</b>	High Impedance Relay Evaluations	Investigate and deploy two controllers / relays with a High Impedance (Hi-Z) element in HFRA	Protection schemes that can detect low magnitude arcing conditions can reduce the propagation of faults and therefore reduce ignition risk.	Effectiveness assessment includes review of relay event data and determine if the relay alarmed correctly for a large majority of Hi-Z events.

**Table 3 – Guidance-5 Asset Management and Inspections**

2.	Category: Asset Management and Inspections
2020 – 2022 WMP Section 5.3.4	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
IN-1.1	Distribution High Fire Risk Informed Inspections in HFRA	Inspect 105,000 structures in HFRA	Inspections identify conditions in need of remediation, conditions are prioritized, and items are remediated before they fail and cause a fault. Inspections that lead to remediations help reduce ignition probability factors.	Inspection programs are deemed effective if they result in findings of equipment or structure conditions that indicate imminent or potential failure if left unremediated. Therefore, the number of P1 notifications (need immediate remediation) and P2 notifications (need remediation within 6-12 months within HFRA) are key effectiveness metrics. This initiative will be deemed effective if the number of P1 and P2 findings and faults associated with equipment failure that are not driven by uncontrollable factors (such as extreme weather, third party caused, etc.) show a reduction over time. These reductions are dependent on remediations of inspection findings (see SH-12). The reductions are also dependent on equipment being replaced or upgraded as part of other initiatives and emergent issues. It is reasonable to expect reductions by 2022 compared to historical averages prior to 2019 (year the first cycle of detailed inspections beyond compliance requirements was conducted). However, there will always be some level of notifications due to asset life cycles and other factors.
IN-1.2	Transmission High Fire Risk Informed Inspections in HFRA	Inspect 22,500 structures in HFRA	See IN-1.1	See IN-1.1

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
IN-2	Quality Oversight / Quality Control	Perform quality control and oversight of inspections of 15,000 transmission, distribution, and generation structures in HFRA	QA/QC program helps ensure high quality of inspection work is performed for IN-1.1, IN-1.2 and IN-5, which in turn reduce the probability of equipment failure and ignitions when issues identified by those activities are remediated.	SCE's inspection QA/QC program is deemed effective when it identifies non-conformance with SCE standards, determines causes of non-conformance, and implements necessary corrective actions. There are no specific thresholds, but SCE tracks the formal action plans and changes implemented to inspection processes, training, etc. to continuously improve the inspection programs based on QA/QC findings. Increases in conformance rates over time also reflect effectiveness of the program.
IN-3	Infrared Inspection of energized overhead distribution facilities and equipment	Inspect 50% of distribution circuits in HFRA	See IN-1.1	See IN-1.1. Metrics include reduction in P1 and P2 findings and faults associated with splices, clamps or connectors on overhead lines.
IN-4	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead Transmission facilities and equipment	Inspect 1,000 transmission circuit miles in HFRA	See IN-1.1	Metrics include reduction in P1 and P2 findings and faults associated with splices, clamps, insulators, vibration dampeners or connectors on overhead lines.
IN-5	Generation High Fire Risk Informed	Perform inspection of 200 generation-related assets	See IN-1.1	See IN-1.1

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
	Inspections in HFRA			
<b>IN-6.1</b>	Aerial Inspections – Distribution	Inspect 165,000 structures in HFRA	See IN-1.1. Aerial inspections facilitate detection of equipment/structure conditions that are not visible from the ground and increase the probability of identifying issues that could lead to faults and ignitions if unremedied.	See IN-1.1 Note findings from aerial inspections are tracked separately from findings from ground inspections.
<b>IN-6.2</b>	Aerial Inspections – Transmission	Inspect 33,500 structures in HFRA	See IN-6.1	See IN-6.1
<b>IN-7</b>	Failure Modes and Effects Analysis (FMEA)	Complete FMEA study for substation assets in HFRA and prepare final report	This study will help identify potential sources of ignition from major substation assets and develop recommendations for substation equipment inspections and maintenance.	Results and analysis from the study are expected to provide documented recommendations and rationale for substations equipment inspection and maintenance. Given this initiative is a study, threshold values are not applicable.

**Table 4 – Guidance-5 Emergency Planning and Preparedness**

3.	Category: Emergency Planning and Preparedness
2020 – 2022 WMP Section 5.3.9	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>DEP-1.1</b>	Customer Education and Engagement – Dear Neighbor Letter	Send ~915,000 letters with information about PSPS and emergency preparedness to customers in HFRA and ~3,200,000 letters to customers in non-HFRA	This initiative helps mitigate impact to customers as described in the Emergency Preparedness and Response category of the WSD maturity model and it also helps educate customers about PSPS and prompt them to sign-up for outage notifications and/or the medical baseline program.	SCE uses the PSPS In-Language Wildfire Mitigation Survey to evaluate wildfire communication effectiveness, before, during, and after a wildfire. Pre- and post-event surveys are used to gauge the effectiveness of the outreach channels using percentage ratings for satisfaction, increased awareness, as well as usefulness of the materials and messages. Effectiveness will be measured by the improvements over time and identification of the most effective communication channels /materials.
<b>DEP-1.2</b>	Customer Education and Engagement - Community Meetings	Host 8-12 community meetings in areas impacted by 2019 PSPS plus other meetings including online as determined to share information about PSPS and emergency preparedness	This activity is not intended to directly reduce ignition probability or wildfire consequence; however, it can help customers and communities be better prepared thus reducing the impacts of wildfire and PSPS events. Collaboration with the communities can also facilitate timely completion of wildfire mitigation work which would reduce wildfire risks in turn.	Post-meeting surveys measure presentation satisfaction and percentage whether customers have increased awareness or feel better informed about WMP and PSPS. Threshold values have not yet been established. PSPS Tracking Study mentioned in DEP-1.1 can also be used to help understand if community meetings are effective communication channels.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>DEP-1.3</b>	Customer Education and Engagement - Marketing Campaign	Marketing campaign to reach 5,000,000 customers (goal of 40% awareness about the purpose of PSPS and emergency preparedness)	While not intended to reduce ignition probability or wildfire consequence, the marketing campaign seeks to educate customers about PSPS and emergency preparedness and reduce impact of a PSPS or wildfire event through customers' preparedness.	Awareness measured via a monthly Customer Attitude Tracking (CAT) survey; the results of which are aggregated on a quarterly and annual basis. This initiative has a goal of 40% awareness about the purpose of PSPS and emergency preparedness and SCE's WMP.
<b>DEP-2</b>	SCE Emergency Responder Training	Hold SCE IMT member training on de-energization protocols, determine additional staffing needs and train, exercise and qualify new staff	A trained and qualified incident management team, is more effective in PSPS operations, thus mitigating the risk of wildfires along with frequency and scope of PSPS. Additionally, a well-trained team provides greater consistency and precision across each PSPS event.	The success of this initiative is measured by the execution effectiveness of the PSPS activation, de-energization and re-energization processes work (e.g. roles and responsibilities, decision making processes, and execution). These are measured using compliance checklists which SCE must use to show 100% compliance.
<b>DEP-3</b>	IOU Customer Engagement	Participate in statewide multi-channel and multi-lingual campaign using digital ads, social media ads, and radio ads to provide customers with important and consistent messaging about wildfire mitigation activities happening across the state	N/A - no longer being pursued in 2020 as WMP activity. Status provided in Off-Ramp report and AB 1054 Q2 status report.	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>DEP-4</b>	Customer Research and Education	Develop/implement various research activities that gauge customer awareness, preparedness for, and satisfaction with outage experiences; to include but not be limited to: town hall meetings, online & telephone surveys, focus groups, and assessments of programs & services to prepare customers before and after PSPS outages	This initiative is not intended to reduce ignition probability or wildfire consequence, but information from surveys that measure how effective we are at educating customers of WMP initiatives and PSPS events (e.g. Community Resource Centers (CRCs), Community Crew Vehicles (CCVs), Access and Functional Needs (AFN) customers) can help improve customer communication channels and materials, thus helping customers' preparedness and potentially consequence of wildfires and PSPS events.	The effectiveness of this initiative depends on the synthesis and analysis of lessons learned, development of recommendations and actionable items to continuously improve education of customers. Threshold values are not applicable.

**Table 5 – Guidance-5 Operational Practices**

4.	Category: Operational Practices
2020 – 2022 WMP Section 5.3.4 & Section 5.3.6	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>OP-1</b>	Annual SOB 322 Review	Review and update SOB 322 to reflect lessons learned from past elevated fire weather threats/PSPS events and integrate, where applicable, new and improved situational awareness data, improved threat indicators, and applicable regulatory requirements in an effort to reduce wildfire risk and the impact of outages on customers.	Updated operational protocols and standards for safe operations for HFRA circuits influence WMP execution response during wildfire events and PSPS operations which help mitigate and reduce wildfire ignitions.	Reduction in operational challenges previously encountered. Threshold values are not applicable.
<b>OP-2</b>	Wildfire Infrastructure Protection Team Additional Staffing	Hire additional resources including: a senior compliance manager, two compliance advisors, a project /program advisor, a data specialist and a fire-weather meteorologist. PSPS Operations will also be staffed to provide dedicated operational, project management, and compliance capabilities	While this initiative does not directly reduce probability or consequence of ignitions, dedicated and specialized staff to help ensure operational consistency and enhance efficiency in implementing PSPS standards/protocols, thus reducing PSPS impacts on customers.	This initiative is expected to reduce the number of events requiring activation of broader IMT resources from across the company (normalized by weather events). These resources should additionally increase the accuracy and precision of each PSPS response.
<b>OP-3</b>	Unmanned Aerial (UAS) Operations Training	Increase the number of UAS operators by an additional 50 crews	This initiative expands our inspection tools and will enhance our capabilities and as a result, contribute to improvement in timely remediation of potential system/equipment defects. It will also enhance PSPS patrols by enabling QEWs to cover wider areas with UAS which can reduce wildfire risks by	This initiative is expected to increase the number of candidates trained and qualified to operate UAS and reduce the time needed to patrol affected circuits before and after PSPS events.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
			de-energizing lines at the right place and time, and also reduce PSPS scope and duration by helping to determine grid conditions in real time.	

**Table 6 – Guidance-5 Public Safety Power Shutoff (PSPS)**

5.	Category: Public Safety Power Shutoff (PSPS)
2020 – 2022 WMP Section 5.3.3 & Section 5.3.6	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>PSPS-1.1</b>	De-Energization Notifications	Notify applicable public safety agencies and local governments of possible de-energization. There are regulatory requirements associated with these notifications as well.	This activity does not directly reduce ignition probability or wildfire consequence, but is necessary to provide public safety agencies, including county and state emergency officials, priority notifications of potential de-energization and updated information throughout the event so that they can initiate applicable public safety mitigations to improve the safety and well-being of the public.	The number of timely notifications out of the total number of required notifications. This data is provided in the post-event ESRB-8 report and is a regulatory requirement
<b>PSPS-1.2</b>	De-Energization Notifications	Notify Cal OES through the State Warning Center of possible de-energization. There are regulatory requirements associated with these notifications as well.	This activity does not directly reduce ignition probability or wildfire consequence, but is necessary to provide public safety agencies, including county and state emergency officials, with priority notifications of potential de-energization and updated information throughout the event so that they can initiate applicable public safety mitigations to help ensure the safety and well-being of the public.	The number of timely notifications out of the total number of required notifications. This data is provided in the post-event ESRB-8 report and is a regulatory requirement captured through compliance checklists
<b>PSPS-1.3</b>	De-Energization Notifications	Notify the CPUC of possible de-energization	This activity does not directly reduce ignition probability or wildfire consequence, however providing the commission with applicable notifications of potential de-energization and updated information throughout the event and foster coordination directly with the IOU and other state agencies and implementation of the PSPS protocol during events.	Appropriate timely communication with the CPUC as documented in ESRB-8 reports after every relevant event. This action is a regulatory requirement and is captured through compliance checklists.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>PSPS-1.4</b>	De-Energization Notifications	Enhance EONS to include Zip Code level alerting to include in-language notifications to align with its existing notification abilities for SCE customers	This activity does not directly reduce ignition probability or wildfire consequence but is necessary to provide customers and non-customers with appropriate PSPS event information and help prepare them for the potential or actual PSPS event. Messages are translated into multiple languages allowing access to this critical information for non-English speakers.	Communications report (included in each ESRB-8 report) including notifications sent during events using EONS Zip code Alerting, in-language communication, and metrics such as Outbound Voice Calls- Number of times customers pressed "X" to receive their message Spanish, Vietnamese, Korean, Mandarin, Cantonese, Tagalog (Metrics from EONS vendor) and number of email and text clickthrough to SCE.com landing page to receive their message in Spanish, Vietnamese, Korean, Mandarin, Cantonese, Tagalog (Metrics from SCE.com).
<b>PSPS-2</b>	Community Resource Centers (CRC)	Have 35 sites available across SCE service territory for customers impacted by a PSPS.	This activity does not directly reduce ignition probability or wildfire consequence, but this activity is necessary for supporting SCE's customers during PSPS events. CRCs help mitigate the impacts of PSPS events by providing customers bottled water and light snacks, ice and ice vouchers, chairs, tables, restrooms, ability for customers to charge personal devices, information about SCE's PSPS resiliency programs and incentives, as well as the ability to update contact information and enroll in outage alerts. During the COVID-19 pandemic, CRC services have been altered to protect public safety further (social distancing, Resiliency kits with personal protective equipment, etc.)	Timely deployment, communication of locations and access to CRCs in targeted areas. As grid hardening continues, the need for CRC's as a PSPS mitigation tool should reduce. SCE also qualitatively tracks the customer traffic at CRCs during PSPS events.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>PSPS-3</b>	Customer Resiliency Equipment Incentives	Develop a customer resiliency equipment incentive pilot program that provides financial support to a customer willing to utilize its onsite solar and storage facilities to island and act as a community resiliency center during PSPS events.	This does not reduce probability or consequence of ignitions but helps reduce PSPS impact on customers and communities by providing temporary shelter and services.	The pilot will be deemed effective if: 1. a customer site that is a large commercial facility that can act as a shelter for the community, already has or are planning to have on-site solar and storage installed, and is willing to island and redirect the energy in the storage battery to a designated building on site for use during PSPS events or other emergencies. 2. Equipment installation and testing is complete, and the premise is ready for use 3. SCE gathered relevant information that can help broaden the scope of this program
<b>PSPS-4</b>	Critical Care Backup Battery Program <sup>9</sup>	Outreach to eligible customers (low income, critical care, Tier 2/3) to provide portable battery back-up solution. SCE has identified approximately 2,500 customers that it will target for the program in 2020 with efforts to begin second quarter.	While this initiative does not reduce the probability or consequence of ignitions, customers having access to backup power (battery) will help reduce the impact of PSPS events.	The effectiveness of this initiative can be measured by the number of successful installations for eligible critical care customers, or confirmation of pre-existing resiliency (customers who already have back up/resiliency) from the total eligible customer base. This supports the goal of mitigating the impact of an outage for our most vulnerable customers.

<sup>9</sup> Formerly known as the Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>PSPS-5</b>	MICOP Partnership	Enable communications with indigenous populations and measure the number of customers contacted	While this activity does not directly reduce ignition probability or wildfire consequence, this activity helps customer education and emergency preparedness which can reduce the impact of PSPS events.	The effectiveness metric for the MICOP Partnership is the number of indigenous immigrants and farmworkers contacted, the number reached through Public Service Announcements (PSA), as well as the number of families who receive follow-up information.
<b>PSPS-6</b>	Independent Living Centers (ILCs) Partnership	Conduct outreach activities and workshops/trainings to provide preparedness education and assistance in applying for the Medical Baseline Program and measure the number of customers contacted	While this activity does not directly reduce ignition probability or wildfire consequence, this activity helps vulnerable customers better prepare for PSPS events, this potentially mitigating PSPS impacts.	The effectiveness metric for the ILC Partnerships is the number of trainings facilitated and the number of customers contacted. SCE has an internal target of a minimum of 10 facilitated trainings /workshops which includes people with disabilities and others with access and functional needs. Continuation of partnerships with grant alliances/partners is also a success measure.
<b>PSPS-7</b>	Community Outreach	Minimum of five Community Crew Vehicles (CCVs) ready to be deployed during times when weather and fuel conditions are at critical levels.	This activity does not directly reduce ignition probability or wildfire consequence, but is necessary for supporting SCEs customers during PSPS events by providing them relevant information, device charging facilities, water, snacks, ice vouchers, etc.	The success measure for this initiative is SCE being ready to deploy at least 5 CCVs during PSPS events and effectively communicate the locations and timings of these CCVs to impacted communities.
<b>PSPS-8</b>	Microgrid Assessment	1) Execute RFP for six resiliency microgrid projects 2) Depending on RFP results, implementation of up to 6 resiliency microgrid projects shown to be technically feasible and cost-effective	This initiative does not directly reduce the probability or consequence of ignitions but can provide PSPS resilience to multiple customers in areas expected to be frequently impacted by PSPS.	Success measures include issuance of RFPs, rigorous evaluation of proposals received based on ability to meet technical requirements, costs and emissions, selection and implementation of microgrids if viable options are identified, and using the lesson learned from this cycle to improve site selection and RFP process going forward.

**Table 7 – Guidance-5 Risk Assessment and Mapping**

6.	Category: Risk Assessment and Mapping
2020 – 2022 WMP Section 5.3.1	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>RA-1</b>	Expansion of Risk Analysis	Implement Wildfire Risk Reduction Model (WRRM) module of Technosylva.	The WRRM will be used to determine the wildfire risk score (probability and consequence) of an asset or group of assets at a location in order to identify and prioritize the deployment of mitigation alternatives, with further information described in the WMP Section 5.3.1. This initiative will enhance SCE’s capability to prioritize and target deployment of WMP initiatives, thus supporting faster reduction of wildfire risks.	This initiative will be deemed effective when Technosylva WRRM consequence values can replace REAX consequence values. Effective thresholds are not applicable.

**Table 8 – Guidance-5 Situational Awareness and Forecasting**

7.	Category: Situational Awareness and Forecasting
2020 – 2022 WMP Section 5.3.2	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
SA-1	Additional Weather Stations	Install 375 Weather Stations  SCE will strive for 475 Weather Stations subject to resource constraints and other execution risks	Data from additional weather stations helps improve weather forecasting capabilities at a circuit and sub-circuit level. This improves the accuracy and precision of PSPS activations, de-energization and re-energization decisions.  Additionally, by installing weather stations on specific segments of circuits, SCE is able to sectionalize circuits and reduce the scope of PSPS events. Therefore, this initiative helps reduce the wildfire risks by supporting PSPS decisions and may also reduce impacts of PSPS.	This initiative will be deemed effective as the data collected from these additional weather stations are used to calibrate SCE’s weather model and enhance the accuracy and granularity of PSPS decisions.
SA-2	Fire Potential Index (FPI) Phase II	Refine the current FPI by integrating historical weather and vegetation data into the index	By integrating historical weather and vegetation data into the FPI, SCE will improve the accuracy of this index which is a direct input into PSPS decision making. This will improve the precision of PSPS decision-making by better estimating the potential risk of fire ignition and spread at the PSPS circuit level. Therefore, this initiative helps reduce the wildfire risks by supporting PSPS decisions and may also reduce PSPS impacts.	This initiative will be deemed effective if FPI Phase II is more accurate in predicting the risk of fire ignition and spread (as compared to the current FPI using historical data and other metrics against historical fire activity) and that it is operationalized in decision making.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
SA-3	High-Performing Computer Cluster (HPCC) Weather Modeling System	Complete installation of second HPCC	Installation of second HPCC will enable SCE to incorporate a 40-year historical weather dataset. This output will be used to improve weather and fuel modeling capabilities, which will ultimately improve the decision making of PSPS.	This initiative will allow super computers to consistently produce twice daily forecasts at 2KM horizontal resolution with hourly outputs out to 5 days forecast, and consistent incorporation of these outputs into FPI calculations and PSPS decisions. The effectiveness will be measured by how much this improves PSPS decision making and the improvement of weather and fuel modeling capabilities.
SA-4	Asset Reliability & Risk Analytics Capability	Implement FireCast and FireSim modules of Technosylva	The Technosylva products allow SCE to simulate "what if scenarios" to predict various fire ignition and consequence outputs such as fire perimeter size, structures impacted, populations affected, injury and death, etc. This output will help SCE coordinate response during active wildfire events and may be used as an input to inform PSPS decision making.	SCE is currently in a beta testing phase for the software and will complete testing and validation in Q3 and Q4. This initiative will be deemed successful if the technology evaluation results in specific actionable steps (e.g. calculate an impact score for circuits used in PSPS decision making) to inform PSPS decision making.
SA-5	Fuel Sampling Program	Perform updated fuel sampling in HFRA in areas deemed appropriate once every two weeks (weather permitting)	This semi real-time measurements of vegetation moisture for 12 sites is an additional input which helps calibrate FPI which increases the precision of PSPS decision making. This data can also be used to adjust inputs for fire spread calculations which will help improve the accuracy of fire consequence modeling.	The initiative will be deemed effective if the fuel sampling data collected can be compared to similar outputs to verify and validate fuels modeling. In turn this information would be used to make future improvements to fuels modeling, ultimately providing more accurate FPI outputs.
SA-6	Surface and Canopy Fuels Mapping	Initiate surface and canopy fuels mapping across HFRA	Improved surface and canopy fuel mapping will improve the accuracy of fire consequence modeling output, and in turn improve response to active wildfire events and may be used as an input to inform PSPS decision making.	Integration of surface canopy and fuels mapping inputs into Technosylva fire consequence models will improve fire spread modeling efforts. A simple comparison between the new fuels mapping layer and the older layer will clearly show areas where the fuels have changed and are more representative of current conditions

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
SA-7	Remote Sensing / Satellite Fuel Moisture	Initiate procurement process for remote sensing technology for future implementation	While this initiative does not reduce ignition risk or consequence directly, it enhances SCE's overall capability in our risk modeling and capability in calculating FPI which is a direct input to PSPS decision making. Additionally, it can help improve Technosylva's fire consequence models that can help better target and prioritize WMP deployment.	Given the relatively nascent stage of this technology initiative, it is difficult to define the precise metrics to determine the effectiveness of this initiative. However, we intend to perform comparative assessment of the modelling results using the added intelligence of the remote sensing and satellite fuel moisture data and compared with actual field conditions to assess the effectiveness of this remote sensing data. We expect this to be a continuous process with successive incremental improvements rather than a binary go/no-go outcome in the near term.
SA-8	Fire Science Enhancements	Implement enhanced forecasting capability and improved fuel modeling	While this initiative does not reduce ignition risk or consequence directly, it will improve the accuracy and precision of PSPS de-energization decisions.	This initiative will be deemed successful if fuel moisture calculations are improved, ensemble forecasting capability is developed, and better data visualization tools are implemented. An improvement in the number of circuits that are listed on and off the watch list during PSPS events should be seen.

**Table 9 – Guidance-5 Grid Design and System Hardening**

8.	Category: Grid Design and System Hardening
2020 – 2022 WMP Section 5.3.3	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>SH-1</b>	Covered Conductor	<p>Install 700 circuit miles of covered conductor in HFRA. 700 circuit miles is SCE’s program target.</p> <p>SCE will strive to complete 1,000 circuit miles subject to resource constraints and other execution risks</p>	Covered conductor is anticipated to significantly reduce contact-from-object and wire-to-wire ignition risks as well as indirectly reduce the frequency of wire down events by reducing the number of faults.	Outage data and ignition data is monitored to measure the effectiveness of covered conductor. SCE expects significant reductions in near misses and ignitions associated with contact from foreign objects and wire-to-wire contacts for the segments where covered conductor was deployed. To appropriately account for uncontrollable factors such as weather and third party caused incidents, the data for the relevant circuit segments need to be normalized and evaluated for trend over at least three years.
<b>SH-2</b>	Undergrounding Overhead Conductor	Refine evaluation methodology for targeted undergrounding as a wildfire mitigation activity	Undergrounding is expected to nearly eliminate faults and ignitions associated with overhead distribution lines where deployed.	SCE expects significant reductions in near misses and ignitions associated with overhead conductors for circuit segments where undergrounding is performed, as measured by outage and ignition data. To appropriately account for uncontrollable factors such as weather and third party caused incidents, the data for the relevant circuit segments need to be normalized and evaluated for trend over at least three years.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>SH-3</b>	WCCP Fire Resistant (FR) Poles	<p>Replace 5,200 poles with fire resistant poles in HFRA</p> <p>SCE will strive to replace 11,700 poles with fire resistant poles in HFRA subject to pole loading assessment results, resource constraints and other execution risks</p>	<p>Wood poles are susceptible to ignitions caused by equipment on the pole failing, structural damage due to woodpeckers, or from damage from fire on the ground. FR composite poles address all three concerns by providing tracking and arching resistance at the pole top and reducing consequence by remaining upright during a ground fire at the pole, which prevents energized equipment from falling to the ground. FR wrapped wood poles provide protection only for damage from fire on the ground and can be used as a more cost-effective alternative for wood poles without equipment or not located in a woodpecker area.</p>	<ul style="list-style-type: none"> <li>- Number of pole top fires on FR composite poles</li> <li>- Number of FR composite poles that protect pole top equipment being exposed to a fire</li> <li>- Number of FR poles (wrap and composite) that do not need to be replaced after being exposed to a fire</li> </ul> <p>All these metrics are expected to reduce when compared to historical averages and after normalizing them for uncontrollable year-to-year variances in factors such as weather.</p>
<b>SH-4</b>	Branch Line Protection Strategy	Install/replace fusing at 3,025 locations	<p>Ignition probability is expected to be reduced by the installation of branch line circuit protection, such as current limiting fuses. As described in the WMP Section 5.3.3.17, the fusing program is intended to reduce the risk of fire ignitions associated with SCE's distribution lines and equipment by reducing fault energy.</p>	<p>Reduction in number of ignitions associated with overhead conductor and splice/connector/clamp equipment failures when compared to historical averages and after normalization for uncontrollable factors such as weather or third party caused incidents.</p>
<b>SH-5</b>	Installation of System Automation Equipment – Remote Automatic Recloser (RAR)	Install 45 RARs/RCSs	<p>As stated in the WMP Section 5.3.3.9, SCE is expanding its system automation equipment strategy to target both RARs and additional sectionalizing devices such as RCSs to provide important isolating capabilities that could minimize the frequency of customer outages during PSPS</p>	<p>Number of customers who are de-energized during PSPS are expected to reduce when compared to historical averages when normalized for uncontrollable factors such as weather conditions</p>

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
	/Remote Control Switch (RCS)		and other outage events.	
<b>SH-6</b>	Circuit Breaker Relay Hardware for Fast Curve	Replace/upgrade 55 relay units in HFRA	Reducing fault magnitude/energy duration will reduce arcing energy at the fault location helping reduce wildfire consequence risk.	SCE currently is analyzing event records, event waveforms, relay records to determine the effectiveness of the Fast Curve elements. These devices are expected to reduce ignition to fault ratios when compared to historical averages.
<b>SH-7</b>	PSPS-Driven Grid Hardening Work	Review 50% of circuits impacted by PSPS to determine if modifications may improve sectionalizing capability within HFRA	This initiative constitutes an evaluation and will not on its own reduce risk. The grid hardening projects recommended by SH-7 are expected to reduce PSPS frequency and scope.	The effectiveness of this initiative will be based on the number of projects proposed and the expected reduction in PSPS frequency and scope when compared to historical data when normalized for weather.
<b>SH-8</b>	Transmission Open Phase Detection (TOPD)	Continue deployment of TOPD on six additional transmission/sub-transmission circuits	By detecting and isolating lines prior to contacting ground when wires fail, the TOPD system is expected to significantly reduce ignitions caused by wire downs.	Review of relay event data to determine whether the relay detected conductor parting and operated to isolate the line before the conductor hits ground to assess if TOPD has a high successful alarming (detection) rate for valid incidents and low false positives. The current pilot is demonstrating a high successful alarming rate to be approximately 90% of alarms.
<b>SH-9</b>	Transmission Overhead Standards (TOH) Review	Review transmission standards to determine if there are any changes that can be made to help reduce wildfire threats, especially during extreme wind events	Updated transmission overhead construction standards that more comprehensively address wildfire risks will reduce the probability of ignition by addressing failure types that lead to phase to ground and phase to phase events associated with overhead facilities with voltages above 50kV. Given the recent wildfire events in California, this is a key step for future construction	The initiative will be deemed effective if current standards are validated to adequately address wildfire risks for the electrical facilities in scope, or necessary changes are identified and incorporated in the updated construction and design standards. All known wildfire-related risks associated with overhead facilities with voltages above 50kV should be addressed.

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
			activities performed on SCE's overhead facilities with voltages above 50kV systems.	Threshold value is not applicable for this initiative.
<b>SH-10</b>	Tree Attachment Remediation	Remediate 325 tree attachments; SCE will strive to complete 481 tree attachment remediations subject to resource constraints and other execution risks	Reducing tree attachments reduces the probability of conductors failing from compromised tree integrity or vegetation contact which in turn reduces the probability of ignitions.	Outage data will be used to assess reductions in faults associated with conductor failure compared to historical averages for circuit segments which previously had tree attachments.
<b>SH-11</b>	Legacy Facilities	Evaluate risk, scope, and alternatives for identified circuits; evaluation of additional system hardening mitigation for wildlife fault protection and grounding /lightning arresters	This initiative will identify system hardening at these facilities, which will reduce faults and in turn probability of ignitions.	The effectiveness of this initiative will be effective if it (1) validates adequate grounding for all sites or identifies locations where corrective action is necessary, and (2) results in a comprehensive list of wildfire risks associated with legacy facilities and identifies specific grid hardening needs. A threshold effectiveness value is not applicable.
<b>SH-12.1</b>	Remediations – Distribution	Remediate 100% of notifications with ignition risk in accordance with CPUC requirements, non-inclusive of notifications which meet the criteria of a valid exception	Remediating hazards and possible ignition risks will reduce likelihood of a wildfire.	Effective remediations of inspection findings will be assessed using outage and ignition data to track -Reduction in equipment failure in HFRA over time compared to historical averages, when normalized for uncontrollable factors such as weather or third party caused outages -Reduction in P1 and P2 inspection finding over time until it stabilizes (See IN-1.1)

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>SH-12.2</b>	Remediations – Transmission	Remediate 100% of notifications with ignition risk in accordance with CPUC requirements, non-inclusive of notifications which meet the criteria of a valid exception	See SH-12.1	See SH-12.1
<b>SH-12.3</b>	Remediations – Generation	Remediate 100% of notifications with ignition risk in accordance with CPUC requirements, non-inclusive of notifications which meet the criteria of a valid exception	See SH-12.1	See SH 12.1.

**Table 10 – Guidance-5 Vegetation Management and Inspections**

9.	Category: Vegetation Management and Inspections
2020 – 2022 WMP Section 5.3.5	

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
<b>VM-1</b>	Hazard Tree Management Program (HTMP)	Assess 75,000 trees for hazardous conditions and perform prescribed mitigations in accordance with program guidelines and schedules	HTMP will reduce vegetation caused faults from fall-ins and blow-ins and therefore reduce probability of ignition.	As stated in the WSD deficiency SCE-12 & SCE-13, outage and ignition data will be used to assess (1) Tree Caused Circuit Interruptions (TCCIs); (2) Vegetation Caused Ignition Events. These metrics are expected to show reductions over time when compared to historical averages and normalized for uncontrollable factors such as weather. Please note that these two metrics will also be influenced by other programs such as trimming and DRI.
<b>VM-2</b>	Expanded Pole Brushing	Perform brush clearance of 200,000 poles. SCE will strive to perform brush clearance for 300,000 poles subject to resource constraints and other execution risks	Performing brush clearance prevents fires spreading to and from poles, reducing probability and consequence of ignitions.	Effectiveness metrics are - number of pole- based fires after a pole has been pole brushed. This metric is expected to show reduction over time when compared to historical averages and normalized for uncontrollable factors such as weather.
<b>VM-3</b>	Expanded Clearances for Legacy Facilities	Perform assessments of all identified facilities in HFRA. Establish enhanced buffers at 30% of identified facilities.	These assessments will help ensure SCE maintains vegetation clearance requirements per NERC, ANSI, and CALFIRE ordinances in all identified legacy facilities in HFRA.	Effectiveness will be measured by (1) Reduction in Vegetation Caused Ignition Events at legacy facilities compared to historical averages over time after normalizing for uncontrollable factors such as weather (2) Meeting vegetation clearance requirements around legacy facilities
<b>VM-4</b>	Drought Relief Initiative (DRI) Inspections and Mitigations	Perform DRI annual inspection scope and complete prescribed mitigations in accordance	Reducing the probability of dead, dying or diseased trees with compromised integrity falling into lines will reduce vegetation related faults and in	Outage and ignition data will be used to assess (1) Tree Caused Circuit Interruptions (TCCIs); (2) Vegetation Caused Ignition Events. These metrics are expected to show reductions over time when compared to historical averages and

Activity #	Initiative / Activity	Program Target	Condition iii. Describe the effectiveness of each initiative at reducing ignition probability or wildfire consequence	Condition iv.: List all data and metrics used to evaluate effectiveness and threshold values used to differentiate between effective and ineffective initiatives
		with internal DRI program guidelines	turn reduce probability of ignitions.	normalized for uncontrollable factors such as weather. Please note that these two metrics will also be influenced by other programs such as trimming and HTMP.
VM-5	Vegetation Management Quality Control	Perform 3,000 risk based HFRA circuit mile vegetation management Quality Control inspections	SCEs QC program drives continuous improvement in vegetation management programs which directly helps improve reduction of ignition probability or wildfire consequences.	Data & Metrics used to evaluate this initiative include: - opportunities of improvement identified by the QC program - associated corrective actions based on findings - training/ new processes documented

**Condition v.:**

Please see Guidance-6 Appendix A, for the required information for each initiative in section 5.3 of the WMP Guidelines.

**Guidance-5, Condition 1 Appendix A**

**Guidance-5, Condition 1  
Aggregation of Initiatives Into Programs**

Table # / Sec #	Initiative #	Initiative	WMP WF Activity	WMP Identifier
Table 21 / Sec 5.3.1	1	1. A summarized risk map showing the overall ignition probability and estimated wildfire consequence along electric lines and equipment		
Table 21 / Sec 5.3.1	2	2. Climate-driven risk map and modelling based on various relevant weather scenarios		
Table 21 / Sec 5.3.1	3	3. Ignition probability mapping showing the probability of ignition along the electric lines and equipment		
Table 21 / Sec 5.3.1	4	4. Initiative mapping and estimation of wildfire and PSPS risk-reduction impact		
Table 21 / Sec 5.3.1	5	5. Match drop simulations showing the potential wildfire consequence of ignitions that occur along the electric lines and equipment		
Table 21 / Sec 5.3.1	6	6. Weather-driven risk map and modelling based on various relevant weather scenarios		
Table 22 / Sec 5.3.2	1	1. Advanced weather monitoring and weather stations: Weather Stations (SA-1)	Weather Stations	(SA-1)
Table 22 / Sec 5.3.2	2.1	2.1. Continuous monitoring sensors: Distribution Fault Anticipation (DFA) (AT-2.1)	Distribution Fault Anticipation (DFA)	(AT-2.1)
Table 22 / Sec 5.3.2	2.2	2.2. Continuous monitoring sensors: Early Fault Detection (EFD) Evaluation (AT-7)	Early Fault Detection (EFD) Evaluation	(AT-7)
Table 22 / Sec 5.3.2	2.3	2.3. Continuous monitoring sensors: Transmission Open Phase Detection (SH-8)	Transmission Open Phase Detection	(SH-8)
Table 22 / Sec 5.3.2	3	3. Fault indicators for detecting faults on electric lines and equipment		
Table 22 / Sec 5.3.2	4.1	4.1. Forecast of a fire risk index, fire potential index, or similar: Fire Potential Index phase II (SA-2)	Fire Potential Index phase II	(SA-2)
Table 22 / Sec 5.3.2	4.2	4.2. Forecast of a fire risk index, fire potential index, or similar: Fuel Sampling Program (SA-5)	Fuel Sampling Program	(SA-5)
Table 22 / Sec 5.3.2	4.3	4.3. Forecast of a fire risk index, fire potential index, or similar: Surface & Canopy Fuels Mapping (SA-6)	Surface & Canopy Fuels Mapping	(SA-6)
Table 22 / Sec 5.3.2	4.4	4.4. Forecast of a fire risk index, fire potential index, or similar: Remote Sensing / Satellite Fuel Moisture (SA-7)	Remote Sensing / Satellite Fuel Moisture	(SA-7)
Table 22 / Sec 5.3.2	4.5	4.5. Forecast of a fire risk index, fire potential index, or similar: Fire Science Enhancements (SA-8)	Fire Science Enhancements	(SA-8)
Table 22 / Sec 5.3.2	5	5. Personnel monitoring areas of electric lines and equipment in elevated fire risk conditions		
Table 22 / Sec 5.3.2	6	6. Weather forecasting and estimating impacts on electric lines and equipment: High-Performing Computer Cluster (HPCC) Weather Modeling System (SA-3)	High-Performing Computer Cluster (HPCC) Weather Modeling System	(SA-3)
Table 22 / Sec 5.3.2	7	7. Develop Asset & Reliability & Risk Analytics Capability: Expansion of risk analysis (RA-1), Develop Asset Reliability & Risk Analytics Capability (SA-4)	Expansion of risk analysis Develop Asset Reliability & Risk Analytics Capability	(RA-1, SA-4)
Table 23 / Sec 5.3.3	1	1. Capacitor maintenance and replacement program		
Table 23 / Sec 5.3.3	2.1	2.1. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: maintenance		
Table 23 / Sec 5.3.3	2.2	2.2. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Meter Alarm Down Energized Conductor (MADEC) (AT-1)	Alternative Technology Evaluations - Meter Alarm Down Energized Conductor (MADEC)	(AT-1)
Table 23 / Sec 5.3.3	2.3.1	2.3.1. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Ground Fault Neutralizer (GFN) (AT-3.1)	Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Ground Fault Neutralizer (GFN)	(AT-3.1)
Table 23 / Sec 5.3.3	2.3.2	2.3.2. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Arc Suppression Coil (AT-3.2)	Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Arc Suppression Coil	(AT-3.2)
Table 23 / Sec 5.3.3	2.3.3	2.3.3. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Isolation Transformer (AT-3.3)	Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Isolation Transformer	(AT-3.3)
Table 23 / Sec 5.3.3	2.4	2.4. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - Distribution Open Phase Detection (AT-3.4)	Alternative Technology Evaluations - Distribution Open Phase Detection	(AT-3.4)
Table 23 / Sec 5.3.3	2.5	2.5. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Alternative Technology Evaluations - High Impedance Relay Evaluations (AT-8)	Alternative Technology Evaluations - High Impedance Relay Evaluations	(AT-8)
Table 23 / Sec 5.3.3	2.6	2.6. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: circuit breaker replacements		
Table 23 / Sec 5.3.3	2.7	2.7. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault: Circuit Breaker Relay Hardware for Fast Curve (SH-6)	Circuit Breaker Relay Hardware for Fast Curve	(SH-6)
Table 23 / Sec 5.3.3	3.1	3.1. Covered conductor installation: Covered Conductor (SH-1)	Covered Conductor	(SH-1)
Table 23 / Sec 5.3.3	3.2	3.2. Covered conductor installation: Tree Attachment Remediation (SH-10)	Tree Attachment Remediation	(SH-10)
Table 23 / Sec 5.3.3	3.3	3.3. Covered conductor installation: Alternative Technology Implementation - Vibration Dampers (AT-4)	Alternative Technology Implementation - Vibration Dampers	(AT-4)
Table 23 / Sec 5.3.3	4	4. Covered conductor maintenance		
Table 23 / Sec 5.3.3	5	5. Crossarm maintenance, repair, and replacement		
Table 23 / Sec 5.3.3	6.1	6.1. Distribution pole replacement and reinforcement, including with composite poles: WCCP Fire Resistant Poles (SH-3)	WCCP Fire Resistant Poles	(SH-3)
Table 23 / Sec 5.3.3	6.2	6.2. Distribution pole replacement and reinforcement, including with composite poles: Deteriorated Pole Program		
Table 23 / Sec 5.3.3	6.3	6.3. Distribution pole replacement and reinforcement, including with composite poles: Poles Identified During Inspections		
Table 23 / Sec 5.3.3	7	7. Expulsion fuse replacement: Branch Line Protection Strategy (SH-4)	Branch Line Protection Strategy	(SH-4)
Table 23 / Sec 5.3.3	8.1	8.1. Grid topology improvements to mitigate or reduce PSPS events: PSPS Driven Grid Hardening Work (SH-7)	PSPS Driven Grid Hardening Work	(SH-7)
Table 23 / Sec 5.3.3	8.2	8.2. Grid topology improvements to mitigate or reduce PSPS events: Microgrid Assessment (PSPS-8)	Microgrid Assessment	(PSPS-8)
Table 23 / Sec 5.3.3	9	9. Installation of system automation equipment: installation of system automation equipment - Remote Controlled Automatic Reclosers Settings Update (SH-5)	Remote Controlled Automatic Reclosers Settings Update	(SH-5)
Table 23 / Sec 5.3.3	10	10. Maintenance, repair, and replacement of connectors, including hotline clamps		
Table 23 / Sec 5.3.3	11	11. Mitigation of impact on customers and other residents affected during PSPS event		
Table 23 / Sec 5.3.3	12	12. Other corrective action		
Table 23 / Sec 5.3.3	12.1	12.1. Other corrective action: Distribution Remediations (SH-12.1)	Distribution Remediations	(SH-12.1)
Table 23 / Sec 5.3.3	12.2	12.2. Other corrective action: Transmission Remediations (SH-12.2)	Transmission Remediations	(SH-12.2)
Table 23 / Sec 5.3.3	12.3	12.3. Other corrective action: Generation Remediations (SH-12.3)	Generation Remediations	(SH-12.3)
Table 23 / Sec 5.3.3	13	13. Pole loading infrastructure hardening and replacement program based on pole loading assessment program		
Table 23 / Sec 5.3.3	14	14. Transformers maintenance and replacement		
Table 23 / Sec 5.3.3	15	15. Transmission tower maintenance and replacement		
Table 23 / Sec 5.3.3	16	16. Undergrounding of electric lines and/or equipment: Undergrounding Overhead Conductor (SH-2)	Undergrounding Overhead Conductor	(SH-2)
Table 23 / Sec 5.3.3	17	17. Updates to grid topology to minimize risk of ignition in HFTDS		
Table 23 / Sec 5.3.3	18	18. Transmission Overhead (TOH) Review (SH-9)	Transmission Overhead (TOH) Review	(SH-9)
Table 23 / Sec 5.3.3	19	19. Legacy Facilities (SH-11)	Legacy Facilities	(SH-11)
Table 24 / Sec 5.3.4	1	1. Detailed inspections of distribution electric lines and equipment: Distribution HFRA Detailed Inspections (previously ODI)		
Table 24 / Sec 5.3.4	2	2. Detailed inspections of Transmission electric lines and equipment		
Table 24 / Sec 5.3.4	3	3. Improvement of Inspections		
Table 24 / Sec 5.3.4	4	4. Infrared inspections of distribution electric lines and equipment: Infrared Inspection of Energized Overhead Distribution Facilities and Equipment (IN-3)	Infrared Inspection of Energized Overhead Distribution Facilities and Equipment	(IN-3)
Table 24 / Sec 5.3.4	5	5. Infrared inspections of transmission electric lines and equipment: Infrared Inspection, Corona Scanning, and High Definition Imagery of Energized Overhead Transmission Facilities and Equipment (IN-4)	Infrared Inspection, Corona Scanning, and High Definition Imagery of Energized Overhead Transmission Facilities and Equipment	(IN-4)
Table 24 / Sec 5.3.4	6	6. Intrusive pole inspections (IPI)		
Table 24 / Sec 5.3.4	7	7. LiDAR inspections of distribution electric lines and equipment		
Table 24 / Sec 5.3.4	8	8. LiDAR inspections of transmission electric lines and equipment		
Table 24 / Sec 5.3.4	9.1	9.1. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Distribution High Fire Risk-Informed Inspections (IN-1.1)	Distribution High Fire Risk-Informed Inspections	(IN-1.1)
Table 24 / Sec 5.3.4	9.1.1	9.1.1. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Asset Defect Detection Using Machine Learning Object Detection (AT-5)	Asset Defect Detection Using Machine Learning Object Detector	(AT-5)
Table 24 / Sec 5.3.4	9.2	9.2. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Aerial Inspections (IN-6.1)	Aerial Inspections	(IN-6.1)

**Guidance-5, Condition 1  
Aggregation of Initiatives Into Programs**

Table # / Sec #	Initiative #	Initiative	WMP WF Activity	WMP Identifier
Table 24 / Sec 5.3.4	9.2.1	9.2.1. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Unmanned Aerial Vehicles (UAV) (AT-2.2)	Unmanned Aerial Vehicles (UAV)	(AT-2.2)
Table 24 / Sec 5.3.4	9.2.2	9.2.2. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: UAS Operations Training (OP-3)	UAS Operations Training	(OP-3)
Table 24 / Sec 5.3.4	10.1	10.1. Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations: Transmission Risk-Informed Inspections in HFRA (IN-1.2)	Transmission Risk-Informed Inspections in HFRA	(IN-1.2)
Table 24 / Sec 5.3.4	10.2	10.2. Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations: Aerial Inspections - Transmission (IN-6.2)	Aerial Inspections - Transmission	(IN-6.2)
Table 24 / Sec 5.3.4	10.2.1	10.2.1. Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations: Assessment of Partial Discharge for Transmission Facilities (AT-6)	Assessment of Partial Discharge for Transmission Facilities	(AT-6)
Table 24 / Sec 5.3.4	11	11. Patrol inspections of distribution electric lines and equipment		
Table 24 / Sec 5.3.4	12	12. Patrol inspections of transmission electric lines and equipment		
Table 24 / Sec 5.3.4	13	13. Pole loading assessment program to determine safety factor		
Table 24 / Sec 5.3.4	14	14. Quality assurance / quality control of inspections: Quality Oversight / Quality Control (IN-2)	Quality Oversight / Quality Control	(IN-2)
Table 24 / Sec 5.3.4	15	15. Substation inspections		
Table 24 / Sec 5.3.4	15.1	15.1 Failure Modes and Effects Analysis (FMEA) (IN-7)	Failure Modes and Effects Analysis (FMEA)	(IN-7)
Table 24 / Sec 5.3.4	16	16. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations: Generation Risk-Informed Inspections in HFRA (IN-5)	Generation Risk-Informed Inspections in HFRA	(IN-5)
Table 25 / Sec 5.3.5	1	1. Additional efforts to manage community and environmental impacts		
Table 25 / Sec 5.3.5	2	2. Detailed inspections of vegetation around distribution electric lines and equipment		
Table 25 / Sec 5.3.5	3	3. Detailed inspections of vegetation around transmission electric lines and equipment		
Table 25 / Sec 5.3.5	4	4. Emergency response vegetation management due to red flag warning or other urgent conditions		
Table 25 / Sec 5.3.5	5	5. Fuel management and reduction of "slash" from vegetation management activities		
Table 25 / Sec 5.3.5	5.1	5.1. Fuel management and reduction of "slash" from vegetation management activities: Expanded Pole Brushing (VM-2)	Expanded Pole Brushing	(VM-2)
Table 25 / Sec 5.3.5	5.2	5.2. Fuel management and reduction of "slash" from vegetation management activities: Expanded Clearances for Legacy Facilities (VM-3)	Expanded Clearances for Legacy Facilities	(VM-3)
Table 25 / Sec 5.3.5	6	6. Improvement of inspections		
Table 25 / Sec 5.3.5	7	7. LiDAR inspections of vegetation around distribution electric lines and equipment		
Table 25 / Sec 5.3.5	8	8. LiDAR inspections of vegetation around transmission electric lines and equipment		
Table 25 / Sec 5.3.5	9	9. Other discretionary inspection of vegetation around distribution electric lines and equipment, beyond inspections mandated by rules and regulations		
Table 25 / Sec 5.3.5	10	10. Other discretionary inspection of vegetation around transmission electric lines and equipment, beyond inspections mandated by rules and regulations		
Table 25 / Sec 5.3.5	11	11. Patrol inspections of vegetation around distribution electric lines and equipment		
Table 25 / Sec 5.3.5	12	12. Patrol inspections of vegetation around transmission electric lines and equipment		
Table 25 / Sec 5.3.5	13	13. Quality assurance / quality control of inspections: Quality Control (VM-5)	Quality Control	(VM-5)
Table 25 / Sec 5.3.5	14	14. Recruiting and training of vegetation management personnel		
Table 25 / Sec 5.3.5	15	15. Remediation of at-risk species		
Table 25 / Sec 5.3.5	16	16. Removal and remediation of trees with strike potential to electric lines and equipment		
Table 25 / Sec 5.3.5	16.1	16.1. Removal and remediation of trees with strike potential to electric lines and equipment: Hazard Tree (VM-1)	Hazard Tree	(VM-1)
Table 25 / Sec 5.3.5	16.2	16.2. Removal and remediation of trees with strike potential to electric lines and equipment: DRI Quarterly Inspections and Tree Removals (VM-4)	DRI Quarterly Inspections and Tree Removals	(VM-4)
Table 25 / Sec 5.3.5	17	17. Substation inspections		
Table 25 / Sec 5.3.5	18	18. Substation vegetation management		
Table 25 / Sec 5.3.5	19	19. Vegetation inventory system		
Table 25 / Sec 5.3.5	20	20. Vegetation management to achieve clearances around electric lines and equipment		
Table 26 / Sec 5.3.6	1	1. Automatic recloser operations		
Table 26 / Sec 5.3.6	1.1	1.1. Annual SOB 322 review (OP-1)	Annual SOB 322 review	(OP-1)
Table 26 / Sec 5.3.6	2	2. Crew-accompanying ignition prevention and suppression resources and services		
Table 26 / Sec 5.3.6	3	3. Personnel work procedures and training in conditions of elevated fire risk		
Table 26 / Sec 5.3.6	4	4. Protocols for PSPS re-energization		
Table 26 / Sec 5.3.6	5	5. PSPS events and mitigation of PSPS impacts		
Table 26 / Sec 5.3.6	5.1	5.1. PSPS events and mitigation of PSPS impacts: Community Resource Centers (PSPS-2)	Community Resource Centers	(PSPS-2)
Table 26 / Sec 5.3.6	5.2	5.2. PSPS events and mitigation of PSPS impacts: Customer Resiliency Equipment Incentives (PSPS-3)	Customer Resiliency Equipment Incentives	(PSPS-3)
Table 26 / Sec 5.3.6	5.3	5.3. PSPS events and mitigation of PSPS impacts: Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program (PSPS-4)	Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program	(PSPS-4)
Table 26 / Sec 5.3.6	5.4	5.4. PSPS events and mitigation of PSPS impacts: MICOP Partnership (PSPS-5)	MICOP Partnership	(PSPS-5)
Table 26 / Sec 5.3.6	5.5	5.5. PSPS events and mitigation of PSPS impacts: Independent Living Centers Partnership (PSPS-6)	Independent Living Centers Partnership	(PSPS-6)
Table 26 / Sec 5.3.6	5.6	5.6. PSPS events and mitigation of PSPS impacts: Community Outreach (PSPS-7)	Community Outreach	(PSPS-7)
Table 26 / Sec 5.3.6	5.7	5.7. PSPS events and mitigation of PSPS impacts: Wildfire Infrastructure Protection Team Additional Staffing (OP-2)	Wildfire Infrastructure Protection Team Additional Staffing	(OP-2)
Table 26 / Sec 5.3.6	5.8	5.8. PSPS events and mitigation of PSPS impacts: Self Generation Incentive Program (SGIP) Resiliency		
Table 26 / Sec 5.3.6	5.9	5.9. PSPS events and mitigation of PSPS impacts: Mobile Generator Deployment		
Table 26 / Sec 5.3.6	6	6. Stationed and on-call ignition prevention and suppression resources and services		
Table 26 / Sec 5.3.6	7	7. De-energization notifications (PSPS-1.1, PSPS-1.2, PSPS-1.3, PSPS-1.4)	De-energization notifications	(PSPS-1.1, 1.2, 1.3, 1.4)
Table 27 / Sec 5.3.7	1	1. Centralized repository for data		
Table 27 / Sec 5.3.7	2	2. Collaborative research on utility ignition and/or wildfire		
Table 27 / Sec 5.3.7	3	3. Documentation and disclosure of wildfire-related data and algorithms		
Table 27 / Sec 5.3.7	4	4. Tracking and analysis of near miss data		
Table 28 / Sec 5.3.8	1	1. Allocation methodology development and application		
Table 28 / Sec 5.3.8	2	2. Risk reduction scenario development and analysis		
Table 28 / Sec 5.3.8	3	3. Risk spend efficiency analysis		
Table 28 / Sec 5.3.8	4	4. Organizational Support - PMO, OCM, and wildfire-related IT support		
Table 29 / Sec 5.3.9	1	1. Adequate and trained workforce for service restoration: SCE Emergency Response Training (DEP-2)	SCE Emergency Response Training	(DEP-2)
Table 29 / Sec 5.3.9	2	2. Community outreach, public awareness, and communications efforts: Customer Education and Engagement (DEP-1.1, 1.2, 1.3), IOU Customer Engagement (DEP-3)	Customer Education and Engagement, IOU Customer Engagement	(DEP-1.1, 1.2, 1.3, 3)
Table 29 / Sec 5.3.9	3	3. Customer support in emergencies		
Table 29 / Sec 5.3.9	4	4. Disaster and emergency preparedness plan		
Table 29 / Sec 5.3.9	5	5. Preparedness and planning for service restoration		
Table 29 / Sec 5.3.9	6	6. Protocols in place to learn from wildfire events		
Table 29 / Sec 5.3.9	7	7. Customer Research and Education (DEP-4)	Customer Research and Education	(DEP-4)
Table 30 / Sec 5.3.10	1	1. Community engagement		
Table 30 / Sec 5.3.10	2	2. Cooperation and best practice sharing with agencies outside CA		
Table 30 / Sec 5.3.10	3	3. Cooperation with suppression agencies		
Table 30 / Sec 5.3.10	4	4. Forest service and fuel reduction cooperation and joint roadmap		

**GUIDANCE-6**  
**FAILURE TO DISAGGREGATE WMP INITIATIVES**  
**FROM STANDARD OPERATIONS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***Guidance -6***

**Name:** Failure to disaggregate WMP initiatives from standard operations

**Category:** Aggregation of Initiatives

**Class:** B

**Deficiency:**

While WMPs are designed to outline and detail filer’s plans and initiatives for mitigating wildfire risk, many existing programs also provide wildfire risk reduction benefits. For example, General Order 165 requires annual patrol inspections and detailed inspections every five years for electrical infrastructure. These programs and initiatives are often referenced in 2020 WMPs as “supporting,” “routine,” “enabling,” “standard,” or “foundational” work. For these types of programs, in most cases, electrical corporations do not report cost or risk reduction data, as the work is considered part of their electric operations and it is indicated that this information is not tracked independently.

Several electrical corporations state that their programs for inspecting and maintaining crossarms, poles, transformers, transmission towers and similar infrastructure, which also reduce wildfire risk, are embedded within standard maintenance programs litigated in GRCs. Consequently, it is difficult to determine whether and how these programs incrementally impact wildfire risk reduction or if related WMP initiatives are redundant and unnecessary. While utilities may not have historically considered the costs and effectiveness of such programs and initiatives, given that numerous WMP initiatives have apparent overlap or potential redundancy, it is imperative that utilities provide such data to validate the need for and effectiveness of additional programs.

It is not clear how electrical corporations are tracking their WMP activities in memorandum accounts if they do not budget for them by type of initiative. The Commission will scrutinize electrical corporations’ memorandum accounts for WMP carefully, and if all costs are simply lumped together or included in general operations and maintenance accounts, electrical corporations risk failing to provide entitlement to cost recovery.

**Condition:**

In its first quarterly report, each electrical corporation shall:

- i. clearly identify each initiative in Section 5.3 of its WMP as “Standard Operations” or “Augmented Wildfire Operations;”
  - ii. report WMP required data for all Standard Operations and Augmented Wildfire Operations;
  - iii. confirm that it is budgeting and accounting for WMP activity of each initiative; and
  - iv. include a “ledger” of all subaccounts that show a breakdown by initiative.
-

**Response:**

**i. clearly identify each initiative in Section 5.3 of its WMP as “Standard Operations” or “Augmented Wildfire Operations;”**

SCE has prepared the attached table (see Guidance-6 Appendix A) detailing the 69 WMP initiatives/activities in SCE’s 2020-2022 Wildfire Mitigation Plan. The table contains 1) identification as to whether each activity is considered “Standard Operations” or “Augmented Wildfire Operations” (pursuant to condition i.), 2) all required data per the WSD’s WMP Guidelines for Tables 21-30 (pursuant to condition ii.), 3) confirmation that SCE is budgeting/accounting for each initiative by providing the memorandum account the activity is being tracked in (pursuant to condition iii.), SCE’s accounting structure/ledger for each initiative (pursuant to condition iv.) and a description of the accounting structure/ledger for further clarity. The rows and information in SCE’s original 2020-2022 WMP submittal of Tables 21-30 that are not included in these 69 activities were populated in an attempt to provide as much granularity and insight into SCE’s work as possible, but reflect work that SCE considers to be supporting efforts or performed as a part of normal, ongoing operations. For a full view of how SCE’s 69 activities map to the broader structure provided in the WMP Guidelines, please see SCE’s response to Guidance-5, condition i. (see Guidance-5, Condition 1 – Appendix A).

**ii. report WMP required data for all Standard Operations and Augmented Wildfire Operations;**

Please see SCE’s response to condition i. SCE has labeled as “Standard Operations” any activity that is part of SCE’s normal operations while “Augmented Wildfire Operations” activities represent the incremental work being performed as part of its wildfire mitigation portfolio. The WMP required data provided aligns with that filed in SCE’s 2020-2022 Wildfire Mitigation Plan and will be updated as part of its 2021 update.

**iii. confirm that it is budgeting and accounting for WMP activity of each initiative; and**

Please see SCE’s response to condition i. For a description of each memorandum account, please see Table 11 – Guidance-6  
Memorandum Account Descriptions

**Table 11 – Guidance-6  
Memorandum Account Descriptions**

<b>Memorandum Account</b>	<b>Purpose</b>	<b>Effective Date</b>
Fire Hazard Prevention Memorandum Account (FHPMA)	Tracks incremental costs of complying with new fire prevention standards established in R.15-05-006 (e.g., increased clearance requirements and expanded definition of high-risk areas)	January 1, 2018
Grid Safety and Resiliency Program Memorandum/Balancing Account (GSRPMA/GSRPBA)	Tracks incremental costs of SCE’s Grid Safety and Resiliency Program (including amounts approved in D.20-04-013 and amounts above those approved in D.20-04-013 and consistent with the accelerated plan described in WMP)	September 10, 2018 (GSRPMA) and May 22, 2020 (GSRPBA)
Wildfire Mitigation Plan Memorandum Account (WMPMA)	Tracks incremental costs of activities described in SCE’s approved Wildfire Mitigation Plan (including costs previously tracked in FRMMA since January 18, 2019)	June 19, 2019
Fire Risk Mitigation Memorandum Account (FRMMA)	Tracks incremental costs of fire risk mitigation not described in the approved WMP or otherwise recovered/tracked elsewhere	January 18, 2019
Catastrophic Event Memorandum Account (CEMA)	Tracks incremental costs of restoring service to customers, repairing or replacing damaged facilities, and complying with government orders after declared disasters	Upon activation

**iv. include a “ledger” of all subaccounts that show a breakdown by initiative.**

Please see SCE’s response to condition i. SCE has provided the accounting ledger name for each activity, starting with Business Planning Group (BPG) and Business Planning Element (BPE) then going into more granularity (by Activity and Sub-Activity). This structure represents SCE’s accounting structure. In addition, SCE also provided a description of accounting for each activity for additional details of each activity’s accounting ledger.

**Guidance-6 Appendix A**

**Guidance-6 Table**  
**Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
Weather Stations (SA-1)	2019 plan	\$6,031,067	\$5,389,254	\$641,813	315	\$19	CFO: All EFF: All	2.926955305	151.3942025	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of weather station installations is the unit of measure.  Advanced weather monitoring will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	SA-1	Table 22	Sec 5.3.2	1. Advanced weather monitoring and weather stations	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Enhanced Situational Awareness Sub-Activity: Weather Stations	Accounting includes costs to deploy and maintain weather stations across SCE's HFRA
	2019 actual	\$5,520,099	\$4,282,182	\$1,237,917	357	\$15	CFO: All EFF: All	2.926955305	77.25416253	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of weather station installations is the unit of measure.  Advanced weather monitoring will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020	\$6,832,771	\$5,535,885	\$1,296,886	475	\$14	CFO: All EFF: All	2.84170418	57.50512269	NA	New	NA	GSRPMA	NA	NA	Values in columns H-K are repeated from the risk columns in Table 26, Initiative 5. Instead of "Line miles to be treated", number of weather station installations is the unit of measure.  Advanced weather monitoring will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$5,766,528	\$4,203,504	\$1,563,024	475	\$12	CFO: All EFF: All	2.758936097	61.71325115	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of weather station installations is the unit of measure.  Advanced weather monitoring will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	\$5,800,296	\$4,203,504	\$1,596,792	475	\$12	CFO: All EFF: All	2.678578735	65.33693757	NA	New	NA	GSRPMA	NA	NA	Values in columns H-K are repeated from the risk columns in Table 26, Initiative 5. Instead of "Line miles to be treated", number of weather station installations is the unit of measure.  Advanced weather monitoring will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020-2022 plan total	\$18,399,595	\$13,942,893	\$4,456,702	1425	\$13	CFO: All EFF: All	8.279219012	61.27368881	NA	New	NA	GSRPMA	NA	NA	Values in columns H-K are repeated from the risk columns in Table 26, Initiative 5. Instead of "Line miles to be treated", number of weather station installations is the unit of measure.  Advanced weather monitoring will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
Distribution Fault Anticipation (DFA) (AT-2.1)	2019 plan	\$69,205	\$0	\$69,205	10	\$7	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA, WMPMA	NA	NA	Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	AT-2.1	Table 22	Sec 5.3.2	2.1. Continuous monitoring sensors	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Distribution Fault Anticipation Sub-Activity: Distribution Fault Anticipation Rollout	Accounting includes costs to rollout SCE's DFA program
	2019 actual	\$2,485,151	\$0	\$2,485,151	24	\$104	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA, WMPMA	NA	NA	In 2019, SCE developed a plan to engineer, design, and construct 60 DFA units. 54 were constructed. Of those 54, 24 were fully commissioned. The costs for the 2019 work includes the engineering, design, construction of all DFAs and the commissioning of 24 units of the 60 units. The remaining will DFA units will be completed in 2020.  Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020	\$251,524	\$0	\$251,524	36	\$7	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA	NA	NA	In the first quarter of 2020, the remaining 36 DFAs will be commissioned and monitored. In 2020 engineering will monitor the DFA pilot installations to assess the success of the pilot. No other DFAs will be deployed until the assessment in 2020 is complete.  Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$9,900,683	\$9,646,065	\$254,618	150	\$66	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA, WMPMA	NA	NA	Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	\$19,850,149	\$19,850,149	\$0	300	\$66	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020-2022 plan total	\$30,002,356	\$29,496,214	\$506,142	486	\$62	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA, WMPMA	NA	NA	Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
Early Fault Detection (EFD) Evaluation (AT-7)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until 2020.	AT-7	Table 22	Sec 5.3.2	2.2. Continuous monitoring sensors	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Distribution Fault Anticipation Sub-Activity: Early Fault Detection	Accounting includes costs for SCE's early fault detection initiative
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until 2020.								
	2020	\$511,228	\$0	\$511,228	25	\$20	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Monitor DFA during 2020; Estimated 2.5 miles per sensor install. The mileage values are estimated total miles covered and may include HFRA, non-HFRA, and Underground circuitry.  Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$2,587,583	\$0	\$2,587,583	225	\$12	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Monitor DFA during 2021; Estimated 2.5 miles per sensor install. The mileage values are estimated total miles covered and may include HFRA, non-HFRA, and Underground circuitry.  Continuous monitoring sensors will not directly reduce risk drivers, but instead provides awareness for potential situations which may be able to identified and remediated to avoid related consequences.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns for 2022 for this initiative are "UNKNOWN" as the scope and strategy are yet to be determined for 2022. This determination will be made after careful study and review of the 2020-2021 work								

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
	2020-2022 plan total	\$3,098,811	50	\$3,098,811	250	\$12	CFO: Vegetation EFF: All Equipment Failures	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the	NA	New	NA	WMPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
Transmission Open Phase Detection (SH-8)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.								
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 actual. This initiative was successfully piloted in 2109 and cost were charged to internal overhead.								
	2020	\$295,015	50	\$295,015	323.5	\$1	EFF: Conductor Splice/Clamp/Connector	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the	NA	New	NA	WMPMA	In Compliance	S8901 OIR	instead of "Line miles to be treated", select circuit miles within the HFRA is the unit of measure. The "Other risk drivers addressed" column is "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.			Sec 5.3.2	2.3. Continuous monitoring sensors	Augmented	WMPMA	BPG: Resiliency BPE:Wildfire Management Activity: HFRA Sectionalizing Devices Sub-Activity: Transmission OPD	Accounting includes costs for SCE's Transmission OPD initiative
	2021	\$288,054	50	\$288,054	315.8671469	\$1	EFF: Conductor Splice/Clamp/Connector	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the	NA	New	NA	WMPMA	In Compliance	S8901 OIR	The "Line miles to be treated" and "Spend/ treated line mile" columns are "UNKNOWN" because the expansion of deployment is based on the success/fail criteria in 2020. The "Other risk drivers addressed" column is "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2022	\$281,891	50	\$281,891	315.8671469	\$1	EFF: Conductor Splice/Clamp/Connector	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the	NA	New	NA	WMPMA	In Compliance	S8901 OIR	The "Line miles to be treated" and "Spend/ treated line mile" columns are "UNKNOWN" because the expansion of deployment is based on the success/fail criteria in 2020. The "Other risk drivers addressed" column is "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2020-2022 plan total	\$864,960	50	\$864,960	955.2342939	\$1	EFF: Conductor Splice/Clamp/Connector	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the	NA	New	NA	WMPMA	In Compliance	S8901 OIR	instead of "Line miles to be treated", select circuit miles within the HFRA is the unit of measure. The "Other risk drivers addressed" column is "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
Fire Potential Index phase II (SA-2)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" as this initiative is covered in Initiative 6, Table 22								
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" as this initiative is covered in Initiative 6, Table 22								
	2020	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" as this initiative is covered in Initiative 6, Table 22			Sec 5.3.2	4.1. Forecast of a fire risk index, fire potential index, or similar	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Advanced Weather Modeling Tool	Accounting includes costs associated with SCE's advanced meteorological forecasting models for enhanced operational weather forecasting and data services near SCE assets.
	2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" as this initiative is covered in Initiative 6, Table 22								
	2020-2022 plan total	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" as this initiative is covered in Initiative 6, Table 22								
Fuel Sampling Program (SA-5)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.								
	2019 actual	NA	NA	NA	NA	NA	CFO: All EFF: All	2.926955305	77.25416253	NA	New	NA	FRMMA	NA	NA	The "Total per initiative spend" for 2019 actual is "NA" as this initiative is covered in Initiative 4.3, Table 22. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020	\$631,824	50	\$631,824	6500	\$0	CFO: All EFF: All	2.84170418	57.50512269	NA	New	NA	FRMMA	NA	NA	instead of "Line miles to be treated", HFRA square miles is the unit of measure with SCE's Fuel Sampling to cover a sample population of 4,500 square miles within the HFRA. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.			Sec 5.3.2	4.2. Forecast of a fire risk index, fire potential index, or similar	Augmented	FRMMA	BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Fuel Sampling Program	Accounting includes costs to perform fuel sampling in HFRA
	2021	\$645,230	50	\$645,230	6500	\$0	CFO: All EFF: All	2.758936097	61.71325115	NA	New	NA	FRMMA	NA	NA	instead of "Line miles to be treated", HFRA square miles is the unit of measure with SCE's Fuel Sampling to cover a sample population of 4,500 square miles within the HFRA. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	\$659,170	50	\$659,170	6500	\$0	CFO: All EFF: All	2.678578735	65.33693757	NA	New	NA	FRMMA	NA	NA	instead of "Line miles to be treated", HFRA square miles is the unit of measure with SCE's Fuel Sampling to cover a sample population of 4,500 square miles within the HFRA. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
2020-2022 plan total	\$1,936,224	50	\$1,936,224	19500	\$0	CFO: All EFF: All	8.279219012	61.27368881	NA	New	NA	FRMMA	NA	NA	instead of "Line miles to be treated", HFRA square miles is the unit of measure with SCE's Fuel Sampling to cover a sample population of 4,500 square miles within the HFRA. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
Surface & Canopy Fuels Mapping (SA-6)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this was not a 2019 activity.								
	2019 actual	\$92,814	50	\$92,814	NA	NA	CFO: All EFF: All	2.926955305	77.25416253	NA	New	NA	FRMMA	NA	NA	Surface and canopy vegetation mapping allows for better fire spread calculations which will allow for more accurate assessment of risk. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative. Surface & Canopy Fuels Mapping will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020	\$1,380,720	50	\$1,380,720	14179	\$0	CFO: All EFF: All	2.84170418	57.50512269	NA	New	NA	FRMMA	NA	NA	Surface and canopy vegetation mapping allows for better fire spread calculations which will allow for more accurate assessment of risk. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative. Surface & Canopy Fuels Mapping will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
2021	\$208,891	50	\$208,891	14179	\$0	CFO: All EFF: All	2.758936097	61.71325115	NA	New	NA	FRMMA	NA	NA	Surface and canopy vegetation mapping allows for better fire spread calculations which will allow for more accurate assessment of risk. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative. Surface & Canopy Fuels Mapping will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	SA-6	Table 22	Sec 5.3.2	4.3. Forecast of a fire risk index, fire potential index, or similar	Augmented	FRMMA	BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Surface and Canopy Fuels Mapping	Accounting includes costs associated with SCE's surface and canopy fuels mapping in HFRA	

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
	2022	\$213,404	\$0	\$213,404	14179	\$0	CFO: All EFF: All	2.678578735	65.33693757	NA	New	NA	FRMMA	NA	NA	Surface and canopy vegetation mapping allows for better fire spread calculations which will allow for more accurate assessment of risk.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Surface & Canopy Fuels Mapping will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020-2022 plan total	\$1,803,015	\$0	\$1,803,015	42537	\$0	CFO: All EFF: All	8.279219012	61.27368881	NA	New	NA	FRMMA	NA	NA	Surface and canopy vegetation mapping allows for better fire spread calculations which will allow for more accurate assessment of risk.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Surface & Canopy Fuels Mapping will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
Remote Sensing / Satellite Fuel Moisture (SA-7)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.								
	2019 actual	\$0	\$0	\$0	NA	NA	CFO: All EFF: All	2.928955305	77.25416253	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Remote Sensing will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020	\$1,534,133	\$0	\$1,534,133	NA	NA	CFO: All EFF: All	2.84170418	57.50512269	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Remote Sensing will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$1,827,798	\$0	\$1,827,798	NA	NA	CFO: All EFF: All	2.758936097	61.71325115	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Remote Sensing will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	SA-7	Table 22	Sec 5.3.2	4.4. Forecast of a fire risk index, fire potential index, or similar	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Remote Sensing	Accounting includes costs associated with SCE's Remote Sensing program
	2022	\$0	\$0	\$0	NA	NA	CFO: All EFF: All	2.678578735	65.33693757	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Remote Sensing will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020-2022 plan total	\$3,361,931	\$0	\$3,361,931	NA	NA	CFO: All EFF: All	8.279219012	61.27368881	NA	New	NA	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Remote Sensing will improve wildfire modeling capabilities but will not directly reduce risk drivers. This wildfire modeling will improve PSPS decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.							
Fire Science Enhancements (SA-8)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.								
	2019 actual	\$773,444	\$0	\$773,444	NA	NA	CFO: All EFF: All	2.928955305	77.25416253	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  This mitigation is focused on improving overall understanding of environmental factors (weather and fuels) and their relationship with ignition drivers for utility caused wildfires. These models will be used to inform wildfire mitigation activities and real-time decision making for PSPS events.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020	\$1,534,133	\$0	\$1,534,133	NA	NA	CFO: All EFF: All	2.84170418	57.50512269	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  This mitigation is focused on improving overall understanding of environmental factors (weather and fuels) and their relationship with ignition drivers for utility caused wildfires. These models will be used to inform wildfire mitigation activities and real-time decision making for PSPS events.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$1,566,684	\$0	\$1,566,684	NA	NA	CFO: All EFF: All	2.758936097	61.71325115	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  This mitigation is focused on improving overall understanding of environmental factors (weather and fuels) and their relationship with ignition drivers for utility caused wildfires. These models will be used to inform wildfire mitigation activities and real-time decision making for PSPS events.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	SA-8	Table 22	Sec 5.3.2	4.5. Forecast of a fire risk index, fire potential index, or similar	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Fire Science Enhancements	Accounting includes costs to enhance fire science capabilities and learnings
2022	\$1,600,531	\$0	\$1,600,531	NA	NA	CFO: All EFF: All	2.678578735	65.33693757	NA	New	NA	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  This mitigation is focused on improving overall understanding of environmental factors (weather and fuels) and their relationship with ignition drivers for utility caused wildfires. These models will be used to inform wildfire mitigation activities and real-time decision making for PSPS events.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								

**Guidance-6 Table**  
**Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting	
High-Performing Computer Cluster (HPCC) Weather Modeling System (SA-3)	2020-2022 plan total	\$4,701,348	\$0	\$4,701,348	NA	NA	CFO: All EFF: All	8.279219012	61.27368881	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  This mitigation is focused on improving overall understanding of environmental factors (weather and fuels) and their relationship with ignition drivers for utility caused wildfires. These models will be used to inform wildfire mitigation activities and real-time decision making for PSPS events.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2019 plan	\$4,495,884	\$3,759,220	\$736,664	NA	NA	CFO: All EFF: All	2.926955305	151.3942025	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Weather modeling and forecast of fire ignition and spread will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2019 actual	\$7,006,235	\$5,678,791	\$1,327,444	NA	NA	CFO: All EFF: All	2.926955305	77.25416253	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Weather modeling and forecast of fire ignition and spread will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020	\$2,456,619	\$799,555	\$1,657,064	NA	NA	CFO: All EFF: All	2.84170418	57.50512269	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Weather modeling and forecast of fire ignition and spread will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2021	\$2,899,377	\$1,102,466	\$1,796,911	NA	NA	CFO: All EFF: All	2.758936097	61.71325115	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Weather modeling and forecast of fire ignition and spread will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	SA-3	Table 22	Sec 5.3.2	6. Weather forecasting and estimating impacts on electric lines and equipment	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Advanced Modeling Computer Hardware	Accounting includes costs for super computer installation and maintenance	
	2022	\$1,835,925	\$0	\$1,835,925	NA	NA	CFO: All EFF: All	2.678578735	65.33693757	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Weather modeling and forecast of fire ignition and spread will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020-2022 plan total	\$7,191,921	\$1,902,021	\$5,289,900	NA	NA	CFO: All EFF: All	8.279219012	61.27368881	NA	New	NA	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  Weather modeling and forecast of fire ignition and spread will not directly reduce risk drivers, but informs the primary inputs into the PSPS decision that reduce wildfire risk.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
Develop Asset Reliability & Risk Analytics Capability (RA-1, SA-4)	2019 plan	\$509,798	\$509,798	\$0	NA	NA	CFO: Vegetation Wire to Wire EFF: All	NA	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement.  Asset risk and fire consequence modeling will not directly reduce risk drivers, but inform prioritization and mitigation deployment decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2019 actual	\$857,510	\$857,510	\$0	NA	NA	CFO: Vegetation Wire to Wire EFF: All	NA	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement.  Asset risk and fire consequence modeling will not directly reduce risk drivers, but inform prioritization and mitigation deployment decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020	\$6,692,174	\$6,692,174	\$0	NA	NA	CFO: Vegetation Wire to Wire EFF: All	NA	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement.  Asset risk and fire consequence modeling will not directly reduce risk drivers, but inform prioritization and mitigation deployment decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	RA-1, SA-4	Table 22	Sec 5.3.2	N/A - Activity Added By SCE	Augmented	GSRPMA	RA-1: BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Operational Analytics  SA-4: BPG: Resiliency BPE: Wildfire Management Activity: Fire Science & Advanced Modeling Sub-Activity: Asset Risk Modeling	Accounting includes costs associated with SCE's situational awareness portal, including implementation of WRRM module of Technosylva  SA-4: Accounting includes costs to develop abilities to leverage risk modeling software to predict risks relating to distribution assets, vegetation health, and extreme weather events	
	2021	NA	NA	NA	NA	NA	CFO: Vegetation Wire to Wire EFF: All	NA	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement.  Asset risk and fire consequence modeling will not directly reduce risk drivers, but inform prioritization and mitigation deployment decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2022	NA	NA	NA	NA	NA	CFO: Vegetation Wire to Wire EFF: All	NA	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement.  Asset risk and fire consequence modeling will not directly reduce risk drivers, but inform prioritization and mitigation deployment decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020-2022 plan total	\$6,692,174	\$6,692,174	\$0	NA	NA	CFO: Vegetation Wire to Wire EFF: All	NA	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement.  Asset risk and fire consequence modeling will not directly reduce risk drivers, but inform prioritization and mitigation deployment decisions.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting	
Alternative Technology Evaluations - Meter Alarm Down Energized Conductor (MADEC) (AT-1)	2019 plan	NA	NA	NA	107088	NA	EFF: Conductor Splice	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because the costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", all T&D overhead circuit miles is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2019 actual	NA	NA	NA	107088	NA	EFF: Conductor Splice	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because the costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", all T&D overhead circuit miles is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020	NA	NA	NA	107088	NA	EFF: Conductor Splice	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because the costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", all T&D overhead circuit miles is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2021	NA	NA	NA	107088	NA	EFF: Conductor Splice	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because the costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", all T&D overhead circuit miles is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	AT-1	Table 23	Sec 5.3.3	2.2. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative Technology Sub-Activity: Meter Alarming for Down Energized Conductor (MADEC)	Accounting includes costs for SCE's MADEC initiative	
	2022	NA	NA	NA	107088	NA	EFF: Conductor Splice	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because the costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", all T&D overhead circuit miles is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020-2022 plan total	NA	NA	NA	321264	NA	EFF: Conductor Splice	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because the costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", all T&D overhead circuit miles is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Ground Fault Neutralizer (GFN) (AT-3.1)	2019 plan	NA	NA	NA	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this pilot. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2019 actual	NA	NA	NA	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this pilot. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020	\$2,586,816	\$0	\$2,586,816	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this pilot. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	AT-3.1	Table 23	Sec 5.3.3	2.3.1. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative Technology Sub-Activity: Ground Fault Neutralizer (GFN)	Accounting includes costs to initiate GFN initiative	
	2021	\$3,684,718	\$0	\$3,684,718	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this pilot. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2022	NA	NA	NA	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend", "Line miles to be treated", and "Spend/treated line mile" columns are "NA" because this pilot is currently only scheduled for 2020 and 2021. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020-2022 plan total	\$6,271,534	\$0	\$6,271,534	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this pilot. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Ground Fault Neutralizer (GFN) (AT-3.1)	2019 plan	NA	NA	NA	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this activity. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2019 actual	NA	NA	NA	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this activity. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting	
Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Arc Suppression Coil (AT-3.2)	2020	\$511,228	\$0	\$511,228	1	\$511	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", units is the unit of measure. The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this activity. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no	AT-3.2	Table 23	Sec 5.3.3	2.3.2. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative Technology Sub-Activity: Resonant Grounding with Arc Suppression Coil	Accounting includes costs to initiate resonant grounding initiative	
	2021	\$724,523	\$0	\$724,523	1	\$725	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", units is the unit of measure. The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this activity. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no									
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" because 2022 scope will be determined by success/fail criteria of pilot; There is no identified plan/spend at this point for the evaluation								
	2020-2022 plan total	\$1,235,752	\$0	\$1,235,752	2	\$618	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	NA	Instead of "Line miles to be treated", units is the unit of measure. The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this activity. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no								
Alternative Technology Evaluations - Rapid Earth Current Fault Limiter - Isolation Transformer (AT-3.3)	2019 plan	NA	NA	NA	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this activity. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no									
	2019 actual	NA	NA	NA	NA	NA	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" column is "NA" because costs to implement this initiative are part of normal O&M and are not incremental wildfire-related costs. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this activity. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no									
	2020	\$408,983	\$0	\$408,983	1	\$409	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", the number of pilot locations is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	AT-3.3	Table 23	Sec 5.3.3	2.3.3. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative Technology Sub-Activity: Rapid Earth Fault Current Limiter and Resonant Grounded Transformer	Accounting includes costs to initiate REFLC initiative	
	2021	\$1,035,033	\$0	\$1,035,033	1	\$1,035	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", the number of pilot locations is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" because 2022 scope will be determined by success/fail criteria of pilot; There is no identified plan/spend at this point for the evaluation								
	2020-2022 plan total	\$1,444,016	\$0	\$1,444,016	2	\$722	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.									
2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.									
Alternative Technology Evaluations - Distribution Open Phase Detection (AT-3.4)	2020	\$511,228	\$0	\$511,228	5	\$102	EFF: Conductor Splice/Clamp/Connector	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", circuit locations is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no	AT-3.4	Table 23	Sec 5.3.3	2.4. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative Technology Sub-Activity: Distribution OPD	Accounting includes costs to evaluate distribution open phase detection	
	2021	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" because 2021/2022 scope will be determined by success/fail criteria of pilot; There is no identified plan/spend at this point for the evaluation									
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" because 2021/2022 scope will be determined by success/fail criteria of pilot; There is no identified plan/spend at this point for the evaluation									
	2020-2022 plan total	\$511,228	\$0	\$511,228	5	\$102	EFF: Conductor Splice/Clamp/Connector	Under assessment /pilot	UNKNOWN	NA	New	NA	WMPMA	NA	NA	NA	Instead of "Line miles to be treated", circuit locations is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no								
2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.									
2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.									
Alternative Technology Evaluations - High Impedance Relay Evaluations (AT-8)	2020	\$306,737	\$0	\$306,737	2	\$153	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", protection relay setting counts are the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	AT-8	Table 23	Sec 5.3.3	2.5. Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative Technology Sub-Activity: High Impedance Relay Evaluations	Accounting includes costs to initiate high impedance relay evaluation initiative	
	2021	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the 2021 scope and strategy for this initiative are not known at this time.									
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the 2022 scope and strategy for this initiative are not known at this time.									
2020-2022 plan total	\$306,737	\$0	\$306,737	2	\$153	CFO: All EFF: All	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	NA	Instead of "Line miles to be treated", protection relay setting counts are the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
Circuit Breaker Relay Hardware for Fast Current (GSR-6)	2019 plan	\$9,052,155	\$9,052,155	\$0	189	\$48	CFO: All EFF: All	0.200239565	22.12065143	NA	New	NA	GSRPMA	NA	NA	The original budget allocated in 2019 under the GSRP consisted of relays actually being replaced in 2019. However, given resource, outage, procurement constraints, no relays were able to be replaced in 2019. Subsequent decision was to instead focus on developing a full deployment plan for relay replacements in years 2020, 2021 and 2022. This goal to develop a full execution plan was achieved by YE2019. Instead of "Line miles to be treated", relay count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no									
	2019 actual	\$838,641	\$838,641	\$0	NA	NA	CFO: All EFF: All	NA	NA	NA	New	NA	GSRPMA	NA	NA	The "Line Miles to be Treated", "Spend/treated line mile", "Risk reduction", and "Risk-spend efficiency" columns are "NA" because all 2019 spend was for project scoping and engineering/design charges for work to be done in 2020. No relays were replaced in 2019. Instead of "Line miles to be treated", relay count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no	SH-6	Table 23	Sec 5.3.3	2.7. Circuit breaker maintenance and installation to de-energize lines upon	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: HFRA Sectionalizing	Accounting includes costs to install equipment as substations in SCE's HFRA to allow for fast current	

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing/ What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting	
Fast Curve (SH-1)	2020	\$5,170,012	\$5,170,012	50	55	\$94	CFO: All EFF: All	0.05653012	11.3578201	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", relay count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.				detecting a fault			Devices Sub-Activity: CB Relay Hardware for Fast Curve	operations for wildfire mitigation purposes	
	2021	\$11,091,921	\$11,091,921	50	81	\$137	CFO: All EFF: All	0.080814687	7.808924695	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", relay count is the unit of measure.									
	2022	\$10,492,320	\$10,492,320	50	74	\$142	CFO: All EFF: All	0.071659563	7.531715212	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", relay count is the unit of measure.									
	2020-2022 plan total	\$26,754,253	\$26,754,253	50	210	\$127	CFO: All EFF: All	0.20900437	8.413825018	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", relay count is the unit of measure.									
Covered Conductor (SH-1)	2019 plan	\$42,231,377	\$42,231,377	50	95.70257703	\$441	CFO: Vegetation Balloon Animal EFF: Wire to wire	1.141728021	27.03506496	Covered Conductor provides ancillary benefits to EFF and wire to wire contact, in addition to CFO (primary)	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.1	Instead of "Line miles to be treated", miles of covered conductor installed is the unit of measure.									
	2019 actual	\$239,911,075	\$239,911,075	50	372	\$645	CFO: Vegetation Balloon Animal EFF: Wire to wire	5.618654511	22.53821822	Covered Conductor provides ancillary benefits to EFF and wire to wire contact, in addition to CFO (primary)	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.1	Instead of "Line miles to be treated", miles of covered conductor installed is the unit of measure. The 372 miles include some overhead conductor program and 4 kv cutover work. Costs also include design, engineering, and pre-construction for 2020 work.									
	2020	\$454,368,671	\$454,368,671	50	1000	\$454	CFO: Vegetation Balloon Animal EFF: Wire to wire	11.52506446	25.95794312	Covered Conductor provides ancillary benefits to EFF and wire to wire contact, in addition to CFO (primary)	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.1	Instead of "Line miles to be treated", miles of covered conductor installed is the unit of measure.									
	2021	\$656,352,963	\$656,352,963	50	1400	\$469	CFO: Vegetation Balloon Animal EFF: Wire to wire	14.8450949	23.87457288	Covered Conductor provides ancillary benefits to EFF and wire to wire contact, in addition to CFO (primary)	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.1	Instead of "Line miles to be treated", miles of covered conductor installed is the unit of measure.		SH-1	Table 23	Sec 5.3.3	3.1. Covered conductor installation	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Wildfire Covered Conductor Program Sub-Activity: Covered Conductor	Accounting includes costs to deploy covered conductor (also includes fire-resistant pole upgrade costs associated with wildfire mitigation work)
	2022	\$771,814,574	\$771,814,574	50	1600	\$482	CFO: Vegetation Balloon Animal EFF: Wire to wire	15.1984902	21.3875547	Covered Conductor provides ancillary benefits to EFF and wire to wire contact, in addition to CFO (primary)	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.1	Instead of "Line miles to be treated", miles of covered conductor installed is the unit of measure.									
	2020-2022 plan total	\$1,882,536,208	\$1,882,536,208	50	4000	\$471	CFO: Vegetation Balloon Animal EFF: Wire to wire	41.56864956	23.4003929	Covered Conductor provides ancillary benefits to EFF and wire to wire contact, in addition to CFO (primary)	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.1	Instead of "Line miles to be treated", miles of covered conductor installed is the unit of measure.									
Tree Attachment Remediation (SH-10)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin as a stand-alone initiative until after the 2019 WMP had been filed.									
	2019 actual	\$9,383,455	\$9,383,455	50	101	\$93	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", tree attachments to be remediated is the unit of measure.									
	2020	\$15,182,901	\$15,182,901	50	481.2439635	\$32	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 24	New	NA	GSRPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2021	\$22,431,711	\$22,431,711	50	689.0836019	\$33	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 25	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", tree attachments to be remediated is the unit of measure.									
	2022	\$26,377,761	\$26,377,761	50	787.5241164	\$33	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 26	New	NA	GSRPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020-2022 plan total	\$63,992,373	\$63,992,373	50	1957.851682	\$33	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 23	Refer to Initiative 3.1, Table 27	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", tree attachments to be remediated is the unit of measure.									
Alternative Technology Evaluation - Vibration Damper	2019 plan	NA	NA	NA	NA	NA	EFF: Conductor	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Updates to vibration damper standards do not address risk drivers, the standards are used to inform construction requirements.									
	2019 actual	NA	NA	NA	NA	NA	EFF: Conductor	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Updates to vibration damper standards do not address risk drivers, the standards are used to inform construction requirements.									
	2020	NA	NA	NA	NA	NA	EFF: Conductor	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Updates to vibration damper standards do not address risk drivers, the standards are used to inform construction requirements.	AT-4	Table 22	Sec 5.3.3	3.3 Covered conductor installation	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative	Accounting includes costs to initiate vibration damper	

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting	
Vibration Dampers (AT-4)	2021	NA	NA	NA	NA	NA	EFF: Conductor	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  Updates to vibration damper standards do not address risk drivers, the standards are used to inform construction requirements.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.					Augmented	WMPMA	Technology Sub-Activity: Vibration Dampers	WMPMA	initative
	2022	NA	NA	NA	NA	NA	EFF: Conductor	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  Updates to vibration damper standards do not address risk drivers, the standards are used to inform construction requirements.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020-2022 plan total	NA	NA	NA	NA	NA	EFF: Conductor	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  Updates to vibration damper standards do not address risk drivers, the standards are used to inform construction requirements.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
Composite Poles and Crossarms (SH-3)	2019 plan	\$5,136,413	\$5,136,413	50	1100	55	EFF: Other Equipment Types	0.020945279	4.07780285	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 3.1	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  Instead of "Line miles to be treated", pole count is the unit of measure.									
	2019 actual	NA	NA	NA	1421	NA	EFF: Other Equipment Types	0.02705736	3.60148849	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 3.1	The "Total per initiative spend" and "Spend/ treated line mile" columns are "NA" as the activity is covered in Initiative 3.1, Table 23.  Instead of "Line miles to be treated", pole count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2020	\$56,832,575	\$56,832,575	50	17304.48	53	EFF: Other Equipment Types	0.209019406	3.900955512	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 3.1	The total spend includes incremental costs for all composite pole replacements in HFRA. WCCP scope is 11,700 poles.  Instead of "Line miles to be treated", pole count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2021	\$64,010,258	\$64,010,258	50	18952.672	53	EFF: Other Equipment Types	0.218747547	3.727483122	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 3.1	The total spend includes incremental costs for all composite pole replacements in HFRA. WCCP scope is 16,381 poles.  Instead of "Line miles to be treated", pole count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.	SH-3	Table 23	Sec 5.3.3	6.1. Distribution pole replacement and reinforcement, including with composite poles	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Wildfire Covered Conductor Program Sub-Activity: Covered Conductor	Accounting includes costs to deploy covered conductor pole upgrade costs associated with wildfire mitigation work)	
	2022	\$73,642,725	\$73,642,725	50	21238.768	53	EFF: Other Equipment Types	0.233984544	3.557957791	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 3.1	The total spend includes incremental costs for all composite pole replacements in HFRA. WCCP scope is 18,721 poles.  Instead of "Line miles to be treated", pole count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2020-2022 plan total	\$194,485,558	\$194,485,558	50	57495.92	53	EFF: Other Equipment Types	0.661751497	3.717070911	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 3.1	The total spend includes incremental costs for all composite pole replacements in HFRA. 2020-2022 WCCP scope is 46,802 poles.  Instead of "Line miles to be treated", pole count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
Branch Line Protection Strategy (SH-4)	2019 plan	NA	NA	NA	NA	NA	CFO: All EFF: Conductor failure, fuse failure, arrester failure, switch failure Wire-to-wire contact	0	0	NA	New	NA	GSRPMA	NA	NA	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" as this initiative is covered in Initiative 17, Table 23.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2019 actual	NA	NA	NA	NA	NA	CFO: All EFF: Conductor failure, fuse failure, arrester failure, switch failure Wire-to-wire contact	0	0	NA	New	NA	GSRPMA	NA	NA	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" as this initiative is covered in Initiative 17, Table 23.  Instead of "Line miles to be treated", location count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020	\$16,798,587	\$9,053,603	\$7,744,984	3025	56	CFO: All EFF: Conductor failure, fuse failure, arrester failure, switch failure Wire-to-wire contact	0.13223878	8.117376999	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", location count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2021	\$1,153,706	50	\$1,153,706	421	53	CFO: All EFF: Conductor failure, fuse failure, arrester failure, switch failure Wire-to-wire contact	0.017855622	16.01895436	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", location count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2022	\$1,333,607	50	\$1,333,607	481	53	CFO: All EFF: Conductor failure, fuse failure, arrester failure, switch failure Wire-to-wire contact	0.019808663	15.54971315	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", location count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
	2020-2022 plan total	\$19,285,900	\$9,053,603	\$10,232,297	3927	55	CFO: All EFF: Conductor failure, fuse failure, arrester failure, switch failure Wire-to-wire contact	0.169903065	9.095757557	NA	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", location count is the unit of measure.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
PSPS Driven Grid Hardening Work (SH-7)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.								
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" as this initiative is covered in Initiative 9, Table 23.								
	2020	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	CFO: All EFF: All	2.84170418	57.50512269	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend", and "Spend/treated line mile" columns are "UNKNOWN" because this analysis won't be available until after the 2020 WMP filing.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no compliance targets associated with this initiative.  Values in columns H-K are repeated from the risk columns in Table 26, Initiative 5.	SH-7	Table 23	Sec 5.3.3	8.1. Grid topology improvements to mitigate or reduce PSPS events	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: HFRA Sectionalizing Devices Sub-Activity: New RARs	Accounting includes costs to install sectionalizing devices in SCE's HFRA for wildfire mitigation purposes
	2021	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	CFO: All EFF: All	2.758936097	61.71325115	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend", and "Spend/treated line mile" columns are "UNKNOWN" because this analysis won't be available until after the 2020 WMP filing.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no compliance targets associated with this initiative.  Values in columns H-K are repeated from the risk columns in Table 26, Initiative 5.								
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	CFO: All EFF: All	2.678578735	65.33693757	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend", and "Spend/treated line mile" columns are "UNKNOWN" because this analysis won't be available until after the 2020 WMP filing.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no compliance targets associated with this initiative.  Values in columns H-K are repeated from the risk columns in Table 26, Initiative 5.								
2020-2022 plan total	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	CFO: All EFF: All	8.279219012	61.27368881	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend", and "Spend/treated line mile" columns are "UNKNOWN" because this analysis won't be available until after the 2020 WMP filing.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no compliance targets associated with this initiative.  Values in columns H-K are repeated from the risk columns in Table 26, Initiative 5.									
Microgrid Assessment (PSPS-8)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.								
	2019 actual	NA	NA	NA	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	New	NA	UNKNOWN	NA	NA	In 2019, SCE performed an assessment of Microgrids and the scope will be finalized in the Microgrids OIR filing in February 2020.  The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to perform the assessment are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	PSPS-8	Table 23	Sec 5.3.3	8.2. Grid topology improvements to mitigate or reduce PSPS events	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: PSPS Protocol Support Functions Sub-Activity: Microgrids	Accounting includes costs associated with SCE's Microgrid strategies
	2020	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" for this initiative because the strategy for Microgrids will be finalized in Microgrids OIR filing in February 2020.								
	2021	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" for this initiative because the strategy for Microgrids will be finalized in Microgrids OIR filing in February 2020.								
	2020-2022 plan total	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" for this initiative because the strategy for Microgrids will be finalized in Microgrids OIR filing in February 2020.								
Remote Controlled Automatic Reclosers Settings Update (SH-5)	2019 plan	\$4,880,593	\$4,880,593	50	50	598	NA	0.008434081	1.728085225	NA	New	NA	GSRPMA, FHPMA	NA	NA	Instead of "Line miles to be treated", number of devices is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no compliance targets associated with this initiative.	SH-5	Table 23	Sec 5.3.3	9. Installation of system automation equipment: installation of system automation equipment	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: HFRA Sectionalizing Devices Sub-Activity: New RARs	Accounting includes costs to install sectionalizing devices in SCE's HFRA for wildfire mitigation purposes
	2019 actual	\$11,110,458	\$11,110,458	50	76	5146	NA	0.012819872	1.153856352	NA	New	NA	GSRPMA, FHPMA	NA	NA	Instead of "Line miles to be treated", number of devices is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no compliance targets associated with this initiative.								
	2020	\$8,639,902	\$8,480,595	\$159,307	98	588	NA	0.016048747	1.929048757	NA	New	NA	GSRPMA, FHPMA	NA	NA	The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no compliance targets associated with this initiative.								
	2021	50	50	50	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NA	UNKNOWN	NA	UNKNOWN	All columns are "UNKNOWN" because there is no sectionalizing device specific program beyond what was defined in GSRP.								
	2022	50	50	50	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NA	UNKNOWN	NA	UNKNOWN	All columns are "UNKNOWN" because there is no sectionalizing device specific program beyond what was defined in GSRP.								
	2020-2022 plan total	\$8,639,902	\$8,480,595	\$159,307	98	588	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	New	NA	GSRPMA, FHPMA	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" because there is no sectionalizing device specific program beyond what was defined in GSRP.							
Distribution Remediations (SH-	2019 plan	\$191,737,288	\$102,808,058	\$88,929,230	NA	NA	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	12.58971608	51.30050366	Some types of object contact, primarily veg.	New	NA	WMPMA	In compliance	GO 95	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because SCE did not plan for remediations.  Instead of "Line miles to be treated", notifications is the unit of measure.  Values in columns H-K are repeated from the risk columns in Table 24, Initiative 9.1	SH-13	Table 23	Sec 5.3.3	13.1 Other reactive action	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Preventive	Accounting includes costs to repair/replace distribution
	2019 actual	\$394,728,731	\$229,991,525	\$164,737,206	49783	58	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	12.58971608	26.93717824	Some types of object contact, primarily veg.	New	NA	WMPMA	In compliance	GO 95	Instead of "Line miles to be treated", notifications is the unit of measure.  Values in columns H-K are repeated from the risk columns in Table 24, Initiative 9.1								
	2020	\$327,535,320	\$147,130,025	\$180,405,295	58617	56	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	2.130902134	13.83279522	Some types of object contact, primarily veg.	New	NA	WMPMA	In compliance	GO 95	Instead of "Line miles to be treated", notifications is the unit of measure.  Values in columns H-K are repeated from the risk columns in Table 24, Initiative 9.1								

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	CIR associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting		
12.1)	2021	\$125,039,955	\$46,436,115	\$78,603,840	28225	\$4	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor Switch	2.583689546	30.5075701	Some types of object contact, primarily veg.	New	NA	WMPMA	In compliance	GO 95	Instead of "Line miles to be treated", notifications is the unit of measure. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 9.1					Augmented	WMPMA	Maintenance Sub-Activity: EOI Repairs / Replacements - D	assets as part of SCE's HFRI (previously EOI) program		
	2022	\$85,021,209	\$29,742,715	\$55,278,494	17793	\$5	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor Switch	2.101270577	25.75526863	Some types of object contact, primarily veg.	New	NA	WMPMA	In compliance	GO 95	Instead of "Line miles to be treated", notifications is the unit of measure. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 9.1										
	2020-2022 plan total	\$537,596,484	\$223,308,855	\$314,287,629	104635	\$5	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor Switch	6.815862257	21.27807398	Some types of object contact, primarily veg.	New	NA	WMPMA	In compliance	GO 95	Instead of "Line miles to be treated", notifications is the unit of measure. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 9.1										
Transmission Remediations (SH-12.2)	2019 plan	\$28,947,348	\$9,911,729	\$19,035,619	NA	NA	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor	0.117967686	3.383526561	NA	New	NA	WMPMA	In compliance	GO 95	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because SCE did not plan for remediations Instead of "Line miles to be treated", notifications is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 10.1										
	2019 actual	\$83,879,540	\$54,146,980	\$29,732,560	10000	\$8	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor	1.523685139	13.55849227	NA	New	NA	WMPMA	In compliance	GO 95	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because SCE did not plan for remediations Instead of "Line miles to be treated", notifications is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 10.1										
	2020	\$71,320,128	\$64,895,987	\$6,424,141	5222	\$14	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor	0.031262796	0.539179179	NA	New	NA	WMPMA	In compliance	GO 95	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because SCE did not plan for remediations Instead of "Line miles to be treated", notifications is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 10.1										
	2021	\$12,413,696	\$8,838,793	\$3,574,903	2026.168543	\$6	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor	0.0302427	2.917159593	NA	New	NA	WMPMA	In compliance	GO 95	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because SCE did not plan for remediations Instead of "Line miles to be treated", notifications is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 10.1	SH-12.2	Table 23	Sec 5.3.3	12.2. Other corrective action	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Preventive Maintenance Sub-Activity: EOI Repairs / Replacements - T	Accounting includes costs to repair/replace transmission assets as part of SCE's HFRI (previously EOI) program		
	2022	\$10,246,413	\$7,262,283	\$2,984,130	1833.768543	\$6	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor	0.025121626	3.055476275	NA	New	NA	WMPMA	In compliance	GO 95	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because SCE did not plan for remediations Instead of "Line miles to be treated", notifications is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 10.1										
	2020-2022 plan total	\$93,980,237	\$80,997,063	\$12,983,174	9081.937087	\$10	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Conductor Transformer Lightning Arrestor	0.086627123	1.131327554	NA	New	NA	WMPMA	In compliance	GO 95	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because SCE did not plan for remediations Instead of "Line miles to be treated", notifications is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. Values in columns H-K are repeated from the risk columns in Table 24, Initiative 10.1										
Generation Remediations (SH-12.3)	2019 plan	NA	NA	NA	NA	NA	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	NA	WMPMA	Exceeding Compliance	GO 95	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because inspections started in March 2019 and did not plan for remediations.										
	2019 actual	\$387,907	\$0	\$387,907	UNKNOWN	NA	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	NA	WMPMA	Exceeding Compliance	GO 95	Instead of "Line miles to be treated", projected notifications is the unit of measure. The number of notifications in the HFRA is unavailable for 2019.										
	2020	\$200,000	\$40,000	\$160,000	200	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	NA	WMPMA	Exceeding Compliance	GO 95	Instead of "Line miles to be treated", projected notifications is the unit of measure.										
	2021	\$200,000	\$40,000	\$160,000	200	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	NA	WMPMA	Exceeding Compliance	GO 95	Instead of "Line miles to be treated", projected notifications is the unit of measure.										
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	NA	WMPMA	Exceeding Compliance	GO 95	Instead of "Line miles to be treated", projected notifications is the unit of measure.										
2020-2022 plan total	\$400,000	\$80,000	\$320,000	400	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	NA	WMPMA	Exceeding Compliance	GO 95	Instead of "Line miles to be treated", projected notifications is the unit of measure.											
2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.										

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
Undergrounding Overhead Conductor (SH-2)	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" column is "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative.  Columns are "NA" because undergrounding to start in 2021.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	SH-2	Table 23	Sec 5.3.3	16. Undergrounding of electric lines and/or equipment	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Undergrounding Sub-Activity: Targeted Undergrounding	Accounting includes costs to underground facilities in HFRA for wildfire mitigation purposes
	2020	50	50	50	0	50	NA	NA	NA	NA	New	NA	WMPMA	NA	NA	Columns are "NA" because undergrounding to start in 2021.  The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$22,507,486	\$22,507,486	50	6	\$3,751	CFO: All	0.101704468	4.843069927	NA	New	NA	WMPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	\$42,457,264	\$42,457,264	50	11	\$3,860	FFF: All CFO: All	0.180968109	4.700470358	NA	New	NA	WMPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020-2022 plan total	\$64,964,750	\$64,964,750	50	17	\$3,821	FFF: All CFO: All	0.282672577	4.750799618	NA	New	NA	WMPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
Transmission Overhead (TOH) Review (SH-9)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.	SH-9	Table 23	Sec 5.3.3	N/A - Activity Added By SCE	Standard	N/A	BPG: N/A BPE: N/A Activity: N/A Sub-Activity: N/A	N/A
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.								
	2020	NA	NA	NA	4352	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend" and "Spend/treated line mile" columns are "NA" because costs are expected to be labor only for this internal assessment using existing resources.  Instead of "Line miles to be treated", total HFRA Transmission miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "If new: Memorandum account" column is blank because the cost will hit overhead, so there will be no memo account treatment.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	NA	NA	NA	4352	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend" and "Spend/treated line mile" columns are "NA" because costs are expected to be labor only for this internal assessment using existing resources.  Instead of "Line miles to be treated", total HFRA Transmission miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	NA	NA	NA	4352	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend" and "Spend/treated line mile" columns are "NA" because costs are expected to be labor only for this internal assessment using existing resources.  Instead of "Line miles to be treated", total HFRA Transmission miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "If new: Memorandum account" column is blank because the cost will hit overhead, so there will be no memo account treatment.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
2020-2022 plan total	NA	NA	NA	13056	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	NA	NA	NA	NA	The "Total per-initiative spend" and "Spend/treated line mile" columns are "NA" because costs are expected to be labor only for this internal assessment using existing resources.  Instead of "Line miles to be treated", total HFRA Transmission miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "If new: Memorandum account" column is blank because the cost will hit overhead, so there will be no memo account treatment.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
Legacy Facilities (SH-11)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	SH-11	Table 23	Sec 5.3.3	N/A - Activity Added By SCE	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Preventive Maintenance Sub-Activity: Legacy Facilities	Accounting includes costs to evaluate and mitigate wildfire risk associated with legacy facilities (generation)
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.								
	2020	\$2,173,733	\$1,304,240	\$869,493	3	\$725	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", circuit miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$4,912,135	\$4,686,226	\$225,909	6	\$819	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", circuit miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	\$4,177,642	\$3,985,513	\$192,129	6	\$696	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", circuit miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
2020-2022 plan total	\$11,263,510	\$9,975,979	\$1,287,531	15	\$751	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", circuit miles is the unit of measure.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
2019 plan	\$465,807	50	\$465,807	4911.953502	50	EFF: Cap Bank Conductor Fuse Splice/Clamp/Connector Transformer Lightning arrestor	0.004689405	10.06726987	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting	
Infrared Inspection of Energized Overhead Distribution Facilities and Equipment (IN-3)	2019 actual	NA	NA	NA	NA	NA	EFF: Cap Bank Conductor Fuse Splice/Clamp/Connector Transformer Lightning arrestor	0.004689405	0	NA	NA	NA	NA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Total per initiative spend" column is "NA" because the 2019 actuals are included in initiative 9.1, table 24 The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.	IN-3	Table 24	Sec 5.3.4	4. Infrared inspections of distribution electric lines and equipment	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Inspections Sub-Activity: Infrared Inspection Program - Distribution IR	Accounting includes costs for SCE's enhanced distribution IR program	
	2020	\$400,752	\$0	\$400,752	4058	50	EFF: Cap Bank Conductor Fuse Splice/Clamp/Connector Transformer Lightning arrestor	0.001879782	4.79597284	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2021	\$405,681	\$0	\$405,681	4510	50	EFF: Cap Bank Conductor Fuse Splice/Clamp/Connector Transformer Lightning arrestor	0.00202824	5.174741751	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2022	\$410,323	\$0	\$410,323	4510	50	EFF: Cap Bank Conductor Fuse Splice/Clamp/Connector Transformer Lightning arrestor	0.001969088	5.023823285	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2020-2022 plan total	\$1,216,756	\$0	\$1,216,756	13078	50	EFF: Cap Bank Conductor Fuse Splice/Clamp/Connector Transformer Lightning arrestor	0.005877109	4.998179292	NA	New	NA	GSRPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
Infrared Inspection, Corona Scanning, and High Definition Imagery of Energized Overhead Transmission Facilities and Equipment (IN-4)	2019 plan	\$5,669,260	\$0	\$5,669,260	1000	56	EFF: Conductor Crossarm Insulator Splice/Clamp/Connector	0	0	All types of object contact Contamination	New	NA	WMPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	NA									
	2019 actual	NA	NA	NA	NA	NA	EFF: Conductor Crossarm Insulator Splice/Clamp/Connector	0	0	All types of object contact Contamination	NA	NA	NA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Total per initiative spend" column is "NA" because the 2019 actuals are included in initiative 10.1, table 24									
	2020	\$3,503,612	\$0	\$3,503,612	1000	54	EFF: Conductor Crossarm Insulator Splice/Clamp/Connector	0	0	All types of object contact Contamination	New	NA	WMPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	NA									
	2021	\$3,533,603	\$0	\$3,533,603	UNKNOWN	UNKNOWN	EFF: Conductor Crossarm Insulator Splice/Clamp/Connector	0	0	All types of object contact Contamination	New	NA	WMPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Line miles to be treated" and "Spend/treated line mile" columns are "UNKNOWN" for 2021 because there are no miles estimated at this time									
	2022	\$3,564,017	\$0	\$3,564,017	UNKNOWN	UNKNOWN	EFF: Conductor Crossarm Insulator Splice/Clamp/Connector	0	0	All types of object contact Contamination	New	NA	WMPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Line miles to be treated" and "Spend/treated line mile" columns are "UNKNOWN" for 2022 because there are no miles estimated at this time									
2020-2022 plan total	\$10,601,232	\$0	\$10,601,232	NA	NA	EFF: Conductor Crossarm Insulator Splice/Clamp/Connector	0	0	All types of object contact Contamination	New	NA	WMPMA	In Compliance	GO 95, Rule 31.2 GO 95, Rule 31.1	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2021 and 2022 because there are no miles estimated at this time										
Distribution High Fire Risk-Informed Inspections (IN-1.1)	2019 plan	\$53,897,249	\$0	\$53,897,249	380000	50	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	12.58971608	51.30050366	Some types of object contact, primarily veg.	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", number of assets is the unit of measure.									
	2019 actual	\$72,644,502	\$0	\$72,644,502	380000	50	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	12.58971608	26.93717824	Some types of object contact, primarily veg.	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	The spend for 2019 includes both ground and aerial inspections (Initiative 9.2, Table 24). Instead of "Line miles to be treated", number of assets is the unit of measure.									
	2020	\$2,276,063	\$0	\$2,276,063	54959	50	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	2.130902134	13.83279522	Some types of object contact, primarily veg.	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", number of assets is the unit of measure.									
	2021	\$2,983,443	\$0	\$2,983,443	69743	50	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	2.583689546	30.5075701	Some types of object contact, primarily veg.	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", number of assets is the unit of measure.									

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
	2022	52,631,287	50	52,631,287	59681	50	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	2.101270577	25.75526863	Some types of object contact, primarily veg.	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", number of assets is the unit of measure.								
	2020-2022 plan total	57,890,794	50	57,890,794	184383	50	EFF: Capacitor bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	6.815862257	21.27807398	Some types of object contact, primarily veg.	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", number of assets is the unit of measure.								
Asset Defect Detection Using Machine Learning Object Detection (AT-5)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.	AT-5	Table 24	Sec 5.3.4	9.1.1. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Alternative Technology Sub-Activity: Asset Defect Detection Using Machine Learning Object Detection	Accounting includes costs to initiate asset defect detection/machine learning initiative
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.									
	2020	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.								
	2021	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.								
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.								
	2020-2022 plan total	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.								
Aerial Inspections (IN-6.1)	2019 plan	NA	NA	NA	NA	NA	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	2.566442313	35.62901467	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because this initiative's costs and scope are included in Initiative 9.1, Table 24.	IN-6.1	Table 24	Sec 5.3.4	9.2. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Inspections Sub-Activity: Aerial Inspections - D	Accounting includes costs to inspect (aerial) distribution assets as part of SCE's HFRI (previously EOI) program
	2019 actual	NA	NA	NA	NA	NA	CFO: Animal Vegetation EFF: Capacitor Bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	2.566442313	0	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because this initiative's costs and scope are included in Initiative 9.1, Table 24.								
	2020	540,059,163	50	540,059,163	255000	50	CFO: Animal Vegetation EFF: Capacitor Bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	2.166771183	10.55289296	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count is the unit of measure.								
	2021	526,193,236	50	526,193,236	165000	50	CFO: Animal Vegetation EFF: Capacitor Bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	1.322057154	21.10486735	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count is the unit of measure.								
	2022	526,492,925	50	526,492,925	165000	50	CFO: Animal Vegetation EFF: Capacitor Bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	1.261802492	49.86048697	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count is the unit of measure.								
	2020-2022 plan total	592,745,324	50	592,745,324	585000	50	CFO: Animal Vegetation EFF: Capacitor Bank Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor Switch	4.750630829	16.19861992	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count is the unit of measure.								
	2019 plan	5461,369	50	5461,369	NA	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	NA	New	NA	GSRPMA	NA	NA								

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
Unmanned Aerial Vehicles (UAV) (AT-2.2)	2019 actual	\$1,048	50	\$1,048	NA	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA	NA	NA	The "Total per initiative spend" column is not final due to work performed in 2019 and not yet billed. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" while activity is in pilot/research phase. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020	\$413,021	50	\$413,021	NA	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" while activity is in pilot/research phase. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.		Table 24	Sec 5.3.4	9.2.1. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: PPS Protocol Support Functions Sub-Activity: Advanced Unmanned Aerial Systems Study	Accounting includes costs to conduct SCE's advanced unmanned aerial systems study
	2021	\$358,457	50	\$358,457	NA	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" while activity is in pilot/research phase. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	\$335,685	50	\$335,685	NA	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" while activity is in pilot/research phase. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020-2022 plan total	\$1,107,163	50	\$1,107,163	NA	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" while activity is in pilot/research phase. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
UAS Operations Training (OP-3)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.								
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.								
	2020	\$271,030	50	\$271,030	50	55	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", operator count is the unit of measure. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	\$840,787	50	\$840,787	80	511	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", operator count is the unit of measure. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.		Table 24	Sec 5.3.4	9.2.2. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Training & Development Sub-Activity: UAS Operations Training	Accounting includes costs for UAS training
	2022	\$245,415	50	\$245,415	50	55	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
2020-2022 plan total	\$1,357,232	50	\$1,357,232	180	58	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", operator count is the unit of measure. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.									
Transmission Risk-Informed	2019 plan	\$5,917,957	50	\$5,917,957	51179	50	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.117967686	3.383526561	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	The spend for 2019 includes both ground and aerial inspections (Initiative 10.2, Table 24). Instead of "Line miles to be treated", the number of structures inspected in HFRA is the unit of measure.								
	2019 actual	\$28,499,116	50	\$28,499,116	41952	51	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	1.523685139	13.55849227	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", the number of structures inspected in HFRA is the unit of measure.								
	2020	\$1,149,897	50	\$1,149,897	10489	50	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.031262796	0.539179179	NA	New	NA	WMPMA	Exceeding Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", the number of structures inspected in HFRA is the unit of measure. SCE modified the inspection cycles for some of its transmission overhead inspection assets to exceed compliance requirements such that, in 2020 and beyond, SCE plans to annually inspect approximately 47% of its high fire transmission assets								

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting		
Inspections in HFRA (IN-1.2)	2021	\$1,192,214	\$0	\$1,192,214	13935	50	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.0302427	2.917159593	NA	New	NA	WMPMA	Exceeding Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", the number of structures inspected in HFRA is the unit of measure. SCE modified the inspection cycles for some of its transmission overhead inspection assets to exceed compliance requirements such that, in 2020 and beyond, SCE plans to annually inspect approximately 47% of its high fire transmission assets			Sec 5.3.4	equipment, beyond inspections mandated by rules and regulations	Augmented	WMPMA	Activity: Inspections Sub-Activity: EOI Inspections - T	as part of SCE's HFRI (previously EOI) program		
	2022	\$1,059,111	\$0	\$1,059,111	12011	50	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.025121626	3.055476275	NA	New	NA	WMPMA	Exceeding Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", the number of structures inspected in HFRA is the unit of measure. SCE modified the inspection cycles for some of its transmission overhead inspection assets to exceed compliance requirements such that, in 2020 and beyond, SCE plans to annually inspect approximately 47% of its high fire transmission assets										
	2020-2022 plan total	\$3,401,221	\$0	\$3,401,221	36435	50	CFO: Animal Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.086627123	1.131327554	NA	New	NA	WMPMA	Exceeding Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", the number of structures inspected in HFRA is the unit of measure. SCE modified the inspection cycles for some of its transmission overhead inspection assets to exceed compliance requirements such that, in 2020 and beyond, SCE plans to annually inspect approximately 47% of its high fire transmission assets										
Aerial Inspections - Transmission (IN-6.2)	2019 plan	NA	NA	NA	NA	NA	CFO: Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	NA	NA	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because this initiative's costs and scope are included in initiative 10.1, Table 24.										
	2019 actual	NA	NA	NA	NA	NA	CFO: Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	NA	NA	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" for 2019 because this initiative's costs and scope are included in initiative 10.1, Table 24.										
	2020	\$11,868,620	\$0	\$11,868,620	33500	50	CFO: Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.020153591	0.83127307	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count the unit of measure.										
	2021	\$11,970,218	\$0	\$11,970,218	33500	50	CFO: Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.019433645	1.358777964	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count the unit of measure.		IN-6.2	Table 24	Sec 5.3.4	10.2. Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Inspections Sub-Activity: Aerial Inspections - T	Accounting includes costs to inspect (aerial) transmission assets as part of SCE's HFRI (previously EOI) program	
	2022	\$12,073,246	\$0	\$12,073,246	33500	50	CFO: Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.01873949	1.332649703	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count the unit of measure.										
	2020-2022 plan total	\$35,912,084	\$0	\$35,912,084	100500	50	CFO: Vegetation EFF: Conductor Crossarm Insulator Splice/Clamp/Connector Transformer Lightning Arrestor	0.058326725	1.108696648	NA	New	NA	WMPMA	In Compliance	GO 95 Rules 31.1 and 31.2	Instead of "Line miles to be treated", structure count the unit of measure.										
	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.									
2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" because this initiative was not an active 2019 initiative.										
2020	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.									
2021	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.									
2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.									
2020-2022 plan total	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	All columns are "UNKNOWN" as the scope and strategy for this initiative are not known at this time.									
Assessment of Partial Discharge for Transmission Facilities (AT-6)	2019 plan	NA	NA	NA	7500	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs										
	2019 plan	NA	NA	NA	7500	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	Instead of "Line miles to be treated", structure count is the unit of measure.  The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
Assessment of Partial Discharge for Transmission Facilities (AT-6)	2019 plan	NA	NA	NA	7500	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs										

**Guidance-6 Table**  
**Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
Quality Oversight / Quality Control (IN-2)	2019 actual	NA	NA	NA	17109	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", structure count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	IN-2	Table 24	Sec 5.3.4	14. Quality assurance / quality control of inspections	Standard	N/A	BPG: N/A BPE: N/A Activity: N/A Sub-Activity: N/A	N/A
	2020	NA	NA	NA	15000	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", structure count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	NA	NA	NA	15000	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", structure count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	NA	NA	NA	15000	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", structure count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2020-2022 plan total	NA	NA	NA	45000	NA	CFO: Vegetation EFF: All	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. Instead of "Line miles to be treated", structure count is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
Failure Modes and Effects Analysis (FMEA) (IN-7)	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.	IN-7	Table 24	Sec 5.3.4	15.1 Substation inspections	Augmented	N/A	BPG: N/A BPE: N/A Activity: N/A Sub-Activity: N/A	N/A
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.								
	2020	NA	NA	NA	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2021	NA	NA	NA	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
	2022	NA	NA	NA	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.								
2020-2022 plan total	NA	NA	NA	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	NA	NA	NA	The "Total per initiative spend", "Spend/treated line mile", and "If new: Memorandum account" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. In addition, the "Line miles to be treated" column is "NA" because line miles treated is not an applicable field of measurement for this initiative. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.									
Generation Risk-Informed Inspections in HFRA (IN-5)	2019 plan	\$400,000	\$0	\$400,000	400	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	WMPMA	Exceeding Compliance	GO 95 Rule 31.2	Instead of "Line miles to be treated", asset count is the unit of measure.	IN-5	Table 24	Sec 5.3.4	16. Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Inspections Sub-Activity: EOI Generation	Accounting includes costs to inspect generation assets as part of SCE's HFRI (previously EOI) program
	2019 actual	\$252,992	\$0	\$252,992	449	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	WMPMA	Exceeding Compliance	GO 95 Rule 31.2	Instead of "Line miles to be treated", asset count is the unit of measure.								
	2020	\$157,860	\$0	\$157,860	200	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	WMPMA	Exceeding Compliance	GO 95 Rule 31.2	Instead of "Line miles to be treated", asset count is the unit of measure. 50% of applicable assets per year								
	2021	\$162,262	\$0	\$162,262	200	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	WMPMA	Exceeding Compliance	GO 95 Rule 31.2	Instead of "Line miles to be treated", asset count is the unit of measure. 50% of applicable assets per year								
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	WMPMA	Exceeding Compliance	GO 95 Rule 31.2	The "Total per initiative spend", "Line miles to be treated", and "Spend/treated line mile" columns are UNKNOWN because the need for 2022 inspections will be evaluated after analysis of all assets in 2020-2021 is completed.								
2020-2022 plan total	\$320,122	\$0	\$320,122	400	\$1	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	Refer to Initiative 9.1, Table 24	New	NA	WMPMA	Exceeding Compliance	GO 95 Rule 31.2	Instead of "Line miles to be treated", asset count is the unit of measure.									
Expanded Pole Brushing (VM-2)	2019 plan	\$909,419	\$0	\$909,419	98913	\$0	EFF: Capacitor Bank Crossarm Insulator	0.020922591	89.30597969	NA	New	NA	WMPMA	Exceeding Compliance	PRC 4292	Instead of "Line miles to be treated", number of poles to be brushed is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.	VM-2	Table 25	Sec 5.3.5	5.1. Fuel management and reduction of "slash" from vegetation management activities	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Wildfire Vegetation Management Sub-Activity: Pole Vegetation Removal	Accounting includes costs to perform enhanced pole brushing in SCE's HFRA
	2019 actual	\$1,646,091	\$0	\$1,646,091	163149	\$0	EFF: Capacitor Bank Crossarm Insulator	0.133388881	83.15448511	NA	New	NA	WMPMA	Exceeding Compliance	PRC 4292	Instead of "Line miles to be treated", number of poles to be brushed is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.								
	2020	\$4,156,925	\$0	\$4,156,925	300000	\$0	EFF: Capacitor Bank Crossarm Insulator	0.244975738	60.25539041	NA	New	NA	WMPMA	Exceeding Compliance	PRC 4292	Instead of "Line miles to be treated", number of poles to be brushed is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.								
	2021	\$4,208,056	\$0	\$4,208,056	300000	\$0	EFF: Capacitor Bank Crossarm Insulator	0.237840523	58.50037904	NA	New	NA	WMPMA	Exceeding Compliance	PRC 4292	Instead of "Line miles to be treated", number of poles to be brushed is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.								

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In/ exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting		
	2022	\$4,256,202	\$0	\$4,256,202	300000	\$0	EFF: Capacitor Bank Crossarm Insulator	0.230913129	\$6.7964845	NA	New	NA	WMPMA	Exceeding Compliance	PRC 4292	instead of "Line miles to be treated", number of poles to be brushed is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2020-2022 plan total	\$12,621,183	\$0	\$12,621,183	900000	\$0	EFF: Capacitor Bank Crossarm Insulator	0.713729389	\$8.51741798	NA	New	NA	WMPMA	Exceeding Compliance	PRC 4292	instead of "Line miles to be treated", number of poles to be brushed is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
Expanded Clearances for Legacy Facilities (VM-3)	2019 plan	NA	NA	NA	NA	NA	NA	Insufficient data to model risk	Insufficient data to model risk	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.										
	2019 actual	NA	NA	NA	NA	NA	NA	Insufficient data to model risk	Insufficient data to model risk	NA	NA	NA	NA	NA	NA	All columns are NA because this initiative was not an active 2019 initiative.										
	2020	\$1,217,440	\$0	\$1,217,440	80	\$15	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	HPPMA	Exceeding Compliance	PRC 4291 and 4293	instead of "Line miles to be treated", number of assets is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2021	\$1,055,967	\$0	\$1,055,967	32	\$33	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	HPPMA	Exceeding Compliance	PRC 4291 and 4293	instead of "Line miles to be treated", number of assets is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2022	\$1,088,751	\$0	\$1,088,751	24	\$45	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	HPPMA	Exceeding Compliance	PRC 4291 and 4293	instead of "Line miles to be treated", number of assets is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2020-2022 plan total	\$3,362,157	\$0	\$3,362,157	136	\$25	NA	Insufficient data to model risk	Insufficient data to model risk	NA	New	NA	HPPMA	Exceeding Compliance	PRC 4291 and 4293	instead of "Line miles to be treated", number of assets is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
Quality Control (VM-5)	2019 plan	\$0	\$0	\$0	4700	\$0	CFO: Vegetation	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	Existing	2018 GRC	NA	In Compliance	GO 95, PRC 4293, FAC-003-4	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2019 actual	\$985,200	\$0	\$985,200	4700	\$0	CFO: Vegetation	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	Existing	2018 GRC	NA	In Compliance	GO 95, PRC 4293, FAC-003-4	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2020	\$4,000,000	\$0	\$4,000,000	8100	\$0	CFO: Vegetation	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	Existing	2018 GRC	NA	In Compliance	GO 95, PRC 4293, FAC-003-4	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2021	\$5,000,000	\$0	\$5,000,000	8100	\$1	CFO: Vegetation	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	Existing	2018 GRC	NA	In Compliance	GO 95, PRC 4293, FAC-003-4	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2022	\$5,000,000	\$0	\$5,000,000	8100	\$1	CFO: Vegetation	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	Existing	2018 GRC	NA	In Compliance	GO 95, PRC 4293, FAC-003-4	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2020-2022 plan total	\$14,000,000	\$0	\$14,000,000	24300	\$1	CFO: Vegetation	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	Existing	2018 GRC	NA	In Compliance	GO 95, PRC 4293, FAC-003-4	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
Hazard Tree (VM-1)	2019 plan	\$56,894,741	\$0	\$56,894,741	125000	\$0	CFO: Vegetation	0.341354838	5.999760828	NA	New	NA	GSRPMA	Exceeding Compliance	GO 95 Rule 35; PRC 4293	instead of "Line miles to be treated", number of tree assessments is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2019 actual	\$15,209,616	\$0	\$15,209,616	129485	\$0	CFO: Vegetation	0.448879815	29.51289531	NA	New	NA	GSRPMA	Exceeding Compliance	GO 95 Rule 35; PRC 4293	instead of "Line miles to be treated", number of tree assessments is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2020	\$54,097,298	\$0	\$54,097,298	75000	\$1	CFO: Vegetation	1.323416912	25.01992932	NA	New	NA	GSRPMA	Exceeding Compliance	GO 95 Rule 35; PRC 4293	instead of "Line miles to be treated", number of tree assessments is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2021	\$59,475,851	\$0	\$59,475,851	75000	\$1	CFO: Vegetation	1.41377901	24.61990761	NA	New	NA	GSRPMA	Exceeding Compliance	GO 95 Rule 35; PRC 4293	instead of "Line miles to be treated", number of tree assessments is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2022	\$72,035,267	\$0	\$72,035,267	75000	\$1	CFO: Vegetation	1.697494857	24.69137418	NA	New	NA	GSRPMA	Exceeding Compliance	GO 95 Rule 35; PRC 4293	instead of "Line miles to be treated", number of tree assessments is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2020-2022 plan total	\$185,608,416	\$0	\$185,608,416	225000	\$1	CFO: Vegetation	4.834690779	24.76550752	NA	New	NA	GSRPMA	Exceeding Compliance	GO 95 Rule 35; PRC 4293	instead of "Line miles to be treated", number of tree assessments is the unit of measure. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
DRI Quarterly Inspections and Tree Removals (VM-4)	2019 plan	\$41,481,981	\$0	\$41,481,981	14179	\$3	CFO: Vegetation	1.19137335	28.72026151	NA	New	NA	CEMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no status/compliance targets associated with this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2019 actual	\$32,598,997	\$0	\$32,598,997	14179	\$2	CFO: Vegetation	1.19137335	36.54631921	NA	New	NA	CEMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no status/compliance targets associated with this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2020	\$36,470,011	\$0	\$36,470,011	14179	\$3	CFO: Vegetation	1.156673156	31.71573366	NA	New	NA	CEMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no status/compliance targets associated with this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.										
	2021	\$36,973,531	\$0	\$36,973,531	14179	\$3	CFO: Vegetation	1.122983646	30.37263728	NA	New	NA	UNKNOWN	NA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no status/compliance targets associated with this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2022	\$37,564,933	\$0	\$37,564,933	14179	\$3	CFO: Vegetation	1.090275385	29.02375427	NA	New	NA	UNKNOWN	NA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no status/compliance targets associated with this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									
	2020-2022 plan total	\$149,082,456	\$0	\$149,082,456	55036	\$3	CFO: Vegetation	5.663426191	33.53137282	NA	New	NA	UNKNOWN	NA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no status/compliance targets associated with this initiative. The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative.									

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting		
Annual SOB 322 review (OP-1)	2020-2022 plan total	\$111,008,475	\$0	\$111,008,475	42537	\$3	CFO: Vegetation	3.369932186	30.3574316	NA	New	NA	UNKNOWN	NA	NA	The "Other risk drivers addressed" column is "NA" as there are no secondary risk reduction drivers directly addressed by this initiative. The "If new: Memorandum account" column is "UNKNOWN" because it is pending 2021 GRC decision. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative. The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs.										
	2019 plan	NA	NA	NA	14179	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2019 actual	NA	NA	NA	14179	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2020	NA	NA	NA	14179	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2021	NA	NA	NA	14179	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.	OP-1	Table 26	Sec 5.3.6	1.1. Automatic recloser operations	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Preventive Maintenance Sub-Activity: EOI PMO	Accounting includes support (program management and IT) costs associated with SCE's HFR (formerly EDI) program		
	2022	NA	NA	NA	14179	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2020-2022 plan total	NA	NA	NA	14179	NA	NA	Under assessment /pilot	No RSE was calculated as the purpose of the assessment is to learn and assess the effectiveness of the mitigation.	NA	New	NA	WMPMA	NA	NA	The "Total per initiative spend" and "Spend/treated line mile" columns are "NA" because costs to implement this initiative are part of normal labor hours and are not incremental wildfire-related costs. The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
Community Resource Centers (PSPS-2)	2019 plan	\$783,150	\$0	\$783,150	13	\$60	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of incremental Community Resource Centers is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2019 actual	\$45,734	\$0	\$45,734	13	\$4	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of incremental Community Resource Centers is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2020	\$2,274,806	\$1,212,013	\$1,062,793	36	\$63	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of incremental Community Resource Centers is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2021	\$2,107,708	\$737,864	\$1,369,844	50	\$42	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of incremental Community Resource Centers is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2022	\$1,368,880	\$0	\$1,368,880	50	\$27	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of incremental Community Resource Centers is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2020-2022 plan total	\$5,751,394	\$1,949,877	\$3,801,517	136	\$42	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	Instead of "Line miles to be treated", number of incremental Community Resource Centers is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
Customer Resiliency Equipment Incentives (PSPS-3)	2019 plan	NA	NA	NA	NA	NA	Refer to Initiative 5, Table 26	NA	NA	Refer to Initiative 5, Table 26	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.										
	2019 actual	NA	NA	NA	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	NA	NA	SCE is currently in the process of setting up a pilot for this initiative. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2020	UNKNOWN	UNKNOWN	UNKNOWN	1	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	NA	NA	SCE is currently in the process of setting up a pilot for this initiative. The costs for 2020 are still to be determined. Instead of "Line miles to be treated", number of customers in the program is the unit of measure. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										
	2021	\$3,685,095	\$0	\$3,685,095	UNKNOWN	UNKNOWN	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", number of customers in the program is the unit of measure. The scope for 2021 is still to be determined.										
	2022	\$3,758,521	\$0	\$3,758,521	UNKNOWN	UNKNOWN	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative. Instead of "Line miles to be treated", number of customers in the program is the unit of measure. The scope for 2022 is still to be determined. The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative.										

**Guidance-6 Table**  
**Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
	2020-2022 plan total	\$7,443,616	\$0	\$7,443,616	UNKNOWN	UNKNOWN	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	NA	NA	Instead of "Line miles to be treated", number of customers in the program is the unit of measure. SCE has forecasted a rollout of this initiative based on the successful completion of the pilot done in 2020. The number of customers for 2021-2022 are still to be determined.								
	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until 2020.								
	2019 actual	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 actual as this initiative did not begin until 2020.								
Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program (PSPS-4)	2020	\$9,240,986	\$0	\$9,240,986	2500	\$4	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	In compliance	SB 167	Instead of "Line miles to be treated", number of customers eligible for the program is the unit of measure. The "ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2021	\$1,431,711	\$0	\$1,431,711	408	\$4	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	In compliance	SB 167	Instead of "Line miles to be treated", number of customers eligible for the program is the unit of measure. The "ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2022	\$1,462,642	\$0	\$1,462,642	408	\$4	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	In compliance	SB 167	Instead of "Line miles to be treated", number of customers eligible for the program is the unit of measure. The "ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2020-2022 plan total	\$12,135,339	\$0	\$12,135,339	3316	\$4	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	In compliance	SB 167	Instead of "Line miles to be treated", number of customers eligible for the program is the unit of measure. The "ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2019 plan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	All columns are "NA" for the 2019 plan as this initiative did not begin until after the 2019 WMP had been filed.								
MICOP Partnership (PSPS-5)	2019 actual	NA	NA	NA	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	The MICOP partnership began in Q4 of 2019, the majority of deliverables will be executed in 2020. 2019 spend is "NA" because the MICOP grant partnership was funded through corporate philanthropy shareholder budget.								
	2020	UNKNOWN	\$0	UNKNOWN	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	2020 spend is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
	2021	UNKNOWN	\$0	UNKNOWN	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative for work done in 2019. 2021 spend is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
	2022	UNKNOWN	\$0	UNKNOWN	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative for work done in 2019. 2022 spend is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
	2020-2022 plan total	UNKNOWN	\$0	UNKNOWN	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	2021-2022 spend is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
Independent Living Centers Partnership (PSPS-6)	2019 actual	NA	NA	NA	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative for work done in 2019. 2019 spend is "NA" because this initiative was funded through corporate philanthropy shareholder budget.								
	2020	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	2020 spend and scope is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
	2021	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	2021 spend and scope is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
	2022	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	In compliance	PSPS Decision, 2019 WMP Decision	2022 spend and scope is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
	2020-2022 plan total	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	UNKNOWN	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	NA	NA	NA	In compliance	PSPS Decision, 2019 WMP Decision	2020-2022 spend and scope is "UNKNOWN" because future funding is determined on a yearly basis and evaluated based on program execution and annual Corporate Contributions budget.								
Community Outreach (PSPS-7)	2019 plan	\$1,123,618	\$0	\$1,123,618	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2019 actual	NA	NA	NA	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Total per-initiative spend" is "NA" as the 2019 actuals for this initiative are included with Initiative 2, Table 29. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020	\$439,656	\$0	\$439,656	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2021	\$362,262	\$0	\$362,262	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2022	\$303,594	\$0	\$303,594	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "In / exceeding compliance with regulations" and "Cite associated rule" columns are "NA" because there are no statutory compliance targets associated with this initiative. The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								

**Guidance-6 Table  
Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
	2020-2022 plan total	\$1,105,512	\$0	\$1,105,512	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
Wildfire Infrastructure Protection Team Additional Staffing (OP-2)	2019 plan	\$493,000	\$0	\$493,000	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.	OP-2	Table 26	Sec 5.3.6	5.7. PSPS events and mitigation of PSPS impacts	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: Enhanced Situational Awareness Sub-Activity: Wildfire Response, Modeling, Analysis, & Weather Forecasting	Accounting includes costs for additional support personnel needed for enhanced situational awareness activities
	2019 actual	\$1,372,908	\$0	\$1,372,908	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020	\$1,817,465	\$0	\$1,817,465	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2021	\$1,817,909	\$0	\$1,817,909	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2022	\$1,818,371	\$0	\$1,818,371	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020-2022 plan total	\$5,453,746	\$0	\$5,453,746	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020-2022 plan total	\$5,453,746	\$0	\$5,453,746	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
De-energization notifications (PSPS-1.1, 1.2, 1.3, 1.4)	2019 plan	\$1,275,782	\$0	\$1,275,782	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	In compliance	PSPS OIR	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.	PSPS-1.1, 1.2, 1.3, 1.4	Table 26	Sec 5.3.6	7. De-energization notifications	Augmented	GSRPMA	BPG: Resiliency BPE: Wildfire Management Activity: PSPS Protocol Support Functions Sub-Activity: Emergency Outage Notification System	Accounting includes costs for messaging systems (subscription, implementation and enhancement)
	2019 actual	\$1,556,750	\$0	\$1,556,750	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	In compliance	PSPS OIR	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020	\$1,415,289	\$0	\$1,415,289	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	In compliance	PSPS OIR	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2021	\$1,445,318	\$0	\$1,445,318	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	In compliance	PSPS OIR	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2022	\$1,476,543	\$0	\$1,476,543	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	In compliance	PSPS OIR	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020-2022 plan total	\$4,337,150	\$0	\$4,337,150	NA	NA	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	Refer to Initiative 5, Table 26	New	NA	GSRPMA	In compliance	PSPS OIR	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
SCE Emergency Response Training (DEP-2)	2019 plan	\$2,610,105	\$0	\$2,610,105	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.	DEP-2	Table 29	Sec 5.3.9	1. Adequate and trained workforce for service restoration	Augmented	WMPMA	BPG: Resiliency BPE: Wildfire Management Activity: Training & Development Sub-Activity: Employee Training Programs & Skilled Path Training	Accounting includes costs for training associated with SCE's wildfire mitigation response activities
	2019 actual	\$1,440,727	\$0	\$1,440,727	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020	\$1,721,681	\$0	\$1,721,681	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2021	\$1,758,212	\$0	\$1,758,212	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2022	\$1,796,196	\$0	\$1,796,196	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								
	2020-2022 plan total	\$5,276,089	\$0	\$5,276,089	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	WMPMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.								

**Guidance-6 Table**  
**Disaggregating WMP Initiatives from Standard Operations**

WMP Activity	Year	Total per-initiative spend	Subtotal A: Capital expenditure	Subtotal B: Operating expenses	Line miles to be treated	Spend/ treated line mile	Ignition probability drivers targeted	Risk reduction	Risk-spend efficiency	Other risk drivers addressed	Existing/ new	Existing: What proceeding has reviewed program	If new: Memorandum account	In / exceeding compliance with regulations	Cite associated rule	Comments	Activity ID	2020 WMP Table	2020 WMP Section	Initiative Activity	Guidance-6 i. Standard vs Augmented	Guidance-6: iii. confirm that it is budgeting and accounting for WMP activity of each initiative	Guidance-6: iv. include a "ledger" of all subaccounts that show a breakdown by initiative	Guidance-6: Description of Accounting
Customer Education and Engagement, IOU Customer Engagement (DEP-1.1, 1.2, 1.3, 3)	2019 plan	\$1,423,242	\$0	\$1,423,242	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA, GSRPMA	In Compliance	R-1812005	This initiative activity includes costs associated with customer engagement, direct customer mailings, and town hall community meetings.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.	DEP-1.1, 1.2, 1.3, 3	Table 29	Sec 5.3.9	2. Community outreach, public awareness, and communications efforts	Augmented	GSRPMA	<b>DEP-1.1:</b> BPG: Resiliency BPE: Wildfire Management Activity: PSPS Protocol Support Functions Sub-Activity: Direct Customer Mailings  <b>DEP-1.2:</b> BPG: Resiliency BPE: Wildfire Management Activity: PSPS Protocol Support Functions Sub-Activity: Town Hall Community Meetings  <b>DEP-1.3:</b> BPG: Resiliency BPE: Wildfire Management Activity: PSPS Protocol Support Functions Sub-Activity: Customer Research and Education  <b>DEP-3:</b> BPG: Resiliency BPE: Wildfire Management Activity: PSPS Protocol Support Functions Sub-Activity: IOU Customer Engagement	<b>DEP-1.1:</b> Accounting includes costs to develop and send "Dear Neighbor" letters  <b>DEP-1.2:</b> Accounting includes costs to hold community meetings in communities in SCE's HFRA  <b>DEP-1.3:</b> Accounting includes costs to execute community outreach campaigns  <b>DEP-3:</b> Accounting includes costs for SCE's customer engagement efforts
	2019 Actual	\$6,449,956	\$0	\$6,449,956	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA, GSRPMA	In Compliance	R-1812005	This initiative activity includes costs associated with customer engagement, direct customer mailings, and town hall community meetings.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2020	\$9,109,568	\$0	\$9,109,568	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA, GSRPMA	In Compliance	R-1812005	This initiative activity includes costs associated with customer engagement, direct customer mailings, and town hall community meetings.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2021	\$9,302,855	\$0	\$9,302,855	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA, GSRPMA	In Compliance	R-1812005	This initiative activity includes costs associated with customer engagement, direct customer mailings, and town hall community meetings.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2022	\$9,503,834	\$0	\$9,503,834	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA, GSRPMA	In Compliance	R-1812005	This initiative activity includes costs associated with customer engagement, direct customer mailings, and town hall community meetings.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2020-2022 plan total	\$27,916,257	\$0	\$27,916,257	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA, GSRPMA	In Compliance	D. 19-017-015	This initiative activity includes costs associated with customer engagement, direct customer mailings, and town hall community meetings.  The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
Customer Research and Education (DEP-4)	2019 plan	\$919,050	\$0	\$919,050	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.	DEP-4	Table 29	Sec 5.3.9	N/A - Activity Added By SCE	Augmented	FRMMA	BPG: Resiliency BPE: Wildfire Management Activity: PSPS Protocol Support Functions Sub-Activity: Customer Research and Education	Accounting includes costs to conduct research and execute community outreach campaigns
	2019 actual	NA	NA	NA	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA	NA	NA	The "Total per initiative spend", "Line miles to be treated" and "Spend/treated line mile" columns are "NA" as they are covered in Initiative 2, Table 29.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2020	\$1,409,408	\$0	\$1,409,408	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2021	\$1,434,090	\$0	\$1,434,090	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2022	\$1,465,073	\$0	\$1,465,073	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								
	2020-2022 plan total	\$4,308,571	\$0	\$4,308,571	NA	NA	NA	Supporting activity	No RSE was created as this is an enabling activity that indirectly, rather than directly, reduces risk.	NA	New	NA	FRMMA	NA	NA	The "Line miles to be treated" and "Spend/treated line mile" columns are "NA" because line miles treated is not an applicable field of measurement for this initiative.  The "Ignition probability drivers targeted" and "Other risk drivers addressed" columns are "NA" as this initiative doesn't target specific ignition probability or other risk drivers but instead supports SCE's overall wildfire mitigation efforts.								

**GUIDANCE-7**  
**LACK OF DETAIL ON EFFECTIVENESS OF**  
**“ENHANCED” INSPECTION PROGRAMS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***Guidance -7***

**Name:** Lack of detail on effectiveness of “enhanced” inspection programs

**Category:** Asset Management and Inspections

**Class:** B

**Deficiency:**

Utilities engage in numerous ‘enhanced’ inspection programs, but it is unclear if such ‘enhanced’ programs are incrementally effective over routine patrol and detailed inspections, particularly if patrol and detail inspections are scheduled based on risk rather than GO 95 minimums.

**Condition:**

In its first quarterly report, each electrical corporation shall detail:

- i. the incremental quantifiable risk identified by such ‘enhanced’ inspection programs;
- ii. whether it addresses the findings uncovered by ‘enhanced’ programs differently than findings discovered through existing inspections; and
- iii. a detailed cost-benefit analysis of combining elements of such ‘enhanced’ inspections into existing inspection programs.

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**Response:**

**i: the incremental quantifiable risk identified by such ‘enhanced’ inspection programs**

SCE’s interpretation is that this condition is seeking clarification on the risk reduction benefit of SCE’s risk-informed inspection programs (Enhanced inspections) as compared to existing compliance-driven inspection programs. It is worth noting the important distinction here that historical inspections were scheduled based on compliance requirements and without the additional layers of risk considerations. The quantifiable risk reduction benefit of SCE’s High Fire Risk inspection programs can therefore be measured by the number of remediation notifications generated by these programs that were not generated from previous inspections. This increased volume of notifications helps reduce risk incrementally by identifying conditions that need remediation prior to failure and prior to the minimum inspection compliance interval requirement as outlined by GO 165 due to the increased wildfire risk within HFRA over the past few years. For example, a ground inspection for a distribution structure that was completed last year and had no issues would not be inspected until another five years per GO 165. However, if

strong Santa Ana winds occurred right after the inspection last year and caused a cross-arm to be loose and need repair, it potentially could go undetected for up to five years with a risk to cause an ignition within HFRA over that time period. With SCE’s Enhanced inspections those highest risk structures would be inspected each year and identified for remediation, thus reducing the risk exposure within HFRA for potential ignitions on a more frequent basis.

In addition, aerial inspections are typically performed after ground-based inspections to gain a 360-degree view of SCE structures. The findings documented by the aerial program offer additional clarity on the conditions of the assets previously not visible from the ground or issues that arose after the ground-based inspection was completed, contributing to quantifiable benefit in the form of identifying asset conditions that need remediation to reduce the probability of faults and associated ignitions that would otherwise not have been found or not found till the next inspection cycle. Likewise, Corona and IR inspections identify asset degradation that are not visible to the human eye providing another distinct benefit.

The table below shows the total number of notifications: Priority (P) 1, 2 and 3, identified from various enhanced inspections in SCE’s HFRA:

**Table 12 – Guidance-7  
Number of Notifications by Priority**

Inspection Program	Distribution			Transmission			Total
	P1	P2	P3	P1	P2	P3	
<i>High Fire Risk Informed Ground Inspections (2020)</i>	~800	11.5k	16k	0	5.5k	~300	34.1k
<i>Aerial Inspections (2019 &amp; 2020)</i>	~400	12.6k	~50	~50	4.9k	~50	18.1k
<i>EOI (2018 &amp; 2019)</i>	1k	80.2k	46.1k	~50	18.7k	2.5k	148.5k
<i>Long Span Inspections (2019)</i>	0	9.2k	0	0	0	0	9.2k
<i>IR/Corona (2019 and 2020)</i>	~100	~300	0	~10	~30	~20	~500
<b><i>Enhanced Inspection Total</i></b>	<b>2.3k</b>	<b>113.8k</b>	<b>62.1k</b>	<b>~100</b>	<b>29.1K</b>	<b>2.8K</b>	<b>210k</b>

As shown above, the Enhanced Inspection Program identified approximately 210,000 issues requiring remediation between December 2018 and August 7, 2020. Over the same period, SCE identified 335,900 total issues in HFRA indicating that the Enhanced Inspection Program resulted in over 60% of the notifications during this timeframe. In 2020, EOI inspections and traditional inspections were combined, assets inspected in 2020 that were not compliance due are specified as High Fire Risk Informed Ground Inspections. Additionally, distribution ground-based inspections (non-HFRA, HFRA-compliance due or High Fire Risk Informed Ground Inspections) all now use the same form to perform the inspections.

The table below shows the notifications identified in HFRA between December 2018 and August 7, 2020.

**Table 13 – Guidance-7  
Notifications Identified in HFRA**

Inspection Program	Distribution			Transmission			Total
	P1	P2	P3	P1	P2	P3	
<b>Overall Total Notifications created in HFRA areas between December 2018 and August 2020</b>	7.5K	135.3K	158.6K	~200	30.2K	4.0K	335.9k
<b>Enhanced Inspections as a Percentage of Overall</b>	31.1%	84.4%	39.3%	55.7%	96.4%	72.7%	62.8%

**ii: whether it addresses the findings uncovered by ‘enhanced’ programs differently than findings discovered through existing inspections;**

No. SCE does not treat findings from its enhanced inspections differently than those of its existing programs. SCE treats all findings in accordance with General Order 95, Rule 18.

**iii: a detailed cost-benefit analysis of combining elements of such ‘enhanced’ inspections into existing inspection programs.**

In its 2020-2022 WMP, SCE combined enhanced distribution and transmission ground inspections with its existing ground-based inspection programs, as part of SCE’s inspection redesign effort (See SCE’s response to SCE-11 for more information concerning SCE’s Inspection Redesign). SCE reviewed the programmatic costs, including labor, equipment (computer/iPad, camera) and organizational support, along with other relevant factors (e.g., inspection cost per structure of each program and efficiency of asset visits) and determined that combining the ground-based inspections programs would result in higher operational efficiency and would be more cost-effective than conducting enhanced and existing programs separately.

Having separate programs for compliance-based inspections and risk-informed inspections not only means incurring additional costs for inspecting the same structures and assets multiple times within the same time period, it also creates additional resource requirements and potential reliance on higher-cost resources. Moreover, inspecting an asset more than once within the reduced timeframes of Enhanced Inspections for higher risk assets is not expected to yield material increases in findings that need remediation. Though SCE did not perform a formal cost-benefit analysis, it is reasonable to expect that keeping the Enhanced and traditional programs separate would increase costs without commensurate reduction in risk. Moreover, SCE’s RSE calculations validate the efficacy of SCE’s Enhanced inspection programs included in SCE’s 2020-2022 WMP.

In summary, SCE combined its enhanced *ground-based* inspections with its existing *ground-based* inspection programs. Because these programs are similar, to continue with two separate ground-based programs would have been redundant, more resource intensive, and less cost-effective (leading to a lower RSE).

**GUIDANCE-9**  
**INSUFFICIENT DISCUSSION**  
**OF PILOT PROGRAMS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***Guidance -9***

**Name:** Insufficient discussion of pilot programs

**Category:** Alternative Technology

**Class:** B

**Deficiency:**

Electrical corporations do not describe how they will evaluate and expand the use of successfully piloted technology or which piloted technology has proven ineffective. To ensure pilots that are successful result in expansion, if warranted and justified with quantitative data, electrical corporations must evaluate each pilot or demonstration and describe how it will expand use of successful pilots.

**Condition:**

In its quarterly report, each electrical corporation shall detail:

- i. all pilot programs or demonstrations identified in its WMP;
- ii. status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption;
- iii. results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits; and
- iv. How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices;
- v. a proposal for how to expand use of the technology if it reduces ignition risk materially.

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**Response:**

Southern California Edison has outlined a response for each of its Alternative Technology activities pursuant to the requested conditions. This document has been developed with the intention that it will also be used for quarterly status updates. As such, some information will remain relatively static (e.g. pilot objective/summary), while some will be dynamic (e.g. pilot status, pilot status description). SCE has also collaborated with the other IOUs to ensure format and terminology alignment to the extent possible.

**Condition i:** The following is a list of SCE’s alternative technology pilots:

- AT-1 - Meter Alarming for Down Energized Conductor (MADEC)
- AT-2.1 - Distribution Fault Anticipation (DFA)
- AT-2.2 - Advanced Unmanned Aerial Systems
- AT-3.1 - REFCL - Ground Fault Neutralizer (GFN)
- AT-3.2 - REFCL - Arc Suppression Coil
- AT-3.3 - REFCL - Isolation Transformer
- AT-3.4 - Distribution Open Phase Detection
- AT-4 - Vibration Dampers
- AT-5 - Asset Defect Detection using Machine Learning
- AT-6 - Assessment of Partial Discharge for Transmission Facilities
- AT-7 - Early Fault Detection (EFD)
- AT-8 - High Impedance Fault Relays

The 12 activities listed above cover five primary arenas SCE is investigating which are (1.) incipient fault detection, (2.) fault/wire-down detection, (3.) fault energy reduction/limiter, (4.) inspection improvements, and (5.) system hardening. Incipient fault detection technologies involve activities that can identify impending equipment failure before the fault occurs and allow for preventative response or maintenance, which include pilots AT-2.1, AT-5, AT-6, AT-7. Wire-down detection activities such as AT-1, AT-3.4, and AT-8 involve technologies that can detect a wire-down event in real-time, typically known as high-impedance (Hi-Z) fault, potentially providing the necessary data to manually trigger a protection scheme. Fault energy reduction/elimination technologies consist of the family of Rapid Earth Fault Current Limiter systems in AT-3.1 to AT-3.3. These technologies focus on quickly limiting fault energy (i.e. reduced to a very low energy level) and isolate the fault to prevent an ignition based on rapid response of the protection equipment. There are several activities in each of these fault mitigating categories due to variation in the method, speed, and confidence of detecting and mitigating the fault ignition risk. The AT-2.2 activity targets swifter PSPS pre and post patrols through the use of Beyond Visual Line of Sight (BVLOS) drone missions with the longer-term goals of improving the safety of air crews, increasing drone inspection/patrol throughput, and reducing outage duration. Lastly, AT-4 is an early system hardening activity that will determine the efficacy of vibration dampeners for covered conductors for improved wind resistance.

**For Condition ii:** SCE will be providing the following details for each activity: Project Objective / Summary, Pilot Status phase, Pilot Status Description, Pilot Location, and Pilot Project Milestones.

For additional clarity, SCE has included a description of each project status phase in Table 14 below. Additional information can be found in each activity section that follows.

**Table 14 - Guidance-9  
Project Status Descriptions**

SCE Alternative Technology Project Status Phase Descriptions	
<b>Initiation Phase</b>	Project purpose and benefits defined Initial scope, schedule, budget Sponsor, stakeholders, project team defined
<b>Planning / Design Phase</b>	Plan including refined scope, schedule, budget Benchmarking with other utilities to avoid project duplication, lessons learned, and industry best practices Detailed design, technical requirements, coordination Contracting
<b>Build / Test Phase</b>	Build, test and demonstration Evaluation to defined metrics
<b>Closeout Phase</b>	Path to production revised Lessons learned documented Decommissioning completed Final report
<b>Continuous Improvement</b>	Optional phase that some projects progress to when there is project-related continuous improvement activity post Closeout.

As of 7/31/2020, SCE plans to continue executing on all Alternative Technology pilots. There are currently two activities in Initiation, six in Planning/Design, three in Build/Test, and one in Continuous Improvement. Only the AT-2.1 pilot currently in the Build/Test phase is being planned for expansion in 2021.

**Condition iii:** In most cases, these are active projects in varying phases per the table above, and results are not typically known and substantiated until the closeout phase. However, SCE is providing any key, useful learnings to date if available. Additionally, quantitative performance metrics and quantitative risk reduction benefits are often not known during the pilot stage; these may be developed as part of the closeout phase or subsequent planning activities if the technology proves effective and there is a desire to operationalize. That said, SCE is providing any qualitative or quantitative metrics, if defined, as part of the pilot project, in addition to anticipated or realized wildfire risk reduction benefits.

**Condition iv:** For each activity, SCE is providing the general fault detection strategy, including any information about the types of faults that are detected or mitigated, if known, and any resulting remediation if that data is available during the pilot. Data that may lead to establishing new or revised operational practices are typically revealed towards the end of the project as part of lessons learned and/or recommendations. However, should immediate operational insights be discovered during the pilot, SCE will note them accordingly.

**Condition v:** For each activity, SCE is providing the envisioned pilot operationalization strategy based on our most current understanding of the technology and how it may be deployed for operations, assuming the pilot proves successful. However, some projects are in the early stages

of technology development and an operational strategy may not yet be clear, while some projects are in the continuous improvement stage and have already been operationalized.

<b>WMP Activity ID: AT-1</b>	<b>2020-2022 WMP Section: 5.3.3.2.2</b>
<b>Activity Name:</b>	<b>AT-1 - Meter Alarming for Down Energized Conductor (MADEC)</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* This project is an evaluation of possible improvements to SCE’s existing MADEC system for specifically detecting downed energized *covered* conductors through SCE’s Advanced Metering Infrastructure network. The goal is to evaluate algorithm improvements for covered conductors, which are expected to exhibit different electrical transient signals than bare conductor. To be clear, the MADEC algorithm is not the pilot project, as the MADEC system is operational today, where action is taken upon receiving an output from the algorithm. SCE continues to operate MADEC across the distribution system for bare and covered wire systems. This AT-1 pilot will specifically study *covered* conductor application to understand if specific improvements to the algorithm are practical on predominantly covered conductor systems.

*Pilot Status:* Continuous Improvement

*Pilot Status Description:* Machine learning (ML) algorithms require data for training. There is minimal data on downed covered conductors since SCE has been accelerating its installation since 2018, so a process has been implemented to capture the data associated with downed energized covered conductor events, should they occur. While all event data is valuable, algorithm improvements will require significantly more data on downed energized covered conductor before the algorithm to detect them automatically can be implemented.

*Project Location:* The existing active MADEC algorithm runs across the SCE distribution system utilizing data from SCE smart meters and other systems, which includes circuits and circuit segments with covered conductor.

*Pilot Project Milestones:* SCE will provide quarterly updates on any known covered conductor failures in Q3’20, Q4’20, Q1’21, and Q2’21.

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, SCE has only experienced three downed energized conductor events. The first event on Jordan 12kV on 3/7/20 resulted in fluctuating voltage but not enough sustained low voltage conditions from the real-time meter data for detection. The second event on Capanero 2.4kV on 7/5/20 resulted in no real-time meter data. The third event on Thacher 16kV on 7/24/20 resulted in no real-time meter data as the covered conductor was intact but suspended in vegetation.

The MADEC algorithm will continue to analyze data for both bare and covered conductors as SCE operates its system to aid in de-energizing downed conductor situations.

*Pilot Lessons Learned:* No lessons learned for updates to the MADEC system in relation to detection of downed covered conductor events have been determined yet. The pilot will require much more data from actual downed energized covered conductor events in the field in order to document lessons learned and substantiate algorithm revisions. Of the three energized events, only one instance provided voltage exception data that was outside the normal bounds, which was minimal and could be mistaken for normal minor system fluctuations. The MADEC algorithm will continue to analyze data for both bare wire and covered conductor as SCE operates its system to aid in de-energizing downed conductor situations.

*Project Performance Metrics:* Success of the AT-1 MADEC project is determined by several factors focused primarily on the number of downed covered conductor events that can be captured and whether the captured dataset offers actionable attributes. The dataset to be evaluated includes, but is not limited to, smart meter exception, reviewing repair/trouble orders for each down covered conductor, and switching records to identify potential actionable attributes for MADEC improvements.

*Wildfire Risk Reduction Benefits:* Detection and prevention of downed energized covered conductor is an important aspect of public safety and of wildfire risk reduction. The MADEC system can limit the total time a downed energized covered conductor is energized after falling to earth, clearly providing improvement to public safety. Application of covered conductor is expected to greatly reduce the quantity of fault events and in turn also greatly reduce electric system related ignition events and other associated hazards. While the MADEC system may offer wildfire reduction benefits in other unique cases, the existing MADEC system (including potential improvements to the algorithm for covered conductor specifically) is considered an electric enhancement and support system to the deployment of covered conductor with the goal of mitigating downed energized cover conductor events.

**Condition iv: How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices**

*Fault Detection Strategy:* When the MADEC system alarm is generated indicating a potential energized downed wire, a notification is sent to our operations and dispatch center to take appropriate action, such as de-energizing the circuit or dispatching a troubleshooter immediately to a predicted location.

**Condition v: A proposal for how to expand use of the technology if it reduces ignition risk materially**

*Envisioned Pilot Operationalization Strategy:* The machine learning algorithm continues to be updated and improved through present operational practices. Improvements that may be identified as part of this assessment may be incorporated into the algorithm following these established system updates. The assessment may have other outcomes such as the potential to changes in data collection to enable improvements to the system or alternately the assessment may not result in any substantial changes to the MADEC system. The operationalization strategy will be formulated based on the findings of the assessment.

<b>WMP Activity ID: AT-2.1</b>	<b>2020-2022 WMP Section: 5.3.3.2.1</b>
<b>Activity Name:</b>	<b>AT-2.1 - Distribution Fault Anticipation (DFA)</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* DFA technology uses electrical system measurements to identify pending equipment failures using a proprietary algorithm developed by Texas A&M that is built upon analysis of incipient event data gathered from multiple utilities. The DFA technology is used by several Texas electric cooperatives as part of their wildfire mitigation. SCE adapted and installed DFA devices in substations, which transmit circuit data, such as voltage and current measurements, along with grid event alarms. The data captured by DFA will be used to detect, locate, and categorize events as such as incipient faults, traditional faults, and normal circuit operations. An example of an incipient fault would be an internal connection on a capacitor switch that is gradually failing, but not detectable during an inspection and has not yet progressed into a fault. A capacitor switch that failed and faulted would be an example of a traditional fault, which is normally detected by conventional protection. Lastly, an example of normal operation detected by DFA would be switching a capacitor. SCE is evaluating the technical performance of the DFA system in this pilot and will continue the partnership with Texas A&M to help refine their algorithm to adapt to SCE circuit topology and equipment characteristics.

*Pilot Status:* Build / Test Phase

*Pilot Status Description:* SCE has installed 60 DFA monitoring systems at SCE substations across its service area to monitor 60 High Fire Risk Area (HFRA) circuits. The grid events and electric system data captured by the DFA systems is evaluated on an on-going basis. Most hardware installations for the 60 DFA systems were completed in 2019 and commissioned in January 2020. An additional 150 deployments are planned for the pilot in 2021 which is further detailed in the *Pilot Progress*.

*Project Location:* DFA systems were deployed on circuits that transverse through HFRA in different districts for a sample representation of our HFRA territory. Deployment locations factored other considerations such as low constructability impacts to substations. These substations are in the following SCE Districts:

- Kernville
- Thousand Oaks
- Monrovia
- Menifee
- Wildomar

*Pilot Project Milestones:*

1. Collect and analyze DFA grid events (Q1'20 and ongoing)

2. Initiate/finalize selection of candidate circuits for 2021 (Q2'20)
3. Finalize Technology Assessment document on 60 DFA units (Q4'20)

### **Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, this technology assessment is based on 60 DFA units with limited data collected from January to June 2020. The assessment resulted in a recommendation to expand the pilot deployment with an additional 150 DFA installations in 2021 to increase collection of data points to better assess DFA performance. Sites have been selected for the 2021 pilot expansion with planning and design for the selected candidates expected to initiate in Q3-Q4 in 2020.

#### *Pilot Lessons Learned:*

- DFA provides awareness for normal or incipient type of grid events. The lesson learned from analyzing each event is that there are classifications related to incipient events and other classifications that are not.
- While interacting with Texas A&M, there are some situations that have not been studied by Texas A&M, which requires the Texas A&M team to learn more about SCE's configurations / networks to make additions or modifications to their proprietary algorithm. The DFA algorithm continues to improve as it collects additional grid event data. These efforts will be ongoing to improve the DFA anticipation model.
- DFA consolidates circuit data and activities that presently require manual collection and interpretation.
- Communication impacts with utilizing 4G LTE continue beyond installation challenges found in 2019. The challenge comes from the poor LTE connectivity availability of the cellular systems in remote substation locations.
- SCE did not have a way to track fault induced conductor motion easily with our own tools and analysis process. DFA provides awareness for these types of events on a web portal.

#### *Project Performance Metrics:*

- **Incipient Event Detection:** Project will track and analyze incipient events. Scenarios will be analyzed, including determining potential for ignition risk, that will lead to improved identification and location of incipient faults.
- **Other Event Types:** Project will track and analyze unique event notifications not readily available with existing tools. This will lead to identification and location of grid events such as other fault and non-fault related events that are not classified as incipient faults.
- **Operational Awareness:** Project will track DFA Grid Event notifications where DFA provides additional circuit conditions/awareness not typically found with other engineering/operational tools. This allows SCE Operations to proactively configure the system or reactively confirm issue is resolved.

- **Equipment Failure Ratio:** Track DFA device failure ratio. SCE expects equipment received should be free of damage, defects, and in-service failures. SCE is working with the DFA vendor to bring this ratio to less than 1% failure upon equipment commissioning.

*Wildfire Risk Reduction Benefits:* DFA provides increased awareness of incipient faults on circuits which will minimize ignition risk with remediation. DFA aids in locating fault events not previously identified allowing inspection and potential repair actions to prevent future fault re-occurrences. DFA also measures electrical disturbances where the alerts may also inform circuit operational decisions during elevated risk conditions.

**Condition iv: How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices**

*Fault Detection Strategy:* DFA provides an alert based on the detection algorithm for identifying anomalies on a distribution circuit and provides remote access to fault recorder data which can be used in investigating significant events and fault locating. Furthermore, the process would require categorizing if an anomaly is an incipient fault, a traditional fault, or a normal operation. Of these three categories of anomalies, detecting and responding to an incipient fault would prevent a potential failure and ignition. For traditional faults where detected by other means of protective devices, mitigation is by means of replacement with grid-hardening equipment/material and by other types of technologies such as open phase protection and Rapid Earth Fault Current Limiting (REFCL) for reducing ignition risks. Lastly, normal operations, such as a capacitor switching, are not causes of ignition.

SCE receives DFA event notifications in real-time. The established process, depending on event severity, is to review/analyze high priority events as soon as possible (i.e. Incipient Event Detection). Non-priority events are queued/reviewed per resource availability (i.e. Other Events Types & Operational Awareness).

**Condition v: A proposal for how to expand use of the technology if it reduces ignition risk materially**

*Envisioned Pilot Operationalization Strategy:*

Based on event analysis, field operations may be contacted for further field investigation and depending on findings appropriate mitigation actions are initiated.

Prioritization of installations for wildfire risk reduction would inform the installation schedule of DFA assets. Circuitry with these continuous monitoring devices would have maintenance governed by events in addition to other inspection programs. DFA data recorder information would be used for post event analysis, including improved fault locating capabilities beyond today's systems.

Further pilot expansion of 150 units for the pilot was deemed necessary to continue evaluation of the pilot due to need to capture more data for analysis and refining the algorithm. Upon

successful evaluation of the pilot, remaining deployment of 600 units would commence over the next two years as described in 2021 GRC.

<b>WMP Activity ID: AT-2.2</b>	<b>2020-2022 WMP Section: 5.3.4.9.2.1</b>
<b>Activity Name:</b>	<b>AT-2.2 - Advanced Unmanned Aerial Systems</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* Conduct additional Beyond Visual Line of Sight (BVLOS) demonstration Unmanned Aerial System (UAS) flights using lessons learned from 2019 study and validate aerial patrol findings via truck, foot, or helicopter.

*Pilot Status:* Planning / Design Phase

*Pilot Status Description:* SCE is currently conducting the necessary procurement and planning activities prior to commencing demonstration drone flights.

*Project Location:* These pilot demonstration flights are planned to be conducted over five distribution circuits in High Fire Risk Area (HFRA) that have experienced PSPS events in the past and are frequently on the monitoring list. FAA Airspace classification was also a key consideration.

- Energy (Bell Canyon, Ventura County)
- Bootlegger (Acton, Los Angeles County)
- Tahquitz (Mountain Center, Riverside County)
- Anton (Moorpark, Ventura County)
- Guitar (Santa Clarita, Los Angeles County)

*Pilot Project Milestones:*

1. Align workstream & milestones with broader UAS Program development; Define location, technical, and safety requirements for 2nd demonstration by 3/31/20
2. Conduct PSPS-focused Technical & Safety Qualification flights with vendors; Establish SGI waiver process and templates to be utilized for future PSPS events by 6/30/20
3. Obtain BVLOS waiver for limited scope PSPS and/or emergent events by 9/30/20
4. Conduct 2nd round of demonstration flights for simulated PSPS event by 10/30/20
5. Develop first draft of demonstration report and socialize with key stakeholders by 12/31/2020

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, a Statement of Work (SOW) for the demonstration flights was finalized, a Request for Proposal (RFP) was issued, bids were subsequently collected, and the project team is selecting a small subset of vendors with whom a technical and safety qualification test will be conducted. Following the technical and safety qualification, a few successful vendors will be invited to conduct demonstration flights on circuits with a history of

pre-emptive de-energizations in a simulated PSPS event. These simulated events are expected to be conducted in the Fall.

*Pilot Lessons Learned:*

- Regulatory barriers exist that make BVLOS drone flights difficult to achieve, particularly in populated areas with congested and restricted airspace.
- Southern California has some of the most diverse topography and geography in the United States, much of which is served by SCE. This diversity, particularly extreme elevation changes and heavily forested, remote areas, present challenges for live streaming video and aircraft control. Drone mission endurance also needs to improve for UAS patrols to be conducted effectively and efficiently in these difficult environments.
- Video quality and zoom, combined with shooting angles and distance above structures, needs to be further tested and optimized for inspectors to feel confident when conducting remote aerial patrols and making an ‘all-clear’ decision from a desktop vantage point.
- Additional demonstration flights are needed to not only prove the viability and effectiveness of using UAS compared to traditional patrolling methods, but also to advance aircraft detect-and-avoid and communication technologies that are prerequisites for BVLOS missions.

*Project Performance Metrics: Forward Looking Metrics (when data becomes available):*

- Video quality and streaming consistency high enough for inspectors to render all clear designation
- Time to deploy/mobilize to subject location
- Time to complete patrol and render all clear designation
- Ability to secure necessary FAA waivers and/or permits to conduct patrol operations
- Ability to maintain command-control of the aircraft and maintain consistent streaming of video

*Wildfire Risk Reduction Benefits:*

- Reduced potential for ignition during pre-event circuit patrols and circuit re-energization/restoration after conditions have subsided.
- Reduction in outage duration or customer minutes of interruption associated with PSPS events.

**Condition iv: How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices**

*Fault Detection Strategy:* As with any circuit patrol, the objective is to locate any conditions that could cause a fault and subsequent ignition, whether as part of a pre-event PSPS patrol or upon re-energization of the circuit. If abnormal conditions are found during the course of the simulated PSPS patrol missions, Troublemakers that are part of the project team will either effect repairs in the field or issue the appropriate notification to have the condition repaired.

**Condition v: A proposal for how to expand use of the technology if it reduces ignition risk materially**

*Envisioned Pilot Operationalization Strategy:* If the pilot proves technically feasible, is an efficient means to patrol circuits, and offers flexibility for field crews to optimize resources to perform pre or post-event circuit patrols, then the next step would be to conduct an analysis of whether this activity could be performed in-house and/or with vendors and to assess the cost effectiveness of each method. It is likely that an assessment of each circuit that may require aerial support have a unique flight plan (i.e. 'aerial patrol playbook') drafted so as to ensure the safe and efficient aerial operations may be conducted on individual circuits or circuit segments. SCE's UAS standards and policies should be updated accordingly, personnel should be trained, RFP issued (if vendor support is desired), and IMT and Field Worker training should be revised to include processes and procedures on UAS-based aerial patrols and their appropriate/safe application and use.

<b>WMP Activity ID: AT-3.1</b>	<b>2020-2022 WMP Section: 5.3.3.2.3.1</b>
<b>Activity Name:</b>	<b>AT-3.1 - REFCL - Ground Fault Neutralizer (GFN)</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* The objective of the Ground Fault Neutralizer (GFN) is to detect a phase-to-ground fault, quickly reduce the fault energy below the ignition point, and isolate/disconnect the fault by means of switching operation. The GFN consists of an arc suppression coil and a residual current compensating inverter on the neutral of a grounding transformer. It can reduce the voltage on a phase to below 250 volts within a few cycles whenever a single phase to ground fault occurs. This technology has been used in Australia for detecting and acting on faults as low as 0.5 amperes. The advantages of the GFN for fire mitigation is that it reduces the energy released at the point of the failure faster and more completely than any other available technology. Another benefit of the GFN is that it is a detection/energy reduction operation. This operation is expected to be completed without a sustained power interruption to customers when the fault is temporary in nature. The advantages for fire mitigation are that it reduces the energy released at the point of the failure faster and more completely than any other available technology. There are technical reasons that make the GFN and other REFCL design variants the most effective for mitigating phase-to-ground faults (but not phase-to-phase or three-phase faults) and three-wire system (but not four-wire system). This limitation behooves SCE to test and deploy other technologies to complement GFN and other REFCL designs for mitigating phase faults and 4-wire system.

*Pilot Status:* Planning / Design Phase

*Pilot Status Description:* Currently, finalizing equipment specifications and as well as project scope. Expect equipment to arrive in Q3'20.

*Project Location:* Currently not field deployed

*Pilot Project Milestones:*

1. Finalize pilot location, equipment specification and contract award - Q1 2020
2. Real Time Digital Simulation (RTDS) Testing and protection requirements - Q2 2020
3. Phase measurements and Distribution scope development -Q2 2020
4. GFN equipment receipt - Q3 2020
5. Substation engineering and design - Q4 2020

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, equipment specifications and protection requirements are completed, substation scoping has been completed, and project design is currently in progress. Factory acceptance testing of the ground fault neutralizer was also completed, and equipment is now in transit to SCE and expected to arrive in 3rd quarter of 2020.

*Pilot Lessons Learned:* The supplier of the Ground Fault Neutralizer was able to successfully supply the equipment with six months lead time during a pandemic. A supplier was found for a circuit breaker rated for use as a bypass breaker to close back into the ground grid and revert to solid grounding when the Ground Fault Neutralizer is out of service. Current transformers were identified which have the required accuracy for this application.

*Project Performance Metrics:*

- SCE Distribution and Substation equipment able to withstand the overvoltage caused by the GFN.
- Ability to detect ground faults down to 0.5 amps.
- The GFN meets the following criteria which have been shown to reduce the risk of ignition from a ground fault from a down wire or tree contact by at least 90%:
  - When tested with a low impedance phase to ground fault, the voltage on the faulted phase is reduced to 1900 volts within 85 milliseconds, 750 volts within 500 milliseconds, and 250 volts within 2 seconds.
  - When tested with a high impedance phase to ground fault, the voltage on the faulted phase is reduced to 250 volts within 2 seconds. When determining if the fault is still present on the phase the total  $i^2t$  (ampere-squared-seconds) of the fault must be less than 0.1 A<sup>2</sup>s
- Validation of cost versus benefit.
- Validate feasibility of broad deployment while still maintaining operational reliability.

*Wildfire Risk Reduction Benefits:* Extensive testing in Australia suggests this system produces at least a 90% reduction in probability of ignition from ground faults. The most relevant test reports explaining this information are the 2015 studies titled "REFCL Technologies Test Program Final Report" and "Vegetation Conduction Ignition Tests" which highlight the system's ability to detect downed conductors that are not detectable using conventional protection. Based on the Australian experience it is believed that half ampere faults can be detected.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* The GFN monitors circuit conditions and can detect faults down to 0.5 amps. When a fault is detected, the system rapidly de-energizes the conductor with the fault, reducing the energy released at the fault location with the goal to prevent an ignition of present fuels. The reduction of fault energy means a reduction in quantity and temperature of incandescent particles during a wire-down contact with dry field. The location of a fault will be identified down to the circuit level. However, Automatic Reclosers, fuses and other protection devices deployed on the faulted circuit will no longer detect or interrupt the faults because the Ground Fault Neutralizer blocks the fault current which these devices use to detect a fault. Therefore, the circuit breaker at the substation will be used to de-energize the line and field workers will patrol the line to clear permanent faults. Although the entire circuit must be shut off to clear permanent faults (versus opening a downstream RAR, for instance), the reliability

impact of this will be somewhat mitigated by the fact that the arc can be extinguished on temporary faults without de-energizing customers.

**Condition v:** A proposal for how to expand use of the technology if it reduces ignition risk materially

*Envisioned Pilot Operationalization Strategy:* Due to the high cost and complexity of REFCL technologies, SCE will confirm this system works as expected and better understand the cost to deploy before planning an expansion of the REFCL technologies. Expansion will be done according to system configuration to balance the risk reduction and cost of each deployment. The lead time on materials for a project is about 8 months. In some cases that means a complete project can be performed in 18 months or less. However, if a substation requires rebuilding or reconfigurations to make space or incompatible equipment must be replaced, projects may require three years or more to complete.

<b>WMP Activity ID: AT-3.2</b>	<b>2020-2022 WMP Section: 5.3.3.2.3.2</b>
<b>Activity Name:</b>	<b>AT-3.2 - REFCL - Arc Suppression Coil</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* Initiate engineering design to convert a typical substation to resonant grounding. This involves installing an arc suppression coil (ASC) on the neutral of the substation transformer. The arc suppression coil will redirect most of the current away from single phase to ground faults anywhere on the distribution circuit on which it is deployed and redirect it to the substation ground grid where it can be safely discharged. When completed, single phase to ground fault currents will be reduced to around three amperes. In order to detect and locate faults, a new protection system is being installed along with new high sensitivity current transformers. The benefit of the ASC is that this technology can be used on smaller substations in outlying areas and would require minimal system re-configuration.

*Pilot Status:* Planning / Design Phase

*Pilot Status Description:* Currently, the team is finalizing equipment specifications, developing the project design/scope, and defining requirements for a successful pilot.

*Project Location:* Currently not field deployed

*Pilot Project Milestones:*

1. Finalize pilot location, equipment specification and contract award (Complete)
2. RTDS Testing and protection requirements (Q2 2020)
3. Substation engineering and design (Q4 2020)
4. ASC material receipt (Q4 2020)

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, equipment specifications have been completed and protection equipment requirements have been defined. Real Time Digital Simulations (RTDS) are being used in the development of protection settings, substation scoping has been completed, and project design is currently in progress.

*Pilot Lessons Learned:*

- Identified material supplier was determined to be able to supply the Arc Suppression Coil in 6 months instead of the expected 8 months.
- Identified supplier for a circuit breaker rated for use as a bypass breaker to close the ground grid and revert to resistance grounding when the ASC is out of service.
- Four protection elements--Admittance, Incremental Conductance, Wattmetric and Transient--were identified as being important elements to test as part of this technical application.

- Identified required high accuracy current transformers for use detecting low magnitude faults.

*Project Performance Metrics:*

- SCE Distribution and Substation equipment able to withstand the overvoltage caused by resonant grounding.
- Ability to detect ground faults down to 0.5 amps.
- Resonant grounding at the substation is sufficient to meet the following criteria which have been shown to reduce the risk of ignition from a ground fault from a down wire or tree contact by at least 90%:
  - When tested with a low impedance phase to ground fault, the voltage on the faulted phase is reduced to 1900 volts within 85 milliseconds, 750 volts within 500 milliseconds, and 250 volts within 2 seconds.
  - When tested with a high impedance phase to ground fault, the voltage on the faulted phase is reduced to 250 volts within 2 seconds. When determining if the fault is still present on the phase the total  $i^2t$  of the fault must be less than 0.1 A<sup>2</sup>s
- Determining implementation costs for feasibility of broad scale deployment.

*Wildfire Risk Reduction Benefits:* Simulations suggest this system will be able to meet the same REFCL criteria which were tested and shown to provide a 90% reduction in probability of ignition from ground faults.

Ability to detect downed conductors that are not detectable using conventional protection.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* There are several different protection elements which are marketed for resonant grounded systems. It is unclear which are best suited to detect low magnitude faults so several different elements such as Admittance, Incremental Conductance, Transient, and Wattmetric are being evaluated. However, Automatic Reclosers, fuses and other protection devices deployed on the faulted circuit will no longer detect or interrupt the faults because resonant grounding will reduce the fault current which these devices use to detect a fault. Temporary faults can be cleared without opening a protective device since the fault current will be no more than a few amperes. If the protection is shown to be able to reliably detect the faults the circuit breaker at the substation might be used to de-energize the line and field workers will patrol the line to find and repair permanent faults. Until that point the arc suppression coil will only be used to reduce the energy of temporary faults and will be bypassed on permanent faults.

**Condition v:** A proposal for how to expand use of the technology if it reduces ignition risk materially

*Envisioned Pilot Operationalization Strategy:* The ASC variant design of REFCL technology can be deployed for smaller substations located in outlying area and require minimal circuit re-configuration work. Due to the high cost and complexity of REFCL technologies, SCE will

confirm this system works as expected before planning an expansion of the REFCL technologies according to system configuration to balance the risk reduction and cost of each deployment. The lead time on materials for a project is about 8 months. In some cases that means a complete project can be performed in 18 months or less. However, if a substation requires rebuilding or reconfigurations to make space or equipment which is incompatible must be replaced, then a project may require three years or more to complete.

<b>WMP Activity ID: AT-3.3</b>	<b>2020-2022 WMP Section: 5.3.3.2.3.3</b>
<b>Activity Name:</b>	<b>AT-3.3 - REFCL - Isolation Transformer</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* Install one Rapid Earth Fault Current Limiter - Isolation Transformer. The REFCL operational requirements developed in Australia have been identified to reduce ignitions from single line to ground fault events by up to 90%. This includes ignitions related to down wire. Identified REFCL systems available for application on SCEs distribution systems require 3-wire load connections. Isolation Transformer application provides the unique ability to convert a section of a distribution circuit to 3-wire on an otherwise 4-wire system. This conversion allows targeted application of the REFCL scheme to the HFRA circuit sections and avoids considerable costs related to conversion of existing SCE systems.

*Pilot Status:* Build / Test Phase

*Pilot Status Description:* The 2020 pilot focuses on overhead pole-top substation installations. SCE intends to further pilot pad mounted materials in 2021. Based on these two construction methods, further deployments may be practical to extend the REFCL operational benefits across SCE distribution system circuits.

*Project Location:* Currently not field deployed. Targeting installation in SCE Redlands District in early Q3/20.

*Pilot Project Milestones:*

1. Finalize pilot location and pilot standard (Q1/20)
2. Work order design and construction pre-requisites (Q2/20)
3. Develop and socialize operating criteria(Q2/20)
4. Develop commissioning criteria (Q3/20)
5. Field install of hardware (Q2/20)
6. Apparatus commissioning of installation (Q4/20)

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, material is currently being consolidated for field installation. Site installation is scheduled for early Q3, and the commissioning schedule is currently being developed.

*Pilot Lessons Learned:* Design and constructability concerns have been found early in the process. The transformer connection utilized for the initial pilot installation allowed rapid installation due to availability of materials, but larger expansion would be limited with this type of configuration. The total custom loading beyond the isolation bank are limited due to restrictions for weights of overhead equipment and the configuration also creates operational complications. Additionally, operational concerns are created due to a phase angle shift that is

created with the transformer isolation bank connections. The phase angle shift restricts parallel circuit operation as well as backfeed or bypass switching of the isolation bank. Development of alternate transformer winding configurations may resolve these limitations and would best be constructed in a pad mounted transformer design. This pad mounted designs simplifies localized grounding requirements in addition to the mentioned operational benefits.

*Project Performance Metrics:* SCEs WMP goal is to install one pilot location with a REFCL technology isolation transformer in 2020. This installation is targeted using existing design and available transformer equipment while gaining experience with construction and operational requirements for the REFCL isolation transformer system.

- SCE Distribution equipment design able to withstand the overvoltage caused during a ground fault
- Ability to detect ground faults down to 0.5 amps.
- Isolation bank does not create operational impacts that cannot be resolved
- Determine implementation costs for feasibility of broad scale deployment to support Risk Spend Efficiency evaluation

The longer-term project performance metric for the REFCL isolation transformer pilot is to develop the support material requirements for an operationalization strategy.

The system operations of interest mainly focus on these areas:

- How to configure the protection system during operational situations
- How to respond following a fault event

Additionally, studying related fault events and system reliability impacts are important aspects of this project.

*Wildfire Risk Reduction Benefits:* If the same voltage reduction targets can be met as the Ground Fault Neutralizer, this system is anticipated to produce the same 90% reduction in probability of ignition from ground faults through the ability to detect downed conductors that are not detectable using conventional protection. Single line to ground fault energy is dramatically reduced compared to existing protection systems.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* REFCL technology reduces ignition risk caused by single-line-to-ground (SLG) faults. It does so by limiting the SLG fault current energy to a level below the threshold required to self-ignite and by tripping the faulted section of circuitry in a timely manner. In a non-REFCL circuit design, a SLG fault would typically result in a fault current magnitude greater than what is known to promote self-ignition but lower than can be sensed and tripped by a traditional overcurrent relay. This undesirable combination results in the faulted line staying energized and has the potential to lead to an ignition. The REFCL isolation bank system is specifically designed to be installed in high fire risk areas; it converts downstream circuitry from traditional overcurrent protection to REFCL protection (trips on phase-to-ground voltage).

When a single-line-to-ground fault occurs downstream of a REFCL isolation bank, fault current is designed to stay at or below 0.5A and is designed to trip within 2 seconds or less. With automatic reclosing at the isolation bank system blocked, downstream circuitry needs to be patrolled before the system can be re-energized. All these steps – reducing fault current, tripping quickly, blocking automatic reclosing--significantly reduce SCE’s exposure to self-ignition as it relates to SLG faults in high-fire risk areas.

**Condition v: A proposal for how to expand use of the technology if it reduces ignition risk materially**

*Envisioned Pilot Operationalization Strategy:* Isolation transformers maybe used to convert circuit segments to a REFCL operating strategy versus an entire circuit. A prioritization system would be developed to rank candidate installations. An operationalization strategy that is also considerate of the other two REFCL technologies will be explored. The REFCL isolation transformer may be applied at the circuit segment level where costs associated with substation application of REFCL (e.g. ASC or GFN) or 4-wire circuit reconfigurations may be cost prohibitive.

<b>WMP Activity ID: AT-3.4</b>	<b>2020-2022 WMP Section: 5.3.3.2.4</b>
<b>Activity Name:</b>	<b>AT-3.4 - Distribution Open Phase Detection</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* SCE is investigating a distribution Open Phase Detection (OPD) scheme to determine open conductor conditions. This will allow the protection system to isolate a separated conductor (wire-down) prior to the wire contacting the ground, while leveraging existing distribution hardware in HFRA.

The pilot objectives for 2020 are to complete pilot installations of distribution open phase detection systems at five locations. Data collection on performance of the system will commence following the completed installation at each unique site. The broader pilot objectives over future years includes accurately detecting open phase conditions, avoiding false detections, assessing the detection technology applicability for larger deployment, installation project costs, creation of operational requirements, and potential activation of the system to automatically isolate for detection events. As previously discussed, distribution OPD has the capability to detect phase and ground faults, is compatible with 3-wire and 4-wire systems, and most importantly, is able to isolate a wire-down before it becomes an ignition. However, unlike a REFCL technology, the distribution OPD does not reduce fault energy when a contact is made. This leaves the benefit of reducing contact energy (incandescent particles) to a complementary REFCL technology.

*Pilot Status:* Planning / Design Phase

*Pilot Status Description:* SCE is currently monitoring alarm events with our existing radio network at a collection of devices which have been updated with the open phase detection logic. The logic was developed based on system models and thousands of interaction scenarios to create the logic configuration to both attempt to accurately detect open phase conditions, but also avoid false detections from other system events. The alarm monitoring effort is focused on tuning the detection algorithm for real world circuit conditions from the configuration settings developed through modeling. Concurrently, SCE is scheduling plans for installation of the radio system hardware updates to communicate the system commands for the high-speed communication requirements for the detection system.

*Project Location:* Currently not field deployed

*Pilot Project Milestones:*

1. Determine/finalize system hardware criteria requirements (Complete)
2. Cybersecurity review and approval (Complete)
3. Order material for installations, based on lead times and availability (Q2/Q3 2020)
4. Develop/refine and publish pilot standard for hardware construction requirements (Complete)
5. Finalize pilot locations (Complete)

6. Conduct field installations (Q3/Q4 2020)
7. Monitor pilot installs (2021)

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, significant progress has been made in the development of the open phase detection algorithm including field assessment installations to study the potential for false indications. The next large task is installation of new radio hardware for field testing the performance of the devices at the five pilot locations. Radio hardware setup and site selection was to be supported by the vendor to support the involved system changes for this pilot effort. COVID-19 travel restrictions for the radio manufacturer have been identified and are currently being evaluated.

*Pilot Lessons Learned:* The simulation studies show a close relationship will exist between false and accurate detections. It is unlikely that 100% of potential open phase conditions can be identified accurately, and with the additional circuit isolating system some outages from either false detections or operational related errors may occur. The balance between false and accurate event selectivity as well as the complexity for operating the system will be a part of evaluating the pilot installation performance. Changes to the system and continuous improvement is likely as the pilot progresses to field installations. Continued challenges and complexities are likely to occur during development of the open phase detection system as the system is integrated onto distribution circuits.

*Project Performance Metrics:* SCE identified five locations for pilot installations of distribution open phase detection systems in 2020. Completion of these installations will be tracked as part of SCEs work order process. Success criteria of the larger longer-term pilot includes:

- With field conditions and impacts to radio communication, the design can identify and isolate an open phase condition within 1.2 seconds
- Assessment of system reliability impacts from false detections with an operational OPD scheme
- Costs for deployment of OPD system
- Number of accurately detected wire down events

Additional actions beyond the installations are expected to be driven from the monitoring and assessment of the existing installations as well as technology advances over the course of the project. The project will inform cost estimates and options to consider, if successful, that can influence the speed to operationalize this detection system. This effort for OPD is inherently focused on possible options for minimal cost deployment scenarios to allow wide scale application of this detection system. The focus of the project requires the use of existing field devices to limit substantial expenses with deployment of new hardware. At a high-level, true success of the OPD effort is a system with a beneficial RSE without concern for impacts to customer electric service reliability, which can be directly applied to overhead conductor system protection approaches. The five installations planned for 2020 is part of the process towards achieving the larger goals and finding a system that offer protection from down wire related ignition events.

*Wildfire Risk Reduction Benefits:* The OPD pilot is an effort to develop a scheme to detect wire separation events to then de-energize circuitry to avoid energized wire down faults. The project is focused around the capability to detect a wire separation while the wire is falling towards earth and de-energize the circuit or circuit segment before it comes into contact with the ground or other structures, thus preventing any arcs that would have otherwise accompanied a live conductor fault and possible ignition. A de-energized wire falling to ground essentially eliminates the wildfire risk related to a downed energized wire contacting earth.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* Open Phase detection is intended to identify situations where continuity of the grid is compromised indicating an abnormal condition such as a separated conductor. The system is designed to detect and isolate the impacted circuitry within the time it takes a wire to fall from the supported position to earth. Once operational, system operators would be notified of an OPD interruption and a crew would be dispatched to patrol the line for the separated conductor and subsequent repair.

**Condition v:** A proposal for how to expand use of the technology if it reduces ignition risk materially

*Envisioned Pilot Operationalization Strategy:* Radio technology dependencies (e.g. communication system connectivity and latency) will inform future deployment strategy and the timelines associated with operationalizing this technology. The potential operationalization approaches are expected to be better known in 2021. However, technology continues to progress in the communication industry and the operational approaches may be dynamic with this technology and availability/maturity of new or advanced communication options.

<b>WMP Activity ID: AT-4</b>	<b>2020-2022 WMP Section: 5.3.3.3.3</b>
<b>Activity Name:</b>	<b>AT-4 - Vibration Dampers</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* Evaluate damper technologies and develop standards for both small and large diameter covered conductor applications.

*Pilot Status:* Initiation Phase

*Pilot Status Description:* Currently working to finalize lab testing, analyze results, and plan project scope for field testing expected to occur in Q3'20.

*Project Location:* Currently not field deployed

*Pilot Project Milestones:*

1. Testing for small conductor vibration dampers (Q1/2020)
2. Testing for large conductor vibration dampers (Q3/2020)
3. Supplier development of vibration damper design (Q2 & Q3/2020)
4. Develop standards for small and large diameter covered conductors (Q3/2020)
5. Publish standards for dampers for covered conductor (Q4/2020)

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, the vendor has designed and developed prototype dampers for covered conductor. SCE has completed lab testing of the vibration dampers for Covered Conductor application and completed field testing of the vibration dampers for covered conductor applications. Standards are in development and will be published in Q4 2020.

*Pilot Lessons Learned:*

- Two vibration designs, the spiral vibration damper and Stockbridge damper, will be required for covered conductor to account for the conductor diameters.
- Both vibration damper designs will not damage the covered conductor covering.
- Testing illustrated that the vibration damper was effective in reducing Aeolian vibration. Instances of high frequency and low amplitude vibration were reduced. Additionally, strains above 150 microstrains were reduced by the vibration damper.
- Vibration dampers are easy to install in bucket truck-accessible areas. Installation that requires pole climbing and the use of hot-sticks will be more challenging and will be studied further as vibration damper design will have to account for hot-stick installation.

*Project Performance Metrics:*

Vibration dampers shall be developed for covered conductor application. The damper design shall meet the following criteria:

- Span analysis shall not be required to determine damper placement.
- Dampers shall be effective for a minimum span length of 500 ft.
- The damper shall not damage the covered conductor covering.

Additionally, SCE will assess the effectiveness of dampers developed for covered conductor through lab and field testing. Lab testing will measure the energy dissipated by the damper. Field testing will involve monitoring the frequency and amplitude of vibration in a damped and undamped span. The following are success criteria for damper effectiveness:

- Lab testing shall illustrate that the power dissipated by the vibration damper is higher than the Wind Input Power.
- Field testing shall illustrate that the vibration damper will significantly reduce high frequency (above 5 Hz), low amplitude vibrations.
- Field testing shall illustrate that the vibration damper will significantly reduce strains higher than the 150 microstrain peak-peak value.

*Wildfire Risk Reduction Benefits:* Reduces the effects of aeolian vibrations that may lead to conductor fatigue failure or abrasion damage, therefore preventing in-service failure/downed wires.

**Condition iv: How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices**

*Fault Detection Strategy:* Vibration dampers are not applied to detect fault events but rather to minimize damages to the system to avoid fault events particularly with conductor degradation and failure/separation.

**Condition v: A proposal for how to expand use of the technology if it reduces ignition risk materially**

*Envisioned Pilot Operationalization Strategy:* Vibration dampers are currently a part of SCE standards for bare wire installations, and this pilot will enable SCE to assess industry offerings for damping options for covered conductor applications.

On approval of damper application for Covered Conductor through SCE's internal standards review committee, standards are expected to be published Q4/2020. Dampers shall be applied to new Covered Conductor installations after the standard is published. Retrofits to existing Covered Conductor installations would require additional planning, standards development, and approval.

<b>WMP Activity ID: AT-5</b>	<b>2020-2022 WMP Section: 5.3.4.9.1.1</b>
<b>Activity Name:</b>	<b>AT-5 - Asset Defect Detection using Machine Learning</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* A proof of concept for future Machine Learning (ML) related to overhead asset inspection activities by standardizing data collection and developing ML tools and processes to evaluate use cases which support objective evaluation of inspection assets. This project aims to improve the prioritization of inspection resource allocation, expedite identification some types of defects, and improve defect identification rates.

*Pilot Status:* Planning / Design Phase

*Pilot Status Description:* The pilot has established access to large inspection datasets to apply advanced inspection methods such as Machine Learning.

*Project Location:* Currently not field deployed

*Pilot Project Milestones:*

1. Explore operationalizing SCE tools & processes for ML data collection (Q2/2020)
2. Explore operationalizing SCE tools & processes for ML data tagging (Q3/2020)
3. Explore developing SCE ML models for object detection (Q4/2020)
4. Evaluate collaboration with ML vendors to advance defect detection (Q4/2020)
5. Deliver status report on the success of above initiatives (Q4/2020)

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, SCE Information Technology built an Unstructured Data Description Repository (UDDR) to act as the centralized index for all the Aerial and Ground inspection imagery for future ML efforts. Efforts around creating a data labeling process and tools is still on-going. The additional time it takes to annotate has not shown positive or negative impact to the inspections and have not been made a part of the inspection process. This would need further evaluation without impacting current inspection processes. Initial prototyping of in-house SCE ML models has begun.

*Pilot Lessons Learned:*

- Initial high value AI models have been identified such as providing additional QA/QC from aerial inspection images (blurry, over-exposed etc.). Other AI/ML models of value were identified as high value include detection of cross-arm failure, vegetation encroachment, and ability to read pole tags (Optical Character Recognition).

- Creating an image defect library is the main item required to initiate this activity as it would allow training of new models and the ability to evaluate performance of vendor processes/models. Developing the tools/processes to label the defect library and a common taxonomy for labeling is critical to creating the image defect library.
- Defining a common taxonomy for categorizing equipment and defects types is a challenge due to the variety of types of equipment and failure modes as well as varied interpretation on a failure mode/type. Without a common taxonomy, labeling the large dataset captured from aerial inspection imagery would require future rework and continuous improvement. As a result, this work is being prioritized before mass labeling can be started.

*Project Performance Metrics:*

- For data collection efforts, the effectiveness metric will be determined by whether or not all inspection imagery is accessible for developing the machine learning algorithms.
- The ability of AI/ML to detect defects in utility assets inspections will be judged by the number of false positives relative to true positives in the dataset. A good computer vision engine is typically considered to have a successful detection rate of 90% or greater but this ability and its value will have to be judged based on the quality of the input data and be refined over time.

*Wildfire Risk Reduction Benefits:* SCE will be able to prioritize inspection of assets with well-known failure modes rapidly with the objective to remediate the condition before equipment failure or a fault occurs.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* All aerial and ground-based inspection imagery will be accessible for ML models through an application programming interface (API). When imagery is loaded, a computer vision ML model will identify potential defects to prioritize imagery for human inspection and ultimate remediation. This computer-aided process is expected to be more efficient than human identification alone, thus reducing the time it takes to become aware of a problem on our system and to effect repairs.

**Condition v:** A proposal for how to expand use of the technology if it reduces ignition risk materially

*Envisioned Pilot Operationalization Strategy:* Operational strategy would be to integrate ML model analytics into existing inspection management tools and desktop inspector tools to create a seamless, efficient process that quickly identifies problem areas for remediation.

Continued feedback between inspectors and the ML team is key to successful evaluation of the model. ML models are expected to be valuable in prioritizing work for human inspectors by shortening the time between image capture and review and subsequent issue remediation.

Scaling will take place by expanding defect use cases and refining the ML model/process via inspector feedback/calibration and continuous improvement of the model.

<b>WMP Activity ID: AT-6</b>	<b>2020-2022 WMP Section: 5.3.4.10.2.1</b>
<b>Activity Name:</b>	<b>AT-6 - Assessment of Partial Discharge for Transmission Facilities</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* As equipment deteriorates, it may produce partial discharge either in the form of arcing, leaking, or tracking. SCE has identified a radio frequency (RF) detection technology that has the potential to determine the health of transmission assets by remotely detecting partial discharge. The partial discharge can be detected via RF emissions allowing SCE to investigate and respond to failing equipment prior to an in-service failure. SCE is assessing use of the remote Partial Discharge technology to assess the health of in-service transmission assets.

*Pilot Status:* Initiation Phase

*Pilot Status Description:* Engaging with vendor and gathering information for technology evaluation.

*Project Location:* Currently not field deployed

*Pilot Project Milestones:*

1. Identify vendor(s) and assess technology (Q2/2020)
2. Gather benchmarking data (Q3/2020)
3. Document findings and proposed next steps (Q4/2020)

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, SCE has completed initial vendor assessment and is in the process of gathering benchmarking data from other utilities to share their experiences with partial discharge detection.

*Pilot Lessons Learned:* There are no lesson learned at this time. The final deliverable will be a summary of SCE findings, recommendations, and next steps. If there are lessons learned via the desktop assessment, they will be included in the summary.

*Project Performance Metrics:* Presently there is only one vendor that can perform RF-based remote partial discharge detection for transmission facilities that SCE is aware of. As the benchmarking data is still being captured from other utilities, quantitative performance metrics are not available at this time but will be provided in future updates as more information is obtained.

*Wildfire Risk Reduction Benefits:* This technology has a potential to assess asset/hardware health allowing for proactive remediation of failing equipment prior to in-service failure and possible ignition.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* This technology does not detect faults, but rather mitigates the risk of a fault occurring in the first place by scanning for RF signals that may be indicative of pending equipment failure and effecting necessary repairs or component replacement.

**Condition v:** A proposal for how to expand use of the technology if it reduces ignition risk materially

*Envisioned Pilot Operationalization Strategy:* Based on the findings from the desktop assessment, SCE will determine whether to expand this technology into a field pilot.

<b>WMP Activity ID: AT-7</b>	<b>2020-2022 WMP Section: 5.3.2.2.2</b>
<b>Activity Name:</b>	<b>AT-7 - Early Fault Detection (EFD)</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* The pilot objectives are to develop installation standards, install, and commission at least 10 EFD sensors with up to an additional 90 sensors for evaluation. The EFD technology shows significant promise in detection capabilities from a review of the available vendor literature. Field detection capabilities, integration with SCE systems/practices, along with installation costs and risk reduction benefits are all part of this pilot effort. In parallel to the pilot, SCE continues to explore additional capabilities the technology may offer beyond the presently identified use cases. Additionally, EFD is expected to complement other distribution system incipient fault detection strategies discussed herein, such as DFA (which directly measures current and voltage transients), since EFD relies on the radio frequency signals emitted during conductor or component degradation. Additionally, EFD, which is currently focused on the distribution system, may complement AT-6 (Assessment of Partial Discharge for Transmission Facilities) which seeks to detect incipient stage faults on transmission system components.

*Pilot Status:* Build / Test Phase

*Pilot Status Description:* SCE has completed development of the installation standards as well as the construction and commissioning of at least 10 EFD sensing systems (locations). The total project objective includes an additional 90 locations to be completed by the end of 2021. To complete the total 100 installations identified, SCE will be installing sensors in up to 4 Districts. Currently SCE is focused on development of installation schedules for the next batch of installations. These installations require training on how to identify appropriate sensor and equipment mounting locations, how to install the hardware, as well education on the system performance for each additional District.

*Project Location:* EFD sensors are applied on Distribution circuits approximately every three circuit miles.

Deployment installations are currently occurring in SCEs Wildomar District. Further installations have been identified potentially for SCEs Menifee District, Ventura District, and Kernville District

*Pilot Project Milestones:*

1. Identify target locations and develop pilot standard (Complete)
2. Mock install in training yard (Complete)
3. Work order design and construction prerequisites (Complete)
4. Complete field install of 10 units, continue pilot installation efforts beyond initial scope with identification of locations, work order development, and construction efforts. (Complete)

### **Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, SCE has commissioned 11 locations on distribution circuits and developed training material and incorporated answers to frequently asked questions on the new system. The training material from the initial installations continues to be refined and will be used to help with next steps for education on the system as well as SCE internal process for the workers in the next SCE district(s) for targeted installations.

#### *Pilot Lessons Learned:*

- Take the arcing pattern detected by EFD and then make a presumption as to the type of issue, such as broken conductor strands, internal transformer arcing, or a squatting insulator. We have learned more about the EFD alerts. The EFD system provides “risk” scores for structures attempting to provide a confidence level that an issue exists at a particular location. This score is more precise as time progresses and the manufacturer continues to build from utility experiences for development of a library of patterns.
- Avoid false signals from other radio frequency emitting phenomenon. We received false issue indication from a FM radio antenna tower in close proximity to a circuit. The detection system since been modified by the manufacturer to ignore this type of radio interference. This is an example of how the technology is improving due to our pilot installs.
- Evaluate the coax cable design and feasibility to scale. Coax cable installation methods and specifications may need particular attention in broader installations where crew training is not as closely managed as with a pilot effort. Although we have yet to identify any issues related to our installations with damages or interference on the coax cable between the sensors and the control box, the vendor has expressed the delicate nature of coax cable must drive installation technique and methods. We are continuing to look into this concern, as linemen do not normally have experience with coax cable. Our primary approach is to work to specify a more robust coax cable design, though we are also exploring items in the construction space to limit the potential for issues.
- Evaluate construction standards and impacts on structure. A collection of construction items have been collected from the small pilot population. In summary, crossarm brackets, crossarm movement (over time), varying existing insulator heights, and low voltage connections appear to be small items to address as we progress. We are continuing to refine the installation specifics for the EFD equipment to best overcome these items.

*Project Performance Metrics:* SCE planned to complete ten EFD sensor installations as part of the 2020 goals as identified in the 2020-2022 Wildfire Mitigation Plan. The broader objective for supporting additional installations towards the goal for 100 installations appears positive, based on currently available information.

- Total installation costs and operational resource requirements
- Assessment of detection events from pilot installation equipment

- Absence of maintenance actions to EFD sensors which are considered cost prohibitive or unacceptable for a sensor asset
- Cellular data backhaul evaluation focused on connectivity concerns with broader deployment
- Lack of product or performance issues which cannot be resolved
- EFD System should not introduce appreciable customer electric service impacts
- EFD shall not cause interference with SCE or other utility communication systems that cannot be resolved

Beyond the immediate installation efforts, EFD offers a new approach towards electric system maintenance. The system provides notification information based on electric system signatures to information inspection and maintenance practices. Much like SCE's use of smart meter data that has developed in the past years to inform needs for replacement failing transformers, EFD offers the capability to monitor many electric system assets to potentially avoid fault events. With fault event avoidance, consequences of faults such as additional facility damages and wildfires, may be prevented allowing more rapid repair activities. Scheduled maintenance actions may also help minimize repair costs and outage duration by allowing work activities to be scheduled rather than responding to emergencies following system failure events. The EFD system technology is one of the few technological advancements applied in a completely new way to the electric system, and the new technology may also bring additional benefits as system installations continue to collect valuable system data from the electric grid.

*Wildfire Risk Reduction Benefits:* EFD sensors help to detect undesirable circuit conditions allowing repair/replacement actions to be proactively completed prior to component or conductor failure. Detections during high risk operating conditions may also inform PSPS operational decisions.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* The Early Fault Detection system uses Radio Frequency (RF) detections to identify and location issues on the electric system. The RF emissions are identified by installation of sensitive detection equipment located approximately every three circuit miles. The detection equipment collects data from the installation location and transmits the information using radio (cellular for the pilot) technology to a host server. The data from each sensor is analyzed in various forms to provide alerts of anomaly detection on the monitored circuitry. In general, the monitored circuitry is located between two sensors. However, detections are also possible outside of this bound area. SCE uses the system alerts for determining steps for inspections and potential electric system repairs based on those inspection efforts. The continuous monitoring provided by the sensors allow not only the detection of existing issues on the electric system, but also can detect issues as they develop allowing rapid response to targeted areas of concern.

**Condition v: A proposal for how to expand use of the technology if it reduces ignition risk materially**

*Envisioned Pilot Operationalization Strategy:* The EFD project is primarily focused on monitoring circuits in high fire risk areas. This initial pilot explores how the technology operates and helps inform the steps of integration required for adoption of the system on a larger scale. The system may also be practical at sub-transmission voltages beyond the piloted distribution voltages, though installation challenges are compounded at higher voltages and further review would be required at the higher voltages before a deployment effort was developed. The flexibility of sensors which work as pairs allows for very targeted monitoring of circuit sections. Although an operationalization strategy has not been solidified yet, it is clear this type of technology has benefits in locating and identifying issues based on the shared experiences from other utilities. As part of SCEs pilot efforts, circuit sections of underground cable, bare wire, and covered conductor will all be monitored. The manufacturer has shared that little experience exists for monitoring of underground cable systems as well as potential variations in 4-wire systems and look forward to the results. In the near-term bare wire monitoring, particularly for existing system issues, is the focal project effort. Overhead conductor, including covered conductor can suffer damages from lightning strikes and damages to conductor strands during the arcing created during a fault. EFD offers capabilities to detect these conditions and may enable SCE to remediate these types of issues before they progress to larger issues, such as wire down events that may result in wildfire ignitions.

<b>WMP Activity ID: AT-8</b>	<b>2020-2022 WMP Section: 5.3.3.2.5</b>
<b>Activity Name:</b>	<b>AT-8 - High Impedance Fault Relays</b>

**Condition ii: Status of the pilot, including where pilots have been initiated and whether the pilot is progressing toward broader adoption**

*Pilot Objective / Summary:* SCE is aiming to develop a layered protection scheme to minimize wildfire ignition risks. Legacy protection schemes (phase and ground overcurrent) are extremely effective in clearing non-HFRA faults. Recent incorporation of fast-curve settings to existing protection schemes for HFRA are enhancing the ability to quickly isolate faults. High Impedance (Hi-Z) is the next step in distribution protection schemes to detect and isolate low magnitude arcing conditions in HFRA. SCE will deploy two pilot controllers/relays with Hi-Z elements to monitor and evaluate for desired and non-desired operations.

*Pilot Status:* Planning / Design Phase

*Pilot Status Description:* Pilot device installations on SCE system have yet to be completed

*Project Location:* Yellowtail 12kV out of Bayside Substation and Driftwood 12kV out of Wave Substation in the Orange County. Non-HFRA circuits were selected for the early stages of this pilot project as the Hi-Z/Arcing element is only available on the SEL-651RA controllers which are only installed on these circuits at this time. Additionally, only field crews in this region have been appropriately trained for these relays and are based near the installed devices. As the effectiveness of the Hi-Z/Arcing element is proven, the relay/Hi-Z elements will be piloted on an HFRA circuit to further validate the technology’s effectiveness to mitigate ignitions.

*Pilot Project Milestones:*

1. Investigate/develop relay settings (Q2/2020)
2. Identify pilot locations (upgrade relay settings to SEL651RA) (Q2/2020)
3. RTDS Testing and validation of settings (Q3/2020)
4. Install relay/controller settings for pilot locations(Q3-Q4/2020)
5. Field performance evaluation of settings (Q1/2021)

**Condition iii: Results of the pilot, including quantitative performance metrics and quantitative risk reduction benefits**

*Pilot Progress:* As of 7/31/2020, installations are targeted in Q3/2020.

*Pilot Lessons Learned:* Based on pre-pilot activities, we determined that a minimum of 5% of nominal loading is required for the controller to initially tune to the circuit. Minimal protection setting adjustments are required to implement Hi-Z.

*Project Performance Metrics:* SCE identified two locations for pilots in 2020. We anticipate increasing field deployment installations in 2021 based on assessments of 2020 installations, as diversifying installation of field locations may increase the possibility of capturing/detecting Hi-Z and/or arcing conditions with the Hi-Z elements.

- Test the Hi-Z element at the SCE Equipment Demonstration and Evaluation Facility (EDEF) test site or external testing facility to expedite the validation and performance of the Hi-Z elements.
- Review relay event data and determine if the relay alarmed correctly for Hi-Z events.
- Review relay event data and determine ratio of detected Hi-Z events versus non-detected events

*Wildfire Risk Reduction Benefits:* This pilot is an effort to develop a protection scheme to detect high impedance faults (such as downed energized conductors) that may not be detected by conventional protection and to rapidly open a circuit for de-energization to minimize the risk of ignition.

**Condition iv:** How the electrical corporation remedies ignitions or faults revealed during the pilot on a schedule that promptly mitigates the risk of such ignition or fault, and incorporates such mitigation into its operational practices

*Fault Detection Strategy:* High impedance relay elements incorporate schemes to identify high impedance fault conditions beyond the installation location. The elements monitor the voltage and current conditions at the device to detect non-integer fundamental frequency harmonics (90Hz and 150Hz) and low magnitude arcing conditions at the fundamental frequency. For the initial effort SCE expects to investigate alerts to identify causes and appropriate remediation.

**Condition v:** A proposal for how to expand use of the technology if it reduces ignition risk materially

*Envisioned Pilot Operationalization Strategy:* If piloted units respond appropriately in case of high impedance events or if there are no events, we would look to expand the pilot and install additional units. Investigation into causes of detected events may be performed on energized or de-energized circuitry depending on operational strategies with this relay technology.

**GUIDANCE-10**  
**DATA ISSUES – GENERAL**

***Southern California Edison Company***  
***2020 WMP - SCE Deficiency***  
***Guidance -10***

**Name:** Data issues – general

**Category (SCE defined):** Grid Hardening / Vegetation Management / Inspections / GIS

**Class:** B

**Deficiency:**

Although the availability of data, including GIS data, provides unprecedented insight into utility infrastructure and operations, inconsistencies and gaps in the data present a number of challenges and hurdles. As it relates to GIS data, electrical corporation submissions often had inconsistent file formats and naming conventions, contained little to no metadata, were incomplete or missing many data attributes and utilized varying schema. These deficiencies rendered cross-utility comparisons impossible without substantive, resource and time-consuming manipulation of the data. Additional data challenges included varying interpretations of WMP Guideline data requirements, leading to inconsistency of data submitted.

**Condition:**

Electrical corporations shall ensure that all future data submissions to the WSD adhere to the forthcoming data taxonomy and schema currently being developed by the WSD. Additionally, each electrical corporation shall file a quarterly report providing that details:

- i. locations where grid hardening, vegetation management, and asset inspections were completed over the prior reporting period, clearly identifying each initiative and supported with GIS data,
- ii. the type of hardening, vegetation management and asset inspection work done, and the number of circuit miles covered, supported with GIS data
- iii. the analysis that led it to target that specific area and hardening, vegetation management or asset inspection initiative, and
- iv. hardening, vegetation management, and asset inspection work scheduled for the following reporting period, with the detail in (i) – (iii).

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**Response:**

SCE supports the WSD’s focus on advancing data standardization, transparency, and sharing of data with other stakeholders. SCE received the latest Draft WSD GIS Data Reporting Requirements and Schema for California Electric Corporations (Draft GIS Data Schema) requirements on Friday, August 21, 2020, approximately 2½ weeks prior to submission of this first Quarterly Report (QR). SCE appreciates the earlier drafts in late July and early August 2020 and ability to meet with WSD and provide feedback which allowed SCE to begin organizing

teams to meet this deficiency's conditions. Given the short turnaround with the 1<sup>st</sup> QR due on September 9, 2020, SCE has focused on the requirements in this deficiency's conditions to provide initiative data for grid hardening, vegetation management, and asset inspections.<sup>10</sup> The Draft GIS Data Schema, though, goes beyond this deficiency's requirements and is wide-reaching including new data elements, significant metadata, and according to the August 21, 2020 Guidance on Filling the WSD GIS Geodatabase, Populating the Data Status Tables, and Submitting Photos, completing Excel file Status Report templates for every Draft GIS Data Schema dataset field. The Draft GIS Data Schema requires the following datasets: Asset Point, Asset Line, PSPS Event, Risk Event, Initiative, and Other Required Data. SCE is providing additional information beyond the Initiative dataset requirements in this deficiency where information is readily available including Asset Point, Asset Line, and Other Required Data datasets. SCE's submission does not have a complete set of all Draft GIS Data Schema requirements due to the shortened time period and the fact that SCE does not currently capture some data elements, and we appreciate the WSD acknowledging how utilities are at different stages of their data journey and how this is intended to be a phased approach. Additionally, given the shortened time period, SCE's submission has not undergone a thorough quality review process. As such, to the extent SCE finds errors in the data being submitted, these will be corrected in subsequent QR submittals. SCE was not able to extract, compile, review and provide PSPS Event and Risk Event data. SCE is also not providing metadata in this submission. Additionally, some data elements within the datasets SCE is providing are not available due to either our inability to correlate data from multiple systems within the shortened submission period or that SCE does not currently capture the requested data. Also, SCE is not providing employee confidential data in this submission as further described below. SCE is committed to incrementally provide more data and details in subsequent QR submissions.

SCE appreciates that the WSD, through its comprehensive Draft GIS Data Schema, intended to obtain and standardize significant amounts of wildfire-related data. SCE also understands its desire to understand our current systems and data availability. To this end, SCE provides responses in the Status Report templates that generally describe the status of the requested data fields, actions we plan to take if the data field is not being provided at this time, the timeline for completing those actions, and whether the data is confidential or not. SCE describes its approach to the Status Report templates below.

As SCE has discussed with WSD, we continue to have reservations regarding confidentiality of data. Data is confidential when it is in the public interest that the information not be disseminated publicly. Release of the precise location, age, and other attributes of SCE's assets alongside the

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<sup>10</sup> The Initiative dataset includes grid hardening, vegetation management, and asset inspections initiatives where work was performed and/or projected to be performed in HFRA over the reporting periods and does not include SH-2, Undergrounding Overhead Conductor because no work was or is anticipated to be performed for this initiative over the reporting periods, IN-7, Failure Modes and Effects Analysis and SH-9, Transmission Overhead Standards Review because these initiatives are studies and standards (not work to be completed in field locations), and IN-2, Quality Oversight / Quality Control due to the limited time.

precise location of critical facilities may significantly increase safety risk to the public. For 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 worst possible time. Further, the precise locations of SCE's high voltage transmission lines and substations alongside the abovementioned confidential information, as well as the non-confidential information requested increases risk to the bulk power transmission system. The Commission recognizes the importance of safeguarding critical energy infrastructure information and although maps of varying 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, in this level of detail, accompanying other information that, taken together, could prove to be useful to a bad actor. For these reasons and due to the short turnaround, SCE applies confidentiality at the feature class level for each provided dataset as opposed to the data field level. Additionally, SCE does not believe confidential employee information for every inspection, project, etc. is necessary to assess wildfire risk. SCE raised this issue in its Comments on the August 2020 Workshops and respectfully requests these employee data fields be removed in subsequent Draft GIS Data Schema iterations.

SCE also notes that it does not capture several new data elements which will require time for our teams and subject matter experts to assess the labor, operational, system and technical requirements and ensure these new data requirements could advance wildfire risk reduction prior to changing work methods, processes, tools and systems. SCE will assess these data requirements and provide an update with its 2<sup>nd</sup> QR due in early December 2020. SCE provides a general response in the Status Report templates that informs of this assessment.

In large part, SCE's response to this deficiency and the requested dataset information pursuant to the Draft GIS Data Schema is being provided in the Geodatabase. Additionally, SCE is submitting the Status Report templates based on the included datasets, described above. SCE notes that this is the 1<sup>st</sup> QR submission and first step of a phased approach to incrementally improve the data being provided. SCE looks forward to continued collaboration with the WSD, utilities, and stakeholders to refine and improve the Draft GIS Data Schema to further reduce wildfire risk. Below, SCE responds to the conditions.

i. locations where grid hardening, vegetation management, and asset inspections were completed over the prior reporting period, clearly identifying each initiative and supported with GIS data, Please see the Geodatabase that includes grid hardening, vegetation management and asset inspection initiatives' data completed in HFRA from May through July 2020. Additionally, and as noted above, SCE also provides in the Geodatabase other feature class datasets, not required as part of this deficiency but in support of WSD's direction to provide as much information as practicable and is readily available. The additional datasets include Asset Line, Asset Point, and Other Required Data. As noted above, SCE is not providing PSPS Event and Risk Event datasets in this QR submission.

**ii. the type of hardening, vegetation management and asset inspection work done, and the number of circuit miles covered, supported with GIS data**

SCE is providing data associated with its system hardening, vegetation management, and asset inspection initiatives described in our 2020-2022 WMP. The specific WMP initiatives are shown in the table in Appendix A of this deficiency. Most wildfire initiatives included in this submittal are not planned, managed, nor executed based on the number of circuit miles (or miles) and thus line geometry for these initiatives is not available. This is consistent with the WSD's Staff Proposal on Changes to Wildfire Mitigation Plan Requirements and Metric Tables that describes how the number of circuit miles unit of measurement is not applicable for certain types of work. The limited initiatives that do have line geometry, circuit miles or miles are available in the Geodatabase. SCE notes that line geometry for covered conductor is available at the project scoping level, which has been replicated for each of the resulting work orders (which is the lower level at which dates are managed and the level of detail provided in this GIS submission) and shows that SCE has completed approximately 275 circuit miles of covered conductor from May through July 2020. For circuit-based distribution and transmission inspections, the entire circuit geometry has been included, not just partial geometry of the circuit based on completed work within the time duration.

**iii. the analysis that led it to target that specific area and hardening, vegetation management or asset inspection initiative, and**

SCE provided its risk-based analyses for how it determines and targets deployment for its wildfire-related initiatives in its July 27, 2020 Remedial Compliance Plan (RCP) to Guidance-3. The Guidance-3 RCP explains how we analyze and prioritize work for grid hardening, vegetation management, and asset inspection initiatives. In the table in Appendix A of this deficiency, SCE summarizes the analysis that led it to target the areas where its system hardening, vegetation management and asset inspection initiatives were completed from May through July 2020.

**iv. hardening, vegetation management, and asset inspection work scheduled for the following reporting period, with the detail in (i) – (iii).**

Please see the Geodatabase that includes grid hardening, vegetation management and asset inspection initiatives planned in HFRA from August through November 2020 pursuant to the Draft GIS Data Schema. Similar to part (ii) above, limited initiatives have line geometry (i.e., circuit miles or miles). Initiatives with line geometry are available in the Geodatabase. SCE notes that line geometry for covered conductor is available at the project scoping level, which shows approximately 450 circuit miles planned for August through November 2020. Also, line geometry for planned circuit-based distribution and transmission inspections includes the entire circuit geometry, not just partial geometry of the circuit. Please see the table in Appendix A of this deficiency with the detail for condition (iii).

**Guidance-10 Appendix A**

**Guidance-10 Appendix A**  
**Analysis That Led SCE To Target Specific Areas For Initiatives**

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to RCP for Guidance-3
1	IN-1.1	High Fire Risk Informed Inspections of Distribution Electric Lines and Equipment	<p>Beginning in inspection year 2020, SCE embarked on an effort to reimagine it's asset inspection programs, moving from a strictly compliance-based program to one that prioritizes the inspection of the highest risk assets throughout the service territory without sacrificing any regulatory compliance obligations. Specifically, in the Overhead Detailed Inspection (ODI) space, SCE implemented a risk characterization and prioritization schema to ensure that the highest risk assets in SCE's High-Fire Risk Areas (HFRA) were inspected earlier in the inspection cycle and on a more frequent basis. The primary objective of this program being to identify and mitigate any potential system issues prior to peak fire season.</p> <p>The risk model SCE deployed to prioritize asset inspections was based on the probability of asset failure and the potential consequence of destruction if that particular asset failure were to occur. Utilizing this risk model, the HFRA inspection scope was identified and prioritized for operational execution. The structures that were identified as the highest risk were individually identified, plotted, and scheduled for inspection. As opposed to inspecting entire grids as was the practice under the normal compliance-driven program, individual structures were prioritized for inspection based on their risk characteristics, thus allowing the company to inspect the highest risk assets throughout the entire service territory before peak fire season. The objective of this inspection methodology was to reduce the overall system risk in the most vulnerable areas by clustering the highest risk poles together in individual Work Orders for our Electrical System Inspectors (ESIs) to perform detailed inspections. This methodology was used to target the recorded and projected areas provided in the Geodatabase.</p>	Section 3 - Asset Management - A / pp. 10-11
2	IN-1.2	High Fire Risk Informed Inspections of Transmission Electric Lines and Equipment	<p>The Transmission High Fire Risk Informed Inspection program utilizes the same approach as the Distribution High Fire Risk Informed Inspection program (IN-1.1) for prioritizing work based on consequence risk score with one exception. At the time of scoping Transmission (and Subtransmission) inspections, the WRM probability of ignition models were not completed for Transmission and Subtransmission assets. Therefore, consequence risk (REAX) was aggregated at a circuit level and voltage class was used as a proxy for probability of ignition. Each circuit was categorized as high, medium or low risk. In 2020, SCE is inspecting all high and medium risk Transmission circuits. As such, the areas targeted per the recorded and projected areas provided in the Geodatabase were prioritized based on structures that are in higher risk areas.</p>	Section 3 - Asset Management - B / pp. 11-12
3	IN-3	Infrared Inspection of energized overhead Distribution facilities and equipment	<p>The Distribution Infrared Scanning (DIRS) program targets inspecting / scanning 50% of aggregate HFRA each calendar year and 100% of overhead structures in HFRA every two calendar years. The 2019 and 2020 infrared inspection scope was based on Tier 2 and Tier 3 HFRA.</p> <p>The prioritization scheme for 2019-2020 DIRS scope was designed to ensure high-risk structures are inspected first based on the SCE consequence risk model. Utilizing the consequence prioritization method, DIRS scope was clustered into 124 clusters and each cluster is approximately 120 linear circuit miles. The total sum of structure consequence risk scores within each cluster determines the cluster risk score (#1 cluster represents the highest consequence risk score). The inspection execution objective was to reduce risk based on the cluster method; however, to ensure operational efficiency, e.g., minimizing travel, SCE also inspects some structures in close proximity of high consequence risk clusters where applicable. The recorded and projected areas included in the Geodatabase are based on the methodology described above. Please also note that the prioritization / targeting approach for this initiative described in SCE's RCP for Guidance-3 was unintentionally misidentified as deployment of this initiative is prioritized based on risk, as described above.</p>	Section 3 - Asset Management - D / pp. 13-14
4	IN-4	Infrared Inspection, Corona Scanning, and High Definition imagery of energized overhead Transmission facilities and equipment	<p>SCE risk-ranked all Transmission and Subtransmission circuits by REAX consequence scores. The recorded and projected areas included in the Geodatabase are based on this risk-ranking sequenced by the highest risk circuits and operational constraints such as weather, e.g., because high ambient temperature can make it difficult to detect temperature differentials, inspections are scheduled and performed during cooler days of the year.</p>	Section 3 - Asset Management - E / pp. 14-15
5	IN-5	Inspections of Generation Assets in HFRA	<p>In 2020, SCE adopted a two-year cycle (2020-2021) where 50% of the assets targeted for inspections in 2020 are higher priority facilities in Tier 3 HFRA. Operational efficiencies and constraints are factored into the scheduling and execution of the work. This methodology was used for the recorded and projected areas included in the Geodatabase.</p>	Section 3 - Asset Management - F / p. 15

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to RCP for Guidance-3
6	IN-6.1 & IN-6.2	Aerial Inspections – Distribution Aerial Inspections – Transmission	<p>SCE completed Aerial asset inspections on a portion of targeted structures for both Distribution and Transmission. The targeted structures reside within Tier 2 and Tier 2 HFRA. The completed and projected structures included in the Geodatabase were identified for inspection using risk modeling to assess high and medium risk structures. The data sources and predictive models SCE uses to understand the risk of its assets are described in its Guidance-3 RCP, Section III, IN-6.1 &amp; 6.2.</p> <p>Aerial inspections involve the capture of high-quality photos of electrical structures by Helicopters and Unmanned Aerial Systems (UAS). The imagery captured by these Aerial platforms are delivered to SCE with associated metadata and inspected by a team of qualified contractor workers (inspectors). The inspectors assess each delivered structure using a standardized assessment form designed to identify and generate notifications for potential ignition risks, contact from objects, and equipment failures. The form also enables the collection of detailed structure data for future use. SCE also utilizes GIS tools to scope and plan work and conduct assessments. Work status and inspection results are recorded and tracked in GIS layers. All inspection work is tracked using structure point data (i.e., each point in GIS is a unique structure). Along with assessment form data, SCE also records the flight completion and inspection dates for record keeping. The Aerial asset inspection contributes to a 360-degree view of structures and equipment.</p> <p>SCE will continue to complete Aerial asset inspections in the following reporting period for structures remaining in the target structure lists described above. The inspections will continue to occur throughout HFRA as our Aerial capture vendors develop schedules in accordance with scope demands and airspace deconfliction requirements.</p>	Section 3 - Asset Management - G / pp. 15-16
7	VM-1	Hazard Tree Management Program	SCE determines the trees to mitigate based on a two-step process, first selecting higher risk locations and then selecting higher risk trees within these locations. SCE prioritized higher risk locations based on HFRA tier, Tree Caused Circuit Outages (TCCI), and density of vegetation surrounding SCE’s facilities, combined with REAX consequence scores. SCE also takes into account operational constraints such as permitting, access and weather conditions in scheduling and executing work. This methodology was used for the recorded and projected areas included in the Geodatabase.	Section 3 - Vegetation Management - A / pp. 17-19
8	VM-2	Expanded Pole Brushing	The recorded and projected areas included in the Geodatabase are based on a geographical grid approach and prioritizing poles subject to PRC 4292 taking into account operational efficiencies and constraints.	Section 3 - Vegetation Management - B / pp. 19-20
9	VM-3	Expanded Clearances for Legacy Facilities	<p>Inspections: For Generation’s vegetation field inspections, we identified 155 sites and have prioritized sites based on location, focusing on Tier 3 HFRA. A desktop analysis was performed to prioritize 2020 work scope based on risk. Once the inspection is complete, we may change priorities based on any inspection findings that appear to need remediation sooner.</p> <p>Projects: Generation’s vegetation projects (treatment of VM-3 sites) are prioritized based on the desktop analysis and field inspection results. Sites that have been treated so far are the locations in the most densely forested areas of our territory.</p> <p>The methodologies described above were used for the recorded and projected areas included in the Geodatabase.</p>	Section 3 - Vegetation Management - C / pp. 20-21
10	VM-4	Drought Relief Initiative (DRI) Inspections and Mitigations	DRI and associated mitigations cover SCE’s full HFRA each year. SCE schedules and executes this work based on operational and resource efficiency and constraints. SCE does prioritize and mitigate hazards posed by dead trees or those that are identified as significantly compromised upon brief visual inspection taking into account constraints such as permitting, access and weather conditions. This methodology was used for the recorded and projected areas included in the Geodatabase.	Section 3 - Vegetation Management - D / pp. 21
11	VM-5	Vegetation Management Quality Control	Vegetation Management QC uses REAX consequence scores to segment the total vegetation population into risk tranches. 100% of the line miles with the top 20% of REAX consequence of ignition scores (highest risk) are inspected. For the remaining areas, line miles are sampled to achieve a 99% confidence level and 1.7% margin of error. For the line miles selected, all trees along overhead lines are inspected. This methodology was used for the recorded and projected areas included in the Geodatabase.	Section 3 - Vegetation Management - E / pp. 21-22
12	Table 25 / Section 5.3.5	Vegetation management to achieve clearances around electric lines and equipment	SCE used a grid-based approach for distribution lines and circuit-based approach for transmission lines. Supplemental and midcycle patrols are prioritized based on locations where the vegetation growth cycle, conditions, and/or REAX score drive the need for additional assurance. This methodology was used for the recorded and projected areas included in the Geodatabase. Please also see SCE’s RCP for deficiency SCE-12, condition ii for additional details.	Section 3 - Vegetation Management - F / pp. 22-23
13	SH-1	Covered Conductor	Beginning in 2019, SCE used the risk scores from the WRM to prioritize the circuit segments for replacing bare conductor with covered conductor. The underlying Potential of Ignition (POI) and consequence score models have undergone several refinements and SCE continues to incorporate these enhanced risk scores into its deployment strategy to the extent practicable. In scheduling and executing covered conductor, SCE also considers crew efficiencies and constraints. This methodology was used for the recorded and projected areas included in the Geodatabase.	Section 3 - Grid Hardening - A / pp. 23-24
14	SH-3	WCCP Fire Resistant Poles	The locations for fire-resistant (FR) pole installation follow the prioritization of the initiative through which the poles are replaced in HFRA (e.g., WCCP) and SCE’s Distribution Design Standards. The recorded and projected areas included in the Geodatabase are thus based on other initiative prioritization methods.	Section 3 - Grid Hardening - C / pp. 25-26
15	SH-4	Branch Line Protection Strategy	For 2020, SCE is first targeting expulsion fusing in conventional cutouts and liquid fuses as these are considered higher risk. SCE will then replace, where appropriate, the remaining Cal Fire “Exempt” fusing focusing on reduced energy with current limiting fusing. This methodology was used for the recorded and projected areas included in the Geodatabase.	Section 3 - Grid Hardening - D / pp. 26-27

#	Initiative ID	Initiative / Activity	Analysis that Led to Target Specific Area	Cite to RCP for Guidance-3
16	SH-5	Installation of System Automation Equipment – RAR/RCS	The recorded and projected areas included in the Geodatabase were generally prioritized based operational and crew efficiencies and constraints.	Section 3 - Grid Hardening - E / pp. 27-28
17	SH-6	Circuit Breaker Relay Hardware for Fast Curve	The program identified electrical circuits in HFRA that had old mechanical relays or could reduce risk through relay upgrades and/or fast curve settings. While scoping the projects via job walks and desk top reviews, the locations were evaluated for scope complexity and grouped accordingly. To facilitate successful execution and provide the greatest opportunity for the fastest and most impactful risk reduction, the group of projects with multiple relays and least complexity was released first. This approach also allows engineering sufficient time to address the groups with more complex scopes and provide quality engineering for future year execution. In the construction space, projects are being executed in a first in first out manner with consideration being given to locations that have operational constraints. This methodology was used for the recorded and projected areas included in the Geodatabase.	Section 3 - Grid Hardening - F / p. 28
18	SH-8	Transmission Open Phase Detection	The Transmission Open Phase Detection (TOPD) effort targeted Transmission lines in HFRA. To minimize the complexity for a pilot, we targeted lines with two terminals and single conductor (wire) per phase. The Transmission lines selected were within a geographical area to avoid impacting multiple locations across SCE's service territory. Pilot locations also needed to have existing Protection devices (Relays) with the ability to harness open phase detection settings/logic files as developed. This methodology was used for the recorded and projected areas included in the Geodatabase.	Section 3 - Grid Hardening - G / pp. 29-30
19	SH-10	Tree Attachment Remediation	The recorded and projected areas included in the Geodatabase used a risk-informed method to prioritize tree attachment relocations by circuit based on REAX scores, conductor type (primary voltages were considered higher risk compared to secondary), potential to damage structures (the greater the number of structures, the higher the priority) and tree mortality (the more severe the condition, the higher the priority).	Section 3 - Grid Hardening - J / pp. 31-32
20	SH-11	Legacy Facilities	The recorded and projected areas included in the Geodatabase are based on the assets that have the highest potential of wildfire risk and where remediation would provide the most risk reduction possibilities than any other options. SCE used REAX consequence scores, the legacy asset's age, last major overhaul date, and operating voltage and other factors such as HFRA Tier and years since last assessment as part of its risk ranking assessment.	Section 3 - Grid Hardening - K / pp. 32-33
21	SH-12.1	Remediations – Distribution	Inspection results (from IN-1.1) are prioritized based on expected risks and in accordance with SCE's Inspection and Maintenance program standards and GO 95 guidelines.	Section 3 - Grid Hardening - L / pp. 33-34
22	SH-12.2	Remediations – Transmission	Inspection results (from IN-1.2) are prioritized based on expected risks and in accordance with SCE's Inspection and Maintenance program standards and GO 95 guidelines.	
23	SH-12.3	Remediations – Generation	Inspection results (from IN-5) are prioritized based on expected risks and in accordance with SCE's Inspection and Maintenance program standards and GO 95 guidelines.	

**GUIDANCE-11**  
**LACK OF DETAIL ON PLANS TO**  
**ADDRESS PERSONNEL SHORTAGES**

***Southern California Edison Company  
2020-2022 WMP - SCE Deficiency  
Guidance -11***

**Name:** Lack of detail on plans to address personnel shortages

**Category:** Addressing Personnel Shortages

**Class:** B

**Deficiency:**

Electrical corporations do not explain in detail the range of activities that they are undertaking to recruit and train personnel to grow the overall pool of talent in areas of personnel shortage.

**Condition:**

In its first quarterly report, each electrical corporation shall detail:

- i. a listing and description of its programs for recruitment and training of personnel, including for vegetation management;
- ii. a description of its strategy for direct recruiting and indirect recruiting via contractors and subcontractors; and
- iii. its metrics to track the effectiveness of its recruiting programs, including metrics to track the percentage of recruits that are newly trained, percentage from out of state, and the percentage that were working for another California utility immediately prior to being hired.

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**Response:**

**i. a listing and description of its programs for recruitment and training of personnel, including for vegetation management;**

SCE’s response to this condition identifies the suite of recruitment and training programs that grow the overall pool of talent in areas related to executing wildfire-only WMP programs.<sup>11</sup>

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<sup>11</sup> See Attachment 1, WMP Guidelines (issued December 16, 2019) at p. 13. Wildfire-only WMP programs are defined as “[a]ctivities, practices, and strategies that are only necessitated by wildfire risk, unrelated to or beyond that required by minimum reliability and/or safety requirements. Such programs are not indicated or in common use in areas where wildfire risk is minimal (e.g., territory with no vegetation or fuel) or under conditions where wildfires are unlikely to ignite or spread (e.g., when rain is falling).”

## Addressing Areas of Personnel Shortage

SCE has identified a general shortage in the labor pool of qualified linemen and, to a lesser extent, planners. This section describes the qualifications and resource planning efforts for these positions, and how SCE addresses the shortages. In addition, vegetation management (VM) is highlighted specifically in the deficiency. SCE explains in this section how it addresses its need for certified arborists. Finally, SCE's discussion of contracted labor for each of these identified positions is provided in its response to condition ii.

### *Linemen*

To be hired as a lineman at SCE, an individual must either 1) have working experience as a lineman or 2) have working experience as a groundman and graduated from SCE's apprenticeship program. Linemen must also have successfully passed a pre-hire physical assessment.

SCE uses a Commission-approved mechanism called the Safety and Reliability Investment Incentive Mechanism (SRIIM) which includes a forecast for workforce and capital needs—including needs for Transmission and Distribution groundmen, linemen and apprentice linemen—to support safe and reliable operation of the electric grid.<sup>12</sup> In SCE's 2021 General Rate Case (GRC) filing, SCE proposed to increase the SRIIM headcount target in this GRC above previously adopted levels to 2,465 workers, which is commensurate with the necessary growth required to meet the safety and reliability objectives.<sup>13</sup>

SCE engages in a two-pronged strategy to address shortages in linemen. The first is to expand SCE's internal talent pool, which SCE seeks to achieve by increasing its hiring of groundmen to expand the supply of potential apprentice linemen. SCE provides Apprenticeship programs to Distribution, Transmission and Substation classifications. The programs span over three-years and are broken into six steps. Each step has a duration of six months and consists of a combination of instructor-led classroom and on the job training requirements. The learners are required to complete written, oral and performance testing at the close of each step to verify competency. The training also exposes the learner to current policies and procedures required to effectively perform their duties while adhering to all applicable rules.

The second prong is to recruit external candidates. SCE has dedicated Human Resources staff to recruit linemen. Most of SCE's outreach focuses on the Southern California region, by:

- developing recruiting marketing campaigns and personalized landing pages targeting electrical field workers
- posting open positions through a job posting aggregator that reaches over 300 organizations

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<sup>12</sup> See "Safety and Reliability Investment Mechanism" in 2021 SCE General Rate Case, Exhibit SCE-02, Vol. 1, Part 2, at pp. 60-62.

<sup>13</sup> *Id.*

- geo-targeting job ads in locations where a high population of talent may reside or at talent-specific events
- partnering and sharing SCE’s job openings with different trade schools and military bases across SCE's service territory
- engaging in community outreach, building partnerships, and awarding scholarships to students at community colleges and universities<sup>14</sup>

In order to recruit a strong and capable workforce, SCE conducts pre-hire physical assessments of candidates for select craft positions in its Transmission and Distribution (T&D) organizational units to evaluate their knowledge, skills, and abilities. The assessments give instructors the opportunity to evaluate representative work tasks in a field environment and validate that the potential employee can perform those work tasks safely and effectively. The assessments reduce injuries by preventing ill-suited candidates from joining the workforce.

See Table 15 and Table 17 for additional details on SCE’s full-time linemen and Table 18 and Table 19 for details on contractor linemen.

### ***Planners***

To be hired as a T&D planner at SCE, an individual must 1) possess working experience as a planner 2) be qualified through the Alternate Path by possessing the relevant combination of skills and experience, or 3) have successfully moved through the internal pipeline for planners. All planners must have project planning, technical and customer service experience, and have passed both the Edison Electric Institute (EEI) technical test and a pre-screening test evaluating the candidate’s ability to communicate and problem-solve. Based on its 2021 GRC Forecast,<sup>15</sup> as of August 11, 2020 SCE was 195 Planners short from meeting the total forecasted need of 776 Planners for 2021.

Similar to lineman, SCE has a two-pronged approach to address shortages in planning positions. First, SCE increases its hiring of Trainees and entry-level positions, such as Field Technicians to expand the supply of potential planners. The pipeline for Planners includes those who have been working at SCE as a Planner Associate Specialist (Trainee) and have successfully graduated from the Service Planner Development Program (SPDP) program. The SPDP is a six-month apprenticeship program that includes three months of formal classroom training and three months of on-the-job training at a work location. Trainees must be available to attend the full training program and be assigned planner roles after successful completion of the program. Another talent pipeline for Planners are those who have worked in other entry-level positions, such as a Field Technician, and have gained the relevant in-role experience in basic Planner

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<sup>14</sup> Schools, however, are typically a pipeline for groundmen and are rarely direct sources for linemen, who require more experience.

<sup>15</sup> See “Employee Benefits, Training & Support, Disability Management- Administration” in 2021 SCE General Rate Case, Exhibit SCE-06, Vol. 3, Part 1.

functions. Once these entry-level positions have acquired sufficient training and experience, they may be eligible to qualify for the Alternate Path.

The second prong is to attract external candidates. SCE follows the process outlined earlier to identify and recruit qualified candidates for planner positions. In addition, the “Alternate Path” hiring option allows qualified external and internal candidates to hire into the Planner position and includes a two-week training to bridge the gap for external hires and SCE specific Planning functions.

See Table 15 and Table 17 for additional details on SCE’s full-time planners and Table 18 and Table 19 for details on contractor planners.

### **Other Wildfire Mitigation Personnel (No Identified Personnel Shortages)**

#### ***Arborists and Other Vegetation Management Roles***

SCE hires ISA-certified arborists (Senior Specialists) to perform field verifications of work quality in its service territory. During these verifications, SCE’s arborists will evaluate the vegetation and schedule for mitigation as appropriate. To grow the pool of ISA-certified arborists, SCE hires Specialists who do not yet have an ISA-certification but who, under the guidance of Senior Specialists, will acquire the VM-related experience necessary to meet the experience requirement for an ISA-certification. The Specialists receive on-the-job experience and are mentored by SCE’s ISA-certified Senior Specialists.

Of note, Specialists and Senior Specialists do not perform the actual mitigation work, such as pruning or tree removal. As discussed in SCE’s response to condition ii, below, mitigations are performed by contracted work crews and SCE does not do any hiring (either directly or via contracts) of individuals to fill shortages in VM crews that are contracted to perform mitigations. SCE contracts with VM companies to execute a specific scope of mitigation work; however, VM companies are responsible for their own hiring to fulfill any crew shortages.

#### ***Other Wildfire Mitigation Work***

Ground Inspectors and Aerial staff also have a role to play in SCE’s wildfire mitigation work; however, there is no identified shortage in personnel in these areas and SCE does see the need to take additional measures, beyond the standard HR recruitment practices listed below, to grow the internal pool of talent to fill Ground Inspector, Generation or Aerial positions. As noted in SCE’s response to *SCE-11*, for the distribution ground inspections (IN-1.1), SCE added over 40 new inspection resources in addition to bringing on contractor resources. SCE follows its standard recruiting practices for internal and external candidates to fill openings for these positions and will contract for certain types of Ground Inspection, Generation or Aerial work, as described in its response to condition ii., below.

## **Recruitment Programs**

### ***Internal Candidates***

SCE's internal recruiting strategy aims to improve employees' knowledge of how to view and apply for open positions. The strategy varies for represented and non-represented roles, as defined below.

For represented positions, SCE will first advertise openings through the Bid Transfer Opportunity (BTO) process, which is based on International Brotherhood of Electrical Workers' (IBEW) union seniority, guidelines, company seniority, and job qualifications (including qualifications such as testing and residency). Once hiring managers have evaluated all interested IBEW employee candidates and exhausted the list of qualified candidates, managers have the option to consider non-represented employees or to post the position externally.

For non-represented positions, SCE advertises openings on the SCE career webpage for 10 days to encourage internal applicants to apply. Internal candidates can also learn about new opportunities through the SCE portal page, open houses hosted by organizational units, and postings shared by internal employee resource groups. In 2020, SCE launched a "talent refer" program to enable employees to easily refer internal or external candidates for openings. Even if referred, however, the candidate still must apply to the role to be formally considered.

### ***External Candidates***

To recruit new hires, SCE has a Talent Attraction and Recruitment Strategy that focuses on:

- Marketing for Targeted Positions: Talent marketing aims to attract qualified candidates to key roles that are connected to company-wide strategy and workforce plans by communicating the value proposition of working at SCE. Talent marketing is achieved through many avenues, including digital- marketing campaigns and outreach to external organizations such as local colleges, trade schools, military bases, and community partnerships. SCE uses external talent marketing intelligence (data insights) to help drive these strategies.
- Leveraging Technology: SCE tracks the full candidate journey and gains talent insights by analyzing data from its career site, job boards, candidate relationship management, events, and referrals. SCE also nurtures candidate prospects in its talent network by personalizing content in its automated on-going marketing campaigns.

## **Training Programs**

SCE has several training programs for positions that perform wildfire mitigation work, which are described in greater detail below.

### ***Transmission & Distribution Training***

Transmission and Distribution (T&D) employees plan, engineer, construct, operate, repair, and maintain the T&D facilities and equipment used to deliver electricity to SCE's customers throughout its 50,000 square mile service territory. T&D employees include linemen, groundmen

and planners. In order to facilitate the work, T&D Training develops, implements, and evaluates training programs for T&D employees. The technical training programs prepare employees to perform their jobs safely, comply with regulatory requirements and laws, maintain system reliability, and meet the demands of new technology. T&D training programs utilize four main practices: (1) using a formal structured approach to provide training; (2) leveraging multiple training methods, such as Computer Based Training (CBT); (3) incorporating assessments of employee performance; and (4) implementing programs to promote continuous learning over a worker's career. Training for many work activities in T&D is uniquely technical with a focus on the skills needed to understand and use complex, industry-specific tools and equipment and in many cases, in a dangerous environment. As a result, SCE continues to utilize a structured and formal approach to train T&D employees.

Training programs follow a Systematic Approach to Training (SAT) that is used to identify training needs, design and develop corresponding training programs, and implement and evaluate programs to confirm training effectiveness. Other core programs provided by T&D Training include, but are not limited to, Basic and System Operator, Substation and CFF Electrician, Test and Apparatus Technician and Field Accounting and Service Planning training. Each of these programs have different durations and structures, but also follow the SAT model and are customized by classification to provide the foundational knowledge required to safely perform the daily requirements of the role. In addition, Refresher courses paired with these core programs help reinforce the initial learning and provide any updates/changes to policy, procedures, tools, equipment and technology.

T&D Training also provides employee training focused on emergent and essential work to support the goals of SCE's Wildfire Mitigation Plan (WMP), including efforts such as enhanced inspections and remediations and grid hardening. Grid hardening trainings review topics such as covered conductor, arc flash, bolted wedge, sectional composite pole, Intelli-Interrupter, and Wood Pole Protective Barrier. Inspection trainings review new or refined policies, procedures, tools and technology (e.g., how to use mobile devices in the field) to support the successful completion of the work. SCE also provides training to support Public Safety Power Shutoff (PSPS) and SOB322, by training on various weather warnings and threats, actions before, during and after a PSPS event, use of tools and equipment, and protocols and procedures. A full list of T&D Training programs is provided in Guidance-11 Appendix A.

See Table 16 for additional details on Linemen and Planner training programs.

### ***Vegetation Management Training***

VM provides annual training to all VM employees and vegetation contractor lead personnel, called "UVM Core Plans Training." This training is intended to provide program knowledge to SCE's certified arborists and others to enhance understanding of the specific requirements of SCE's VM program. VM has a training and qualification advisor to organize its training programs.

### ***Ground Inspector Training***

Please see SCE's response to SCE-11, condition iv.

### ***Generation Training***

Generation provides two primary trainings to support the wildfire inspections and remediations of Generation assets (IN-5 and SH-12.3), for inspectors and planners respectively. The Planning Advisor training focuses on integrating the two main systems utilized (SAP and ArcGIS) to schedule and plan inspections and remediations. The Inspection/Planning Advisor/Supervisor training includes a high-level overview of the Generation High Fire Risk Informed Inspections (GHFR II) process and program requirements and detailed training on using iPads with the Survey 123 application used to collect inspection data in the field. The training also covers the laws, regulations and standards that are required to be followed for VM. Examples are used to educate inspectors on vegetation clearances, hazard trees, line strain/abrasion and priority levels for submitting notifications.

Generation created a formal web-based training program required for all field personnel working in High Fire Risk Areas. The web-based training course is titled, “Work Restrictions During Elevated Fire Conditions / PSPS.”

### ***Aerial Training***

The objective of Aerial Inspections is to prioritize the inspection of structures that represent the highest risk based on the probability of ignition and consequence. The program deploys sensors to collect different types of information, including high-definition (HD) photos, videos, Light Detection and Ranging (LiDAR), infrared and corona data. Data are used to identify issues, analyze risks, prioritize and ultimately remediate the findings. In areas with lower electrical equipment density, for example, helicopters equipped with HD cameras and geotagging software help gather data quickly and efficiently by using LiDAR to detect invisible flaws or risks in assets (e.g., lines, poles and wires) and surrounding vegetation. SCE established a permanent aerial organization in 2020 made up of four divisions: Program Management, Quality Review and Analytics, Inspection Oversight and Data Collection and Vendor Management. SCE personnel manage the program and rely on external vendors for roles that require specialized skillsets.

Newly hired employees go through an onboarding process to learn about the aerial inspections program in general and for their specific positions. In addition, SCE currently has 65 contracted aerial inspectors who conduct inspections of SCE assets in California. Most of these inspectors were on the aerial program since 2019 and are trained on the distribution and transmission standards of SCE assets. Those who are new to the aerial program receive training via video conference and are monitored remotely while they work through Skype/Microsoft Teams, where SCE can provide feedback and course-corrections along the way. To ensure the quality of the inspections, SCE performs a Quality Review of the completed inspections, conducts a performance scrub of the data and gives feedback to the inspectors and their supervisors to help improve performance. This process also allows SCE to continue to enhance the inspector training program.

**ii. a description of its strategy for direct recruiting and indirect recruiting via contractors and subcontractors;**

***Line Contractors***

SCE does not direct how a contractor is to recruit and train its employees. A contractor is responsible for providing employees qualified for the requested scope of work. Depending on the type of work, each contractor employs their own methodologies for the recruitment and training of their employees.

For Line Construction, the Joint Apprentice Training Committee (JATC - a non-profit organization jointly led by the IBEW and Industry) develops the training regime, selects the apprentice candidates and then dispatches the apprentices to contractors. Essentially, the Line Construction Contractors only provide on the job opportunities for the apprentices, but do not direct, nor manage the hiring and training programs.

See Table 18 and Table 19 for additional details.

***Contract Planners***

SCE has approximately nine vendors which supply contract service planning functions. Like all contractors, these firms are responsible for the hiring and training of qualified personnel to meet safety, productivity and work quality requirements. Unlike VM and Line Crew resources, contract planners are hired and trained by the vendors – there is no association with the IBEW. The typical cycle time for a Planning Contractor to hire and train a planner that can perform only basic planning functions is approximately one year, while a fully qualified and experienced planner typically requires a two to three year cycle and higher skilled planners typically have five or more years of experience and training. To date, SCE’s Contract Planning firms have been able to meet the demand.

See Table 18 and Table 19 for additional details.

***Vegetation Management Contractors***

As mentioned in SCE’s response to condition i. above, VM Contractors directly hire and train their crews, even though they are represented by the International Brotherhood of Electrical Workers (IBEW). It is not SCE’s standard practice to get involved with the recruiting efforts of our contractors. Instead, by creating broad ‘bidder pools’ for its Request for Proposals (RFPs) and negotiating contracts with an optimal number of contractors, SCE essentially recruits new contractors, albeit not individuals.

A key area of focus of SCE to expand the supplier pool is for prime contractors to provide development and recruitment at the vendor level. A portion of this effort is performed through SCE’s Diverse Business Enterprise (DBE) subcontracting program, where VM prime contractors form a business relationship with smaller DBE VM contractors. The VM prime contractors provide mentorship, guidance and opportunities with DBE VM contractors to perform work as a subcontractor for SCE, which brings diversity and strengthens SCE’s supply base. As an example, Utility Tree Service is a prime VM contractor that forged business relationships with

Mowbray's and Rolling Green, both DBE VM subcontractors at the time and now Mowbray's and Rolling Green are both functioning as prime VM contractors for SCE.

Another example of SCE's continued commitment to recruitment in support of the VM program pertains to the extensiveness of SCE's sourcing projects. For Vegetation Line Clearing, SCE held an in-person pre-RFP session with wide array of contractors to gather input on how to improve the structure of SCE's contracts to make the contracts more palatable to the supply base, with a goal to increase the resources available to SCE. The meeting also provided new contractors a clear and detailed path to prepare for the bidding process with SCE. These efforts resulted in an over 175% increase in the number of bidders which provided proposals and 67% increase in VM contractors. Although there is movement of personnel among the VM contractors, SCE's efforts to incrementally increase the supply base has resulted in an overall addition to the numbers of new seasoned employees.

In addition to the periodic sourcing events as described above, SCE is continuously pursuing the identification and qualification of new contractors to expand the vendor pool to increase its "bench strength." Supply Management utilizes a number of resources to identify new potential suppliers which include: Market intelligence; Supplier Diversity and Development, Operating Unit subject matter experts, Trade publications, Ariba, and benchmarking exercises with West Coast utilities.

Lastly there are barriers to entry in the California VM market due to insurance costs and concerns of liability associated with wildfire mitigation. This includes the existence of inverse condemnation that utilities in CA are under and the perceived collateral risk that is placed on SCE's contractors. These barriers to entry represent a hinderance to SCE's vendor recruitment efforts. SCE has taken steps to overcome those barriers to entry for the contractor pool by; (1) including the development of a VM specific Master Agreement with the Contractor's liability terms at the same level as their insurance requirements for General Liability (GL) and Umbrella coverage; (2) increasing SCE's internal management support of contractors through SCE's VM program including development of a QA/QC and a Resource Planning and Performance Management group; (3) in certain cases SCE has lowered the insurance requirements based on the work scope; and (4) in some cases limiting the contractor's defense costs annually (this is important as SCE's contractors are being drawn in more frequently to wildfire events in CA regardless of their apparent proximity to the event).

As part of a larger effort to attract critically needed qualified line clearance tree trimmers to the state (see Public Utilities Code § 854.2 (a)(7)), Gov. Gavin Newsom signed into law Senate Bill (SB) 247 which significantly increases the current wages set in the IBEW 47, 1245 and 465 Union Agreements for utility line clearance tree trimming. The expectation is the wage increases, resulting from the implementation of SB247, will attract both existing and new workers to the CA market since the wages roughly doubled the hourly compensation for VM workers in CA.

See Table 21 for additional details.

### ***Generation Contractors***

Generation utilized existing on-call contracts for contract work supporting the Expanded Clearance Program (VM-3) for data collection and oversight. In addition, enhanced vegetation treatment is being conducted by existing Generation contractors that were already providing routine VM. Qualifications for vegetation specialists include either fire ecology background/training or working experience, certified arborists, and/or registered professional foresters. A detailed Program Document was developed to outline program workflow, tools, and roles and responsibilities and knowledge transfer would be required for any changes in personnel by contractor and/or SCE.

See Table 21 for additional details.

### ***Aerial Contractors***

SCE established Helicopter and UAV (Unmanned Aerial Vehicle) contracts for the safe and efficient capture of aerial photography and LiDAR of SCE's assets. The collected data is then reviewed by SCE's aerial inspection contractors which consist of a combination of engineers, project managers, and Qualified Electrical Workers (QEW). The contractors are responsible for the hiring, training, and qualification of their personnel and subcontractors to meet SCE's safety, productivity, and work quality requirements as defined in their respective Scopes of Work. In addition, the contractors furnish specialized equipment including, but not limited to, helicopters, UAVs, cameras, sensors, and software, to perform the work.

Some of the drone and helicopter suppliers used by the Aerial Inspection program have experienced staffing issues which have resulted in delayed delivery and deployment of services. This is compounded by the time-sensitive nature of the work and unanticipated delays. Through continuous lessons learned exercises, some of these concerns are being mitigated through proper planning, concrete understanding of deliverables, and consistency of work that are essential to maintaining the continuity of services from SCE's strategic contractors.

See Table 21 for additional details.

**iii. its metrics to track the effectiveness of its recruiting programs, including metrics to track the percentage of recruits that are newly trained, percentage from out of state, and the percentage that were working for another California utility immediately prior to being hired.**

SCE provides the below tables with detailed metrics to track the effectiveness of its recruiting and training programs. Please note, that numbers shown are numbers of individuals, not crews, who are either full time SCE employees or full-time contractors working for SCE.

Table 15: Metrics for full time SCE employees in positions of need (i.e., linemen and planners)

Table 16: Percentage of groundmen and planner trainees that are newly trained as linemen and planners, respectively

Table 17: Percentage of SCE linemen and planners who were recruited from out of state

Table 18: Workforce and recruitment metrics for contractor linemen and planners hired by SCE (note: recruitment is not done by SCE but by the contracted companies and numbers represent individual, full-time contractors working primarily on Wildfire Mitigation activities)

Table 19: Percentage of contractor linemen and planners who were recruited from out of state (note: recruitment is not done by SCE but by the contracted companies)

Table 20: Metrics for full time SCE employees in other positions related to wildfire mitigation, but not considered to be areas of “personnel shortages” by SCE currently, nor in the time period covered by the 2020-2022 WMP

Table 21: Metrics for full time contractors hired by SCE to perform work in other positions related to wildfire mitigation, but not considered areas of “personnel shortages” by SCE

However, SCE is unable to provide metrics on whether full time or contracted workers came from another California utility immediately prior to coming to SCE at this time. The data requested is a complex exercise to gather / validate. SCE does reliably track this data historically. For example, Line Contractors generally do not track where an employee worked prior to beginning work. Line Construction employees (e.g. Linemen) are dispatched from the IBEW to the contractor based on hiring requests. However, there are instances where a Contractor can, under certain circumstances, bring in one of their currently employed crews from another state if they have a ‘portability’ agreement with the IBEW. For full time employees, candidates could also omit full details of the employer, which would make the data set potentially inaccurate and cause additional work for the individual compiling and doing the manual pull of the data.

To implement such tracking metrics, SCE and its Contractors would have to develop processes, tracking systems and dedicate resources to actively gather, track and manage these metrics. These additional activities are not part of a Contractor’s existing contractual requirements and is not included in their current pricing. Accordingly, SCE does not provide this data below but will begin collecting this data beginning in 2021.

**Table 15 – Guidance-11  
Metrics for Full Time SCE Employees in Positions of Need**

	COUNT <sup>1</sup>			INTERNALLY RECRUITED <sup>2</sup>			EXTERNALLY RECRUITED <sup>3</sup>		
	2018	2019	2020 YTD	2018	2019	2020 YTD	2018	2019	2020 YTD
LINEMEN <sup>4</sup>	920	923	924	207	184	26	25	14	10
PLANNERS <sup>5</sup>	586	662	708	86	107	41	60	67	52

<sup>1</sup> The numbers shown in the ‘Count’ section are numbers of Full-Time Employees (FTEs).

<sup>2</sup> Internally recruited meaning from within SCE’s internal talent pool.

<sup>3</sup> Externally recruited meaning from talent pools outside of SCE.

<sup>4</sup> Includes Journeymen Linemen, Linemen (Rubber Gloved Trained), and Apprentice Linemen.

<sup>5</sup> Includes Planners, Senior Planners, Power System Planners, and Senior Power System Planners.

**Table 16 – Guidance-11  
Training Metrics for Full Time SCE Employees in Positions of Need**

	NEWLY TRAINED					
	2018		2019		2020 YTD <sup>1</sup>	
	<i>COUNT</i>	<i>%</i>	<i>COUNT</i>	<i>%</i>	<i>COUNT</i>	<i>%</i>
GROUND MEN TRAINED AS LINEMEN	109	11.8%	86	9.3%	34	3.7%
PLANNER TRAINEES TRAINED AS PLANNERS	27	4.6%	110	16.6%	30	4.2%

<sup>1</sup> Note the 2020 YTD employees are midway through their respective training programs and have not graduated yet, the students expected to graduate in Q4’2020.

**Table 17 – Guidance-11  
Full Time SCE Employees Recruited from Out of State in Positions of Need**

	RECRUITED FROM OUT OF STATE					
	2018		2019		2020 YTD	
	<i>COUNT</i>	<i>%</i>	<i>COUNT</i>	<i>%</i>	<i>COUNT</i>	<i>%</i>
LINEMEN	3	0.3%	1	0.1%	0	0.0%
PLANNERS	1	0.2%	2	0.3%	0	0.0%

**Table 18 – Guidance-11  
Metrics for Full Time Contractors in Positions of Need**

	COUNT			RECRUITED		
	2018	2019	2020 YTD	2018	2019	2020 YTD
LINEMEN	462	764	1,013	0	96	0
PLANNERS	373	447	419	54	60	27

**Table 19 – Guidance-11  
Recruitment Metrics for Full Time Contractors in Positions of Need**

	RECRUITED FROM OUT OF STATE					
	2018		2019		2020 YTD	
	COUNT	%	COUNT	%	COUNT	%
LINEMEN <sup>1</sup>	0	0.0%	48	6.3%	0	0.0%
PLANNERS	0	0.0%	0	0.0%	2	0.5%

<sup>1</sup> Number of out of state linemen crews is a best estimate based on available data

**Table 20 – Guidance-11  
Recruitment Metrics for Full Time SCE Employees in Other Wildfire Related Positions**

	COUNT			RECRUITED		
	2018	2019	2020	2018	2019	2020
ELECTRICAL SYSTEM INSPECTORS	47	82	92	9	46	14
SENIOR PATROLMEN	33	34	37	3	5	3
ISA-CERTIFIED ARBORISTS - SR. SPECIALISTS	21	22	33	1	6	9
GENERATION <sup>1</sup>	344	260	313	56	41	31
AERIAL <sup>2</sup>	24	24	26	6	4	2

<sup>1</sup> Wildfire work is embedded in Generation work and it is not possible to separate out employees solely focused on Wildfire Mitigation activities, thus numbers shown are inclusive of all Generation employees.

<sup>2</sup> Includes aerial image inspectors, GIS and data management team, and other operations support roles.

**Table 21 – Guidance-11  
Recruitment Metrics for Full Time Contractors in Other Wildfire Related Positions**

	COUNT			RECRUITED		
	2018	2019	2020 YTD	2018	2019	2020 YTD
VEG MANAGEMENT WORKERS <sup>1</sup>	800	1,100	1,600	0	0	0
ELECTRICAL SYSTEM INSPECTORS	0	0	26	0	0	13
SENIOR PATROLMEN	0	0	0	0	0	0
GENERATION	0	30	30	0	0	0
AERIAL <sup>2</sup>	0	207	319	N/A	N/A	N/A

<sup>1</sup> These numbers represent a best estimate. SCE tracks crew volume, not number of individuals, and the historic information tracked only the tree programs and did not include programs such as pole brushing.

<sup>2</sup> Includes aerial image inspectors, Helicopter and UAS image capture specialists, and other aerial operations support roles. Recruitment data for aerial contractors is not available at this time.

**Guidance-11 Appendix A**

School	Program Title	Driver	Training Purpose/Description
Substation Training	Basic Operating Training	Safety/Reliability/Regulatory/Hiring	Mandatory formal and hands on performance-based training in a controlled environment to equip Acting Operators with the foundational knowledge and skills required to re-route or switch the flow of electricity in a substation in a safe manner  A new Substation Operator Program is being developed for the Operator Trainee classification which is to include Substation Operator specific tasks
Substation Training	Intro To System Operator	Safety/Reliability	Introduce a Substation Operator to the job of a System Operator. High level Intro to System Operator Duties and responsibilities.
Substation Training	Substation Operator Basic Skills & Knowledge (SBT)	Safety/Reliability	Enhance the performance of new and incumbent operators so that they will be able to continue to perform their duties safely and reliably. Training provides a review of knowledge and skills required for competent performance associated with their positions
Substation Training	System Operations Training Simulator Skills & Knowledge (SORT)	Safety/Reliability/Regulatory/Labor Agreement	Performance based training in a controlled environment to equip new Substation System Operators with a solid foundational knowledge of techniques and skills required to re-route or switch the flow of electricity in emergency or planned situations; perform
Substation Training	System Operator Training	Safety/Reliability/Regulatory/Hiring	Mandatory hands on performance based training in a controlled environment to equip the System Operator candidate with the foundational knowledge and skills required to monitor and control the SCE electrical system
Substation Training	Apparatus Technician Training Program	Safety/Reliability	Mandatory hands on performance based training in a controlled environment to equip the Distribution Apparatus Technician with the foundational knowledge and skills required to properly maintain and repair high voltage distribution equipment and consumer substation equipment in a safe manner
Substation Training	Apparatus Technicians Skills & Knowledge	Safety/Reliability	Review of knowledge and skills required for safe and competent performance.
Substation Training	CFF Battery Electrician Apprentice	Safety	Mandatory hands on performance based training in a controlled environment to equip the Battery Apprentice with the foundational knowledge and skills required to safely and properly work in substations and to perform tasks required to prepare them for Journeymen. The training exposes them to all the required policies and procedures required to effectively perform their duties following all applicable rules.

School	Program Title	Driver	Training Purpose/Description
Substation Training	CFF Electrician Apprentice	Safety	Mandatory hands on performance based training in a controlled environment to equip the CFF Apprentice with the foundational knowledge and skills required to safely and properly install high voltage substation equipment. The training prepares the Apprentice to move on to the journeymen level and exposes the employee to all the policies and procedures required to effectively perform their duties following all applicable rules.
Substation Training	CFF Helper	Safety	Mandatory to equip the CFF Helper with the foundational knowledge and skills required to safely work in substations and to perform tasks required to support the CFF Electrician and Structural Mechanic crafts.
Substation Training	CFF Substation Structural Mechanics (Civil) Apprentice	Safety	Mandatory hands on training for exposure to all facets of construction work within the individual apprentice categories. The training is tracked for ensuring progression and that foundational knowledge and skills are properly acquired to safely perform their duties. Exposes the employee to all the polices and procedures to effectively perform their duties following all applicable rules.
Substation Training	Protection Suite Training for Apparatus Technicians.	Reliability	Training will include software tool training and a new recloser simulator equipment covered will include overload relays (CO relays), automatic recloser's (AR's) specifically the Cooper 3A & 4C Reclosers, the SEL 351R recloser and vacuum fault interrupters (VFI's) . In addition procedures for down loading and saving files, creating databases, modifying communication settings, developing macros and trouble shooting/adjusting tests and equipment will be covered in the classroom sessions.
Substation Training	Electrical Field Services (EFS) Apprentice	Safety/Reliability	Mandatory hands on performance based training in a controlled environment to equip the CFF Transformer Apprentice with the foundational knowledge and skills required to safely and properly overhaul, repair and maintain electrical equipment of generating and distribution substations and to prepare them for Journeyman positions.
Substation Training	Electrician Class for Test Technicians	Safety/Reliability	Expose Test Techs to Rules, Policies and Procedures they only get from the Electrician Training.
Substation Training	GCC Training	Safety/Reliability/Regulatory	Training on Compliance regulations.
Substation Training	HPI - Back to Basics Management Expectations	Safety	Human Performance Indicator. Provides training relative to management expectations regarding safety.

School	Program Title	Driver	Training Purpose/Description
Substation Training	Maintenance Electrician Apprenticeship	Safety/Reliability/Regulatory/Hiring	Mandatory hands on performance based training in a controlled environment to equip the Maintenance Electrician Apprentice with the foundational knowledge and skills required to safely and properly maintain and repair high voltage substation equipment. Exposes the employee to all the Policies and Procedures required to effectively perform their duties following all applicable rules.
Substation Training	Maintenance Electrician Skills & Knowledge	Safety/Reliability	Review of foundational knowledge and skills required to safely and properly maintain and repair high voltage substation equipment.
Substation Training	Substation Cable Crew Apprentice	Safety	Mandatory hands on performance based training in a controlled environment to equip the Cable Splicer Apprentice with the foundational knowledge and skills required to safely and properly work in substations. The training prepares the Apprentice to move on to the journeymen level and exposes the employee to all the policies and procedures required to effectively perform their duties following all applicable rules.
Substation Training	System Operator Training - GCC (SOTC)	Safety/Reliability	Overview of system operations regarding re-routeing or switching the flow of electricity.
Substation Training	Test Technician Skills & Knowledge	Safety/Reliability	Review of knowledge and skills required for safe and competent performance.
Substation Training	Test Technician Training Program	Safety/Reliability/Hiring	Mandatory hands on performance based training in a controlled environment to equip the Substation Test Technician with the foundational knowledge and skills required to properly maintain and repair high voltage distribution equipment and consumer substation equipment in a safe manner
Technology Integration	Technology Integration Training	Safety	Emergent training related to new equipment and designs
Field Accounting	Field Accounting - Capital Related Orders (CRO)	Financial/Hiring	Refresher courses, topics to vary depending on need (Basic, Advanced, CFF).
Field Accounting	Field Accounting - Construction Maintenance Clerk (CMC)	Hiring/Reliability	Training for New Hire CMCs to cover subjects in sequential order as it pertains to their work.
Field Accounting	Field Accounting - Master Data Trng. (E2 Notifications)	Financial/Hiring	Training for Field Accountants to correct Master Data & verify systems are correct in SAP.
Field Accounting	Field Accounting - Material Management	Financial	Topics to vary depending on need (Basic MM, Advanced MM, Transformers, Meters)
Service Planning	CCM Qualified Training (now PCI and PSpec Qualified)	Safety/Reliability	Mandatory training for PCI and Pspecs on how to properly perform job duties around hazardous structures and equipment
Service Planning	CSS Skills & Knowledge Training	Safety/Reliability/Regulatory	Refresher and new training for Planners, Designers, or any individual who needs access to the system tools
Service Planning	Design Manager (DM) Classroom Training	Safety/Reliability/Regulatory	Refresher and new training for Planners, Designers, or any individual who needs access to the system tools

School	Program Title	Driver	Training Purpose/Description
Service Planning	Planner Qualified Training	Safety/Compliance	Mandatory training for all planners. Prepare Planners how to properly open energized structures and equipment as related to their job duties.
Service Planning	Planner Refresher	Safety/Reliability	Provide necessary training to work groups on latest standards, processes, and systems.
Service Planning	Planner Training (Designer Training)	Safety/Reliability	Designer training that address regulatory requirements & other items associated with DC&M work orders.
Service Planning	Pole Loading Skills & Knowledge	Safety/Regulatory	Review of changes to pole loading tools, processes and procedures.
Service Planning	Pole Loading System Access	Safety/Regulatory	New foundational training for individuals who need to gain access to the Pole Loading Tool
Service Planning	Production Specialist - Refresher	Hiring/Safety/Reliability	Provide the necessary work procedures to enable all Production Specialists to work efficiently and productively at their work locations by providing updates and refresher training on field work orders and customer coordination
Service Planning	Production Specialist Initial Training	Hiring/Safety/Reliability	Provide the necessary initial training on Field WO, SCE equipment, customer coordination and other PSpec Job duties to newly hired Production Specialists.
Service Planning	Service Planner Development Program (SPDP)	Hiring/Safety/Reliability	The SPDP training provides foundational training (technical skills, customer service and project management) to develop competent Planners.
Powerline Trades - Distribution	Dist Step Apprentice Assessment	Hiring/Safety/Reliability	To validate competencies and knowledge to progress to the next step. Assessments conducted are skills and knowledge.
Powerline Trades - Distribution	Distribution Apprentice Lineman Training	Hiring/Safety/Reliability	Develop industry standard journeyman linemen with company specific knowledge, skills and abilities to increase system reliability and avoid, minimize, or mitigate employee injury. Includes Core Training knowledge and skills assessments. Tools to ensure skill and ability meets industry standards.
Powerline Trades - Distribution	Distribution New Hire/Transfer Lineman Training Program	Hiring/Safety/Reliability	Provide instruction on basic Journeyman Linemen duties per SCE standards. Introduction of Edison's basic rules, policies and construction standards for troubleshooting and operating the Distribution system.
Powerline Trades - Distribution	Drivers Training - Distribution	Regulatory/Safety/Hiring	To meet DOT requirements to obtain a Commercial Class A Driver's License.
Powerline Trades - Distribution	ECF / Lineman Skills Building Training - Distribution	Safety/Reliability	Training will review some fundamental lineworker skills, including communication, rigging, hot stick work, and primary rubber gloving.
Powerline Trades - Distribution	E-Crew Foreman New Hire Training	Hiring/Safety	New hire training for E-Crew Foreman
Powerline Trades - Distribution	Fall Restrict Training - Distribution	Safety/Compliance/Regulatory	Instruction on inspection, maintenance and use of company approved wood pole fall restrict devices. At the end of training, employee will have knowledge of SCE climbing policies and show proficiencies in using approved FRE.

School	Program Title	Driver	Training Purpose/Description
Powerline Trades - Distribution	Grounding Trailer	Safety/Reliability	Scenario-based, mobile training with all the equipment on the grounding trailer. Instruct personnel in underground techniques and requirements per DUGGM. To ensure the application of consistent and practical policies for grounding de-energized conductors
Powerline Trades - Distribution	Grounding Training - Distribution	Safety/Reliability/Regulatory	Instruct personnel in overhead and underground techniques and requirements per Edison Grounding Manual. To ensure the application of consistent and practical policies for grounding de-energized conductors and equipment per the APM
Powerline Trades - Distribution	Groundman Skills Training - Distribution	Hiring/Safety/Reliability	Specific mandatory training related to duties and responsibilities for new hires, including but not limited to compliance, Groundman skills and DOT and/or Class A Driving Permit.
Powerline Trades - Distribution	Intro to climb (Dist)	Safety/Labor Agreement	Introduction to basic climbing techniques and the Accident Prevention Manual (APM) rules associated with pole climbing. It is a mandatory training class, which must be successfully completed by new hires prior to entry into the Apprentice Lineman program. This program eliminates those that are not the right fit for a Lineman position before the time and money is spent trying to develop them.
Powerline Trades - Distribution	Lead School Training	Safety/Reliability	Make lead to poly lead splices to transition existing cable to cross link poly and EPR cable
Powerline Trades - Distribution	Pre-Hire Physical Assessment	Hiring/Safety	Physical performance assessment for new hires as a pre-qualification for job classification - Groundman, Apprentice Lineman, Lineman, Troublemán, and E-Crew Foreman.
Powerline Trades - Distribution	Rubber Glove Training - Distribution	Safety/Labor Agreement/Regulatory	Provide the necessary safe work procedures to enable all Foremen and Journeymen to work on or near conductors, apparatus and equipment energized up to 17,000 volts phase to phase with approved rubber gloves
Powerline Trades - Distribution	Switching Trailer Training	Safety/Reliability	Training includes switching scenarios with all of the equipment on the switching trailer, which includes RAGs, RAMs, RACs, RCSs, RARs, Cap Banks, PMEs PMHs, 4kV oil filled cutouts, 4kV vacuum switches, MCANs, and MCLFs.
Powerline Trades - Distribution	Tree Climbing	Safety/Compliance/Regulatory	Participants trained in full fall restraint modern tree climbing systems; learn about and practice with the tools and techniques that ensure that employees are OSHA compliant when performing line work from trees.
Powerline Trades - Distribution	Troublemán New Hire Training Program	Hiring/Safety/Reliability	New hire training to educate Troublemán on safe work practices, policies and procedures associated with their new role.

School	Program Title	Driver	Training Purpose/Description
Powerline Trades - Distribution	Troubleman Skills & Knowledge Training	Safety/Reliability	Review of personal and public safety, company policies, operational procedures, primary and secondary troubleshooting, eMobile, as well as yard equipment operations and hands-on switching exercises.
Powerline Trades - Transmission	Barehanding	Safety/Regulatory	Lineman will be trained on the use of hot sticks in conjunction with Barehand methods to perform maintenance on Extra High Voltage Transmission lines (220 KV & 500 KV) eliminating the need to de-energize the circuit. This is a certification program required by the CPUC to perform this type of work.
Powerline Trades - Transmission	Crane Training - Practical	Safety/Regulatory	Crane Operator Certification training. Written and hands on performance testing to equip employees, within the classifications identified here, who operate a crane with a solid foundational knowledge of techniques and skills required to operate a crane.
Powerline Trades - Transmission	Crane Training - Written	Safety/Regulatory	Administer written exam for crane operator certification under the requirements of the National Commission for the Certification of Crane Operators (NCCCO).
Powerline Trades - Transmission	Drivers Training - Transmission	Safety/Regulatory	To meet DOT requirements to obtain a Commercial Class A Driver's License.
Powerline Trades - Transmission	Fall Restrict Training - Transmission	Safety/Regulatory	Instruction on inspection, maintenance and use of company approved wood pole and tower fall restrict devices. At the end of training, employee will have knowledge of SCE climbing policies and show proficiencies in using approved FRE.
Powerline Trades - Transmission	Field HEC – Fly In Training	Safety/Regulatory/Labor Agreement	Certification program to provide foundational knowledge in field Human External Cargo (HEC). This training provides a cost savings by providing efficiencies regarding structure access.
Powerline Trades - Transmission	Ground HEC Training	Safety/Regulatory/Labor Agreement	Classroom and field based training to equip the Journeymen and Apprentice with the foundational knowledge and skills to safely perform helicopter field functions. This is the pre-requisite to HEC field training.
Powerline Trades - Transmission	Grounding Training / Grids Skill Building - Transmission	Safety/Reliability	Classroom training to refresh and equip the trainee with new knowledge on grounding
Powerline Trades - Transmission	HEC Skills & Knowledge Refresher Training	Safety/Regulatory/Labor Agreement	CBT training to equip the Journeymen and Apprentice with the foundational knowledge and skills to safely perform helicopter field functions.
Powerline Trades - Transmission	Heli Seat	Safety/Regulatory/Labor Agreement	The Heli Seat training is an extension of Transmission Helicopter work methods. The training provides hands-on training that will develop skills that will allow maintenance work to be performed on extra high voltage (EHV) circuits.
Powerline Trades - Transmission	Helicopter Patrol Training (Awareness)	Safety/Regulatory	To provide foundational knowledge on helicopter safety awareness. 3-year cycle - 8-hour classroom training then two years of WBT training, repeat 3-year cycle.

School	Program Title	Driver	Training Purpose/Description
Powerline Trades - Transmission	Intro to climb (Trans)	Safety/Labor Agreement	Introduction to basic climbing techniques and the Accident Prevention Manual (APM) rules associated with pole climbing. It is a mandatory training class, which must be successfully completed by new hires prior to entry into the Transmission Groundman/Apprentice Lineman program.
Powerline Trades - Transmission	Lindsey-Emergency Restoration System Training	Safety/Reliability	Lindsey ERS (Emergency Restoration System) Training is designed to restore damaged Transmission lines and towers damaged by storms or sabotage in the shortest time possible. Students will erect the Lindsey with a series of special equipment provided.
Powerline Trades - Transmission	Rubber Glove Training - Transmission	Safety/Regulatory/Labor Agreement	Provide the necessary safe work procedures to enable all Foremen and Journeymen to work on or near conductors, apparatus and equipment energized up to 17,000 volts phase to phase with approved rubber gloves
Powerline Trades - Transmission	Sr. Patrolman New Hire Training	Hiring/Safety	New hire training program for Sr. Patrolman.
Powerline Trades - Transmission	Tower Rescue – Basic	Safety/Reliability	Mandatory training to provide foundational knowledge and skills or methods of injured employee rescue.
Powerline Trades - Transmission	Tower Rescue – Skills & Knowledge Refresher	Safety/Reliability	Training provides a review of knowledge and skills required for competent performance associated with their positions.
Powerline Trades - Transmission	Tower Rescue – SPRAT	Safety/Reliability	SPRAT Certification program to provide advanced knowledge and skills on methods of injured employee rescue.
Powerline Trades - Transmission	Transmission Apprentice Lineman Program	Hiring/Safety/Reliability	Mandatory class room and hands on performance based training in a controlled environment to equip Apprentice with a solid foundational knowledge of techniques and skills required to prepare them for Journeymen positions.
Powerline Trades - Transmission	Transmission Apprentice Step Progression Assessment	Hiring/Safety/Reliability	To validate competency and knowledge required to progress to the next step. Knowledge and skill assessments conducted.
Powerline Trades - Transmission	Transmission Groundman Training	Hiring/Safety/Reliability	Specific mandatory training related to duties and responsibilities for new hires, including but not limited to compliance, Groundmen skills, pole climbing, and DOT and/or Class A Driving Permit.
Powerline Trades - Transmission	Transmission Off-Road Training	Safety/Reliability	Provide a basic overview for Engineers of safety considerations when venturing offroad for SCE project work
Powerline Trades - Transmission	Transmission Skills Training	Safety/Reliability	Training will review some fundamental lineworker skills, including communication, TS 5, transformer connections, ferroresonance, risers, isolators, underground recognition, grounding and framing. This training will provide foundational skills for Transmission Line crews to complete joint pole replacements without the need for additional Distribution crews.

School	Program Title	Driver	Training Purpose/Description
Powerline Trades - Transmission	Underground Training - Transmission	Hiring/Safety/Reliability	Performance based training that equips the Journeymen with the foundational knowledge and skills required to safely and properly perform Journeymen underground duties including underground splicing.

**GUIDANCE-12**  
**LACK OF DETAIL ON LONG-TERM PLANNING**

***Southern California Edison Company***  
***2020-2022 WMP – SCE Deficiency***  
***Guidance-12***

**Name:** Lack of detail on long-term planning

**Category:** Long-Term Planning

**Class:** B

**Deficiency:**

Electrical corporations do not provide sufficient detail regarding long-term wildfire mitigation plans and how the initiatives in their WMPs align with and support those long-term plans.

**Condition:**

In their first quarterly report, each electrical corporation shall detail:

- i. Its expected state of wildfire mitigation in 10 years, including 1) a description of wildfire mitigation capabilities in 10 years, 2) a description of its grid architecture, lines, and equipment;
- ii. A year-by-year timeline for reaching these goals;
- iii. A list of activities that will be required to achieve this end goal; and
- iv. A description of how the electrical corporation's three-year WMP is a step on the way to this 10-year goal.

**Response:**

**INTRODUCTION**

The primary objective of SCE's 2020-2022 WMP is to protect public safety. It includes an actionable, measurable, and adaptive plan for 2020 through 2022 to reduce the risk of potential ignitions associated with SCE's electrical infrastructure in HFRA by increasing system hardening, bolstering situational awareness, and enhancing operational practices. These categories are, in turn, supported and enabled by greater data governance, improvements in risk assessment and mapping, as well as other stakeholder and resource initiatives.

In this response, SCE further articulates its long-term vision for wildfire risk mitigation. This long-term vision forms the basis for the company's strategies to mitigate wildfire risk associated with SCE's electrical infrastructure. Key activities are identified that will be required to achieve this long-term vision and that align with the WSD's draft Utility Wildfire Mitigation Strategy

and Roadmap<sup>16</sup> (“WSD Roadmap”). SCE looks forward to working with the WSD and other stakeholders to continue to advance and evolve the state of long-term wildfire risk mitigation strategies.

This long-term plan is based on SCE’s current state of knowledge and understanding of wildfire risk assessment and mitigation programs. We expect our knowledge of wildfire risk mitigation activities will continue to expand in the coming years, and our approach will evolve accordingly. Likewise, any changes to legislation, regulatory policy, technology, or other foundational assumptions will have a corresponding impact to the objectives and approach identified herein. SCE’s ability to execute towards long-term objectives will also be dependent on timely cost recovery authorization from the CPUC for forecast of reasonable expenses and capital expenditures for wildfire-related work.

### **CALIFORNIA, THE POWER GRID, AND THE EXPECTED STATE OF WILDFIRE MITIGATION IN 2030**

The electric system in California is facing an ever-evolving set of needs. The ongoing movement of populations into the Wildland-Urban Interface (WUI), increasing impacts of climate change, and advancement of technological solutions are leading to unprecedented complexities and uncertainties, but also present new opportunities to approach how the grid can respond to these needs. As a result, SCE’s long-term vision for wildfire risk mitigation must remain flexible to continually adapt to these evolving circumstances over time.

As evidenced by the recent spate of naturally caused wildfires, California’s response to wildfire mitigation will need to extend beyond the electric utility’s wildfire risk mitigation activities laid out in this plan. Although the advances in our electric system and operations will help to reduce risk and drive increased resiliency in the electric system, it will also be important that the state engages non-utility stakeholders to collectively work towards reducing the potential for and impact of wildfires more broadly. This could entail changes to urban planning to minimize number of residents impacted, forest management practices to lessen the amount of ignition fuel present, fire suppression activities to limit the impact of a fire once ignited, and residents’ advancing their own resiliency to minimize the impact of wildfires. SCE believes our continued, and enhanced, engagement with local communities and stakeholders can help them better understand the potential risks they may face and can serve as an important facilitator in communities developing their own resiliency plans and efforts. SCE looks forward to partnering with regulators and stakeholders to develop an orchestrated, state-wide approach to wildfire mitigation.

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<sup>16</sup> See the May 2020 Draft Reducing Utility-Related Wildfire Risk - Utility Wildfire Mitigation Strategy and Roadmap for the Wildfire Safety Division  
[https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About\\_Us/Organization/Divisions/WSD/Report\\_WildfireMitigationStrategy\\_WSD\\_DRAFT\\_vF.pdf](https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/Report_WildfireMitigationStrategy_WSD_DRAFT_vF.pdf)

As noted by the WSD, California population growth into the WUI is projected to continue.<sup>17</sup> SCE has an obligation to serve all customers in its service area and recognizes it must balance the need to serve customers with safe, reliable, clean, and affordable power with the risk of operating electric infrastructure in High Fire Risk Areas.

The solutions currently available to utilities to mitigate wildfire risk will continue to evolve throughout the next decade. SCE recognizes the importance of continually investing in applied science, technology, and data solutions, as well as having an established approach to testing, piloting, and deployment. To this end, partnerships between utilities, government agencies, the private sector, academia, and others will be critical to advancing wildfire mitigation capabilities throughout the decade.

## TEN-YEAR WILDFIRE MITIGATION VISION

### Summary of Wildfire Mitigation Approach Over 10 Years

During this upcoming 10-year period, SCE will achieve an integrated, data-driven, risk-informed operational approach that helps us affordably balance the scale, complexity, and uncertainties associated with wildfire risks in California. SCE’s approach to wildfire mitigation will be central to a “no-regrets” approach that better positions us to be more resilient and responsive to address future challenges, either from wildfires or other emerging climate-related risks. For example, grid hardening technologies such as covered conductor installation and advanced protection and control technology deployment, and inclusion of real-time diagnostics that can identify and isolate anomalies and weaknesses, not only mitigate wildfire risks in the near-term, but help us build a more resilient grid ahead of additional climate change impacts. Resilience, rapid response capability, emergency preparedness and customer engagement will also be imperative to withstand severe weather events such as those already experienced in 2020 as SCE modernizes and strengthens the grid to withstand the impacts of climate change. SCE believes the plan laid out in this document will not only mitigate the risks of wildfire but will also lead to enhanced system reliability and resiliency that support a greater dependence on electricity in the future as customers electrify and increasingly rely on the electric system.

SCE’s long-term plan identifies a series of activities, organized into the WSD's Wildfire Mitigation Capability Maturity Model (WMCMM) categories (“categories”), that it is advancing to mature capabilities across each of the categories.

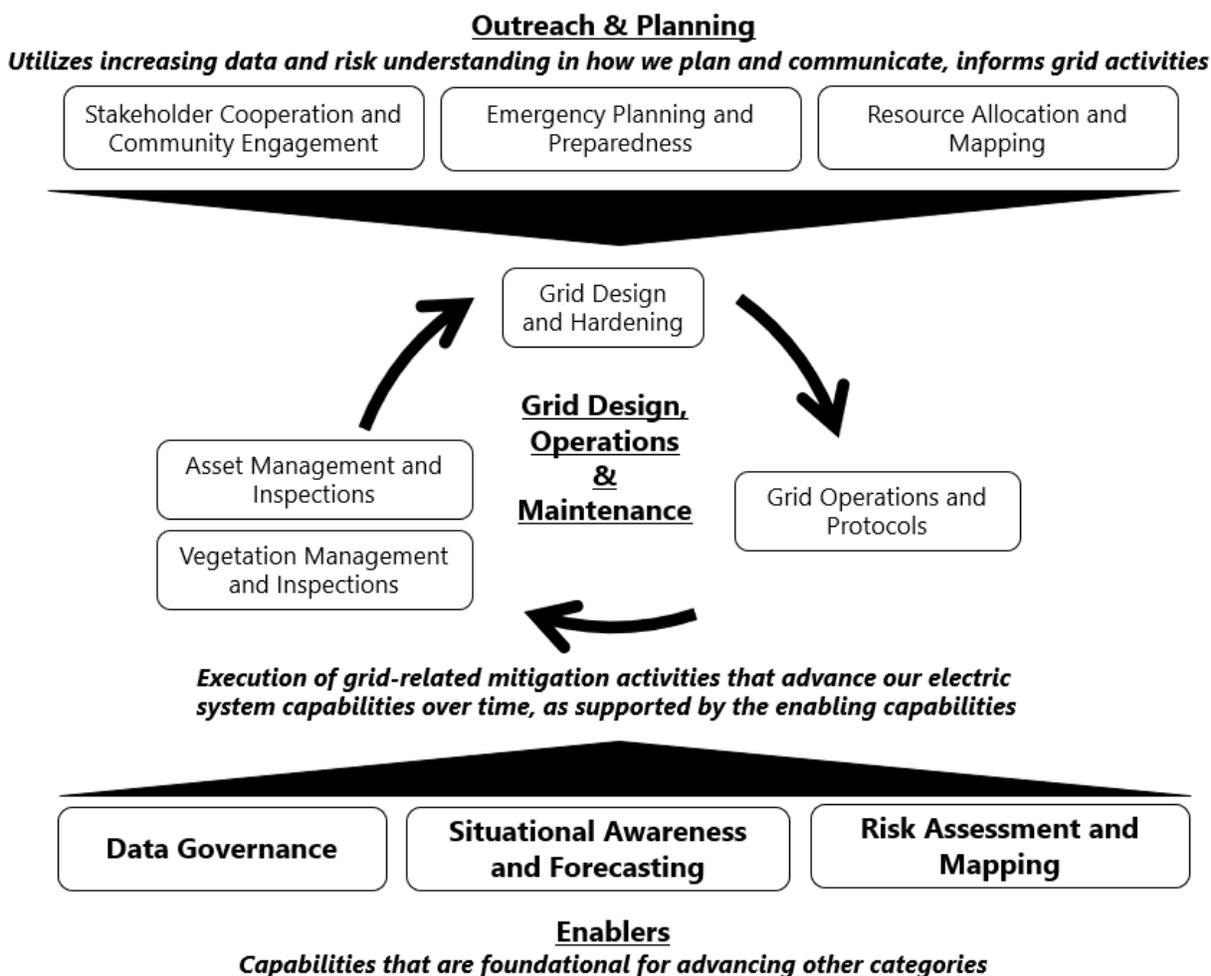
To develop an integrated plan, SCE has identified the interdependencies among the ten categories of capabilities identified in the WMCMM. **Enablers** (i.e., Data Governance, Situational Awareness and Forecasting, and Risk Assessment and Mapping) provide the foundational pillars for the other capabilities. **Outreach & Planning** categories include the capabilities required to engage our communities, build partnerships, and enhance our emergency

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<sup>17</sup> “Reducing Utility Related Wildfire Risk: Utility Wildfire Mitigation Strategy and Roadmap for the Wildfire Safety Division,” May 2020 draft.

and resource plans to reflect the evolving needs of our communities and electric system. **Grid Design, Operation, and Maintenance** constitute the utility’s core electric system related functions and is supported through “Enablers,” and “Outreach & Planning.” Each of the ten categories are depicted in the relational diagram shown in Figure 1, illustrating how the categories need to work together to achieve SCE’s long-term vision.

**Figure 1 – Guidance-12  
Relational Diagram of WSD’s Ten Categories**



The three categories identified as Enablers in Figure 1 are all critical to ensuring that SCE has the foundational skillsets and process rigor required to advance its capabilities to have a more data-driven, risk-informed grid. These three categories will directly advance SCE’s data accuracy and availability, granularity and accuracy of risk assessments, and inform continuous learning and updates to all of SCE’s wildfire mitigation capabilities. In addition, the collective capabilities provided by these enabling categories will then be used in SCE’s risk informed decision-making framework, to advance various capabilities within “Grid Design, Operations, and Maintenance,” leading to increased levels of systemization and automation.

The second set of categories, “Outreach & Planning,” includes all of SCE’s activities that develop our strategies for wildfire mitigation. This includes how SCE engages key stakeholders, develops emergency response protocols, and optimizes portfolio resources towards addressing wildfire risk. Optimizing portfolio resources is key to ensuring SCE is learning and incorporating updates into its plans, processes, and decisions that ultimately lead to an efficient, effective, and executable wildfire mitigation plan. Engaging our customers and emergency response partners is also important to ensure our wildfire mitigations are effective and don’t have unintentional adverse impacts to the communities we serve. Although SCE’s emphasis, and the WSD’s Roadmap, is focused on the role the electric system plays in reducing the risks of wildfire, customer self-resiliency also plays a key role in SCE’s approach to wildfire risk mitigation. PSPS is a wildfire mitigation tool of last resort in SCE’s wildfire mitigation plan, however, SCE does understand that when executed it has an impact on the affected customers. SCE is actively working to support customer adoption of resiliency solutions that will reduce the impacts of PSPS, such as SCE’s Critical Care Backup Battery Program, and will need to ensure that these customer advances in resiliency are factored in to our choices in order to provide the most cost and risk-effective solutions for all customers. Beyond directly supporting customer resiliency, SCE believes the community engagement efforts we undertake also support providing communities with a deeper understanding of the risks they face and supports them communities developing their own resiliency plans and efforts.

The final relational area, “Grid Design, Operations, and Maintenance,” is where wildfire risk mitigation is executed and directly leads to demonstrable, measurable reductions in risk. The activities in this space change the characteristics of SCE’s electric system, including the level of systemization and automation of the grid itself. A constant feedback loop between the advances gained through activities in the enabling and planning areas with this area ensures that SCE’s grid is being designed, operated, and maintained in the most data-driven, risk-informed manner possible.

Lastly, this long-term plan will continuously evolve over time as significant innovations in risk mitigation, sensors or telemetry, big data analytical techniques or any other technologies are developed and/or proven to be effective. SCE will continue to explore improving the effectiveness of our wildfire risk mitigation programs as research and innovation progresses.

## **WILDFIRE MITIGATION CATEGORY - MATURITY ROADMAP**

SCE has categorized maturity levels into “developing”, “partially mature”, “mature” and “fully mature”. These categories do not precisely tie to WSD’s 0-4 scoring methodology, but SCE’s overall approach aligns with our understanding of WSD’s maturity model, except a few areas that present practical challenges. SCE has provided past comments capturing our feedback on the WMCMM,<sup>18</sup> but in summary; these challenges center primarily around the level 4 maturity and the associated degree of granularity or automation identified in the WMCMM versus what SCE

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<sup>18</sup> See, for example, SCE’s January 7, 2020 Opening Comments on ALJ’s Ruling on Wildfire Mitigation Plan Templates and Related Material as part of Rulemaking 18-10-007.

believes is an effective level, whereas in other cases, challenges are presented due to the prescriptive nature of the WMCMM versus SCE’s need for flexibility in operation. For each WMCMM category, SCE assessed its current maturity level, and estimated maturity level progression over the next 10 years. This is summarized in Figure 2 below.

**Figure 2 – Guidance-12  
SCE Maturity Progression for All Categories**



The schedule of maturity progression for each category accounts for what is feasible in terms of technology and process improvements, as well as the time required for implementation. Additionally, the schedule also accounts for dependencies among capabilities as maturity progression in some categories is necessary for fuller maturity in others. The subsequent sections provide more detailed mappings for each category, including objectives, activities, and milestones for each category. SCE plans to reach full maturity in the next 5-6 years in all categories, while the latter years will focus on maintaining the maturity level by adopting and integrating new technologies and practices as they become available. The subsequent sections describe the activities SCE will undertake for each category over three distinct time horizons as identified in the below.

- 2020-2022 Current WMP: Execute current WMP activities to develop capabilities and significantly harden the system.
- 2023-2025 Expected Next WMP: Achieve mature capability levels, as we operationalize new technologies and further integrate our systems and processes to increase the granularity and automation of data and risk modeling to inform our decision making
- 2026-2030 Future WMPs: Continue to maintain and expand capabilities as new technologies and processes emerge.

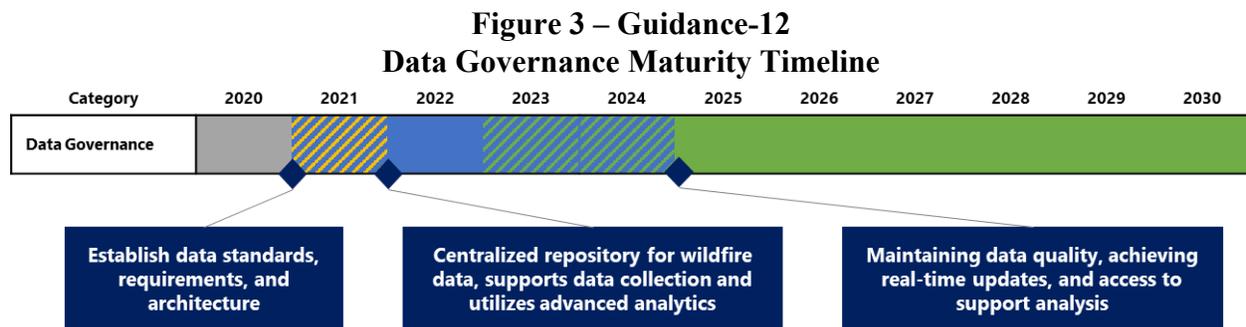
# ENABLER CATEGORIES

## A. Data Governance

### Objective

Enhance SCE’s information management framework to further ensure data integrity and support widespread usage of data across planning, grid design, operations, and maintenance through the identification of additional asset and operational data we need to collect, the development of rigorous data governance processes, and integrated, real-time access.

Each of the other wildfire mitigation capability categories rely on access to reliable, accessible data regarding assets, grid connectivity, grid response, geography, and weather across our service area. Therefore, a robust data governance strategy ensuring data accuracy must include detailed processes for collecting, storing, and managing data. The underlying tools being developed integrate that data across applications and provide real-time access. SCE is undertaking activities described in our current WMP and GRC that will develop the building blocks of our long-term data strategy and governance approach, facilitating increased centralization of our wildfire-related data. SCE expects to continue to mature this category over the long-term through technology platform investments that will connect and consolidate all wildfire mitigation data for validation and analysis.



### Activities

SCE’s key activities that support the maturity timeline above are identified below.

**2020-2022:** Establishing a comprehensive asset data governance framework with clear roles and responsibilities of how data is to be managed, enhancing our data collection and data centralization capability using cloud, platform-centric architecture that federates data from disparate enterprise systems supporting automated publication to the WMP publication portal

- Implement integrated data platform to share data across programs / activities, facilitating more advanced analytics and data visualizations
- Develop a cloud-platform to meet WSD reporting requirements for a WMP geospatial data mart and WMP publication portal

- Establish data stewards for each wildfire data area
- Develop dashboards to support transparent stewardship
- Automated and manual collection capabilities of near misses to train models and provide a continuous improvement feedback loop
- Create a Data Advisory Board (DAB) comprised of industry experts, academics, researchers, and other WMP stakeholders
- Participate in a WSD Data Policy working group and Technical Data Standards working group to collaborate on a common data exchange standard, adopt industry data standards and normalize data and analytics models so WMP stakeholders share a common context to understand decision making

**2023-2025:** Data integration and consolidation that facilitates advanced analytical capabilities such as model training and predictive analytics

- Continue to evolve the integrated data platform capability and data governance capability based on emerging needs, solutions, and requirements
- Continued maturation of 2020-2022 activities for Data transparency and analytics, supporting data quality and real-time analytics
- Continued maturation of near-miss tracking activities
- Continued maturation of Data sharing with research community activities

**2026-2030:** Continuous improvement phase

- Continued build out of SCE’s digital data platform and advanced analytics capabilities
- Continued maturation of 2023-2025 activities for Data transparency and analytics
- Continued maturation of near-miss tracking activities
- Continued maturation of Data sharing with research community activities

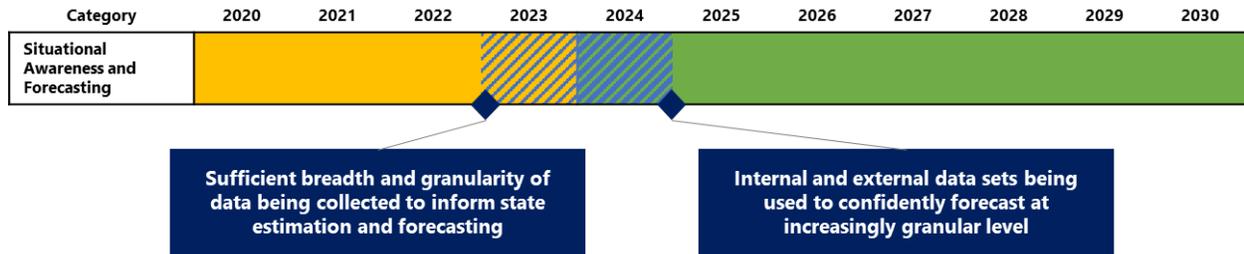
## **B. Situational Awareness and Forecasting**

### Objective

Embed situational awareness and forecasting into decision making processes across planning, grid design, operations, and maintenance through the development of additional data and model granularity and accessibility

Situational awareness and forecasting provide SCE the opportunity to understand the environmental conditions in which we operate, as well as the condition of our electric system, that in turn is embedded into risk modeling, and decision-making that would further inform how we plan, design, build, inspect, maintain and operate the grid. SCE plans to continue to expand the types and scope of situational awareness data we are collecting, so that we are able to have greater fidelity and precision in our understanding of conditions.

**Figure 4 – Guidance-12  
Situational Awareness and Forecasting Maturity Timeline**



### Activities

SCE’s key activities that support the maturity timeline above are identified below.

**2020-2022:** Focused on increasing data collection (through additional weather station deployment and other data sources), augmenting weather modeling capabilities, and piloting emerging technologies to provide incipient fault awareness

- Collect robust data enabling accurate weather modeling at equivalent to the span level, updated multiple times per hour, across the entire grid considering wind estimation at different elevations
- Continued installation of weather stations through 2022 to achieve high resolution data
- New hardware and software solution to contain massive quantities of data, support real-time analytics and data mining (e.g. FPI and Ensemble weather forecasting), and support dashboards for analysis.
- Using augmented weather data sources as discussed above, SCE will evolve towards reliable forecasting up to 2 weeks in advance, at the equivalent of the span level, including error checking
- Integration of multiple sources of data (weather stations and external data) with mostly automated error checking
- Investigate new analytical tools to address new areas of interest, such as fire detection and augment cameras to include software algorithms to detect ignitions and notify key stakeholders
- Distribution Fault Anticipation (DFA) (AT-2.1): Evaluate technology performance on fault anticipation technology and future deployment
- Additional activities are described in SCE’s 2020-2022 WMP
- Complete surface/canopy mapping
- Begin Wind Profiling project

**2023-2025:** Focus on completing weather data gathering and integration efforts and deploying system-wide the successful grid-monitoring technologies piloted in the first phase

- Complete weather station deployment and further integration of external data to enable more granular forecasting
- Further expand deployment of remote sensing technologies
- Pilot and deploy software to detect ignitions from camera images
- Scale any successful advanced technologies piloted in the previous time period: DFA, Early Fault Detection (EFD), Open phase detection to improve situational awareness and avoidance of faults and potential ignitions.

**2026-2030:** Continue to expand data sets and automation.

- Continue to increase granularity and level of automation throughout weather-related systems and asset performance sensors
- Pilot and, if successful, deploy devices for physical measurements of grid assets (e.g. line sway)
- Expand automation in forecasting and error checking
- Expand deployment of remote sensing technologies where warranted
- Pilot (and if successful, expand system-wide) automated calibration of weather stations.
- As data systems and analytical capabilities are augmented pilot increased frequency of measurements, up to 60 times per hour
- If feasible and cost-effective, begin pilot real-time satellite monitoring
- Further pilot and adopt ignition prevention technologies

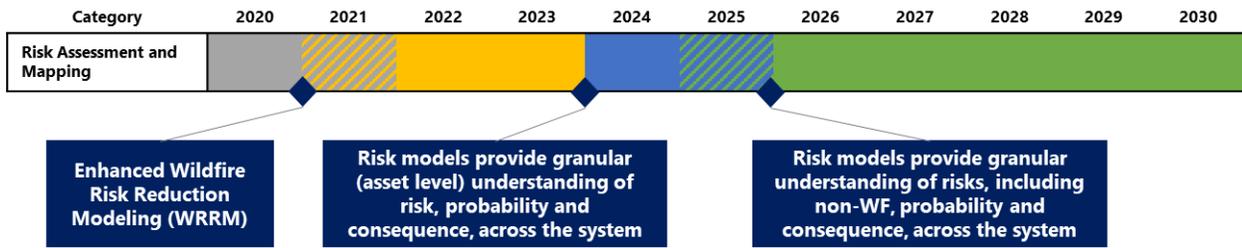
### **C. Risk Assessment and Mapping**

#### Objective

Integrate how risk assessment and mapping informs asset management decisions across grid planning, design, operations, & maintenance functional areas by using a data-driven, asset component-level risk modeling methodology.

Risk Assessment and Mapping encompasses granular and detailed modeling to inform asset- and location-specific failure probability under various weather conditions. Improvements to ignition consequence modeling will help to further inform risks at any given location in our system. The probability and consequence modeling results will be incorporated into a system-wide asset management strategy, driving decisions related to inspection and maintenance intervals, mitigation selection, asset installation, replacement or retirement, as well as vegetation management, pilots, and PSPS mitigation activities. Finally, the data platform developed in Data Governance will support integrating the asset and risk information to keep data and modeling results updated and readily accessible for efficient decision-making.

**Figure 5 – Guidance-12  
Risk Assessment and Mapping Maturity Timeline**



Activities

SCE’s key activities that support the maturity timeline above are identified below.

**2020-2022:** Efforts are focused on refining the probabilities of Equipment/Facility Failure (EFF) and Contact from Object (CFO) across all electrical topologies

- Transition from REAX-based consequence modeling to Technosylva-based WRRM.
- Refine and improve mitigation effectiveness and risk informed decision-making methodologies
- Analyze how wildfire patterns may change, to inform future HFRA boundaries, based on forward-looking climate scenarios
- Integrate WRRM’s fire spread modeling capabilities with SCE’s asset predictive models to inform asset management (maintenance and replacement)
- Utilize WRRM scenarios to inform future WMP updates and 2022 RAMP filing

**2023-2025:** Continue to evolve risk model granularity, automation, and accuracy.

- Fully integrate risk-informed decision-making across all areas of asset strategy and operations
- Continue Organizational Change Management and training activities through planning and operational functions to optimize use of risk models
- Expand use of risk models to incorporate non-WF-related risks
- Incorporate environmental impacts (e.g. air quality and GHG impacts) into consequence modeling

**2026-2030:** Continue improvements through automation and continued model validation

- Further automate risk modeling, including full automation if feasible and effective
- Augment consequence model to consider “up-to-date” weather and moisture data at the local community level

## OUTREACH & PLANNING CATEGORIES

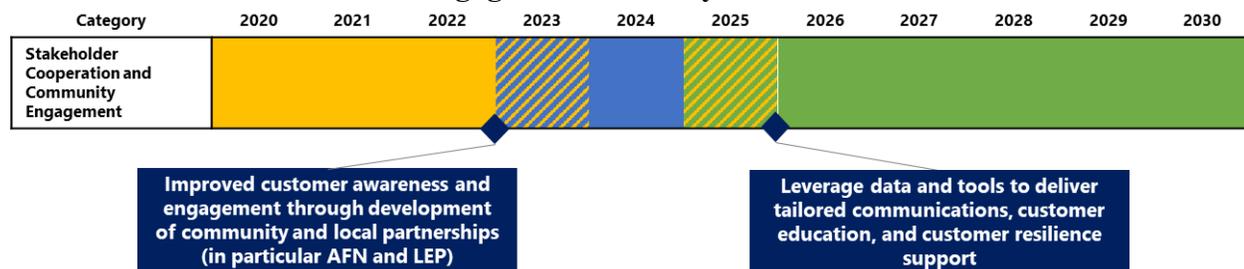
### A. Stakeholder Cooperation and Community Engagement

#### Objective

Effective stakeholder communication through tailored approaches for outreach, engagement and information exchange with customers, communities and stakeholders based on various groups' unique needs.

Engaging our stakeholders and the communities we serve is key to effectively execute our WMPs. It is essential to involve stakeholders and communities as we develop our plans, prepare to implement them, execute upon them, and ultimately understand the diversity of impacted customers better. Currently, SCE's programs provide local governments, tribal officials, public safety partners, and the general public important information on PSPS activation, wildfire mitigation, and education on the de-energization process and how to prepare for such events on a broad scale. Building these partnerships with organizations and agencies whose expertise and local knowledge of affected SCE customers (particularly AFN and LEP customers) will help SCE improve upon its communications, education, and outreach. In the long-term, SCE will be tailoring its PSPS education and outreach to support customers preparing for the potential de-energization with greater emphasis on the specific impacts separate customer groups may be experiencing. SCE is committed to keeping its customer and key stakeholders informed on the company's WMP activities, PSPS protocols, and general emergency preparedness. SCE's long-term goal is to increase the resilience of our customers to PSPS impacts and wildfire mitigation.

**Figure 6 – Guidance-12  
Stakeholder Cooperation and Community  
Engagement Maturity Timeline**



#### Activities

SCE's key activities that support the maturity timeline above are identified below.

**2020-2022:** Establishing stakeholder networks and partnerships to better understand customer, community and stakeholder-specific needs and develop tailored solutions

- Continue to conduct meetings and presentations with local and tribal governments, community organizations, key stakeholders, and communities in SCE's HFRA to inform on SCE's WMP activities, PSPS protocols, and general emergency preparedness
- Collaborate and share best practices with trade associations, technical organizations, and establish an international wildfire committee with national and international agencies
- Continue to partner with state agencies, community-based organizations (Independent Living Centers), and other stakeholders to engage and support vulnerable communities (e.g. AFN, DAC, seniors)
- Continue to partner with all wildland fire suppression agencies as part of SCE's overall fire mitigation efforts
- Use virtual meetings to increase stakeholder and customer reach

**2023-2025:** Leverage learning from the stakeholder network (established in the early phase) to increase SCE's understanding of diverse community needs to tailor outreach and education

- SCE will continue its engagement with County Emergency Operational Areas so that local government emergency response officials are aware of PSPS protocols and can continue to work together with SCE to improving collaboration during PSPS events and other emergencies.
- Continue engagement with community organizations, key stakeholders, and communities to further enhance partnerships, increase awareness, and discuss lessons learned
- SCE will develop the mechanisms and processes to ensure stakeholder input is captured, documented, addressed and/or incorporated into improving what information is communicated and the processes SCE uses to engage or support resilient customers.

**2026-2030:** Reach full state of community engagement customization

- As part of continuous improvement, continued collaboration with stakeholders to identify opportunities to enhance and improve communications and implement necessary modifications.

## **B. Emergency Planning and Preparedness**

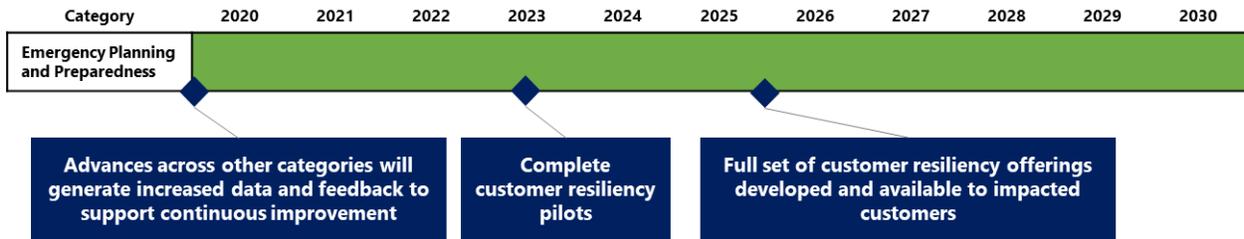
### Objective

Best-in class emergency planning and preparedness approach to enable customer resiliency through education, helpful programs, and delivery of tailored communications before, during, and following an event

Emergency Planning and Preparedness allows SCE the opportunity to document and articulate our intended actions in the event of an emergency. Planning and preparedness help ensure that SCE is proactively anticipating system events and potential customer and community impacts when the emergency conditions arise. As detailed in our current WMP, SCE has a robust

Emergency Planning and Preparedness program that has achieved the Level 4 maturity rating within WSD’s capability maturity model. However, SCE believes we can continue to advance within this category by extending our emergency planning and preparedness approach to include support of customer resiliency needs. Our current WMP identifies our early efforts in this space, and SCE expects to improve those efforts which will allow for the utility and our customers to reach a more resilient end-state. This includes the long-term diversity of needs and how SCE can potentially support with innovative programs.

**Figure 7 – Guidance-12  
Emergency Planning and Preparedness Maturity Timeline**



**Activities**

SCE’s key activities that support the maturity timeline above are identified below.

**2020-2022:** Supporting customers to prepare for potential de-energization (planned and unplanned)

- Continue to hold community meetings primarily in areas impacted by PSPS de-energization events to share information about PSPS, emergency preparedness, and SCE’s WMP
- Promote wildfire and resiliency awareness through several channels including direct mail, web-based messaging, and digital media
- Research activities gauging customer awareness, preparedness for, and satisfaction with outage experiences
- Develop and socialize outreach to master meter customers for cascading SCE education materials to tenants and promote PSPS alerts and notification enrollments
- Execute various customer resilience pilots supporting identified in 2020-2022 WMP; PSPS Resiliency Microgrid Pilot, Critical Care Backup Battery Program, Community Resource Centers, and Customer Resiliency Equipment Incentives.
- Additional activities are described in SCE’s 2020-2022 WMP

**2023-2025:** Use lessons-learned to improve how SCE assists customers with emergency planning, preparation, and resiliency (emphasis on unique and diverse needs)

- Active customer resilience pilots that, if proven effective, can be deployed in more communities during this timeframe
- Targeted research to better understand the diverse set of customer needs of those customers still affected by wildfire mitigation
- Continue to refine key message points to customers about wildfire activities, emergency preparedness and PSPS events based on research findings
- Update training protocols based on changes to National Incident Management System and lessons learned, as necessary

**2026-2030:** Focus on continuous improvement in areas that aim to increase customers' awareness before, during and following emergencies.

- Continue to improve customers' knowledge of the program offerings available and ensure customers receive critical notifications when emergencies arise.
- Update training protocols based on changes to National Incident Management System and lessons learned, as necessary

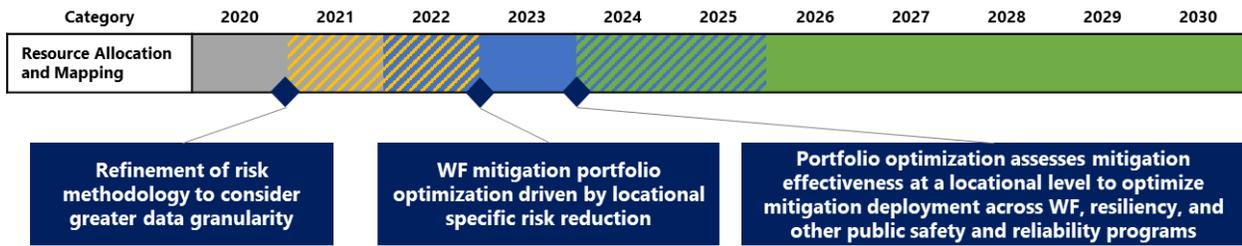
### **C. Resource Allocation and Mapping**

#### Objective

Utilizing factors such as data-driven risk models and scenario planning, leverage our resource allocation framework to optimize the deployment of mitigation strategies to consider location-specific conditions and further ensure SCE can consistently meet all of its key objectives.

SCE approaches resource allocation for portfolio optimization as identifying the human and financial implications of each deployment activity. SCE's Guidance-3 Response includes details for each of the WMP initiatives (specifically for the four main categories identified by the deficiency) and how SCE evaluated and determined the prioritization of each respective initiative. The method in the near-term within the WMP period is based on the risk-reducing prioritizations detailed in the WMP and Guidance-3 response. As SCE refines the risk modeling and assessments, SCE's long-term resource allocation methods will include impacts to customers from wildfire mitigation actions (such as PSPS impacts), and other key goals (e.g., infrastructure replacement programs that drive improvement to other public safety risks, reliability objectives, and strategic policy goals). Concurrently, SCE is always evaluating alternative and advanced technologies for effectiveness, such as Rapid Earth Fault Current Limiter (REFCL), Open Phase Detection (OPD), or Early Fault Detection (EFD). If proven successful, these alternative and advanced technologies will be integrated into SCE's resource allocation for long-term wildfire mitigation.

**Figure 8 – Guidance-12  
Resource Allocation and Mapping Maturity Timeline**



Activities

SCE’s key activities that support the maturity timeline above are identified below.

**2020-2022:** Further advancing our asset management framework to adopt an increasingly robust process in optimizing how we achieve our objectives

- Establish a system to continuously evaluate WMP implementation processes and recommend methods of improving them or further integrating them in the "normal" operations of the organization
- Incorporate advances from enabling categories into portfolio planning and optimization, increasing locational specificity
- Develop long term plans for all SCE objectives (not just WF)
- Develop comprehensive asset strategies and initial integration
- Establish a mechanism to make trade off decisions
- Additional activities are described in SCE’s 2020-2022 WMP

**2023-2025:** Asset management framework in place to effectively optimize our portfolio of activities across all objectives and using real-time information.

- Achieve fully integrated asset strategy approach, with associated processes and tools developed, that addresses all of SCE’s objectives
- Leverage advances in enabler categories to bring real-time data and understanding into asset management decision making framework, optimizing based on most current understanding.
- Fully leverage trade off decision making mechanism to drive decisions across SCE objectives
- Risk-informed assessment for integration of new technologies into planning and operations

**2026-2030:** Continue to improve with advances in granularity and as new technologies emerge.

- Routinely update models to incorporate new data and technologies into optimization efforts.

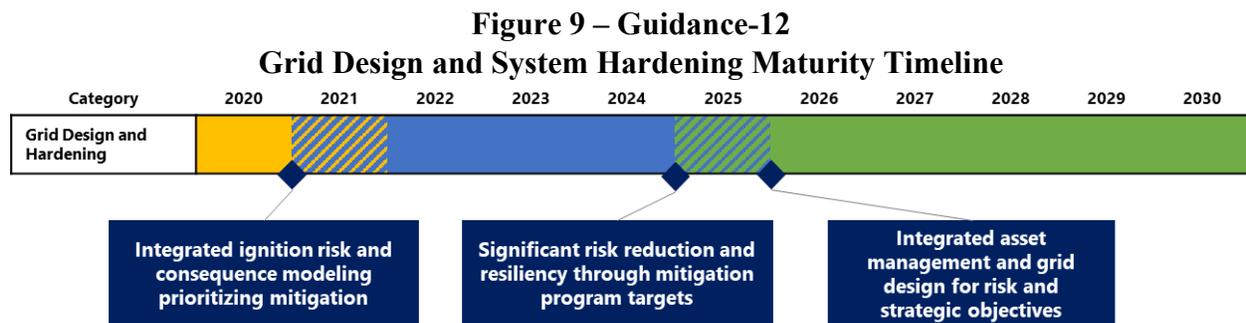
## GRID DESIGN, OPERATIONS, AND MAINTENANCE CATEGORIES

### A. Grid Design and System Hardening

#### Objective

Minimize and mitigate wildfire risk by developing and deploying resilient grid designs, standards, and architectures

System hardening is the foundation of SCE’s wildfire ignition risk reduction. SCE’s covered conductor program is the centerpiece of our system hardening activities and is driving the pacing for significant risk reduction in our HFRA. SCE’s long-term grid design & system hardening activities are shaped through evaluations of successes and lessons learned with each progressive year, having material impact on how we operate our electric system. Critical factors affecting safety, reliability, and affordability all shape SCE’s long-term grid design. Beyond the program targets for SCE’s active system hardening initiatives identified in our WMP, SCE will be advancing its targeted deployment of system hardening using the refinements from risk assessment and mapping, integrating these risk-reducing measures with other long-term strategic objectives such as reliability, long-term resiliency to adapt to impacts of climate change, GHG reduction, and integrating DERs. SCE’s grid design and hardening efforts will evolve over time as our risk modeling capabilities advance and new, alternative technologies prove viable for integration into our system.



## Activities

SCE's key activities that support the maturity timeline above are identified below.

**2020-2022:** Executing key proven hardening activities to improve wildfire-related public safety

- System hardening activities, with extensive plans to replace bare overhead conductor with covered conductor and increase its installation of fire-resistant poles in HFRA
- Evaluate and update engineering design standards, as needed, to improve the resiliency of distribution, sub-transmission and transmission assets
- Evaluate and update engineering design standards, as needed, to improve distribution circuit performance
- Targeted hardening and mitigation prioritization using advances in ignition and consequence modeling
- Continue to assess and deploy targeted undergrounding plans to not only reduce PSPS impacts and ignition risk but also address potential egress/ingress issues in HFRA
- Execute pilot initiatives identified in current WMP, e.g. Rapid Earth Fault Current Limiter (REFCL), Open Phase Detection (OPD), Early Fault Detection (EFD etc., to assess viability of new technologies for inclusion in our grid.
- Leverage SCE's Electric Program Investment Charge and industry partnerships to assess additional, as yet unknown, technologies that develop and/or provide additional capabilities for SCE
- Additional activities are described in SCE's 2020-2022 WMP

**2023-2025:** Evolve our design and hardening efforts, introducing new technologies and fully maturing capabilities

- Continue deployment of existing system hardening activities, such as covered conductor and fire resistant poles
- System hardening activities will be shaped through successes in advanced technology and proven pilots and informed by changes to wildfire risk factors, such as climate change, land use changes, fuel management, and other environmental considerations
- Expand undergrounding efforts as they are identified as an effective, cost-efficient mitigation strategy (scope to be determined)
- Continue exploring emerging technologies that can reduce the probability of an ignition event and/or reduce public exposure to a hazardous condition during periods of high fire risk
- Systems like DFA, or other new technologies, may offer improvements for detecting and locating incipient system failures with potential ignitions risks and allow SCE to take action to mitigate these ignition drivers
- Leverage Grid Modernization synergies that could affect grid design changes to reduce the impact of de-energization for the limited portion of customers still affected by high-risk events

**2026-2030:** Continue to evolve our design and hardening efforts, introducing new technologies and fully maturing capabilities

- Continue to deploy targeted system hardening using integrated risk and asset management strategies
- Maintain the risk reduction achieved, continue to reduce risk while maintaining affordability, and enable state policy goals
- Evaluate the accumulated years of historical hardening performance data potentially increasing thresholds for PSPS activation

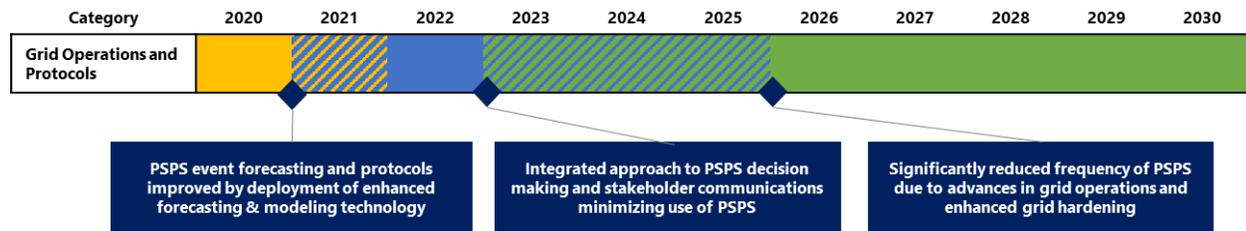
## B. Grid Operations and Protocols

### Objective

Significantly reduce the number, scale, duration, and impact of PSPS activations through increased automation coupled with operational flexibility enabled by grid design and adoption of DERs.

Grid Operations and Protocols includes operational standards to reduce the risk of ignition (such as leveraging protection and control schemes), and the execution of PSPS, both initiation of an event and re-energization after an event. SCE actively monitors the grid and adjusts equipment settings (e.g., recloser blocking) as appropriate to reduce ignition risk and expects to continue to make advances in this space as our understanding of risk increases. SCE already leverages data and risk modeling to improve PSPS triggers and PSPS execution, but similarly expect this to advance as our risk assessment capabilities grow. Finally, as described in the Emergency Planning and Preparedness section, SCE is engaged in several activities, both grid-side and customer-side, to reduce the impact of PSPS for communities, as well as individual high-risk customers.

**Figure 10 – Guidance-12  
Grid Operations and Protocols Maturity Timeline**



## Activities

SCE's key activities that support the maturity timeline above are identified below.

**2020-2022:** Continuing to augment foundational systems to leverage higher quality data about the grid and integrate risk modeling.

- Continue to deploy PSPS mitigations, which include operational improvements (such as the switching playbook, which has reduced CMI by 30%), customer resilience programs, and grid upgrades (discussed above in section G)
- Continued pursuit of forecasting and modeling technology advancements
- Leverage improvements in weather modeling (see Section B above) to improve PSPS decision-making
- Enhance PSPS decision criteria to be more risk-informed and reflect the operational flexibilities presented by the sectionalization activities discussed in Grid Design
- Develop and pilot new grid hardware devices to effectively (and efficiently) reduce ignition risk. (These items are largely discussed in the Grid Design and System Hardening category)
- Enhanced communications and notifications to government agencies, communities, and customers
- New customer programs to provide resilience and support during PSPS events

**2023-2025:** Improve PSPS operations (more surgical and less frequent events) through the use of new technologies and enhanced understanding of risk, and further augment PSPS mitigations to reduce the impact when PSPS is necessary.

- Leverage new technologies (such as unmanned aerial vehicles) to accelerate patrols and shorten time to re-energization
- Building on pilot experience with Open Phase detection, Early Fault Detection, and Rapid Earth Fault current limiter, begin widespread deployment of these technologies and corresponding reduction in PSPS usage (all assuming technology pilots are successful)
- Explore additional customer programs to target and support high risk customers and communities more generally
- Expand use of temporary back-up gen, focusing (to the extent feasible) on new, clean options rather than diesel

**2026-2030:** Continue to evolve PSPS operations to reflect advances in other categories

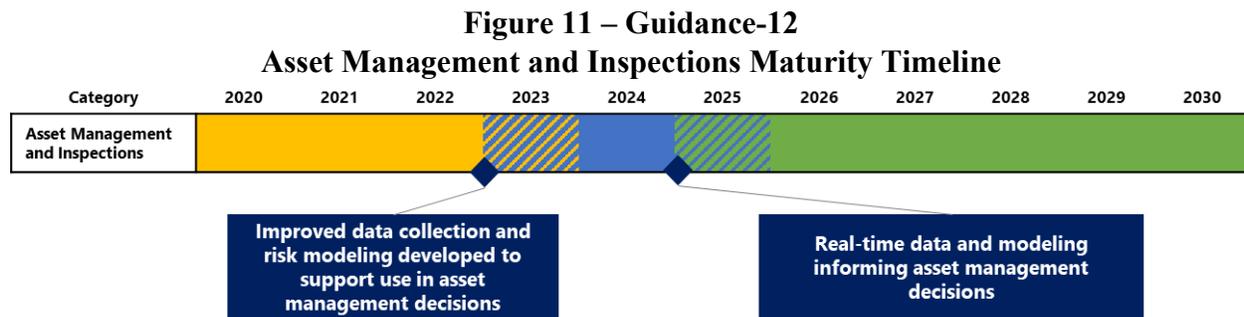
- Modify protocols as grid evolves, through hardening, and as data and risk understanding continues to grow
- Expanded independent verification of predictive models.

## C. Asset Management and Inspections

### Objective

Further advance our effectiveness in targeting specific assets that require inspection or maintenance through a defined timeframe, leveraging new technologies that facilitate a near real-time data-driven, risk-informed asset management approach.

Asset Management and Inspections refers to activities that support continued and expanded risk-informed decision making of our electric system assets, leveraging predictive analytics to anticipate failure and mitigate ignition risk. Understanding the conditions of our assets is fundamental to ensuring we have equipment performing as expected, and the advances in this category are key to ensuring we have a robust, risk-informed approach to managing them. To achieve this, SCE will need to deploy new technologies to monitor asset health and condition. This will in turn lead to greater awareness of actual asset conditions, which, when coupled with augmented risk-modeling at the asset level, will drive future asset management decisions to a predictive state.



### Activities

SCE's key activities that support the maturity timeline above are identified below.

**2020-2022:** Expand the use of risk modeling in scoping and planning, to augment SCE's risk-informed asset management approach, as described in the discussion around Grid Hardening in SCE's WMP.

- Leverage unmanned aerial vehicles in enhanced overhead inspection and LiDAR in long span inspections

- Pilot various sensor and asset health awareness strategies (e.g., DFA, distribution open phase detection, early fault detection, etc.) to increase data collection of asset conditions

- Alignment of asset management practices with ISO 55000

- Implement Risk-informed inspections

- Pilot new technologies through WMP (e.g., DFA, EFD, open phase detection, etc.)

**2023-2025:** Reach real-time integration of asset condition data and risks into decision making

- Further advance inspections (through expanded use of unmanned aerial vehicles and LiDAR), expand data gathering (e.g., through image capture), and further incorporate

risk-driven decision-making across programs, including expanded use of machine learning models to more accurately and expeditiously identify asset health issues. Continue to develop and improve remote sensing practices. Continue to improve asset health awareness and predictive failure modeling, through incorporation of data granularity and improved modeling capabilities.

**2026-2030:** As new technologies emerge, continue to expand asset management automation and granularity.

- Deploy grid sensors technologies as needed for additional data collection
- Incorporate greater independent review of activities
- Incorporate automated auditing of inspection capabilities, as needed

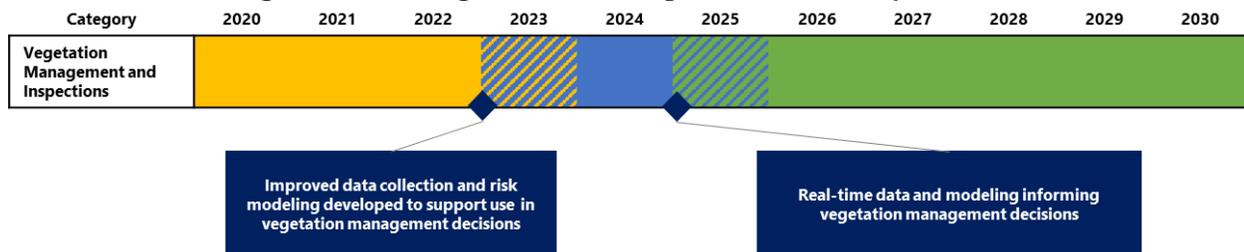
**D. Vegetation Management and Inspections**

Objective

Comprehensive vegetation management programs that further integrate data, new technologies, analytics and risk-informed program design and deployment to mitigate wildfire risks.

Vegetation Management and Inspections will continue to become increasingly risk-informed to optimize trimming and other remediations at the species level considering local conditions. SCE plans to augment stakeholder engagement to obtain greater support for timely trimming including deeper cuts or removals when appropriate to adequately manage wildfire risk reduction, customer expectations, resource constraints and affordability. Finally, vegetation management and inspections is a very resource-intensive category that requires specific skills. SCE’s approach will not succeed without the right workforce to support the scale of needs, not just in our service area but across the state. SCE plans to proactively ensure that the right mix of skilled employees are available for SCE to support the growth of vegetation management activities.

**Figure 12 – Guidance-12  
Vegetation Management and Inspections Maturity Timeline**



## Activities

SCE's key activities that support the maturity timeline above are identified below.

**2020-2022**: Focus on execution of key vegetation management activities, including the introduction of new work management tools and enhanced vegetation risk modeling.

- Execute on key vegetation management WMP activities
- Expand brush clearing around poles to reduce fire spread risk
- Continue tree removals under the Drought Relief Initiative and Hazard Tree Management Program to mitigate risk of ignition from vegetation and trees that could fall into our lines
- Maintain expanded clearance distances to prevent tree line contact
- Tie risk modeling and assessment to scoping and planning to further enable risk-informed approaches, preparing for new technologies and enhanced customer outreach based on risk model and tool development
- Deploy an integrated vegetation management software solution to improve data collection, accuracy, and operational practices

**2023-2025**: Augment the existing program with new technologies for data capture and analysis, expanded stakeholder engagement, and potential programs to further mitigate customer impact

- Expand use of new analytical tools, customer programs, and improve community outreach.
- Use quantitative risk modeling to develop specific criteria for deeper trims and tree removals based on locations, species and tree condition
- Engage with communities and regulators to develop support for deep cuts or removals when needed,
- Explore feasibility of expanding customer tree replacement options.
- Develop program for independent validation predictive modeling

**2026-2030**: As new technologies emerge, continue to expand vegetation management automation and granularity.

- SCE will explore to what extent real-time and daily updates are feasible, and further increases to the granularity of data collection.

## **2030 GRID ARCHITECTURE, LINES & EQUIPMENT**

The 2030 electric grid will need to be planned, designed, built, operated, and maintained to address a range of risks driven by climate change, land use changes, fuel management, other environmental considerations, renewable resources, and changing customer loads driven by electrification and technology adoption. The evolution of the grid to meet these disparate needs must be integrated across drivers to adequately address interdependencies and avoid redesign and

rework to the extent feasible. SCE's design changes to deploy covered conductor, fire-resistant poles and sectionalization devices are no regrets solutions. In addition, enhancements in asset inspections, vegetation management, data governance, situational awareness, risk-informed decision making, emergency preparedness, and stakeholder engagements will support further evolution of the grid in the future regardless of drivers. Finally, SCE's focus on reviewing, testing, and deploying new grid and operational technology has to continue to help ensure a safe, reliable and resilient grid in 2030 and beyond.

With respect to wildfire risk mitigation, covered conductor and fire-resistant poles are expected to be system hardening program mainstays for years to come; the near-term program targets are captured in SCE's 2020-2022 WMP and 2021 GRC filing. When considering new circuits, SCE must account for customer site specifics, future load growth, local ordinances, public streets, existing and planned Right-of-Ways and easement availability, when considering where circuits can be developed. Although this limits where SCE can build new lines, SCE does have updated design standards that ensure the most effective mitigations are designed into these circuits, and as noted in the Grid Hardening section activities, SCE expects to consider increasing the scope of undergrounding in future years when it is identified as the most effective mitigation in our portfolio optimization activities. SCE also expects wildfire risk assessment and mitigation techniques to evolve over time, influenced through new technologies, advancements in material science leading to new equipment and construction methods to reduce ignition risk potential. SCE will also continue exploring emerging technologies that can reduce the probability of an ignition event and/or reduce public exposure to a hazardous condition during periods of high fire risk. Systems like DFA, or other new technologies, may offer improvements for detecting and locating incipient system failures with potential ignitions risks and allow SCE to take action to mitigate these ignition drivers. These technologies that allow for greater prediction of risks, when coupled with appropriate controls to act on those predictions, present an alternative to other ignition mitigation strategies and will be considered as they emerge.

Lastly, SCE will continue to look for synergies in grid architectural and design changes that support achieving multiple objectives, as we progress towards 2030. SCE is already exploring the options of microgrid or DER solutions to minimize the impacts of PSPS on customers. Long-term potential synergies will be evaluated for potentially using DER Management System (DERMS) or aspects of the Grid Management System (GMS) to coordinate and control microgrids and DER devices during PSPS events to lessen the impacts to customers.

## **2020-2022 WMP AS A STEP ON THE WAY TO 2030**

As described in each category's activities section, SCE is pursuing several initiatives through our current WMP that are foundational to our capability development and help us to achieve immediate risk buy-down through system hardening. These foundational efforts pave the path for operationalizing new technologies and integrating systems and processes that mature our capabilities across all categories during the expected next WMP period, 2023-2025. In the last five years of the coming decade, SCE expects to routinely update and improve our WF

mitigation approach as research and innovation present new opportunities for additional capabilities.

Within the enabler categories, these focus on the achievement of fundamental data collection and management practices, developing situational awareness with greater granularity and accessibility, and enhancements to risk-modeling across all electrical topologies. The next phase of work, 2023-25, is primarily focused on the integration of systems, tools, and models developed in our current WMP, so that data is made available as real-time as needed to inform SCE's decision-making processes. Within this functional area, SCE expects that 2026-30 will be spent monitoring and implementing future advancements in big data and situational awareness technologies, and consistently updating our risk modeling to be as well-informed as it can be.

Again, the partnership & planning categories are focused on improving our risk understanding and incorporating that into how we plan and communicate with our stakeholders, as well as deploy new mitigations. Through our current WMP, we expect to establish and strengthen our relationships with stakeholders and communities as we provide more targeted, specific information, and to further improve our asset management approach as we implement a more robust, increasingly risk-informed framework. As we reach the next WMP cycle, 2023-2025, SCE expects to integrate lessons learned and increasing data into our communication and outreach efforts being implemented currently. These advancements will yield even more accurate, specific communications for stakeholders, keeping them informed of SCE's activities and other events they'll need to prepare (e.g. climate change driven weather events). The 2026-30 period across these categories will also continue to focus on incorporating opportunities for continued capability advancement, either through lessons learned or as new options emerge.

Lastly, in the grid relational area, the current WMP period is focused on core hardening and operational efforts that achieve significant risk reduction. Whether it be the deployment of mitigation technologies, improvements in the use of data in grid operation practices, or the use of new information and tools to drive our management & inspections activities, we expect to reduce the highest priority risk items during our current WMP. As we transition to the 2023-25 WMP, SCE will build from our current efforts; expanding the use of technologies that were proven viable in current pilots, expanding the automation and use of data in our operations, and optimizing our asset & vegetation management based on the understanding we develop in the current WMP. Outer years of the decade will similarly focus on continuous improvements across the categories, identifying and incorporating emerging technologies and practices to advance the capabilities of the grid relational area.

**SCE-1**  
**LESSONS LEARNED NOT SUFFICIENTLY DESCRIBED**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-1***

**Name:** Lessons learned not sufficiently described.

**Category:** Metrics and Underlying Data

**Class:** B

**Deficiency:**

SCE's WMP does not provide sufficient discussion in Section 2.1. While SCE provides an adequate discussion of tracking and progress in its use of metrics, the WMP Guidelines also require a discussion of major themes and lessons learned from implementation of the 2019 WMP. SCE's WMP fails to outline the broader major themes and lessons learned, and how it has incorporated these lessons learned into its 2020 WMP.

**Condition:**

In its first quarterly report, SCE shall:

- i. list and describe the lessons learned from implementation of its 2019 WMP,
- ii. describe how the lessons learned in 2019 shaped SCE's 2020-2022 WMP and
- iii. describe the actions SCE has taken or plans to take to ensure the lessons learned in 2019 improve its decision-making process when it comes to selection and prioritization of WMP programs and initiatives.

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**Response:**

***Conditions i. and ii.:***

**i. list and describe the lessons learned from implementation of its 2019 WMP,**

**ii. describe how the lessons learned in 2019 shaped SCE's 2020-2022 WMP**

SCE's wildfire mitigation efforts have grown and advanced in the recent years to help mitigate the threat of wildfires in HFRA. During 2019, SCE set out to achieve various mitigation targets as described in SCE's first comprehensive Wildfire Mitigation Plan (WMP). Since then, SCE has continued to evaluate the plans based on execution experience, internal analysis, stakeholder feedback, benchmarking, customer surveys and post-event PSPS reports. This resulted in validation of several initiatives, but also led to modifications and adjustments including addressing new risk drivers, incorporating new technology, and increasing WMP efficiencies and effectiveness. Nearly 75% of the 2019 WMP initiatives were included in the 2020-2022 WMP,

while the remaining were either completed or modified. See Table 22 for the lessons learned that were gathered in 2019 for SCE’s various WMP initiatives and how those lessons learned were applied not only in the planning of activities included in the 2020-2022 WMP, but in operationalizing these initiatives.

**Table 22 - SCE-1 2019 Lessons Learned and Impact on Activities in 2020-2022 WMP**

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
<b>Risk Assessment and Mapping</b>	Expansion of Risk Analysis (RA-1)	<ul style="list-style-type: none"> <li>• Capability of Performing more granular risk analysis to prioritize and target deployment of initiatives will improve pace of risk-reduction</li> </ul>	<ul style="list-style-type: none"> <li>• Development and deployment of Wildfire Risk Model (WRM) in 2020, including asset and location-specific ignition probability and ignition consequence models. SCE’s WMP also discussed plans to further enhance the consequence model and transition from WRM to WRRM. Detailed description of these improved capabilities and how they are used to prioritize, and target deployment for specific mitigations was provided in SCE’s response to Guidance-3.</li> </ul>
<b>Situational Awareness and Forecasting</b>	Weather Stations (SA-1)	<ul style="list-style-type: none"> <li>• Weather station installation plans did not consistently account for inclement weather, remote terrain, and accessibility issues (e.g., snow, mud, etc.) which significantly affected 2019 deployment schedules</li> <li>• Weather station data proved to be a valuable resource for limiting PSPS as the data allowed SCE to monitor weather conditions at the circuit level and inform critical PSPS decisions during elevated weather conditions</li> <li>• Technical learnings were gathered to improve future implementations (e.g., removal of pyranometers for modern installations, increased wattage capacity of the solar panel, and adoption of satellite as a means of communication instead of cellular)</li> </ul>	<ul style="list-style-type: none"> <li>• 2020 weather station installation schedule incorporated the potentially disruptive inclement weather, remote terrain, and accessibility issues encountered in 2019</li> <li>• The scope of weather station installation was increased from 2019 levels with the goal of further limiting PSPS across SCE’s territory</li> <li>• Updated current hardware standards based on technical learnings</li> </ul>
	Fire Science Enhancements (SA-8)	<ul style="list-style-type: none"> <li>• Identification of opportunities to enhance situational awareness data such as refinement of fuel moisture inputs, calibrated weather modeling, and wildfire ignition and spread modeling</li> </ul>	<ul style="list-style-type: none"> <li>• More accurate data (fire spread modeling, fuel weather modeling, FPI 2.0) is increasing SCE’s confidence in PSPS decision-making and allowing for more targeted /granular de-energizations. Situational awareness data advancements will help to shape how SCE implements and refines PSPS protocols and procedures going forward.</li> </ul>

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
<b>Grid Design and System Hardening</b>	Covered Conductor (SH-1)	<ul style="list-style-type: none"> <li>• The covered conductor program’s scope was being finalized as 2019 began, forcing much of the construction to the back half of the year</li> <li>• Covered conductor scope traversed through some environmentally sensitive areas requiring time-intensive permitting requirements; additional constrains such as adverse weather conditions, and limited vendor and material availability further delayed installation dates</li> </ul>	<ul style="list-style-type: none"> <li>• Identified scope early in 2020 for future deployment is important to account for operational challenges that can occur during design and construction</li> <li>• Secured multiple covered conductor vendors early in 2020 by leveraging existing relationships with suppliers and better incorporated constraints into the planning timeline to ensure planned capacity could be achieved</li> </ul>
	Fire Resistant (FR) Poles (SH-3)	<ul style="list-style-type: none"> <li>• FR Composite poles were not available until the back-half of 2019 due to vendor limitations</li> <li>• SCE conducted a pilot study on pole wraps in 2019 to assess effectiveness versus FR composite poles, which proved wraps are an effective alternative in certain situations</li> </ul>	<ul style="list-style-type: none"> <li>• Worked with additional suppliers to increase supply of available composite poles</li> <li>• Utilized FR composite poles when a structure is supporting equipment on the pole or is in an area with high woodpecker activity.</li> <li>• In most other scenarios, wood poles with a fire-resistant wrap are being utilized as an alternative</li> </ul>
	Branch Line Protection (SH-4)	<ul style="list-style-type: none"> <li>• Certain locations for installations of current limiting fuses were not viable due to variable field conditions (remote terrain, extreme weather conditions, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• 2020 project plan factored in potential delays /stoppages due to variable field conditions, including locations in remote terrain and extreme weather conditions.</li> </ul>
	System Automation Equipment (RARs) (SH-5)	<ul style="list-style-type: none"> <li>• There was lag in notifications from the time construction was completed to when the units were ultimately tested and put into service</li> </ul>	<ul style="list-style-type: none"> <li>• Established a process to ensure timely notification to the distribution apparatus team when construction is complete. This has enabled timelier end-point testing and in-service completions after field installations, thus reducing the lag time between installation and “ready-for-service.”</li> </ul>

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
	<p>Distribution &amp; Transmission Remediations (SH-12.1, SH-12.2)</p> <p>Transmission Open Phase Detection (SH-8) / Transmission Overhead Standards (TOH) Review (SH-9) / Legacy Facilities (SH-11)</p>	<ul style="list-style-type: none"> <li>• Acceleration of inspections, typically performed over 5-year cycle into 5-month plan, enabled faster identification of findings but created challenges due to high volume of remediations due concurrently based on compliance deadlines</li> <li>• Having a consistent risk-based prioritization scheme across the entire HFRA was an important success factor to address higher priority findings</li> <li>• Robust processes to manage large datasets (inspection findings, remediations, risk information) was lacking</li> <li>• Additional resources were needed to manage and execute all the remediation work</li> <li>• Identified ignition risks associated with Transmission and Generation assets through new ignition analysis implemented in 2019</li> </ul>	<ul style="list-style-type: none"> <li>• Utilizing Incident Command System (ICS) structure enabled rapid program development and execution in 2019; in 2020, SCE is using a modified ICS structure and building out permanent organizational structure to handle increased remediation volume</li> <li>• Aligned inspection schedules to account for remediation due dates that could be impacted by factors such as inclement weather, access to facilities and resource availability</li> <li>• Implemented new technology solutions and processes to manage large datasets to more effectively plan, prioritize, and manage work. This includes producing detailed reports that allow operational groups to quickly identify and design pending work and leveraging iPads so contractors can utilize a field app to decrease cycle times to close work after completion.</li> <li>• Added analytical and project management resources to track and manage across all aspects of the remediation work cycle</li> <li>• Included several initiatives in the 2020-2022 WMP to evaluate wildfire mitigations for generation and transmission assets and their associated ignitions risks</li> </ul>
<b>Alternative Technology</b>	Alternative Technology Evaluations and Pilots <sup>19</sup>	<ul style="list-style-type: none"> <li>• SCE’s collaborations and partnerships with other academic institutions, stakeholder groups and utilities combined with internal research has yielded new opportunities to explore advancements in wildfire mitigation technology</li> </ul>	<ul style="list-style-type: none"> <li>• Included pilots and various evaluations in the 2020-22 WMP to continue assessments of new technology and to measure their effectiveness and plausibility of wide-scale deployment</li> </ul>

19 Includes the following various Alternative Technology evaluations and pilots: Meter Alarming for Down Energized Conductor (MADEC) (AT-1), Distribution Fault Anticipation (DFA) (AT-2.1), Advanced Unmanned Aerial System Study (AT-2.2), Rapid Earth Fault Current Limiter (AT-3.1 – AT-3.3), Distribution Open Phase Detection (AT-3.4), Vibration Dampers (AT-4), Asset Defect Detection Using Machine Learning Object Detection (AT-5), Assessment of Partial Discharge for Transmission Facilities (AT-6), Early Fault Detection (EFD) Evaluation (AT-7), and High Impedance Relay Evaluations (AT-8).

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
<b>Operational Practices</b>	Wildfire Infrastructure Project Team (OP-2)	<ul style="list-style-type: none"> <li>Encountered challenges allocating resources from various departments within SCE onto the PSPS IMT due to competing priorities</li> <li>Having variable resources from event to event created inefficiencies in operations and decision-making</li> </ul>	<ul style="list-style-type: none"> <li>Onboarded dedicated team members to be available 24/7 and be dedicated to wildfire mitigation efforts</li> <li>Dedicated resources enabled team to learn protocols and apply consistent decision-making throughout 2020 events</li> </ul>
	Unmanned Aerial Ops Training (OP-3)	<ul style="list-style-type: none"> <li>Reliance on vendors to execute 2019 unmanned aerial equipment (e.g., drones) inspections created scheduling challenges due to resource constraints</li> </ul>	<ul style="list-style-type: none"> <li>Held training programs for in-house personnel to learn to fly drones for inspections to eventually reduce dependence on contracted vendors</li> </ul>
<b>Asset Management and Inspections</b>	Distribution & Transmission Inspections (IN-1.1, IN-1.2)	<ul style="list-style-type: none"> <li>Reliance on qualified electrical workers (QEW) based on their knowledge and availability led to resource constraints on other work</li> </ul>	<ul style="list-style-type: none"> <li>Transitioned from QEWs to Electrical System Inspectors (ESIs) for Distribution inspections in 2020</li> </ul>
	Aerial Inspections (IN-6.1, IN-6.2)	<ul style="list-style-type: none"> <li>Identified improvements for inspection form/checklist based on feedback from inspectors, engineering and QA/QC process,</li> <li>Gathered customer feedback regarding helicopter and drone use for aerial inspections (e.g., use of helicopters elicited customer noise complaints in populated areas)</li> <li>Use of technology and field tools used during inspections improved data quality and efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Refined inspection form to provide additional clarity on requirements and data collection. The refinements include data capture of minor hardware items, inspections to SCE standards not just compliance standards, and a dynamic form that excludes non-relevant questions (i.e., exclude transformer questions when a transformer is not present)</li> <li>Trained all new and existing inspectors on refined inspection form to ensure consistent data capture</li> <li>Refined approach on targeting locations for helicopter and drone use based on topography, customer density, etc.</li> <li>Continued adoption of digital tools to enhance inspection programs, such as assisted reality camera to standardize photos and continued roll out of iPads to perform inspections</li> <li>Continued development of software to enhance inspection programs, such as, software to automatically create repair notifications based upon user selections during inspections and development of machine learning models to recognize hardware on pole</li> </ul>
	Generation Inspections (IN-5)  Failure Modes and Effects Analysis (FMEA) (IN-7)	<ul style="list-style-type: none"> <li>Find rates for generation assets were fewer and lower priority / risk than distribution &amp; transmission assets inspections</li> <li>Identified ignition risks associated with Substation assets requiring a more elaborative inspection program</li> </ul>	<ul style="list-style-type: none"> <li>Incorporated generation inspections into existing inspection cycle to reduce cost, time, and effort needed to inspect assets. Also, reduced frequency of generation inspections to every two years (50% each year) instead of yearly</li> <li>Expanded inspections to include substation assets</li> </ul>

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
<b>Vegetation Management and Inspections</b>	VM Process Efficiencies (VM-1 – VM-5)	<ul style="list-style-type: none"> <li>• SCE determined need for better work management, technology and process improvement</li> <li>• Existing contracts for the tree trimming crews did not offer the flexibility needed for more effective and cost-efficient execution of the field work</li> </ul>	<ul style="list-style-type: none"> <li>• Implemented new vegetation management processes and procedures including technological advances and operational improvements to respond to increasing wildfire risk including: <ul style="list-style-type: none"> <li>○ Shifted from 2018/2019 Work Management System (WMS) to Survey 123 for improved VM reporting and controls</li> <li>○ Performed re-orgs to manage crew deployment more efficiently and to eliminate need for field personnel to handle this activity</li> <li>○ Implemented Resource Planning Performance Management (RPPM) for better visibility to emergent work requests and improved resource planning / management.</li> </ul> </li> <li>• Changed contracting protocols to better control costs and reduce the need for ad-hoc approvals to perform planned trims /removals (e.g., each contractor works in a specific zone; established fixed costs per trims for each zone)</li> </ul>
	Hazard Tree Mitigation Program (HTMP) (VM-1)	<ul style="list-style-type: none"> <li>• Experienced some difficulties with getting permits and customer approvals leading to delays with mitigations or removal of trees</li> <li>• 2019 WMP goal included performing a volume of removals; because this target did not flow from assessments performed, it was not a good measure of risk mitigation if such risks were not identified</li> </ul>	<ul style="list-style-type: none"> <li>• Proactively engaged customers well in advance of scheduled work to minimize delays (e.g., customers in the Inyo National Forest)</li> <li>• Reoriented 2020 goal to include only the assessment target, to be followed by timely mitigation, so focus of HTMP work is appropriately placed on mitigating risk in HFRA</li> </ul>
	Legacy Facilities (VM-3)	<ul style="list-style-type: none"> <li>• Identified ignition risks associated with vegetation near generation assets requiring a more elaborative VM Program</li> </ul>	<ul style="list-style-type: none"> <li>• Performed expanded clearances for generation to assess all identified legacy facilities in HFRA and established enhanced buffers at 30% of identified facilities</li> </ul>
	Drought Relief Initiative (DRI) Inspections and Mitigations (VM-4)	<ul style="list-style-type: none"> <li>• Limited resource availability hampered efficient DRI inspections</li> <li>• Information flow from contractors on key DRI data was an important conduit to efficient work management processes</li> </ul>	<ul style="list-style-type: none"> <li>• Expanded the number of contractors performing DRI work to increase the available resource pool</li> <li>• Transitioned the data management from the primary patrol contractor to an SCE-managed system to have better control of the data and resulting actions</li> </ul>

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
	Quality Control (VM-5)	<ul style="list-style-type: none"> <li>• Significant program expansion in 2019 caused internal “growing pains” to develop oversight of contract crews performing vegetation management work</li> <li>• Issues in the field were identified, but root cause not always determined</li> <li>• Focus in 2019 was to check if work was performed, and was missing component to validate quality of work</li> </ul>	<ul style="list-style-type: none"> <li>• Given the compliance requirements and the risk of vegetation related faults that can potentially cause ignitions, SCE continued to enhance and expand its formal quality control initiative with International Society of Arboriculture (ISA) certified arborists to inspect vegetation around a risk-informed sampling of HFRA circuit miles to verify regulatory clearance requirements have been adhered to at a minimum and validate if SCE’s line clearance standards have been achieved</li> <li>• Improved data analytics to better determine the probable cause of issues identified in the field allowing QC teams to provide better feedback to the contractors</li> <li>• QC teams performed independent risk assessments / quality checks to validate the accuracy and quality of assessments performed by HTMP assessors</li> </ul>
<b>Public Safety Power Shutoff (PSPS)</b>	PSPS Execution (PSPS-1 -PSPS-8)	<ul style="list-style-type: none"> <li>• Company priority to continue pursuing mitigations to reduce customers impacted by PSPS</li> </ul>	<ul style="list-style-type: none"> <li>• Developed circuit-by-circuit playbooks to help expedite and inform IMT decision-making and to reduce need for de-energization when possible</li> <li>• Expanded weather station deployment to enhance the high-resolution weather model and provide real-time data near circuits in HFRA to determine potential weather impacts to PSPS circuits</li> <li>• Increased sectionalization of a circuit to reduce the number of customers that must be de-energized during an event</li> </ul>
	Community Resource Centers (CRCs) (PSPS-2)  Community Crew Vehicles (CCVs) (PSPS-7)	<ul style="list-style-type: none"> <li>• Identified need to enhance programs to decrease impact of PSPS on customers</li> <li>• Through coordination with stakeholders and the community, SCE identified the need for: <ul style="list-style-type: none"> <li>○ Improved external coordination</li> <li>○ Various website improvements</li> <li>○ Focus on measures to further reduce burden of de-energization with expanded customer care program such as additional amenities at the CRCs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Increased deployments of Community Crew Vehicles (CCVs) and activations of Community Resource Centers (CRCs) during PSPS events</li> <li>• 2020 plan included additional outreach options such as zip code-based notifications, Public Alerts, and leveraging the Nextdoor Application for messaging. Also, implemented interactive map of CRC / CCV locations on SCE.com to help customers locate sites</li> <li>• Added amenities provided at CRC locations to include potable water, ice, blankets, etc. Also see PSPS-3, PSPS-4, and PSPS-6</li> </ul>
	Customer Resiliency Equipment Incentives (PSPS-3)	<ul style="list-style-type: none"> <li>• Identified need for enhancing /adding programs to decrease impact of PSPS, and engagement with impacted communities to bolster preparedness in advance of PSPS events</li> <li>• Identified need for greater stakeholder communications during PSPS events, including enhanced outage notification</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced burden of de-energization for customers through development of new customer programs, such as providing back-up battery support to income-qualified critical care customers and rebate programs for resiliency equipment (e.g., batteries, generators)</li> <li>• Evaluated providing back-up generation upon request during PSPS events to targeted facilities</li> </ul>

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
	Critical Care Backup Battery Program <sup>20</sup> (PSPS-4)  Independent Living Centers (PSPS-6)	during PSPS events, and increased interactions/support of AFN communities	providing support for the community (e.g., hospitals, skilled nursing facilities) <ul style="list-style-type: none"> <li>Partnered with Community Based Organizations (CBOs), including independent living centers, with the aim of assisting vulnerable customers</li> </ul>
	PSPS De-Energization Notifications (PSPS-1.4)	<ul style="list-style-type: none"> <li>SCE needed to notify customers of PSPS events in their preferred language to comply with expanded regulatory requirements</li> <li>Customer and stakeholder feedback received that PSPS notifications were overwhelming and confusing</li> </ul>	<ul style="list-style-type: none"> <li>Upgraded SCE’s notification system to include in-language notifications (e.g., Spanish, Mandarin, Cantonese, etc.) to build awareness of non-English speakers in SCE’s territory</li> <li>Adjusted notification thresholds to reduce volume of notifications to customers who are not de-energized<sup>21</sup>. Additionally, provided more precise information to local governments and first responders regarding specific time period when PSPS event is likely to occur (instead of just the date of the event)</li> </ul>
<b>Emergency Planning and Preparedness</b>	Dear Neighbor Letter (DEP-1.1)	<ul style="list-style-type: none"> <li>Surveys revealed customers / stakeholders wanted more information on PSPS (e.g., what it is, what are the factors, why is it necessary, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>Revised Dear Neighbor Letter to be more engaging and accessible to customers by adding visuals and charts on the PSPS process and SCE’s emergency preparedness efforts; letter was made available in the 15 most prevalent languages in SCE’s territory</li> </ul>
	Community Meetings (DEP-1.2)	<ul style="list-style-type: none"> <li>Identified need for greater stakeholder communications related to PSPS, especially for communities that experienced PSPS events in 2019</li> <li>Identified need for greater educational awareness of SCE’s various mitigation programs included in the WMP</li> </ul>	<ul style="list-style-type: none"> <li>2020 outreach heavily focused on areas highly impacted by PSPS in 2019</li> <li>2020 meetings included information on SCE’s grid hardening activities in the local community, expected reduction in number of customers impacted by PSPS, and customer care programs (in addition to PSPS information)</li> <li>Virtual community meetings held to expand outreach</li> </ul>
	Marketing Campaign (DEP-1.3)	<ul style="list-style-type: none"> <li>Local IOU campaigns were more effective to grow customer awareness and drive traffic to website as compared to the statewide campaign</li> </ul>	<ul style="list-style-type: none"> <li>Did not pursue statewide campaign; rather proceeded with a local campaign strategy leveraging local creative teams</li> </ul>

<sup>20</sup> Formerly known as the Income Qualified Critical Care (IQCC) Customer Battery Backup Incentive Program.

<sup>21</sup> See SCE-20 for more information on reducing the volume of notifications.

Category	WMP Initiative(s)	Lessons Learned from Implementation of 2019 WMP	How Lessons Learned Shaped 2020-2022 WMP Development and Deployment (Impact on Activities in 2020-2022 WMP)
	Customer Education (DEP-4)	<ul style="list-style-type: none"> <li>• SCE identified the need to leverage various channels to expand their outreach efforts to reach more customers and stakeholders. Emails and social media messages received just as much interest as direct mail, and is a less expensive outreach method</li> <li>• SCE’s PSPS website could be more user-friendly and include more insightful information about PSPS events</li> </ul>	<ul style="list-style-type: none"> <li>• Leveraged more channels to reach customers including emails and social media</li> <li>• Improved website capabilities to: (1) support increased web traffic during PSPS events, (2) increase frequency of updates for impacted customers, (3) develop interactive, searchable map depicting impacted areas and (4) provide circuit-specific information and refined estimates for periods of concern and restoration</li> </ul>
	SCE Emergency Responder Training (DEP-2)	<ul style="list-style-type: none"> <li>• Organizational strain and inefficiencies created as a result of leveraging temporary resources to work on PSPS events</li> <li>• PSPS event recordkeeping was being documented on a largely ad-hoc basis in 2019 as SCE developed new processes and procedures related to PSPS reporting requirements and standards</li> </ul>	<ul style="list-style-type: none"> <li>• Created a dedicated full-time IMT group at SCE to reduce stress on employees being “activated” for events</li> <li>• Developed additional employee trainings and exercises to review protocol enhancements and role-specific needs in order to have trained resources utilizing a consistent approach</li> <li>• Developed PSPS compliance program to assist IMT with critical records documentation and establish quality control processes to ensure accuracy and efficiency</li> </ul>

**Condition iii. describe the actions SCE has taken or plans to take to ensure the lessons learned in 2019 improve its decision-making process when it comes to selection and prioritization of WMP programs and initiatives**

In 2019, SCE was focused on developing a holistic wildfire mitigation portfolio to address various wildfire risks in HFRA, as described in SCE’s 2019 WMP filing. During this time, the primary focus was the expeditious implementation of a suite of wildfire mitigations given the increasing risk of wildfires on customers and communities.

The primary learning from 2019 was a baseline understanding of SCE’s wildfire mitigation capabilities and identification of opportunities for improvement from SCE’s first full year of execution. This led to improvements in some foundational elements of our 2020-2022 WMP, including:

- Refining our risk modelling capabilities to target mitigations at a more granular level
- Leveraging digital tools to gain efficiencies in our inspection programs
- Mitigating impact of PSPS through improved weather modeling, sectionalization, weather stations, and a switching playbook
- Creating a dedicated PSPS IMT team to be able to gain efficiencies and apply consistent decision-making

- Exploring new technologies through benchmarking and industry collaboration
- Expanding evaluation of ignition risks associated with transmission & generation assets
- Bolstering oversight capability to monitor crews performing vegetation management work
- Incorporating feedback from our customers through surveys and outreach into various mitigation strategies

SCE continues to learn from its operations, the industry, customers and various stakeholders, and will continue to seek improvements in WMP planning and implementation in subsequent cycles. SCE's ongoing outage and ignition analysis has informed its current WMP and continues to be a critical feedback loop for lessons learned and insights that will inform future updates and modifications to SCE's WMP. Due to this tremendous value, in 2019, SCE further heightened the awareness across the company and front-line workers to document as much information as possible for these types of events. Through these efforts, SCE has seen an advancement with a more detailed and robust reporting of outages and ignitions for evaluation. This is an example of the advances we have made in our wildfire safety culture. With 2020 thus far being a very active fire season, SCE expects to continue to expand our learning on actual field conditions that contributes to ignitions. As SCE's wildfire mitigation efforts continue to mature, SCE will use the learnings to develop more targeted prioritization of the activities in current and future WMPs.

**SCE-3**  
**FAILURE OF COMMITMENT**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-3***

**Name:** Failure of commitment

**Category:** Inputs to the plan, including current and directional vision for wildfire risk exposure

**Class:** B

**Deficiency:**

A key concern the WSD has with SCE’s discussion of the objectives of its WMP is the lack of firm commitment to both the reduction of PSPS events and the calling of PSPS events without those events coming to fruition. While PG&E promises to reduce by one-third the number of customers affected by PSPS events and re-energize circuits within 12 daylight hours after an “all-clear” declaration, SCE makes no such commitments.

**Condition:**

In its first quarterly report, SCE shall:

- i. provide a firm commitment to a quantifiable reduction in 1) frequency, 2) scope (i.e. customers impacted), and 3) duration of PSPS events during the plan term, including timelines for achieving these reductions; and
- ii. explain which initiatives in its 2020 WMP are contributing to the goals in (i) above.

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**Response:**

The following response describes SCE’s efforts to reduce scope, frequency and duration of PSPS events. For a general overview of how SCE’s wildfire mitigation work in each major category (e.g., Grid Design and System Hardening, Vegetation Management and Inspections, etc.) affects the threshold values, frequency, scope and duration of PSPS events, please see SCE’s response to Guidance-4. For details on whether and how each WMP initiative impacts PSPS threshold values, frequency, scope and duration, please see Guidance-4 Appendix A.

SCE has made a concerted effort to harden the grid and enhance PSPS protocols to minimize the frequency, duration, and scope of de-energization events without compromising our focus on public safety. The response below covers the work that SCE has completed in advance of the 2020 wildfire season and the corresponding PSPS reduction expected. These efforts will continue past 2020, aimed at mitigating frequency, scope and duration of PSPS events. SCE states below its specific expectations to reduce PSPS in 2020 and will share its PSPS-related forecasts and mitigation expectations for future years as they are developed.

It’s important to note that this deficiency should take into account the differences in scale between PG&E’s “commitment” to reduce to SCE’s commitment described below. SCE supports and encourages PG&E in its efforts to reduce number of customers affected by PSPS events in

2019; however, the WSD, through their own analysis,<sup>22</sup> realizes that even with a 33% reduction, the number and percentage of PG&E customers impacted by PSPS events would still be *significantly* higher than the number and percentage of customers impacted in SCE's service territory in 2019.

**Scope:**

Based on the PSPS protocol, grid hardening, and situational awareness improvements (e.g., Covered Conductor (SH-1), Installation of System Automation Equipment – RAR/RCS (SH-5), PSPS Driven Grid Hardening Work (SH-7), Weather Stations (SA-1)) SCE has made since last year and under the same 2019 weather conditions, SCE would expect to see a 30% reduction in the number of customers affected by 2020 PSPS events. Approximately half of that reduction, or about 20,000 customers, are not expected to experience PSPS again.

These 20,000 customers are permanently removed from potential PSPS scope going forward due to grid configurations and additional sectionalization work that has been performed. For example, SCE's installation of a remote automated recloser (RAR) on a circuit just before it crosses the boundary into a HFRA will keep the "upstream" non-HFRA portion energized if the "downstream" portion of the circuit must be de-energized due to PSPS.

The number of customers potentially impacted by PSPS is further reduced by circuit-specific pre-event switching plans. These switching plans are pro-actively developed and updated as a part of SCE's PSPS Switching Playbook. Execution and feasibility of these switching plans during a PSPS event; however, will be subject to engineering load analysis and resource availability at that time.

SCE has also hardened the grid by installing 330 miles of covered conductor through June 2020 (853 miles total from program inception through June 2020). This grid hardening will over time increase the de-energization thresholds used in the PSPS protocols for covered circuit segments that will be isolated and remain energized. The increase in threshold is to accommodate the higher risk tolerance of those circuit segments that have been fire-hardened from SCE's wildfire covered conductor program.

SCE has also enhanced situational awareness by installing 390 new weather stations through June 2020 (874 stations total from inception through June 2020). This has improved SCE's weather situational awareness capability and provided more options for sectionalization, should localized weather allow for it.

There are more potential benefits to customers from these remediations that are expected, but since they depend on location-specific wind speeds and Fire Potential Index (FPI), which are inherently outside SCE's control, SCE's estimate regarding potential scope reduction of PSPS events in 2020 is relatively conservative.

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<sup>22</sup> See, for example, Resolution WSD-002, Appendix A, p. B32, Figure 2.8a that shows IOUs Normalized PSPS duration in customer hours, in 2019, with PG&E at 274 normalized hours, SCE at 25.6 normalized hours, and SDG&E at 30.0 normalized hours.

**Frequency:**

SCE expects that if the same weather were to occur in 2020, select distribution circuits would see a 50-60% decrease in PSPS frequency and notifications. Based on analysis of its 2019 PSPS events, SCE has identified 85 distribution circuits that were frequently in scope for PSPS events because the forecasted wind speeds and fuel conditions breached PSPS activation thresholds, but rarely materialized in localized wind speeds high enough to exceed values that may warrant de-energization. SCE has adjusted circuit-specific thresholds that would trigger notifications for these 85 circuits based on historical weather patterns, which should lead to fewer PSPS activations.

Much in the same way that key grid design and system hardening efforts (e.g., Covered Conductor (SH-1), Installation of System Automation Equipment – RAR/RCS (SH-5), PSPS Driven Grid Hardening Work (SH-7)) limit the scope of PSPS events, they also limit the frequency of PSPS events for those same customers. As such, SCE expects to see reduced frequency of PSPS events across the system given the same weather conditions.

**Duration:**

Pursuant to D.20-05-051, SCE will re-energize its customers as soon as possible and within 24 hours of the termination of the de-energization event, unless it is unsafe to do so.<sup>23</sup> SCE expects to re-energize circuits within 12 daylight hours after an “all-clear” declaration,<sup>24</sup> barring any circuits with extenuating circumstances (e.g., extreme weather, infrastructure damage, etc.). In fact, while SCE did not track re-energization time from ‘all-clear’ declaration to ‘all load up’<sup>25</sup> for all historical PSPS events, a sampling of 2019 events has shown that SCE routinely averaged less than 12 hours for restoration, daylight or otherwise.

SCE anticipates that PSPS durations will be shorter than 2019 de-energizations, should all external factors be considered equal. Reduced scope of PSPS events, as discussed above, should mean fewer circuits to pre- and post- patrol, and therefore more resources available to focus on impacted circuits. Extensive training of personnel (e.g., SCE Emergency Response Training (DEP-2)) will also help to ensure resource availability and capability for restoration.

While SCE will limit the duration of PSPS events where possible, it should be noted that many of the drivers of event duration are out of a utility’s control. A PSPS event will last as long as the dangerous fire-weather conditions exist. If circuits are shut off, those circuits and lines will be inspected to ensure there are no problems that might create a danger before power can be safely restored, or initiate repairs. SCE crews will need to visually inspect the power lines during daylight hours so operations may be limited during overnight hours.

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<sup>23</sup> See D.20-05-051, Appendix A, p. 6.

<sup>24</sup> Incident Commander has provided approval to allow restoration.

<sup>25</sup> The entire circuit is fully energized.

Overall, SCE's new dedicated staffing to support PSPS activities, Wildfire Infrastructure Protection Team Additional Staffing (OP-2)<sup>26</sup>, will bolster all aspects of the company's PSPS response and management. This team is responsible for the development, implementation and execution of PSPS program requirements and continuous improvement activities in the areas of notifications, partner engagement, customer care, circuit operations, compliance, as well as the overall management of PSPS events. Having dedicated, trained personnel for these roles will serve to strengthen event execution, leading to decreased frequency, scope and duration of SCE's PSPS events.

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<sup>26</sup> See Section 5.3.6.5.7 of SCE's 2020-22 Wildfire Mitigation Plan".

**SCE-4**  
**SCE RISK REDUCTION ESTIMATION**  
**REQUIRES FURTHER DETAIL**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-4***

**Name:** SCE risk reduction estimation requires further detail

**Category:** Metrics / Situational Awareness / ERM

**Class:** B

**Deficiency:**

SCE projects high confidence in the effectiveness of its initiatives, projecting a 70% decrease in ignitions between actual 2019 ignitions and projected 2020 ignitions (assuming five-year historical weather conditions, as required in Table 31 of the 2020 WMP Guidelines). SCE further projects an approximately 9 to 10% annual decrease in ignitions from 2020 through 2022 (also assuming five-year historical weather conditions). SCE does not provide enough evidence regarding the deployment of its programs and historical effectiveness of these programs to substantiate this estimate. This is particularly concerning with respect to SCE's covered conductor program. SCE plans to allocate 42% of plan spend to this program and ramp up deployment rapidly, spending 70% more in 2022 than in 2020.

**Condition:**

In its first quarterly report, SCE shall explain:

- i. how it arrived at these estimates, including all assumptions and calculations used;
- ii. why it estimates a significant drop in 2020 with far less significant drops in 2021 and 2022 when planned spend remains relatively consistent and SCE plans on significantly ramping up covered conductor installation in 2021 and 2022;
- iii. how it expects 2020 weather conditions to compare to 5-year historical average weather conditions;
- iv. how it reconciles its estimates for 2020 with observed ignitions in 2019; and
- v. specifically how each of its initiatives contributes to risk reduction, including a breakdown of how much each initiative contributes to this reduction across each year.

**Response:**

SCE discussed this deficiency in its Comments<sup>27</sup> on the Draft Resolutions submitted on May 27, 2020 and explained that it did not predict a 70% decrease in ignitions between 2019 and 2020. This misunderstanding likely originated from a comparison of 2020-22 WMP Table 11, which provides historical ignitions across *all of SCE's service area*, to 2020-22 WMP Table 31, which provides ignition forecasts in SCE's High Fire Risk Areas (HFRA). The appropriate comparison would be using the historical five-year average of HFRA ignitions from 2020-22 WMP Tables

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<sup>27</sup> See SCE's Comments on Draft Resolutions WSD-002 – WSD-009 at p. 7.

18a and 18b (39 for the 5-year annual average) and the forecast number of ignitions in 2020-22 WMP Table 31 (34 in 2020, 30 in 2021, and 26 in 2022). The estimated incremental ignition reduction annually is ~12%. Notwithstanding this misunderstanding, SCE responds to each condition below.

SCE attached the model file (Wildfire Mitigation Template -DR-forecast.xlsx”) as supporting documentation to Guidance-1 Appendix D. All references in this response to certain worksheets can be found in that file.

**i. how it arrived at these estimates, including all assumptions and calculations used**

Fault and Ignition Count Starting Point

The instructions for WMP Table 31 indicated to “assume weather patterns for each year are as consistent with the 5-year historical average.”<sup>28</sup> Since weather patterns, along with other exogenous factors, can vary from year to year, and can be a significant driver of the number of faults and ignitions, SCE averaged the 5-year historical fault frequency and ignition frequency (CPUC reportable ignitions) between 2015 and 2019 as the baseline number of faults and ignitions based on 5-year historical data and assuming historical average weather patterns. Because the WMP targets mitigation of wildfire risks associated with electrical infrastructure in HFRA, SCE further stratified the 5-year historical averages into those in HFRA and those in non-HFRA distinctly. In addition, SCE calculated the HFRA baseline frequencies for faults and ignition separately for Distribution and Transmission systems as well.

It should be noted that the 2015-2019 average to estimate annual frequency of ignitions assumes the historical 5-year average weather pattern will hold in 2020-2022. It does not account for expected deviations of weather.

Forecast Estimation

a) Annual mitigation effectiveness by initiative

For each initiative, SCE estimated mitigation effectiveness at the risk driver level. However, this mitigation effectiveness has to be further scaled by the scope (e.g. number of units to be deployed) and the exposure (e.g. number of total units in SCE’s HFRA) to calculate an “annual mitigation effectiveness”, since mitigation scope can change annually (i.e. the exposed population treated). The following is an illustrative example:

If scope of a mitigation initiative is 50 circuit miles to be deployed in 2020, exposure is 1,000 circuit miles in HFRA, and the mitigation effectiveness at a risk driver level is 60%, the “annual mitigation effectiveness” for 2020 is estimated to be 3%.

$$\frac{50}{1000} * 60\% = 3\%.$$

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<sup>28</sup> See ALJ’s Ruling on Wildfire Mitigation Plan Templates and Related Material and Allow Comment, Attachment 1 (WMP Guidelines) at p. 83.

This calculation can be found in each of the mitigation worksheets (e.g. “M01”) – gray cells in Columns G-J.

b) Combining mitigation effectiveness of multiple mitigation initiatives

To estimate the mitigation effectiveness of multiple initiatives on the same ignition driver, SCE compounded the individual mitigation effectiveness estimates. For example, if Mitigation A has a mitigation effectiveness of 10% for a given driver, and Mitigation B has a mitigation effectiveness of 20% for the same driver, the combined mitigation effectiveness for that driver, is 28%  $(1-(1-10%)*(1-20%))$ . Alternatively, it can be interpreted as 90% of the baseline risk remaining after the first initiative is deployed, and 80% of that, or 72%  $(90%*80%)$  remaining after the second mitigation is also deployed. Note that this estimation is independent of the order of mitigation deployment. This compounding appropriately accounts for diminishing impact of a mitigation initiative when another one has already been implemented.

This calculation can be found in the worksheet (“Fault-Ignition-Portfolio”).

c) Forecasting Faults/Incidents, Likelihood of Ignition and Ignitions

Table 31 requested the forecasted number of faults/incidents, likelihood of ignitions and count of ignitions for 2020-2022.

Some wildfire mitigation initiatives reduce the number of faults (e.g. covered conductor), while others reduce of likelihood of ignitions given a fault (e.g. pole brushing). Using the methodology discussed in parts (a-b) above, SCE first calculated the expected reduction in faults in 2020 (Column D in WMP Table 31) and then the reduction in likelihood of ignitions (Column G in WMP Table 31) using those wildfire mitigation initiatives that reduce faults and likelihood respectively. By multiplying those two numbers, SCE arrives at the number of forecasted ignitions in (Column J in WMP Table 31). The example below illustrates the calculations in worksheet (“Fault-Ignition-Portfolio”).

Illustrative example:

	# of Faults	Fault-to-Ignition Probability	# of Ignitions
<b>Starting Point</b>	1,000	5%	50
<b>Mitigations</b>			
• <b>Mitigation A</b>	Reduce Faults by 10%		
• <b>Mitigation B</b>		Reduce probability by 20%	
<b>Forecast</b>	900	4%	36

The forecast of each successive year is based on the previous year’s remaining faults and fault to ignition probability.

**ii. why it estimates a significant drop in 2020 with far less significant drops in 2021 and 2022 when planned spend remains relatively consistent and SCE plans on significantly ramping up covered conductor installation in 2021 and 2022**

Using the method described in part (i) above, the expected reduction in ignitions from 5-year historical average baseline to 2020 is 12%, with further incremental reduction of 13% in 2021, and 12% in 2022. This is consistent with the relatively consistent scope of work each year. A slight decline in estimated ignition risk reduction is expected year over year as the estimated risk remaining reduces.

**iii. how it expects 2020 weather conditions to compare to 5-year historical average weather conditions**

SCE did not use forecasted 2020 weather conditions or compare them to 5-year historical average weather conditions in developing WMP Table 31. Rather, it estimated the reduction in ignition frequency *assuming* 5-year average weather conditions as explained in part (i) above.

**iv. how it reconciles its estimates for 2020 with observed ignitions in 2019;**

See part (i), where SCE explained that the starting point/baseline was the 5-year (2015-2019) average ignition frequency in HFRA and not the total ignitions in its entire service territory in 2019. In 2019, the total count of ignitions in HFRA was 38 and the forecasted ignition frequency in 2020 is ~34, a 12% reduction which is consistent with the scope of work done that year. However, as discussed in (i) and (iii), this forecast assumes average historical weather conditions and does not account for weather deviations and other exogenous factors which highlights the need to look at multi-year trends versus a single year snapshot.

**v. specifically how each of its initiatives contributes to risk reduction, including a breakdown of how much each initiative contributes to this reduction across each year.**

As discussed in Guidance-1, SCE has calculated risk reduction for those activities that directly reduce wildfire risk. On July 13, 2020, SCE submitted a data request response describing for each initiative why an RSE value was not calculated. For example, SCE classified certain initiatives as enabling activities that support a wildfire initiative but does not directly reduce wildfire risk. One example of this is an initiative “Organizational Support – PMO, OCM, and wildfire-related IT support”. Another classification category is “pilot activities” which are activities that SCE is evaluating to determine its mitigation effectiveness and ability to deploy into the field. Notwithstanding, in Guidance-1 deficiency, SCE presented a table showing the incremental ignition reduction by mitigation and is shown in Table 1 below to address the deficiency.

The calculations can be found in the worksheet (“Fault-Ignition-Indiv”). Given that these numbers were calculated individually for each mitigation, they cannot be “added” together as discussed in condition (i) above (combining effectiveness across mitigations), but they can provide a directional viewpoint on the allocation of ignition reduction by mitigation.

**Table 23 – SCE-4  
Ignition Reduction by SCE Wildfire Initiatives**

WMP ID	Description	Voltage	% Incremental Reduction		
			2020	2021	2022
SH-1, SH-10	Wildfire Covered Conductor Program, Tree Attachment Remediation	Distribution	6.4%	8.8%	9.6%
SH-2	Undergrounding Overhead Conductor	Distribution	0%	< 0.1%	0.1%
SH-3	Fire-Resistant Composite Poles & Composite Crossarms WCCP	Distribution	< 0.1%	< 0.1%	< 0.1%
VM-1	Hazard Tree Removals	Distribution	0.7%	0.7%	0.8%
IN-1.1, SH-12.1, IN-5, SH-12.3	Distribution Detailed Overhead Inspections, Remediations - Distribution, Generation Inspections, Generation Remediation	Distribution	1.3%	1.6%	1.4%
IN-3	Distribution Infrared & Corona Inspections	Distribution	< 0.1%	< 0.1%	< 0.1%
VM-4	DRI Quarterly Inspections and Tree Removals	Distribution	0.6%	0.5%	0.5%
IN-6.1	Distribution Aerial Inspections	Distribution	1.3%	0.8%	0.8%
SH-4	Branch Line Strategy Replace	Distribution	< 0.1%	< 0.1%	< 0.1%
VM-2	Expanded Pole Brushing	Distribution	3.4%	2.2%	1.4%
IN-1.2, SH-12.2	Transmission Detailed Overhead Inspections, Remediations - Transmission	Transmission	0.2%	0.2%	0.2%
IN-4	Transmission Infrared & Corona Inspections	Transmission	0.0%	0.0%	0.0%
IN-6.2	Transmission Aerial Inspections	Transmission	0.1%	0.1%	0.1%

**SCE-5**  
**DETAILED TIMELINE OF WRRM**  
**IMPLEMENTATION NOT PROVIDED**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-5***

**Name:** Detailed timeline of WRRM implementation not provided.

**Category:** Risk Management

**Class:** B

**Deficiency:**

SCE does not provide a detailed timeline of WRRM implementation. SCE states that it will provide more information upon implementation of WRRM in 2020 but does not provide a specific timeline of what additional information or details it will provide.

**Condition:**

In its quarterly report, SCE shall provide:

- i. the status of implementation of WRRM,
- ii. a description of how it plans to use WRRM to evaluate its 2020 WMP initiatives, including how it will make future decisions based on this model,
- iii. all factors it will consider in this evaluation,
- iv. changes to 2020 WMP initiative type, scope, or priority being considered as a result of WRRM implementation and resultant outputs,
- v. a description of whether information from the evaluation of 2020 WMP initiatives will be used to inform scoping of those initiatives or adjustments to those initiatives in 2021 and beyond, and if yes, a description if the criteria (including quantitative metrics) used to inform those adjustments and provision of those metrics.

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**Response:**

As described in SCE's 2020-2022 WMP and our RCP<sup>29</sup> for Guidance-3, Technosylva's Wildfire Risk Reduction Module (WRRM) provides advanced wildfire simulation and risk modeling capabilities which quantifies risk through integration of climate data, topography, and ground fuels, as well as the location of SCE overhead assets, and the potential for fire propagation and impact to population and building structures. The WRRM, when fully implemented, will apply an improved fire propagation technique and include updated data to simulate and develop wildfire consequences.

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<sup>29</sup> See SCE's response to Class A Deficiency Guidance-3 in SCE's 2020-2022 WMP Remedial Compliance Plan (RCP), filed July 27, 2020.

The WRRM tool enhances SCE’s ability to develop asset risk and territory-wide<sup>30</sup> risk analyses throughout SCE’s HFRA. The asset risk analysis involves simulation of individual ignitions associated with individual SCE overhead assets. Combined with SCE’s probability of ignition (POI) estimates, this analysis will improve the prioritization of mitigation activities, as well as enable SCE to quantify the potential risk reduction from mitigation and hardening projects. SCE responds to this deficiency’s conditions below.

**i. the status of implementation of WRRM**

The status and targeted completion dates of WRRM milestones is provided in Table 24 below.

**Table 24 - SCE-5  
WRRM Milestones Status and Targeted Completion Dates**

Milestone	Target Completion Date	Status
<ul style="list-style-type: none"> <li>• Develop fire consequence model and QC model output</li> <li>• Incorporate WRRM POI data and calculate fire risk scores across all electrical topologies (Distribution, Sub-transmission, and Transmission)</li> <li>• Evaluate in-flight inspection and mitigation scope using new risk scores</li> </ul>	Q3 2020	On track
<ul style="list-style-type: none"> <li>• Test model and software</li> <li>• Develop documentation: WRRM documentation will describe the model and tool capabilities, data input, processing and calculations, and output of the model</li> <li>• Conduct WRRM end-user training: Technosylva will train users on the tool and its functions to obtain user acceptance</li> </ul>	Q4 2020	On track
<ul style="list-style-type: none"> <li>• Modify risk-based prioritization approaches used by WMP initiatives as described in SCE’s RCP for Guidance-3</li> <li>• Develop transition plans for REAX+ to WRRM for future scoping</li> <li>• Adjust mitigation and inspection scope, as needed, based on WRRM outputs</li> <li>• Complete full transition to WRRM</li> </ul>	Q1 2021	On track

**ii. a description of how it plans to use WRRM to evaluate its 2020 WMP initiatives, including how it will make future decisions based on this model**

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<sup>30</sup> For the purposes of the WRRM, territory is defined as SCE’s HFRA with a 20-mile buffer.

The WRRM will provide asset-level risk scores that can be aggregated at the circuit-segment, circuit, or other user-defined geographies. This allows SCE the flexibility to apply these values in a variety of ways, depending on the specific use case, to make prioritization decisions. For example, an asset-specific ranking of risk can be used for replacing assets that are replaced one at a time such as switches, or an aggregated ranking by segment can be produced for assets that are replaced in sections such as overhead wire.

Because the WRRM is being developed, tested, and validated in 2020, it is not expected that any changes due to Technosylva consequence scores will impact in-flight work scope in 2020 or early 2021. Once WRRM is implemented, SCE will be transitioning to using the results from this model to develop work scope as described below.

As discussed in SCE's RCP for Guidance-3, SCE will apply the WRRM to advance its ability to prioritize and modify, if necessary, its WMP initiative deployment. In some cases where SCE currently uses the Wildfire Risk Model (WRM) and REAX Engineering<sup>31</sup> based ignition consequence scores to make risk-informed decisions, such as for covered conductor and distribution inspection programs, the WRRM will improve our decision-making capabilities by providing updated consequence values. For these initiatives, a transition plan will be developed to infuse in-flight work with any new higher-risk scope that is identified by the WRRM that was not previously identified by the WRM. If any in-flight work has lower risk scores based on the WRRM, a desktop analysis will be performed to determine if the work should continue in its current prioritization rank based on factors such as design and planning completion status, procurement status, permitting requirements, work crew capacity, risk reduction, etc. or deferred.

In addition, with the completion of Transmission and Sub-transmission POI models in 2020 and the integration of these POI values into the WRRM, future work in this area will also benefit from the WRRM-generated consequence scores. Previously, these voltage-class assets were limited to using only REAX scores for risk prioritization because Transmission POI models were not yet developed in time for 2020 scoping. As in the case above, the current work plan will also be evaluated against the WRRM prescribed work plan for these voltage-class assets and a transition will be designed that will be both cost effective and operationally feasible.

### **iii. all factors it will consider in this evaluation**

Technosylva improves upon REAX by utilizing improved data for weather, ground fuel, and population to quantify the fire consequences. Its outputs will include fire size, structures impacted, safety, reliability, and financial impacts. As discussed in SCE's RCP for Guidance-3, WRRM improves upon REAX in several ways: this tool will integrate with SCE's weather forecast model, using a customized version of the Weather Research and Forecasting model calibrated to two-kilometer by two-kilometer wind and weather conditions. SCE intends to re-run this simulation on an annual, or semi-annual basis based on updated and calibrated

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<sup>31</sup> See 2021 GRC SCE-01, Vol 2 Workpaper "Reax Fire Risk from Overhead Electrical Facilities" for more detail.

information from previous fire weather seasons. The WRRM will also rely on updated and more granular vegetation, structure, and population data than currently used in REAX to estimate potential consequences. The ability to run multiple scenarios in a myriad of weather and wind conditions along with improved population, structure, weather, and vegetation datasets will improve SCE's ability to target mitigations to high risk areas. SCE has developed a review process that will cross check WRRM outputs with those of the REAX based WRM to evaluate how much impact these differences have on in-flight and pending scope, including the following:

- Quantitative measure of how the WRRM consequence values align with REAX consequence values
- Comparison of the current segment and structure risk ranking using the WRM to the risk ranking using WRRM
- Identification of circuit-segment scoped for covered conductor ranked as high priority by the WRRM not currently included in in-flight scope based on WRM (and vice versa)

If the WRRM analysis indicates changes should be assessed to any initiative design or deployment, an operationally feasible assessment will be conducted to transition from the current prioritization to the new prioritization. For example, the current deployment of covered conductor is prioritized using WRM (POI and REAX) scores. If WRRM determines a different risk ranking, SCE will evaluate the implications of replacing lower WRRM ranked locations with higher ones, as existing work orders may be close to construction dates and difficult or not appropriate to pull back while new work orders are initiated for design and planning.

As another example, ground and aerial inspections in HFRA currently use REAX consequence scores to determine frequency of inspections. If WRRM consequence scores categorize significantly higher number of structures and assets needing more frequent inspections, SCE will develop a revised ramp up and resource reallocation plan. On the other hand, if WRRM outputs result in fewer but different structures and assets requiring more frequent inspections, SCE will make changes in the work management systems to appropriately assign work.

#### **iv. changes to 2020 WMP initiative type, scope, or priority being considered as a result of WRRM implementation and resultant outputs**

At this time, it is premature to determine the changes that might be needed to WMP initiatives or priority as a result of WRRM. As explained above and given the status of WRRM implementation, SCE does not expect to make changes for 2020 work scope. Any changes to our 2020-2022 WMP initiatives' scope or priority as a result of WRRM implementation and resultant outputs will be discussed in the 2021 WMP Update, if available.

#### **v. a description of whether information from the evaluation of 2020 WMP initiatives will be used to inform scoping of those initiatives or adjustments to those initiatives in 2021 and beyond, and if yes, a description of the criteria (including quantitative metrics) used to inform those adjustments and provision of those metrics**

SCE's RCP for Guidance-3 described how SCE will use the WRRM to inform decisions on each of the applicable initiatives listed in its 2020-2022 WMP. In prior sections of this document, SCE also describes how it will evaluate the risk scores generated in the WRRM using the

updated consequence scores with the previous values and the decisions that were made using the WRM with REAX.

Any modifications to existing in-flight or pending mitigation scope will be considered based on the risk score metric including both POI and consequence, or equivalently the risk buy-down which is derived by estimating how an asset's risk score declines post mitigation. If the estimated risk reduction from WRRM warrants scope reevaluation, the operational feasibility and costs associated with the changing scope of work (e.g., pulling back current scope and infusing new scope) will be evaluated prior to making changes.

**SCE-6**  
**SCE LACKS SUFFICIENT WEATHER STATION COVERAGE**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-6***

**Name:** SCE lacks sufficient weather station coverage

**Category:** Situational Awareness

**Class:** B

**Deficiency:**

SCE lacks sufficient weather station coverage on U.S. Forest Service National Forest lands relative to other locations. Since a large portion of Tier 2 and 3 HFTD areas are in National Forests, it is important to understand SCE's methodology for choosing where to put weather stations and its justification of why they are not in National Forests. SCE has a significantly lower density of weather stations in the San Gabriel Mountains, Los Padres National Forest and Sequoia National Forest compared to other regions of its territory. While SCE understandably has fewer electric assets in these areas, weather stations in these areas could paint a picture of how weather systems are moving across SCE's whole territory.

**Conditions:**

In its first quarterly report, SCE shall:

- i. explain in detail how it chooses to locate its weather stations and explain gaps or areas of lower weather station density, including in the National Forest Areas; and
- ii. provide a cost/benefit analysis of the impact of having a higher density of weather stations across its territory, including on U.S. Forest Service National Forest lands.

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**Response:**

- i. Explain in detail how it chooses to locate its weather stations and explain gaps or areas of lower weather station density, including in the National Forest Areas**

Weather station output is used by incident management team personnel to inform real-time de-energization decisions for SCE circuits based on actual observed conditions occurring in the field. Weather station data is also used to analyze historical weather conditions and trends, and to calibrate and validate in-house weather models that inform circuit-specific forecasts used for PSPS decision making. A higher-density of weather stations allows for local level (i.e., circuit level) weather monitoring and modeling. Given this focus, there is less deployment of weather stations in areas such as national forests where SCE assets are less prevalent. Because SCE's weather models forecast local level conditions, given the unique characteristics of each microclimate, data from a weather station far removed from a circuit would have *de minimis* value in improving or validating these weather models.

The placement of these weather stations depends on several factors which include, but are not limited to, the following:

- Location is in a wind prone area (with a focus on wind-prone locations where the potential consequences of a catastrophic fire are significant)
- Location is easily accessible to maintenance crews
- Location has a clear view of the southern horizon for solar power recharge purposes
- Location is free from major obstructions such as trees and buildings

While SCE tracks weather systems moving across its territory at the macro level, it does not need additional weather stations to do so, relying instead on existing weather station networks owned and maintained by local, state, and federal government and fire agencies (e.g., CAL FIRE, the USFS, National Weather Service, the Department of Defense, and the Federal Aviation Administration Agency). SCE is able to utilize data generated from these networks which include the Remote Automatic Weather Stations (RAWS) and the Automated Surface Observing System (ASOS).

SCE currently prioritizes weather station installation based on identification of distribution circuits within its HFRA that are most likely to reach PSPS criteria. SCE is also installing additional weather stations on specific segments of high-frequency PSPS circuits. This enables SCE to minimize customer impacts by segmenting and isolating the specific portion of the circuit where increased fire danger conditions are present, thereby isolating and reducing customer impacts.

To date, SCE has access to data from over 900 weather stations SCE installed across its service area and expects to have over 1,000 weather stations installed by end of 2020.

**ii. Provide a cost/benefit analysis of the impact of having a higher density of weather stations across its territory, including on U.S. Forest Service National Forest lands**

**Benefits**

As stated above, the benefits of weather stations are increased real-time situational awareness and improvement of weather modeling capabilities. For the former, a higher-density of weather stations on SCE distribution circuits allows SCE to validate real-time conditions in the field during elevated fire-weather conditions and implement more targeted PSPS events. This also allows SCE to limit the number of customers impacted by de-energizations. For the latter, more weather stations can provide a more expansive and granular data set which may allow SCE to further refine its weather modeling and forecasting capabilities.

**Costs**

The one-time cost of each weather station installation on an SCE distribution facility is approximately \$14,000. In addition, there is a data service plan fee of approximately \$80 per month for each weather station. In areas *without* SCE distribution facilities, the costs are significantly higher. SCE currently has a Master Special Use Permit with the USFS, to streamline USFS approval for facilities within SCE's Right-of-Ways (ROWS). However, this

permit does not address work outside of SCE’s ROW. For work outside of the ROW, SCE would need to identify the proposed weather station locations, the methods of installation and access, and then submit an application to the USFS. SCE would also need to conduct both biological and cultural surveys to determine the impacts to environmental resources. SCE estimates that it could cost approximately \$5,000 to conduct an environmental review per weather station, obtain land rights and pay the USFS to install our equipment. The installation costs, therefore, are expected to be more than 33% higher in USFS lands outside of SCE’s ROW than installation costs within SCE’s ROWs. Due to all the factors mentioned above, the process to install on USFS land can take six months or longer.

In addition to permitting, there are ongoing maintenance costs to annually calibrate the weather stations and repair or replace sensors on an as-needed basis. Maintenance costs vary for each unit depending on the scope of the remediation needed. On average, routine annual maintenance costs are approximately \$2,000 per weather station. It would likely be more costly to perform maintenance away from SCE infrastructure than on SCE infrastructure, as it may be difficult to access remote locations for annual calibration and maintenance work. Also, SCE may potentially have to design and engineer mounting locations and power sources depending on the situation. Additionally, SCE would need to pay an annual fee to the USFS for an easement. SCE estimates that the annual costs for maintenance and easements alone to be approximately \$3,000 per installation, which is 50% more than if the weather station were installed in SCE’s ROW. See Table 25 for a cost comparison of weather station implementations in SCE’s ROW versus in USFS lands.

**Table 25 - SCE-6  
Weather Station Cost Comparison**

<b>Cost Type</b>	<b>Weather Station in SCE’s ROW (\$)</b>	<b>Weather Station in USFS (\$)</b>	<b>Incremental Change (%)</b>
Installation	14,000	14,000	
Land Rights / Environmental Review Fees	0	5,000	36%
Maintenance Costs / Easement	2,000	3,000	50%
Data Service Plan Fee (Annual)	960	960	0%
<b>Total</b>	<b>16,960</b>	<b>22,960</b>	<b>35%</b>

**Analysis**

SCE has determined that the benefits of increased situational awareness for potential PSPS events and more granular data sets for improving weather models afforded by a higher-density of weather stations outweighs the cost of their installation. The ability to reduce customer impacts during PSPS events by deploying more targeted de-energizations in locations where there are sectionalizing devices is too important to forgo. As such, SCE is committed to continue to install

weather stations on its circuits located in HFRA to increase access to data that will meet these objectives, including on circuits in SCE's HFRA that traverse national forest lands.

However, for areas without SCE distribution facilities, the benefit that is associated with weather station installation -- improved situational awareness for PSPS -- does not exist. In addition, installation and maintenance costs increase by approximately 35%. Further, SCE's deployed and planned weather stations used in conjunction with the RAWS network are anticipated to provide sufficient coverage and weather tracking capability across SCE's HFRA. A greater density of weather stations in remote areas is unnecessary for tracking large weather systems. And while theoretically a greater density of weather stations in remote areas without SCE distribution facilities could provide a larger data set upon which SCE can use to validate and calibrate its weather models, currently SCE's assessment is that the improvements would be insignificant for SCE's operations and that this potential benefit does not justify the costs for our customers. SCE will revisit this determination periodically as its weather modeling capabilities mature.

**SCE-7**

**DOES NOT DESCRIBE WHETHER FIRE-RESISTANT POLES  
WERE FACTORED INTO RISK ANALYSIS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-7***

**Name:** Does not describe whether fire-resistant poles were factored into risk analysis

**Category:** Grid Design and System Hardening

**Class:** B

**Deficiency:**

SCE's WMP indicates that it plans to replace wood poles with fire resistant pole materials (i.e. composite, fire wrapping, etc.) in instances where covered conductor installation requires pole replacements. SCE fails to indicate whether the addition of fire-resistant poles was factored into its risk analysis used in assessing the benefit of covered conductors.

**Condition:**

In its first quarterly report, SCE shall:

- i. describe in detail whether the replacement of wood poles with fire resistant pole materials was factored into its risk models for determining covered conductor effectiveness,
- ii. if so, how this factored into the analysis and accounted for in the model outputs,
- iii. if not, why, and
- iv. how it plans to account for this impact on risk, including timeframe for inclusion.

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**Response:**

SCE's wildfire mitigation strategy included the application of fire-resistant (FR) poles to serve both fire prevention and system resiliency purposes. We have experienced situations where non-fire-resistant wood poles became the source of burnable fuel from ignition sources such as contact with foreign objects or equipment failure above the poles. Additionally, if a fire was to be ignited from these sources, a FR pole would have preserved the structural integrity of the powerlines and greatly facilitate the restoration of the outages. In our design considerations, we have evaluated several methods of increasing the fire-resistant characteristic of the poles that included the use of fire-resistant composite material, chemical treatment of the wood poles, and the application of special protective fire-retardant layers to existing wood poles.

SCE utilizes two types of FR poles, a composite pole with a FR sleeve and a wood pole with a FR wrap. Both types of FR poles provide a resiliency benefit such that if the pole experiences a fire, the pole will still have structural integrity supporting the equipment and conductors. A FR composite pole provides the additional benefit of ignition prevention from electrical tracking that can occur at the pole top or from catching fire during an equipment failure event. With these two

benefits in mind, SCE is targeting poles that support equipment for replacement with fire resistant composite poles. All other HFRA locations are targeted for wood poles with fire resistant wrap. An additional benefit to composite poles is that they are natural deterrents for woodpecker activity. Within the HFRA, poles that are replaced due to woodpecker damage or show signs of excessive woodpecker damage are also replaced with composite poles with a FR sleeve. This is done to prevent pole failures that may lead to ignition events.

**i. describe in detail whether the replacement of wood poles with fire resistant pole materials was factored into its risk models for determining covered conductor effectiveness,**

No, the replacement of wood poles with FR pole materials was not factored into SCE's risk models in determining covered conductor effectiveness. Fire resistant (FR) poles are installed as part of SCE's Wildfire Covered Conductor Program but are also installed as part of other programs requiring pole replacement in HFRA. FR pole installation was included in SCE's 2020-2022 WMP as a separate initiative (SH-3).

The risk analysis for covered conductor and FR pole installation are done separately as they target different drivers of ignition. Whereas covered conductor installation primarily reduces the probability of faults and overhead conductor failures associated with contact from object or wire to wire contact, FR poles reduce the probability of a wood pole igniting due to pole top equipment failure (for example a transformer fire) and the probability of a wood pole igniting due to fire at the base. In reducing the probability of pole ignitions, FR poles also reduce the spread of fire and the consequence of an ignition. They can protect pole top equipment during a ground fire and facilitate service restoration after fires as well. Accordingly, SCE calculated a separate risk reduction and RSE. FR poles also have the secondary benefit of reducing pole degradation from other factors such as woodpecker damage; however, these benefits are not included in SCE's risk analysis.

**ii. if so, how this factored into the analysis and accounted for in the model outputs,**

Not applicable.

**iii. if not, why, and**

Please refer to the response to part (i) above.

**iv. how it plans to account for this impact on risk, including timeframe for inclusion.**

Not applicable as SCE has already performed risk analysis for FR poles.

**SCE-8**  
**LACK OF DETAIL ON HOTLINE**  
**CLAMP REPLACEMENT PROGRAM**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-8***

**Name:** Lack of detail on hotline clamp replacement program.

**Category:** Grid Design and System Hardening

**Class:** B

**Deficiency:**

Hotline clamps are known to be associated with weak connections that can result in wire down events and present potential ignition risks. SCE's WMP mentions a program to replace hotline clamps, however fails to provide sufficient detail regarding how the program is implemented, including its prioritization methodology and timeline for completion.

**Condition:**

In its first quarterly report, SCE shall:

- i. explain how it identifies existing hotline clamps on its grid;
- ii. describe how it assesses which hotline clamps require replacement;
- iii. define how it prioritizes where to target hotline clamp replacements;
- iv. describe how it calculates and measures ignition risk reduction achieved by completing this replacement work; and
- v. describe how it inspects and maintains existing hotline clamps that are not scheduled for replacement, including how it prioritizes particular assets, circuits, or geographies.

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**Response:**

SCE does not have a separate proactive hot line clamp replacement program. In general, SCE inspects and remediates at-risk connectors as part of its inspection and maintenance programs. As detailed in the CAL FIRE, Fire Prevention Field Guide many versions of hot line clamps are “Exempt” equipment, and the types SCE uses or has historically used commonly are exempted. Further details on hot line clamps are provided in California Public Resource Code 4292. A review of SCE 2015-2019 CPUC reportable ignitions was completed for ignition causes from connectors/clamp/splices. The review confirmed only one (1) ignition event related to a hot line clamp over this five-year period. While SCE does not have a significant amount of events related to hot line clamp failures, there is risk identified by other IOU’s (see SDG&E WMP Section 5.3.3.10 “Hotline Clamps” and Appendix A, Tables 11a and 23, PG&E 5.3.3.10 “Maintenance, Repair, and Replacement of Connectors, Including Hotline Clamps”) and thus, SCE mitigates the risk through the inspection programs as identified in the mentioned sections. Hot line clamps provide unique benefits over some other connectors as they allow simplified installation with hot

sticks onto energized lines, which in turn allows for effective and repeatable installations. Other connectors can require special and complex tooling which introduce installation challenges. SCE continues to use hot line clamps and other connectors in HFRA applications based on the specific installation and site requirements. SCE addresses the conditions below and explains how its inspection and maintenance programs addresses these connectors.

- i. SCE assessments of connectors, including installed hot line clamps, can be summarized into three categories: local inspection, infrared (IR) scanning, and continuous monitoring sensors.**

### **Local Inspection**

Local inspection efforts occur as part of dedicated inspection programs and during other work activities near the connector. SCE's overhead facilities are inspected on a 5-year cycle (distribution) and 3-year cycle (transmission). SCE's High Fire Risk Informed (HFRI) inspections include additional inspections to identify and mitigate wildfire risks. These inspections are prioritized by probability and consequence of ignition risks at any given location. Therefore, hot line clamps at higher risk locations are inspected more frequently. A local inspection generally consists of checks for visual degradation such as evidence of arcing around the connector.

Hot line clamps which are identified for repair or replacement are given a priority notification with a repair timeline based on the location and the as-found condition. If crews find degradation of hotline clamps during other activities (i.e., planned maintenance work for anything other than inspection-based work) and determine they require repair or replacement, they generally complete the remediation immediately.

### **Infrared (IR) Scanning**

As part of SCE's IR scanning program that evaluates thermal signatures of connectors, all overhead Distribution circuits located in HFRA are inspected over a 2-year period (biennially). Hot line clamps are not used on SCE's Transmission circuits. A hot line clamp is identified for repair or replacement on the Distribution system when an elevated temperature (differential) abnormality is identified in the scanning process which indicates a "weak connection" or poor connection. IR scanning scope selection is primarily based on geographic areas to account for efficiencies in performing the scanning process across the large service area in SCE's HFRA. Repair or replacement timelines are prioritized by the degree of temperature differential observed. The higher the differential the higher the priority and, as such, the shorter the timeline for completing repair or replacement actions.

### **Continuous Monitoring Sensors**

Continuous Monitoring sensors are referenced in section 5.5.5.10 of SCEs 2020-2022 WMP, entitled "Maintenance, Repair, and Replacement of Connectors, Including Hotline Clamps." In this section, SCE discussed Distribution Fault Anticipation (DFA) and Early Fault Detection (EFD) which have the capability to identify connections requiring maintenance by analyzing significant event data. These technologies are more fully described in Section 5.3.2.2 of SCE's

2020-2022 WMP, entitled “Continuous Monitoring Sensors.” The Continuous Monitoring Sensors provide near real time continual monitoring for signs of connector degradation. DFA and EFD technologies use methods different than heat signatures to determine the condition of hotline clamps. DFA predominantly detects arcing signatures based on current fluctuations measured at the substation whereas EFD predominately detects arcing by measuring radio frequency emissions from the arcing event. DFA and EFD detections alone do not set a priority for repair but rather the notification from these technologies initiate a local inspection process which may also include the use of IR cameras to determine the priority for repair actions. Also, the DFA and EFD technologies are presently only installed on a small portion of SCE’s HFRA circuitry. SCE is continuing to monitor the outputs from its 60 DFA pilot installations and is progressing towards completing 100 EFD locations for this pilot.

**ii. describe how it assesses which hotline clamps require replacement**

See response to part (i).

**iii. define how it prioritizes where to target hotline clamp replacements**

See response to part (i).

**iv. describe how it calculates and measures ignition risk reduction achieved by completing this replacement work;**

SCE has not separately estimated, or measured risk reduction achieved by completing hot line clamp replacements. Instead, risk reduction and RSEs are calculated for HFRI inspections on the Distribution and Transmission systems, which include inspection and remediation of hot line clamps along with inspection and remediation of other inspections and structures (See IN-1.1/SH-12.1 and IN-1.2/SH-12.2 in SCE’s 2020-2022 WMP). SCE also estimated risk reduction and RSE for IR inspections for the distribution system (IN-3).

**v. describe how it inspects and maintains existing hotline clamps that are not scheduled for replacement, including how it prioritizes particular assets, circuits, or geographies.**

See response to part (i).

**SCE-9**  
**LACK OF DETAIL REGARDING**  
**POLE LOADING ASSESSMENT PROGRAM**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-9***

**Name:** Lack of detail regarding Pole Loading Assessment Program.

**Category:** Asset Management and Inspections

**Class:** B

**Deficiency:**

In its WMP, SCE indicates the goal of its Pole Loading Assessment Program (PLP) is to assess the structural integrity of approximately 1.4 million poles by 2021. SCE's WMP did not include any detail regarding its PLP. SCE's WMP did not include any detail regarding how much of this work is complete nor how, when and where SCE intends to complete this work during this plan period. This lack of detail impedes WSD's ability to evaluate the program's feasibility or audit its progress and likelihood of completion.

**Condition:**

In a quarterly report, SCE shall submit GIS files detailing:

- i. areas where PLP assessments have been completed during the prior reporting period, and
- ii. areas where PLP assessments are planned for the following quarter.

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**Response:**

SCE's Pole Loading Program (PLP) predates WMPs by several years. SCE initiated its PLP in 2013 and included it in its 2015 GRC request. It was subsequently authorized in Decision (D.) 15-11-021, and re-authorized in its 2018 GRC in D.19-05-020. As described in Section 5.3.4.13 of our 2020-2022 WMP, the PLP is a comprehensive program to assess pole loading of all poles in SCE's service area (HFRA and non-HFRA) for General Order 95 safety compliance, and repair, remediate or replace poles that do not meet the adequate safety factors. A pole can be overloaded due to, for example, added electrical equipment, degradation over time or added load from third-party attachments such as telecommunication lines. Though PLP improves safety and reliability including reducing ignition risks associated with pole failure from overloading, PLP is primarily a compliance program and not one driven by wildfire risk reduction or one of SCE's wildfire mitigation initiatives included in our 2020-2022 WMP. However, SCE prioritized pole assessments in high-fire and high-wind areas when PLP was initiated in 2014. SCE has completed over 1.3 million pole assessments since 2014 and expects to complete assessments on the entire system in 2021 at which time this program will cease. For purposes of this deficiency, SCE is providing information related to PLP assessments in HFRA given that these areas constitute the Commission's direction for wildfire mitigation efforts. Please see the Geodatabase

(SCE-9 Appendix A) that includes the PLP assessments completed in HFRA from May through July 2020 and forecast PLP assessments in HFRA from August through November 2020, pursuant to the draft WSD's GIS Data Reporting Requirements and Schema for California Electric Corporations. SCE also responds narratively to each condition below.

**i. areas where PLP assessments have been completed during the prior reporting period**

SCE completed 318 pole assessments in HFRA between May 1 and July 31, 2020.

**ii. areas where PLP assessments are planned for the following quarter**

SCE forecasts to assess 1,205 pole assessments in HFRA between August 1 and November 30, 2020 but notes this 120-day plan may not be fully executed due to operational constraints. As SCE nears the end of PLP assessments, the remaining poles present customer and other access challenges along with data cleanup on structures and locations, which increase scheduling and planning uncertainty. SCE is actively resolving these challenges. Customers sometimes deny admission to their properties where poles are located or are not available when needed, requiring additional process steps to negotiate access or resolve disputes, sometimes through litigation. SCE has also experienced access issues due to customer COVID-19 concerns and anticipates these concerns will continue to manifest until the pandemic has subsided. Additionally, hard-to-access poles that are unsafe to patrol by foot require an aerial assessment. The PLP team has collaborated with SCE's Aerial Operations team to develop a schedule to conduct these aerial assessments but notes that aerial operations can be diverted to higher priority work that can require re-scheduling these PLP assessments.

**SCE-9 Appendix A**

AilLogID	VmpLogID	InspectionS date	InspectionE ndDate	Performe dBy	Performe ent	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Technology	Inspection Comment	AilD	UtilityID	AilLogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
1004971H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1004971H	SCE			1004971H_Dale St E/S 1027' S/O \Tier 3		Buena Park	Fullerton	33.86351	-117.985		
1009181H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1009181H	SCE			1009181H_721 Spurgeon St Tier 3		Santa Ana	Santa Ana	35.13386	-118.595		
101655H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 101655H	SCE			101655H_F Inverness Dr. Pl/N 270 Tier 2		Flintridge	Monrovia	34.18323	-118.192		
1022795H_Cyient 27 2	8/14/2017	6/29/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 1022795H	SCE			1022795H_Adjacent Pole(S): 1798 Tier 2		La Cañada Flintridge	Monrovia	34.20925	-118.182		
1032393H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1032393H	SCE			1032393H_Silverado Cyn Rd S/S 1' Tier 2		Silverado	Saddleback	33.74711	-117.623		
1034544E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1034544E	SCE			1034544E_Corrida Dr P/P 155' S 6 Tier 2		Covina	Covina	34.0754	-117.863		
1038320H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1038320H	SCE			1038320H_Ei Sobrante Linf P/P 2' Tier 3		Corona	Wildomar	33.78691	-117.48		
1048592H_Cyient 27 2	2/28/2017	6/29/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 1048592H	SCE			1048592H_Baptiste Wy P/L 140' S Tier 2		La Crescenta,	Monrovia	34.19993	-118.184		
1060233E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060233E	SCE			1060233E_Pp 453' E. 192' S/O N/ Tier 3		Covina	Monrovia	34.2358	-117.819		
1060234E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060234E	SCE			1060234E_Pp 453' E. 201' S/O N/ Tier 3		Covina	Monrovia	34.23577	-117.819		
1060235E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060235E	SCE			1060235E_Pp 975' E. 169' S/O N/ Tier 3		Covina	Monrovia	34.23588	-117.818		
1060236E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060236E	SCE			1060236E_Pp 975' E. 178' S/O N/ Tier 3		Covina	Monrovia	34.23586	-117.818		
1060237E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060237E	SCE			1060237E_Pp 1759' E. 196' S/O N/ Tier 3		Covina	Monrovia	34.23586	-117.815		
1060238E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060238E	SCE			1060238E_Pp 1759' E. 205' S/O N/ Tier 3		Covina	Monrovia	34.23584	-117.815		
1060239E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060239E	SCE			1060239E_Pp 2531' E. 128' S/O N/ Tier 3		Covina	Monrovia	34.23599	-117.813		
1060240E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060240E	SCE			1060240E_P/P 2531' E 137' S/O N/ Tier 3		Valyermo	Monrovia	34.23597	-117.813		
1060913E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1060913E	SCE			1060913E_P/P 133' S/O 2335' E/C Tier 3		Azusa	Monrovia	34.23588	-117.813		
1106936E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1106936E	SCE			1106936E_Santiago Cyn Rd N/S 3: Tier 3		Santa Ana	Santa Ana	33.75245	-117.681		
1149521E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1149521E	SCE			1149521E_Sw-1/4Sec.18 7282' E/C Tier 2		Santa Ana	Saddleback	33.63695	-117.557		
1149522E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1149522E	SCE			1149522E_Sw-1/4Sec.18-8557' E/Tier 2		Trabuco Cyn	Saddleback	33.63704	-117.556		
1149524E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1149524E	SCE			1149524E_Sw 1/4 Sec.18 9072' E/Tier 2		Trabuco Cyn	Saddleback	33.63714	-117.555		
1151471E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1151471E	SCE			1151471E_P/P 15' S/O N/Line 257 Tier 3		San Bernardino	Monrovia	34.26752	-118.089		
1151645E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1151645E	SCE			1151645E_Bubblingwells Ln P/P 1 Tier 2		La Canada Flintridge	Monrovia	34.22308	-118.216		
1157233E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1157233E	SCE			1157233E_Santa Luna Dr W/S 85' Tier 2		Torrance	South Bay	35.81837	-118.642		
1171798E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1171798E	SCE			1171798E_Fullerton Rd. E/S 1535 Tier 3		La Habra Heights	Fullerton	33.95388	-117.927		
1172189E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1172189E	SCE			1172189E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24152	-117.893		
1172190E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1172190E	SCE			1172190E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24153	-117.893		
1172194E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1172194E	SCE			1172194E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24689	-117.903		
1172498E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1172498E	SCE			1172498E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.2427	-117.932		
1172499E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1172499E	SCE			1172499E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24272	-117.932		
1172500E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1172500E	SCE			1172500E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24141	-117.935		
1175188E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1175188E	SCE			1175188E_Cowan Hts Rd E/S - 16' Tier 2		Orange County	Santa Ana	33.77545	-117.771		
117775_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 117775	SCE			117775_PL Grand Av P/P 1392' S 9 Tier 3		Elsinore	Wildomar	33.61445	-117.311		
1212751E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212751E	SCE			1212751E_N/S Westfork San Gab Tier 3		Covina	Monrovia	34.24139	-117.935		
1212752E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212752E	SCE			1212752E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24117	-117.936		
1212753E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212753E	SCE			1212753E_N/S West Fork San Gal Tier 3		Monrovia	Monrovia	34.24119	-117.936		
1212756E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212756E	SCE			1212756E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24174	-117.94		
1212760E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212760E	SCE			1212760E_N/S West Fork, San Gb Tier 3		Monrovia	Monrovia	34.24438	-117.947		
1212762E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212762E	SCE			1212762E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24418	-117.949		
1212763E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212763E	SCE			1212763E_N/S West Fork San Gal Tier 3		Covina	Monrovia	34.24416	-117.949		
1212766E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212766E	SCE			1212766E_S/S West Fork San Gab Tier 3		Covina	Monrovia	34.24377	-117.954		
1212767E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1212767E	SCE			1212767E_S/S West Fork San Gab Tier 3		Covina	Monrovia	34.24375	-117.954		
122229S_PQUANTA 3	4/23/2019	6/17/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 122229S	SCE			122229S_P Not Avail-Corona Dist Tier 2		Riverside	Ontario	33.96095	-117.492		
1223981E_Cyient 27 2	11/4/2015	6/29/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 1223981E	SCE			1223981E_2221 Canyon Rd Tier 3		Arcadia	Monrovia	34.17662	-118.025		
1232362E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1232362E	SCE			1232362E_Avenida Aprenda N/S : Tier 2		Rancho Palos Verdes	South Bay	33.76803	-118.314		
1245810E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1245810E	SCE			1245810E_Rockledge Dr. Pl/W 20 Tier 2		Buena Park	Fullerton	33.88106	-117.979		
1250982E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1250982E	SCE			1250982E_Forestry Rd 30' E 120' Tier 3		Pasadena	Monrovia	34.21099	-118.17		
1263690E_QUANTA 2:	9/11/2019	5/28/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 1263690E	SCE			1263690E_S W/O U.P.R.R. R/W 4( Tier 2		Whittier	Montebell	33.98354	-118.049		
1308240E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1308240E	SCE			1308240E_Norton Ave. Pl/W 230' Tier 3		Montclair	Ontario	34.07605	-117.911		
1339733E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1339733E	SCE			1339733E_Carnelian St. P/P 331' Tier 2		Rancho Cucamonga	Ontario	34.16046	-117.618		
1367734E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1367734E	SCE			1367734E_Candace Ln 94' S 85' W Tier 2		La Habra	Fullerton	33.56588	-117.56		
1367845E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1367845E	SCE			1367845E_Tonner Cyn Rd P/P 15( Tier 3		Brea	Fullerton	33.93978	-117.845		
1379606E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1379606E	SCE			1379606E_Gimbert Lane Pl/L/W 3 Tier 3		Tustin	Santa Ana	33.76256	-117.804		
1384938E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1384938E	SCE			1384938E_580' S/O Pole#138292: Tier 3		Valyermo	Monrovia	34.22814	-117.774		
1384939E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1384939E	SCE			1384939E_585' S/O Pole#138292: Tier 3		Valyermo	Monrovia	34.22812	-117.774		
1384942E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1384942E	SCE			1384942E_640' N/O Pole#X15537 Tier 3		Valyermo	Monrovia	34.22488	-117.773		
1384943E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1384943E	SCE			1384943E_635' N/O Pole#X15537 Tier 3		Valyermo	Monrovia	34.22489	-117.773		
1384946E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1384946E	SCE			1384946E_390' N/O Pole 138494: Tier 3		Valyermo	Monrovia	34.2221	-117.773		
1384951E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1384951E	SCE			1384951E_440' Nw/O Pole 13849 Tier 3		Valyermo	Monrovia	34.21919	-117.77		
1394533E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1394533E	SCE			1394533E_Pch A/E E/S 96' N/O A/ Tier 2		Redondo Beach	South Bay	33.827	-118.391		
1396950E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1396950E	SCE			1396950E_Verdi Dr. Pl/W 150' N/ Tier 3		B.P.	Fullerton	33.86684	-117.989		
1449253E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1449253E	SCE			1449253E_Neola St S/S 8' E/O Fig Tier 2		Los Angeles	Montebell	34.13594	-118.188		
1499046E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1499046E	SCE			1499046E_Site Dr. E/S 206' S/O N/ Tier 3		Brea	Fullerton	33.93743	-117.904		
1535059E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1535059E	SCE			1535059E_6Th St S/S 15' E/O Mo: Tier 3		Santa Ana	Santa Ana	33.7497</			



AILogID	VmpLogID	InspectionS tardDate	InspectionE ndDate	Performe dBy	Comme nt	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc e Finding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Comment	AID	UtilityID	AILogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
212085_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	212085	SCE	212085_PL	53800 Country Club Dr	Tier 3	Idyllwild	Menifee	33.73668	-116.723		
2127835_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2127835	SCE	2127835_P	Robert St P/P 839 E 65	Tier 3	Perris	Menifee	33.72971	-117.28		
2131250E_QC Scope_1	2/7/2019	5/29/2020	Contractor				Pole Loadir	Committed	Yes	No	Walk out	Other	Tablet, vendors prop s	2131250E	SCE	2131250E_San	Dimas Cyn Rd 2011	Tier 3	Covina	Menifee	34.1271	-117.795		
2131344E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2131344E	SCE	2131344E_Mc	Allister Rd. P/P 36C	Tier 2	Corona	Ontario	33.88217	-117.439		
2133979E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2133979E	SCE	2133979E_Shady	Lane Tree P/P 7	Tier 2	Hemet	Menifee	33.70466	-117.114		
2135635_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2135635	SCE	2135635_P	Guthridge Ln. P/L 199	Tier 2	Homeland	Menifee	33.74225	-117.112		
2160979E_Cyient 77 2	11/3/2016	6/26/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	2160979E	SCE	2160979E_Banning	Idyllwild Rd. P	Tier 3	Idyllwild	Menifee	33.77421	-116.738		
2169819E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2169819E	SCE	2169819E_550	W/O Santa Rosa h	Tier 3	San Jacin	Menifee	33.77912	-117.302		
2181940E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181940E	SCE	2181940E_S/S	Idaleona 1478' E/C	Tier 3	Perris	Menifee	33.79322	-117.331		
2181941E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181941E	SCE	2181941E_S/S	Idaleona 1178' E/C	Tier 3	Perris	Menifee	33.7932	-117.332		
2181942E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181942E	SCE	2181942E_S/S	Idaleona 878' E/O	Tier 3	Perris	Menifee	33.79318	-117.333		
2181943E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181943E	SCE	2181943E_P/P	100' S/Idaleona 87	Tier 3	Perris	Menifee	33.79293	-117.333		
2181944E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181944E	SCE	2181944E_P/P	500' S/Idaleona, 8'	Tier 3	Perris	Menifee	33.79172	-117.333		
2181945E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181945E	SCE	2181945E_P/P	750' S/Idaleona, 8'	Tier 3	Perris	Menifee	33.79112	-117.334		
2181946E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181946E	SCE	2181946E_P/P	995' S/Idaleona, 8'	Tier 3	Perris	Menifee	33.79052	-117.334		
2181948E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2181948E	SCE	2181948E_P/P	500' S/Idaleona, 2'	Tier 3	Perris	Menifee	33.79119	-117.336		
2193716E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2193716E	SCE	2193716E_S.F.	R/R P/P 600 S 233'	Tier 3	Yorba Linda	Fullerton	33.8761	-117.698		
220160E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	220160E	SCE	220160E_F/S	Of 1907H 3163' W	Tier 3	Idyllwild	Menifee	33.76726	-116.74		
2204715E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2204715E	SCE	2204715E_Twin	Pines Rd 10' W/O	Tier 3	Poppett Fl	Menifee	33.87399	-116.834		
2207099E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2207099E	SCE	2207099E_Patterson	Ave P/P 330	Tier 3	Perris	Menifee	33.73755	-117.301		
2207160E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2207160E	SCE	2207160E_P/P	625 W/O Hwy 15	Tier 3	Temecula	Wildomar	33.46846	-117.139		
2207161E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2207161E	SCE	2207161E_P/P	950 W/O Hwy 15	Tier 3	Temecula	Wildomar	33.46792	-117.14		
2207162E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2207162E	SCE	2207162E_P/P	1250 W/O Hwy15	Tier 3	Temecula	Wildomar	33.46718	-117.14		
2207163E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2207163E	SCE	2207163E_P/P	1575 W/O Hwy15	Tier 3	Temecula	Wildomar	33.46659	-117.141		
2225826E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2225826E	SCE	2225826E_S/O	Reservation Rd 20	Tier 3	Perris	Wildomar	33.43884	-117.071		
2251483E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2251483E	SCE	2251483E_Sce	Santiago Peak Rad	Tier 3	Trabuco	Saddleback	33.70042	-117.546		
2251484E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2251484E	SCE	2251484E_Sce	Santiago Peak Rad	Tier 3	Trabuco	Saddleback	33.70039	-117.546		
2256677E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2256677E	SCE	2256677E_Standard	St W/S 57' N	Tier 3	Santa Ana	Santa Ana	33.74469	-117.857		
2266583E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2266583E	SCE	2266583E_P/P	362 W/O I15 3687	Tier 3	Temecula	Wildomar	33.46894	-117.138		
2266584E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2266584E	SCE	2266584E_P/P	1420 W/O I15 425	Tier 3	Temecula	Wildomar	33.46689	-117.141		
2286246E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2286246E	SCE	2286246E_Patterson	Way S/S 60C	Tier 2	Fullerton	Fullerton	33.86677	-117.916		
2289282E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2289282E	SCE	2289282E_Sandia	Creek S/S 250'	Tier 3	Perris	Wildomar	33.48996	-117.192		
2299075E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2299075E	SCE	2299075E_Olive	Av P/P/N 15' 110	Tier 2	Winchester	Menifee	33.69955	-117.086		
2299146E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2299146E	SCE	2299146E_Olive	Av P/P/N 15' 235	Tier 2	Winchester	Menifee	33.69993	-117.087		
2299147E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2299147E	SCE	2299147E_Olive	Av P/P/N 155' 34	Tier 2	Winchester	Menifee	33.69994	-117.087		
2299148E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2299148E	SCE	2299148E_Oliveav	P/P/N 305' N	Tier 2	Winchester	Menifee	33.70001	-117.087		
2299150E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2299150E	SCE	2299150E_Olive	Av P/P/N 155' 15	Tier 2	Winchester	Menifee	33.69995	-117.087		
2299162E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2299162E	SCE	2299162E_Baker	Rd W/S 4546' N	Tier 2	Lk Elinore	Wildomar	33.69811	-117.357		
2307129E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2307129E	SCE	2307129E_150'	N/O Yellow Bill, 3'	Tier 2	Sun City	Menifee	33.9755	-117.248		
231337E_P Cyient 77 2	6/10/2017	6/26/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	231337E	SCE	231337E_F	54600 Falling Leaf Dr	Tier 3	Idyllwild	Menifee	33.75386	-116.711		
2315684E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2315684E	SCE	2315684E_Lounell	Dr P/P 150' N	Tier 2	Perris	Menifee	33.87899	-117.263		
2324967E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2324967E	SCE	2324967E_Rose	Ave Pp/E 3739' S	Tier 2	Brea	Fullerton	33.91477	-117.843		
2327296E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2327296E	SCE	2327296E_100'	W/O Crooked Arr	Tier 2	Wildomar	Fullerton	33.64777	-117.258		
2352165E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2352165E	SCE	2352165E_620'	W And 2450' N/O	Tier 3	Sun City	Menifee	33.87171	-116.781		
2352813E_QUANTA 7	3/27/2019	6/17/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	2352813E	SCE	2352813E_Grill	Ct. P/P 100' 1000'	Tier 2	Perris	Menifee	33.82654	-117.353		
2354380E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2354380E	SCE	2354380E_Crary	Ave P/P 140' S, 4	Tier 3	Pasadena	Monrovia	34.17295	-118.109		
2358846E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2358846E	SCE	2358846E_S/P	Prielp 95' W/O	Tier 2	Wildomar	Wildomar	33.59032	-117.237		
2362052E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	2362052E	SCE	2362052E_Sage	Rd P/P 400W 402	Tier 3	Aguaa	Wildomar	33.47594	-116.915		
239391_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	239391	SCE	239391_PL1325'	W/O Broaden Lan	Tier 2	Woodcrest	Menifee	33.90139	-117.351		
249650E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	249650E	SCE	249650E_F/W	S San Remo Dr 550'	Tier 3	Laguna Beach	Saddleback	33.5458	-117.764		
256760S_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	256760S	SCE	256760S_P	1225W, S/S N/E	Border	Twin Pines	Menifee	33.85666	-116.793		
26714GT_PLA			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	26714GT	SCE	26714GT_F	Fish Cyn Rd E/S 100'	S/Tier 3	Duarte	Monrovia	34.1558	-117.925		
297446E_P QUANTA 2	5/1/2020	5/12/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	297446E	SCE	297446E_F	Loma Alta Dr P/P	2588	Tier 3	Altadena	Monrovia	34.2095	-118.139	
3008494E_PLP			Contractor				Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	3008494E	SCE	3008494E_San	Gabriel Cyn Rd E/S	Tier 3	Azusa	Monrovia	34.20637	-117.866		
3																								

AiLogID	VmpLogID	InspectionS tardDate	InspectionE ndDate	Performe dBy	Performe nt	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	AiID	UtilityID	AiLogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4057008E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4057008E	SCE	4057008E_Patio Frio Rd P/P 210E Tier 3			Hemet		Wildomar	33.432	-116.864	
4058645E_QUANTA 7	5/17/2019	6/17/2020					Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4058645E	SCE	4058645E_Pole #4058645E Locati Tier 2			Menifee		Menifee	33.64412	-117.211	
4062136E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4062136E	SCE	4062136E_200 W/O Raymond, 3: Tier 2			Moreno Valley		Menifee	33.8681	-117.083	
4062562E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4062562E	SCE	4062562E_Soboba 1/2 Mi. E/O St: Tier 3			San Jacinto		Menifee	33.82744	-116.956	
40837CWT_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	40837CWT	SCE	40837CWT_Bradley Rd P/L/E 510 S: Tier 2			Menifee		Menifee	33.70342	-117.188	
412333M_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	412333M	SCE	412333M_Foothill Bl S/S 10' W/O Tier 2			Tujunga		Monrovia	34.24489	-118.274	
412334M_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	412334M	SCE	412334M_Foothill Bl S/S 91' E/O Tier 2			Tujunga		Monrovia	34.24451	-118.273	
412335M_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	412335M	SCE	412335M_Foothill Bl S/S 219' E/C: Tier 2			Tujunga		Monrovia	34.24432	-118.273	
412336M_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	412336M	SCE	412336M_Foothill Bl S/S 41' E/O Tier 2			Tujunga		Monrovia	34.24387	-118.272	
412337M_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	412337M	SCE	412337M_Foothill Bl S/S 137' E/C: Tier 2			Tujunga		Monrovia	34.24364	-118.272	
4123736E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4123736E	SCE	4123736E_Calif. Ave. Pp/W 16', 7: Tier 2			Norco		Ontario	33.94329	-117.528	
4126367E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4126367E	SCE	4126367E_Old Fullerton Rd S/S 2f: Tier 2			La Habra		Fullerton	33.95232	-117.926	
412761M_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	412761M	SCE	412761M_Foothill Bl S/S 37' W/O Tier 2			Tujunga		Monrovia	34.24403	-118.272	
4149990E_Cyient 77 2	9/1/2016	6/29/2020					Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4149990E	SCE	4149990E_San Jacinto 90' E/O Ok: Tier 2			Perris		Menifee	33.78664	-117.273	
4151400E_Cyient 88 2	5/13/2016	6/29/2020					Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4151400E	SCE	4151400E_18975 Palomar St Tier 2			Lake Elsinore		Wildomar	33.6315	-117.317	
4151502E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4151502E	SCE	4151502E_Saboda Rd P/P 1114' N: Tier 3			San Jacinto		Menifee	33.82193	-116.963	
4151506E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4151506E	SCE	4151506E_Saboda Rd P/P 2418' N: Tier 3			San Jacinto		Menifee	33.82455	-116.96	
4151508E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4151508E	SCE	4151508E_Saboda Rd P/P 3118' N: Tier 3			San Jacinto		Menifee	33.82461	-116.96	
4151510E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4151510E	SCE	4151510E_Saboda Rd P/P 3452' N: Tier 3			San Jacinto		Menifee	33.82584	-116.957	
4151511E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4151511E	SCE	4151511E_Saboda Rd P/P 3842' N: Tier 3			San Jacinto		Menifee	33.82679	-116.956	
4152100E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4152100E	SCE	4152100E_Commonwealth Av Pp: Tier 3			Buena Park		Fullerton	33.86894	-117.989	
4153736E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4153736E	SCE	4153736E_Rncho El Encino Dr Pp: Tier 2			Covina		Covina	34.0741	-117.849	
4156648E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4156648E	SCE	4156648E_Priv Dr 110' E/O Hamp: Tier 2			La Canada Flintridge		Monrovia	34.19279	-118.201	
4160062E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4160062E	SCE	4160062E_2.3 Miles From Gate W: Tier 3			Valyermo		Monrovia	34.24546	-117.901	
4160063E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4160063E	SCE	4160063E_177h Pole Frm 39 On C: Tier 3			Valyermo		Monrovia	34.24312	-117.912	
4160064E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4160064E	SCE	4160064E_177h Pole Frm 39 On C: Tier 3			Valyermo		Monrovia	34.24311	-117.912	
4160067E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4160067E	SCE	4160067E_N/S West Fork San Gal: Tier 3			Valyermo		Monrovia	34.24402	-117.944	
4160068E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4160068E	SCE	4160068E_N/S West Fork San Gal: Tier 3			Valyermo		Monrovia	34.244	-117.944	
4160201E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4160201E	SCE	4160201E_P/P 290' S/O Spinks Rd: Tier 2			Bradbury		Monrovia	34.14869	-117.964	
4161116E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161116E	SCE	4161116E_S.G. Cyn 2Nd "H" Fram: Tier 3			Azusa		Monrovia	34.23248	-117.848	
4161117E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161117E	SCE	4161117E_S.G. Cyn 2Nd "H" Fram: Tier 3			Azusa		Monrovia	34.23247	-117.848	
4161118E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161118E	SCE	4161118E_S.G. Cyn 3Rd "H" Fram: Tier 3			Azusa		Monrovia	34.23307	-117.849	
4161119E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161119E	SCE	4161119E_S.G. Cyn 3Rd "H" Fram: Tier 3			Azusa		Monrovia	34.23305	-117.849	
4161122E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161122E	SCE	4161122E_S.G. Cyn Sec 29 T2N R5: Tier 3			Azusa		Monrovia	34.2339	-117.851	
4161123E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161123E	SCE	4161123E_S.G. Cyn Sec 29 T2N R5: Tier 3			Azusa		Monrovia	34.23387	-117.851	
4161131E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161131E	SCE	4161131E_E/Pole Of 1Sk 3-Pole: Tier 3			Azusa		Monrovia	34.23878	-117.868	
4161133E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161133E	SCE	4161133E_N/S W/Fork San Gabri: Tier 3			Azusa		Monrovia	34.24029	-117.886	
4161153E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161153E	SCE	4161153E_P/P 370'W, 2040' N/O: Tier 3			Azusa		Monrovia	34.23573	-117.857	
4161154E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161154E	SCE	4161154E_P/P 370'W, 2060' N/O: Tier 3			Azusa		Monrovia	34.23571	-117.857	
4161155E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161155E	SCE	4161155E_Middle Pole Of 1St 3-P: Tier 3			Azusa		Monrovia	34.23877	-117.868	
4161156E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161156E	SCE	4161156E_S/W Pole Of 1St 3-Pole: Tier 3			Azusa		Monrovia	34.23876	-117.868	
4161188E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161188E	SCE	4161188E_P/P 1570' N. 1490' W/: Tier 3			Azusa		Monrovia	34.23442	-117.852	
4161189E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161189E	SCE	4161189E_P/P 1550' N 1510' W/C: Tier 3			Azusa		Monrovia	34.23444	-117.852	
4161192E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161192E	SCE	4161192E_P/P 560' E, 1740' N/O: Tier 3			Azusa		Monrovia	34.23542	-117.863	
4161193E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161193E	SCE	4161193E_P/P 570' E, 1760' N/O: Tier 3			Azusa		Monrovia	34.2354	-117.863	
4161233E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4161233E	SCE	4161233E_Arroyo Verde Dr. W/S, Tier 2			South Pasadena		Monrovia	34.11213	-118.176	
4163841E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4163841E	SCE	4163841E_Railroad Cyn Rd S/S 70: Tier 2			Lake Elsinore		Wildomar	33.66353	-117.277	
4164774E_Cyient 77 2	6/15/2017	6/26/2020					Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4164774E	SCE	4164774E_Fireact N/S 310', 212' : Tier 2			Hemet		Menifee	33.77924	-117.051	
4172685E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4172685E	SCE	4172685E_Indiana Ave. N/S, 210' : Tier 2			Corona		Ontario	33.88159	-117.501	
4174121E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4174121E	SCE	4174121E_N/E C/O Sanford St, C: Tier 2			Lake Elsinore		Wildomar	34.02473	-117.832	
4182122E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4182122E	SCE	4182122E_W/S Grand 431' S/O C: Tier 2			Walnut		Covina	34.05562	-117.866	
4192556E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4192556E	SCE	4192556E_0 Tier 2			0		South Bay	33.75198	-118.31	
4192600E_PLP							Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4192600E	SCE	4192600E_Crest Rd Pp 1210' N 4C: Tier 2			Rolling Hills		South Bay	33.75883	-118.348	
4209815E_QC Scope_1	7/16/2020	7/31/2020					Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4209815E	SCE	4209815E_Gerhart Ave. E/S, 171'								

AilogID	VmpLogID	InspectionS tardate	InspectionE ndDate	Performe dBy	ByComm ent	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4302398E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4302398E	SCE	4302398E_Via Colusa W/S, 95' S/Tier 2	Palo Verde			Monrovia	South Bay	33.80428	-118.375	
4304264E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304264E	SCE	4304264E_N/E Of Gould Sub, 300 Tier 3	Pasadena			Monrovia	Monrovia	34.21895	-118.18	
4304265E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304265E	SCE	4304265E_N/Eof Gould Sub, 147' Tier 3	Pasadena			Monrovia	Monrovia	34.21861	-118.18	
4304269E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304269E	SCE	4304269E_2 Miles S/E Of Gould S Tier 3	Pasadena			Monrovia	Monrovia	34.21149	-118.174	
4304270E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304270E	SCE	4304270E_2 Miles S/E Of Gould S Tier 3	Pasadena			Monrovia	Monrovia	34.21506	-118.178	
4304271E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304271E	SCE	4304271E_2 Miles S/E Of Gould S Tier 3	Pasadena			Monrovia	Monrovia	34.21483	-118.177	
4304272E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304272E	SCE	4304272E_2 Miles S/E Of Gould S Tier 3	Pasadena			Monrovia	Monrovia	34.21428	-118.177	
4304273E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304273E	SCE	4304273E_2 Miles S/E Of Gould S Tier 3	Pasadena			Monrovia	Monrovia	34.21391	-118.176	
4304274E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304274E	SCE	4304274E_2 Miles S/E Of Gould S Tier 3	Pasadena			Monrovia	Monrovia	34.21351	-118.176	
4304275E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4304275E	SCE	4304275E_2 Miles S/E Of Gould S Tier 3	Pasadena			Monrovia	Monrovia	34.21104	-118.173	
4308328E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4308328E	SCE	4308328E_Big Dalton Pp 200 E,88 Tier 3	Glendora			Covina	Covina	34.16608	-117.813	
4308777E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4308777E	SCE	4308777E_Pp 25 E/O Bronaugh W Tier 3	Hemet			Wildomar	Wildomar	33.60748	-116.895	
4314266E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4314266E	SCE	4314266E_Walnut St S/S 78' E/O :Tier 3	Santa Ana			Santa Ana	Santa Ana	33.74448	-117.857	
4316903E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4316903E	SCE	4316903E_N/W/O Hayes & Nigl Tier 3	Murrieta			Hot Springs	Wildomar	33.56212	-117.236	
4317739E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4317739E	SCE	4317739E_Homeland Ave. 135' W.Tier 2	Homeland			Menifee	Menifee	33.74241	-117.113	
4326692E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4326692E	SCE	4326692E_Piedras Rd W/S, 750' S Tier 3	Perris			Menifee	Menifee	33.79119	-117.336	
4327115E_QC Scope_1	7/14/2020	7/31/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4327115E	SCE	4327115E_R/W E/O Brea Cyn Rd :Tier 3	Diamond			Montebell	Montebell	33.96013	-117.85	
4327116E_QC Scope_1	7/14/2020	7/31/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4327116E	SCE	4327116E_R/W E/O Brea Cyn Rd :Tier 3	Diamond			Montebell	Montebell	33.96011	-117.85	
4336392E_Cyient 77 2	1/19/2018	6/26/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4336392E	SCE	4336392E_Palms To Pines Hwy Tier 3	Hemet			Menifee	Menifee	33.7025	-116.72	
4336393E_Cyient 77 2	1/19/2018	6/26/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4336393E	SCE	4336393E_Palms To Pines Hwy Tier 3	Hemet			Menifee	Menifee	33.70264	-116.72	
4355354E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4355354E	SCE	4355354E_Ramona Xwy P/P 8339 Tier 2	San Jacinto			Menifee	Menifee	33.80033	-117.011	
4358712E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4358712E	SCE	4358712E_Pv Dr. No. 4030'S 1180Tier 2	Rpv			South Bay	South Bay	33.7675	-118.348	
4369913E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4369913E	SCE	4369913E_Horseshoe Tr, 288' S/C Tier 2	Homeland			Menifee	Menifee	33.80807	-117.073	
4389738E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4389738E	SCE	4389738E_Chino Corona Rd S/S 2.Tier 2	Chino			Ontario	Ontario	33.94584	-117.62	
4389824E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4389824E	SCE	4389824E_Gilman Springs Rd E/ B Tier 2	Moreno Valley			Menifee	Menifee	33.91861	-117.103	
4407912E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4407912E	SCE	4407912E_Aliso Cyn Rd 2170' W 2Tier 3	Trabuco Beach			Saddleback	Saddleback	33.5266	-117.748	
4417899E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4417899E	SCE	4417899E_Pp 159 N/Trabuco Oak Tier 3	Labuco Ca			Saddleback	Saddleback	33.66855	-117.591	
4425446E_Cyient 26 2	9/16/2016	6/29/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4425446E	SCE	4425446E_Linfield Av S/S 260' S/C Tier 2	Glendora			Covina	Covina	34.12416	-117.858	
4427799E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4427799E	SCE	4427799E_Standard W/S 40' N/O Tier 3	Santa Ana			Santa Ana	Santa Ana	33.74376	-117.857	
4434951E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4434951E	SCE	4434951E_W/O Pole 4149706E Tier 3	Azusa			Monrovia	Monrovia	34.23876	-117.868	
4435674E_Cyient 88 2	12/29/2016	7/9/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4435674E	SCE	4435674E_Grand Ave. S/S, 110' E.Tier 3	Lake			Elsinore	Wildomar	33.64078	-117.348	
4447879E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4447879E	SCE	4447879E_W/S Azusa Ave, Appro Tier 3	Valinda			Covina	Covina	34.03225	-117.915	
445076E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	445076E	SCE	445076E_F/O 1294 Sunny Oaks T Tier 2	Altadena			Monrovia	Monrovia	34.19525	-118.122	
4454955E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4454955E	SCE	4454955E_2495' S/O Gibbel Rd, P Tier 3	San Jacinto			Menifee	Menifee	33.69554	-116.942	
4454979E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4454979E	SCE	4454979E_P/P End/O Goldfield Rt Tier 3	San Jacinto			Menifee	Menifee	33.78725	-117.326	
4456997E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4456997E	SCE	4456997E_Via Gavilan P/P 141' S :Tier 2	Palo Verde			South Bay	South Bay	33.80129	-118.361	
4463971E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4463971E	SCE	4463971E_Acacia St N/S P/P 465' Tier 2	Els			Wildomar	Wildomar	33.70509	-117.34	
4469504E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4469504E	SCE	4469504E_Mcclay St And E 3Rd Tier 3	Santa Ana			Santa Ana	Santa Ana	33.74728	-117.85	
4470905E_QC Scope_1	7/14/2020	7/31/2020	Contractor				Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4470905E	SCE	4470905E_Woodleigh P/P 450' E :Tier 2	La Canada			Monrovia	Monrovia	34.18974	-118.193	
4491107E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491107E	SCE	4491107E_Upr Prop 25' N 500' E/C Tier 3	Valyermo			Monrovia	Monrovia	34.23465	-117.836	
4491108E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491108E	SCE	4491108E_Pri Prop 10' N 500' E/C Tier 3	Valyermo			Monrovia	Monrovia	34.23467	-117.836	
4491109E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491109E	SCE	4491109E_P/P 1350' N 20' E/O Ce Tier 3	Azusa			Monrovia	Monrovia	34.2347	-117.834	
4491110E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491110E	SCE	4491110E_P/P 1335' N 20' E/O Ce Tier 3	Azusa			Monrovia	Monrovia	34.23468	-117.834	
4491111E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491111E	SCE	4491111E_P/P 1165' N 750' E/O C Tier 3	Monrovia			Monrovia	Monrovia	34.23468	-117.831	
4491112E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491112E	SCE	4491112E_P/P 1150' N 750' E/O C Tier 3	Azusa			Monrovia	Monrovia	34.23466	-117.831	
4491113E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491113E	SCE	4491113E_P/P 1075' N 1150' W/O Tier 3	Azusa			Monrovia	Monrovia	34.23481	-117.829	
4491114E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491114E	SCE	4491114E_P/P 1060' N 1150' W/C Tier 3	Valyermo			Monrovia	Monrovia	34.23479	-117.829	
4491140E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491140E	SCE	4491140E_500' West Of Service R Tier 3	Valyermo			Monrovia	Monrovia	34.20176	-117.769	
4491145E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491145E	SCE	4491145E_430' N/O Pole #13849/Tier 3	Valyermo			Monrovia	Monrovia	34.20507	-117.771	
4491455E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491455E	SCE	4491455E_390' S/O Pole#13849/Tier 3	Valyermo			Monrovia	Monrovia	34.22647	-117.773	
4491456E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4491456E	SCE	4491456E_595' S/O Pole#13849/Tier 3	Valyermo			Monrovia	Monrovia	34.22647	-117.773	
4494309E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4494309E	SCE	4494309E_San Gabriel Cyn Rd Tier 3	San Gabriel			Monrovia	Monrovia	34.28068	-117.842	
4494310E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4494310E	SCE	4494310E_San Gabriel Cyn Rd Tier 3	San Gabriel			Monrovia	Monrovia	34.2807	-117.843	
4501664E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4501664E	SCE	4501664E_Foothill Bl P/P 100' E 2 Tier 3	Pasadena			Monrovia	Monrovia	34.17438	-118.098	
4504970E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4504970E	SCE	4504970E_Porter Av P/W 165' S/ Tier 3	Altadena			Monrovia	Monrovia	34.1937	-118.117	
4512009E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4512009E	SCE	4512009E_Upper Bear Cyn,4Th P/Tier 3	Ontario			Ontario	Ontario	34.23982	-117.659	
4513418E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4513418E	SCE	4513418E_Big T Canyon 800' S/O Tier 3	Natforest			Monrovia	Monrovia	34.28091	-118.218	
4513419E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4513419E	SCE	4513419E_Big T Cyn 800' S/O Polk Tier 3	Natforest			Monrovia	Monrovia	34.28084	-118.219	
4513420E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4513420E	SCE	4513420E_Big Tujunga Cyn Tier 3	Tujunga			Monrovia	Monrovia			

AilogID	VmpLogID	InspectionS dBy	InspectionS ndDate	Performe dBy	Inspector Name	Inspection Type	Inspection Comment	Complianc eFinding	Inspection Method	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4533058E_QC Scope_1		4/21/2020	5/18/2020	Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4533058E	SCE		4533058E_Hemet Ranch Rd S/S 2	Tier 3	Hemet	Menifee	33.64421	-116.968		
4533060E_QUANTA 7		4/21/2020	6/17/2020	Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4533060E	SCE		4533060E_Hemet Ranch Rd E/S 1	Tier 3	Hemet	Menifee	33.64421	-116.967		
4548398E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4548398E	SCE		4548398E_Edison R/W 1940' E/O	Tier 2	Lake Elsinore	Wildomar	33.69857	-117.384		
4548399E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4548399E	SCE		4548399E_Edison R/W 1940' E/O	Tier 2	Lake Elsinore	Wildomar	33.69859	-117.384		
4561593E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4561593E	SCE		4561593E_W/S Dunlap Dr, 115' S	Tier 2	Perris	Menifee	33.79842	-117.191		
4562421E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4562421E	SCE		4562421E_Hemstreet P/P 40' N/C	Tier 3	Idyllwild	Menifee	33.74126	-116.705		
4562568E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4562568E	SCE		4562568E_Tahquitz Dr 225' W/O	Tier 3	Idyllwild	Menifee	33.74772	-116.706		
456349E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 456349E	SCE		456349E_F Altadena Dr P/N 415'	Tier 3	Altadena	Monrovia	34.19159	-118.113		
4573034E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4573034E	SCE		4573034E_90' N/E/O Fern Valley	Tier 3	Idyllwild	Menifee	33.76523	-116.692		
4575385E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4575385E	SCE		4575385E_Liberty Rd Extnd W/S 2	Tier 2	Murrieta Hot Springs	Wildomar	33.60503	-117.137		
4575386E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4575386E	SCE		4575386E_Liberty Rd Extnd W/S 2	Tier 2	Murrieta Hot Springs	Wildomar	33.60448	-117.137		
4578361E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4578361E	SCE		4578361E_Wisteria St P/S 150' W	Tier 3	Huntington Beach	Huntington	33.72014	-117.924		
4579271E_QUANTA 2	1/17/2020	6/17/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4579271E	SCE		4579271E_Montebello	Tier 2	Monterey Park	Montebell	33.98442	-118.031		
4591861E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4591861E	SCE		4591861E_1150' E/O Angeles Fore	Tier 3	Mt Wilson	Monrovia	34.18972	-118.087		
4591865E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4591865E	SCE		4591865E_1050' E/O Angeles Fore	Tier 3	Mt Wilson	Monrovia	34.19113	-118.087		
4591870E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4591870E	SCE		4591870E_Henninger Flats 1250'	Tier 3	Mt Wilson	Monrovia	34.19702	-118.087		
4591871E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4591871E	SCE		4591871E_Henninger Flats 1250'	Tier 3	Mt Wilson	Monrovia	34.19701	-118.087		
4591872E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4591872E	SCE		4591872E_Mt Wilson Line 850' N	Tier 3	Mt Wilson	Monrovia	34.19821	-118.084		
4591873E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4591873E	SCE		4591873E_Mt Wilson Line 850' N	Tier 3	Mt Wilson	Monrovia	34.19822	-118.084		
4591880E_QUANTA 2	5/7/2019	5/20/2020	Contractor			Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s 4591880E	SCE		4591880E_Chuy Chase Dr P/W 1	Tier 2	La Canada	Monrovia	34.20139	-118.202		
459907E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 459907E	SCE		459907E_V Verdugo Rd. P/P 150'	Tier 2	La Canada	Monrovia	34.20615	-118.214		
4602510E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4602510E	SCE		4602510E_Carbon Cyn Rd N/W/S	Tier 3	Brea	Fullerton	33.94182	-117.787		
4602540E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4602540E	SCE		4602540E_6199 1/2 Carbon Cany	Tier 3	Brea	Fullerton	33.93443	-117.793		
4606073E_QUANTA 2	5/15/2019	5/20/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4606073E	SCE		4606073E_Alton Oaks Dr P/P 399	Tier 2	Bradbury	Monrovia	34.14492	-117.965		
4606905E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4606905E	SCE		4606905E_San Jose Dr Pp/S 145'	Tier 2	Covina	Covina	34.07522	-117.854		
4614988E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4614988E	SCE		4614988E_Hunter Rd 2390' N/O	Tier 2	Temecula	Wildomar	33.5749	-117.158		
4617268E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4617268E	SCE		4617268E_Longmont Ave. P/E 68	Tier 2	Temple City	Monrovia	34.1232	-118.088		
4617623E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4617623E	SCE		4617623E_10' E/O Park Ave 50'	Tier 2	Laguna Beach	Saddleback	33.54303	-117.773		
4626570E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4626570E	SCE		4626570E_Tonner Cyn Rd 1514'	E Tier 3	Brea	Covina	33.95147	-117.834		
4643301E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4643301E	SCE		4643301E_Forest Haven Rd Ns 97	Tier 2	Idyllwild	Menifee	33.68457	-117.197		
4656050E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4656050E	SCE		4656050E_Palos Verdes Dr W A/V	Tier 2	Palos Verdes Estates	South Bay	33.77222	-118.416		
4692315E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4692315E	SCE		4692315E_Hwy. 74 P/S 738' W/O	Tier 2	Homeland	Menifee	33.74272	-117.115		
4713311E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4713311E	SCE		4713311E_Collier Ave Pp 110' W	Tier 2	Lake Elsinore	Wildomar	33.70745	-117.362		
472215E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 472215E	SCE		472215E_East Rd S/S 150' E/O C	Tier 3	La Habra Heights	Fullerton	33.96099	-117.95		
4725265E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4725265E	SCE		4725265E_41330 Ryan Ln Hemet	Tier 3	Hemet	Menifee	33.62062	-116.941		
4725278E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4725278E	SCE		4725278E_Vista Way P/S 200 W	Tier 2	Hemet	Menifee	33.76378	-117.183		
4732215E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4732215E	SCE		4732215E_East Rd S/S 190' E/O C	Tier 3	La Habra Heights	Fullerton	33.96077	-117.951		
4734362E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734362E	SCE		4734362E_Sec8 T2N R11 W 226'	Tier 3	La Canada	Monrovia	34.27064	-118.064		
4734363E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734363E	SCE		4734363E_Sec8 Tsn R11 W 466'	E Tier 3	La Canada	Monrovia	34.27098	-118.063		
4734364E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734364E	SCE		4734364E_Sec8 T2N R11 W 466'	Tier 3	La Canada	Monrovia	34.27094	-118.063		
4734365E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734365E	SCE		4734365E_Angelas Crest Hwy P/P	Tier 3	La Canada	Monrovia	34.27136	-118.062		
4734366E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734366E	SCE		4734366E_Sec8 T2N R11 W 781'	Tier 3	La Canada	Monrovia	34.27131	-118.062		
4734367E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734367E	SCE		4734367E_S/S Sec 7 8' W/O T2N	Tier 3	Altadena	Monrovia	34.27127	-118.062		
4734368E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734368E	SCE		4734368E_Trn R/W 180' E/O/W/L	Tier 3	La Canada	Monrovia	34.27279	-118.059		
4734369E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734369E	SCE		4734369E_P/P 1801' E/O W/Line	Tier 3	La Canada	Monrovia	34.27275	-118.059		
4734370E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734370E	SCE		4734370E_Trn R/W 1801' E/O/W	Tier 3	La Canada	Monrovia	34.27271	-118.059		
4734918E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734918E	SCE		4734918E_P/P 2071' W/O E/Line	Tier 3	La Canada	Monrovia	34.26756	-118.072		
4734923E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734923E	SCE		4734923E_S/E C/O Darfo Dr & Do	Tier 3	La Canada	Monrovia	34.26979	-118.066		
4734924E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734924E	SCE		4734924E_Sec7 T2N R11 W 426'	Tier 3	La Canada	Monrovia	34.26975	-118.066		
4734925E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4734925E	SCE		4734925E_Sec 8 T2N R11 W 226'	Tier 3	La Canada	Monrovia	34.27069	-118.064		
4735062E_Cyient 27 2	12/2/2015	6/29/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4735062E	SCE		4735062E_La Crescenta Ave E/S 7	Tier 2	La Crescenta	Monrovia	34.23829	-118.24		
4741066E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4741066E	SCE		4741066E_Pp 330 W650 S/O E 1/4	Tier 3	Jurupa Valley	Ontario	33.9227	-117.664		
4750007E_QC Scope_1	6/25/2020	7/7/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4750007E	SCE		4750007E_Next Pole N/O Str# 21	Tier 2	Corona	Wildomar	33.80565	-117.501		
4757273E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4757273E	SCE		4757273E_In Alley 45' E/O 10667	Tier 3	Fullerton	Fullerton	33.86617	-117.906		
4760242E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4760242E	SCE		4760242E_Sec13 T3N R11W 2401	Tier 3	La Canada	Monrovia	34.34705	-117.985		
4767579E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4767579E	SCE		4767579E_N/S W/Fork San Gabrie	Tier 3	Azusa	Monrovia	34.24036	-117.885		
4767580E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4767580E	SCE		4767580E_N/S West Fork S G Cyn	Tier 3	Azusa	Monrovia	34.24054	-117.888		
4767581E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4767581E	SCE		4767581E_N/S W/Fork San Gabrie	Tier 3	Azusa	Monrovia	34.24038	-117.885		
4767582E_PLP				Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4767582E	SCE		4767582E_N/S W/ Fork San Gabri	Tier 3	Azusa	Monrovia	34.24053	-117.888		
4767583E_PLP				Contractor		Pole Loadir Pending	No	No													

AilLogID	VmpLogID	InspectionS dby	InspectionE ndDate	Performe dBy	Performer Name	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilLogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4767594E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4767594E	SCE		4767594E_N/S West Fork San Gal Tier 3	Azusa	Monrovia	34.24124	-117.936				
4767595E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4767595E	SCE		4767595E_N/S West Fork San Gal Tier 3	Azusa	Monrovia	34.24122	-117.936				
4767596E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4767596E	SCE		4767596E_N/S West Fork San Gal Tier 3	Azusa	Monrovia	34.24146	-117.938				
4767597E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4767597E	SCE		4767597E_W/S West Fork, San G Tier 3	Azusa	Monrovia	34.24144	-117.938				
4767598E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4767598E	SCE		4767598E_N/S West Fork San Gal Tier 3	Azusa	Monrovia	34.24236	-117.942				
4767655E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4767655E	SCE		4767655E_Big Tjunga Dam Rd. V Tier 3	Tujunga	Monrovia	34.29092	-118.119				
4768654E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4768654E	SCE		4768654E_On Menifee Rd N/O M Tier 2	Romoland	Menifee	33.73616	-117.155				
4771027E_QC Scope_I	4/20/2020		5/18/2020		Contractor		Pole Loadir	Committed	Yes	No	Walk out	Other	Tablet, vendors prop s4771027E	SCE		4771027E_Soboba Rd. Se/S 670' T Tier 2	San Jacinto	Menifee	33.78462	-116.936				
4773762E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4773762E	SCE		4773762E_W/S Upper Pad Rd. 80' Tier 2	Yorba Linda	Fullerton	33.91096	-117.826				
4773763E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4773763E	SCE		4773763E_E/S Upper Pad Rd. 80' Tier 2	Yorba Linda	Fullerton	33.91098	-117.826				
4773770E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4773770E	SCE		4773770E_W/S Upper Pad Rd. 100' Tier 2	Yorba Linda	Fullerton	33.91194	-117.826				
4773771E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4773771E	SCE		4773771E_E/S Upper Pad Rd. 100' Tier 2	Yorba Linda	Fullerton	33.91191	-117.826				
4773781E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4773781E	SCE		4773781E_Devis Gate Res. W/S 9 Tier 2	Pasadena	Monrovia	34.19634	-118.173				
4775726E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4775726E	SCE		4775726E_Mt Lukens Tier 3	Tujunga	Monrovia	34.26117	-118.228				
4775727E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4775727E	SCE		4775727E_Mt Lukens Tier 3	Tujunga	Monrovia	34.26106	-118.228				
4775979E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4775979E	SCE		4775979E_820' N/E Pole X15527E Tier 3	Natforest	Monrovia	34.30408	-118.268				
4775980E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4775980E	SCE		4775980E_25' S/O Pole X15516E Tier 3	Natforest	Monrovia	34.30419	-118.268				
4776676E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4776676E	SCE		4776676E_Verdugo 12Kv Tier 3	Big Tjunga	Monrovia	34.27925	-118.211				
4776677E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4776677E	SCE		4776677E_Verdugo 12Kv Tier 3	Big Tjunga	Monrovia	34.27915	-118.211				
4778195E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4778195E	SCE		4778195E_Live Oak Cyn Rd 200' N Tier 3	Trabuco Canyon	Saddleback	33.68582	-117.616				
4780502E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4780502E	SCE		4780502E_1st St Pp 70' E/S/O Flor Tier 2	Hemet	Menifee	33.74597	-116.888				
4783537E_QC Scope_I	6/26/2020		7/15/2020		Contractor		Pole Loadir	Committed	Yes	No	Walk out	Other	Tablet, vendors prop s4783537E	SCE		4783537E_Pole E/O 4317469E Tier 2	Lake Elsinore	Wildomar	33.68868	-117.355				
4784934E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4784934E	SCE		4784934E_West Rd S/S 572' E/O Tier 3	La Habra Heights	Fullerton	33.95298	-117.979				
4786001E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786001E	SCE		4786001E_N/S West Fork San Gal Tier 3	Azusa	Monrovia	34.24235	-117.942				
4786002E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786002E	SCE		4786002E_N/S West Fork, San Gal Tier 3	Azusa	Monrovia	34.24425	-117.957				
4786003E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786003E	SCE		4786003E_N/S West Fork San Gal Tier 3	Azusa	Monrovia	34.24423	-117.957				
4786004E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786004E	SCE		4786004E_S/S West Fork San Gab Tier 3	Azusa	Monrovia	34.24301	-117.963				
4786005E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786005E	SCE		4786005E_S/S West Fork San Gab Tier 3	Azusa	Monrovia	34.24303	-117.964				
4786080E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786080E	SCE		4786080E_Big T Canyon 500' N/O Tier 3	Tujunga	Monrovia	34.28585	-118.198				
4786081E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786081E	SCE		4786081E_Big T Cyn 500' N/O Pol Tier 3	Big Tjunga Canyon	Monrovia	34.28578	-118.198				
4786084E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4786084E	SCE		4786084E_1400' E 1800' N X Big T Tier 3	Natforest	Monrovia	34.28946	-118.193				
4786085E_QUANTA 2	12/20/2019		6/7/2020		Contractor		Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s4786085E	SCE		4786085E_1400' E 1800' N X Of B Tier 3	Natforest	Monrovia	34.2894	-118.193				
4787434E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4787434E	SCE		4787434E_Trudie Dr. P/P 580' S Tier 2	Rancho Palos Verdes	South Bay	33.75198	-118.31				
4787860E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4787860E	SCE		4787860E_Chino Corona Rd (Next Tier 2	Chino	Ontario	33.94596	-117.62				
4788676E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4788676E	SCE		4788676E_Crestwood St P/L/S 74 Tier 2	Rancho Palos Verdes	South Bay	33.74959	-118.316				
4788678E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4788678E	SCE		4788678E_Noble View Dr P/L/S 60' Tier 2	Rancho Palos Verdes	South Bay	33.74999	-118.316				
4788690E_QUANTA 4	7/14/2020		7/15/2020		Contractor		Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s4788690E	SCE		4788690E_Crestwood St. P/L/S 154 Tier 2	Rancho Palos Verdes	South Bay	33.74867	-118.314				
4795054E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4795054E	SCE		4795054E_Cir: Verdugo 16Kv, Sub Tier 3	Sunland	Monrovia	34.30134	-118.276				
4795055E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4795055E	SCE		4795055E_Cir: Verdugo 16Kv, Sub Tier 3	Sunland	Monrovia	34.30142	-118.276				
4795059E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4795059E	SCE		4795059E_480' N/E Of Pole 1886' Tier 3	Natforest	Monrovia	34.30201	-118.274				
4795060E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4795060E	SCE		4795060E_Big T Cyn 560' N/E Pol Tier 3	Natforest	Monrovia	34.30261	-118.273				
4795073E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4795073E	SCE		4795073E_480' N/E Of Pole # 188 Tier 3	Natforest	Monrovia	34.30193	-118.274				
4796763E_QUANTA 7	4/20/2020		5/7/2020		Contractor		Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s4796763E	SCE		4796763E_South Circle Dr W/S, 1 Tier 3	Idyllwild	Menifee	33.75049	-116.703				
4796889E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4796889E	SCE		4796889E_Tm R/W Sec27 1200' Tier 3	La Canada	Monrovia	34.31484	-118.021				
4798095E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4798095E	SCE		4798095E_38820 Calle De Campa Tier 3	(Murrieta) La Cresta	Wildomar	33.56769	-117.324				
4798441E_QC Scope_I	4/20/2020		5/18/2020		Contractor		Pole Loadir	Committed	Yes	No	Walk out	Other	Tablet, vendors prop s4798441E	SCE		4798441E_W/S Lakeview Rd 1322 Tier 2	Nuevo	Menifee	33.82278	-117.135				
4799801E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799801E	SCE		4799801E_Verdugo 16Kv/ La Cani Tier 3	Altadena	Monrovia	34.30125	-118.276				
4799802E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799802E	SCE		4799802E_Cir: Verdugo 16Kv, Sub Tier 3	Los Angeles County	Monrovia	34.30088	-118.275				
4799812E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799812E	SCE		4799812E_Big T Cyn 395' E/O Pol Tier 3	Tujunga	Monrovia	34.27912	-118.209				
4799813E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799813E	SCE		4799813E_Big T Cyn 400' E/O Pol Tier 3	Tujunga	Monrovia	34.27923	-118.209				
4799830E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799830E	SCE		4799830E_Mt Lukens Tier 3	Tujunga	Monrovia	34.27459	-118.218				
4799831E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799831E	SCE		4799831E_Mt Lukens Tier 3	Tujunga	Monrovia	34.27459	-118.218				
4799832E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799832E	SCE		4799832E_Mt Lukens Tier 3	La Canada	Monrovia	34.27459	-118.218				
4799834E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799834E	SCE		4799834E_Mt Lukens Tier 3	Tujunga	Monrovia	34.2732	-118.218				
4799835E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799835E	SCE		4799835E_Mt Lukens Tier 3	Tujunga	Monrovia	34.2732	-118.218				
4799836E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799836E	SCE		4799836E_Tation No. 12, Mt Luke Tier 3	Tujunga	Monrovia	34.2732	-118.218				
4799837E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799837E	SCE		4799837E_Station No. 11, Mt Luk Tier 3	Tujunga	Monrovia	34.27264	-118.218				
4799838E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799838E	SCE		4799838E_Station No. 1 Mt Luker Tier 3	Tujunga	Monrovia	34.27262	-118.218				
4799839E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799839E	SCE		4799839E_Station No. 11, Mt Luk Tier 3	Tujunga	Monrovia	34.27261	-118.218				
4799840E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799840E	SCE		4799840E_Station # 10, Mt Luken Tier 3	Tujunga	Monrovia	34.26648	-118.222				
4799841E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799841E	SCE		4799841E_Station No. 10, Mt Luk Tier 3	Tujunga	Monrovia	34.26645	-118.222				
4799842E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799842E	SCE		4799842E_Station No. 10, Mt Luk Tier 3	Tujunga	Monrovia	34.26641	-118.222				
4799843E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799843E	SCE		4799843E_Mt Lukens Tier 3	Tujunga	Monrovia	34.26577	-118.222				
4799844E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799844E	SCE		4799844E_Mt Lukens Tier 3	Tujunga	Monrovia	34.26573	-118.222				
4799845E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4799845E	SCE		4799845E_Mt Lukens Tier 3	Tujunga	Monrovia	34.26569	-118.222				
4799846E_PLP					Contractor		Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s4											

AiLogID	VmpLogID	InspectionS tardDate	InspectionE ndDate	Performe dBy	Performe nt	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Comment	AiID	UtilityID	AiLogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4801013E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801013E	SCE	4801013E_P/P 242' E/O W Line 11	Tier 3	Pasadena	Monrovia	34.2438	-118.186			
4801014E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801014E	SCE	4801014E_P/P 260' E/O W Line 11	Tier 3	Pasadena	Monrovia	34.2438	-118.186			
4801015E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801015E	SCE	4801015E_P/P 278' E/O W Line 11	Tier 3	Pasadena	Monrovia	34.2438	-118.185			
4801351E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801351E	SCE	4801351E_P/P 308' S 250' W/O C	Tier 3	La Canada	Monrovia	34.25794	-118.093			
4801352E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801352E	SCE	4801352E_P/P 300' S 250' W/O C	Tier 3	La Canada	Monrovia	34.258	-118.093			
4801356E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801356E	SCE	4801356E_P/P 460' S 650' E/O C	Tier 3	La Canada	Monrovia	34.2577	-118.089			
4801357E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801357E	SCE	4801357E_P/P 475' S 650' E/O C	Tier 3	La Canada	Monrovia	34.25763	-118.089			
4801358E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801358E	SCE	4801358E_Mt Waterman Hwy P	Tier 3	La Canada	Monrovia	34.25757	-118.089			
4801359E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801359E	SCE	4801359E_P/P 600' S/O 1000' W	Tier 3	La Canada	Monrovia	34.25695	-118.086			
4801360E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801360E	SCE	4801360E_P/P 850' S 910' W/O N	Tier 3	La Canada	Monrovia	34.25688	-118.086			
4801361E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801361E	SCE	4801361E_P/P 865' S 910' W/O N	Tier 3	La Canada	Monrovia	34.25681	-118.086			
4801362E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801362E	SCE	4801362E_P/P 170' W 1075' S/O	Tier 3	La Canada	Monrovia	34.25627	-118.084			
4801363E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801363E	SCE	4801363E_P/P 170' W 1060' S/O	Tier 3	La Canada	Monrovia	34.25634	-118.083			
4801364E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801364E	SCE	4801364E_P/P 170' W 1045' S/O	Tier 3	La Canada	Monrovia	34.25641	-118.083			
4801365E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801365E	SCE	4801365E_P/P 300' E 1185' S/O	N Tier 3	La Canada	Monrovia	34.25615	-118.082			
4801366E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801366E	SCE	4801366E_P/P 300' E 1170' S/O	N Tier 3	La Canada	Monrovia	34.25608	-118.082			
4801367E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801367E	SCE	4801367E_P/P 300' E 1155' S/O	N Tier 3	La Canada	Monrovia	34.25601	-118.082			
4801368E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801368E	SCE	4801368E_P/P 740' E 1265' S/O	N Tier 3	La Canada	Monrovia	34.25598	-118.08			
4801369E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801369E	SCE	4801369E_P/P 740' E 1250' S/O	N Tier 3	La Canada	Monrovia	34.25591	-118.08			
4801370E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801370E	SCE	4801370E_P/P 740' E 1235' S/O	N Tier 3	La Canada	Monrovia	34.25584	-118.081			
4801377E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801377E	SCE	4801377E_P/P 225' W 1025' N/O	Tier 3	La Canada	Monrovia	34.25517	-118.074			
4801378E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801378E	SCE	4801378E_P/P 225' W 1040' N/O	Tier 3	La Canada	Monrovia	34.2551	-118.074			
4801379E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801379E	SCE	4801379E_P/P 225' W 1055' N/O	Tier 3	La Canada	Monrovia	34.25503	-118.074			
4801380E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801380E	SCE	4801380E_P/P 665' N 710' E/O S	Tier 3	La Canada	Monrovia	34.25419	-118.072			
4801381E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801381E	SCE	4801381E_P/P 650' N 710' E/O S	Tier 3	La Canada	Monrovia	34.25413	-118.072			
4801382E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801382E	SCE	4801382E_P/P 635' N 710' E/O S	Tier 3	La Canada	Monrovia	34.25407	-118.072			
4801383E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801383E	SCE	4801383E_P/P 205' N 1290' E/O	S Tier 3	La Canada	Monrovia	34.25287	-118.07			
4801384E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801384E	SCE	4801384E_P/P 190' N 1290' E/O	S Tier 3	La Canada	Monrovia	34.25292	-118.07			
4801385E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801385E	SCE	4801385E_P/P 175' N 1290' E/O	S Tier 3	La Canada	Monrovia	34.25298	-118.07			
4801393E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801393E	SCE	4801393E_P/P 50' E 655' S/O N/E	Tier 3	La Canada	Monrovia	34.25071	-118.065			
4801394E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801394E	SCE	4801394E_P/P 50' E 670' S/O N/E	Tier 3	La Canada	Monrovia	34.25077	-118.065			
4801395E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801395E	SCE	4801395E_P/P 50' 675' S/O N/E	C Tier 3	La Canada	Monrovia	34.25084	-118.065			
4801399E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801399E	SCE	4801399E_P 2100' N/O S Line, 2	Tier 3	La Canada	Monrovia	34.25912	-118.106			
4801401E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801401E	SCE	4801401E_P/P 420' S 690' E/O N	Tier 3	La Canada	Monrovia	34.2516	-118.063			
4801402E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801402E	SCE	4801402E_P/P 435' S 690' E/O N	Tier 3	La Canada	Monrovia	34.25153	-118.063			
4801403E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801403E	SCE	4801403E_540' S/O N.W Cor Sec.	Tier 3	La Canada	Monrovia	34.25152	-118.063			
4801406E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801406E	SCE	4801406E_Mt Wilson Red Box P	Tier 3	La Canada	Monrovia	34.24794	-118.063			
4801407E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801407E	SCE	4801407E_3900' N/O S/W C/O Se	Tier 3	La Canada	Monrovia	34.24794	-118.063			
4801408E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801408E	SCE	4801408E_3900' N/O S/W C/O Se	Tier 3	La Canada	Monrovia	34.24795	-118.063			
4801409E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801409E	SCE	4801409E_3110' N/O S/W C/O Se	Tier 3	La Canada	Monrovia	34.24589	-118.062			
4801410E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801410E	SCE	4801410E_3110' N/O S/W C/O Se	Tier 3	La Canada	Monrovia	34.24588	-118.063			
4801411E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801411E	SCE	4801411E_2770' N/O S/W C/O Se	Tier 3	La Canada	Monrovia	34.24588	-118.063			
4801415E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801415E	SCE	4801415E_P/P 30' N/O S/C 310' E	Tier 3	La Canada	Monrovia	34.23764	-118.064			
4801416E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801416E	SCE	4801416E_P/P 30' N/O S/C 340' E	Tier 3	La Canada	Monrovia	34.23765	-118.064			
4801417E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801417E	SCE	4801417E_P/P 30' N/O S/C 350' E	Tier 3	La Canada	Monrovia	34.23767	-118.064			
4801521E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801521E	SCE	4801521E_P/P 2100' N/O S/Line 2	Tier 3	La Canada	Monrovia	34.25904	-118.106			
4801684E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801684E	SCE	4801684E_800' W/O Mt Waterm	Tier 3	La Canada	Monrovia	34.25914	-118.102			
4801685E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4801685E	SCE	4801685E_800' W/O Mt Waterm	Tier 3	La Canada	Monrovia	34.2592	-118.102			
4806488E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4806488E	SCE	4806488E_General St. P/L/N 195'	Tier 2	Rancho Palos Verdes	South Bay	33.74796	-118.314			
4811924E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4811924E	SCE	4811924E_Sharpless Dr N/S 250'	Tier 3	La Habra Heights	Fullerton	33.96355	-117.932			
4812207E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4812207E	SCE	4812207E_Amate Dr	Tier 3	La Habra Heights	Fullerton	33.95282	-1.2E+07			
4813003E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4813003E	SCE	4813003E_Pp 500' N/O Sec 20 96	Tier 3	Ontario	Ontario	34.25291	-117.641			
4815451E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4815451E	SCE	4815451E_Hunter Lane 375' E/O	Tier 3	Temecula	Wildomar	33.43999	-117.075			
4815597E_QC Scope_1	4/2/2019	5/29/2020		Contractor			Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4815597E	SCE	4815597E_Raley Ave P/P 100 S 14	Tier 3	Lake Elsinore	Wildomar	33.63729	-117.344			
4823863E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4823863E	SCE	4823863E_E/S Maistr Rd, 2150' S	Tier 2	Corona	Wildomar	33.75548	-117.481			
4824651E_QC Scope_1	7/17/2020	7/31/2020		Contractor			Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4824651E	SCE	4824651E_Pottery St 375' N, 99'	Tier 2	Lake Elsinore	Wildomar	33.67237	-117.318			
4835679E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4835679E	SCE	4835679E_28041 Crenshaw Blvd	Tier 2	Ranchos Palos Verdes	South Bay	33.76803	-118.365			
4835698E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4835698E	SCE	4835698E_Crenshaw Bl. S/S N/O	Tier 2	Ranchos Palos Verdes	South Bay	33.74511	-118.359			
4837091E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4837091E	SCE	4837091E_Rosemont Ave P/L S 14'	Tier 2	La Crescenta	Monrovia	34.22699	-118.236			
4838316E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4838316E	SCE	4838316E_Songs Plant Old Pch P-	Tier 2	San Onofre	Saddleback	33.37154	-117.557			
4838777E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4838777E	SCE	4838777E_Adjacent Pole 154776'	Tier 3	Laguna Niguel	Saddleback	33.52934	-117.735			
4841828E_PLP				Contractor			Pole Loadir	Pending	No	No	Walk out	Other	Tablet, vendors prop s	4841828E	SCE	4841828E_2130 Velez Dr	Tier 2	Rancho Palos Verdes	South Bay	33.76193	-118.318			
4843142E_Cyient 27 2 11/17/2017	6/29/2020			Contractor			Pole Loadir	Committed	No	No	Walk out	Other	Tablet, vendors prop s	4843142E	SCE	4843142E_Cross St S/S 49' W/O B	Tier 2	La Crescenta	Monrovia	34.2214				

AilogID	VmpLogID	InspectionS tardDate	InspectionE ndDate	Performe dBy	Performe nt	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection mmment	Inspection Technology	Inspection t	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4873840E_QUANTA 2		3/4/2019	5/14/2020	Contractor			Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 4873840E	SCE			4873840E_Broadway S/S 165' E/C Tier 2		Whittier	Monterobell	33.98621	-118.031		
4881351E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4881351E	SCE			4881351E_Figueroa Dr E/S 200' S Tier 2		Glendale	Monrovia	34.17731	-118.195		
4883676E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4883676E	SCE			4883676E_2035 Skyview Dr, Tier 3		Altadena	Monrovia	34.191	-118.109		
4883678E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4883678E	SCE			4883678E_334 N Grove St Tier 2		Sierra Madre	Monrovia	34.16763	-118.061		
4886510E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4886510E	SCE			4886510E_Chino-Corona Rd Pp/1. Tier 2		Chino	Ontario	33.9461	-117.641		
4892524E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4892524E	SCE			4892524E_1700 Espinosa Cir, Palk Tier 2		Rancho Palos Verdes	South Bay	33.782	-118.408		
4893340E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4893340E	SCE			4893340E_27241 Eastvale Rd Tier 2		Palos Verdes	South Bay	33.77743	-118.357		
4894557E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4894557E	SCE			4894557E_26951 Whitestone Rd Tier 2		Rancho Palos Verdes	South Bay	33.78293	-118.386		
4894573E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4894573E	SCE			4894573E_88 Narcissa Dr, Ranch Tier 2		Palos Verdes	South Bay	33.74737	-118.365		
4894815E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4894815E	SCE			4894815E_1685 Rico Pl, Palos Ver Tier 2		Rancho Palos Verdes	South Bay	33.78043	-118.411		
4928953E_QUANTA 2		5/28/2020	6/11/2020	Contractor			Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 4928953E	SCE			4928953E_Old San Gab Cyn Rd P/ Tier 2		Azusa	Monrovia	34.16174	-117.894		
4929422E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4929422E	SCE			4929422E_7167 Monterey St Tier 2		La Verne	Covina	34.14528	-117.766		
4931746E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4931746E	SCE			4931746E_3818 Sunset Ave Tier 2		La Crescenta-Montrose	Monrovia	34.20784	-118.233		
4931755E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4931755E	SCE			4931755E_254 Monterey Rd Tier 2		South Pasadena	Monrovia	34.11138	-118.171		
4932129E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4932129E	SCE			4932129E_N/S Macarthur St. 147 Tier 2		Palos Verdes	South Bay	33.75198	-118.315		
4932652E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4932652E	SCE			4932652E_Paseo De Los Reyes P/ Tier 2		Torrance	South Bay	33.76046	-118.321		
4932653E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4932653E	SCE			4932653E_Geronimo Dr Pp/E 50 I Tier 2		Rancho Palos Verdes	South Bay	33.77367	-118.399		
4932655E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4932655E	SCE			4932655E_Eastfield Dr E/S 500' N Tier 2		Rancho Palos Verdes	South Bay	33.75137	-118.339		
4932675E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4932675E	SCE			4932675E_28866 Crestridge Rd, R Tier 2		Rancho Palos Verdes	South Bay	33.76309	-118.365		
4943019E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4943019E	SCE			4943019E_W/O Brydon Rd & N/O Tier 2		La Verne	Covina	34.15104	-117.759		
495218E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 495218E	SCE			495218E_F Sunny Slope Dr E/O La Tier 3		San Gabriel	Monrovia	34.12801	-118.083		
5201956E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 5201956E	SCE			5201956E_Pvt. Rd. Olinda Landfill Tier 3		Brea	Fullerton	33.93263	-117.844		
539493E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 539493E	SCE			539493E_F Sierra Vista St. P/W 2 Tier 3		Rosemead	Montebell	34.08556	-117.045		
554157H_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 554157H	SCE			554157H_F Beverly Way P/W 47' E Tier 3		Altadena	Monrovia	34.11355	-118.788		
567319E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 567319E	SCE			567319E_F Crest Dr P/P 1650 N/S Tier 2		Rolling Hills	South Bay	33.75917	-118.348		
5932S_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 5932S	SCE			5932S_PLP 2520 N/O/S/L @ 660 E Tier 3		Riverside	Menifee	33.97524	-117.294		
5933S_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 5933S	SCE			5933S_PLP 490 N/O/S/L @ 710 E Tier 3		Riverside	Menifee	33.97657	-117.293		
593595E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 593595E	SCE			593595E_F Live Oak Cyn Rd P/P 6E Tier 2		La/Laverne	Covina	34.12636	-117.745		
602990H_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 602990H	SCE			602990H_F Palos Verdes N/S 1600 Tier 2		Rancho Palos Verdes	South Bay	33.77028	-118.323		
636626E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 636626E	SCE			636626E_F P/W Lincoln Ave 1100 Tier 3		Altadena	Monrovia	34.20461	-118.16		
64687_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 64687	SCE			64687_PLP Hwy 15 P/P 180' S, 16E Tier 2		Corona	Wildomar	33.74062	-117.434		
689431E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 689431E	SCE			689431E_F Maple St E/S 4 N/O W. Tier 3		Santa Ana	Santa Ana	33.74455	-117.863		
7088080E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 7088080E	SCE			7088080E_1St Stp/N 400' E/O Pe Tier 3		Santa Ana	Santa Ana	33.74589	-117.862		
727582E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 727582E	SCE			727582E_F Sta 20 301' E/O Pole #. Tier 3		Tujunga	Monrovia	34.30236	-118.272		
727583E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 727583E	SCE			727583E_F Sta 32 95' S/O Pole #X. Tier 3		Tujunga	Monrovia	33.93042	-118.393		
736137H_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 736137H	SCE			736137H_F Berkshire Pl. N/S 465' I Tier 2		Flintridge	Monrovia	34.19036	-118.182		
757234E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 757234E	SCE			757234E_F Eastfield Dr S/S 280' E Tier 2		Rolling Hills	South Bay	33.85163	-118.328		
763713E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 763713E	SCE			763713E_F Laguna Cyn Rd. S/W O Tier 3		Laguna Beach	Saddleback	33.56288	-117.769		
769999H_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 769999H	SCE			769999H_F Irvine Park Dr Tier 3		Orange	Santa Ana	33.79568	-117.753		
790130H_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 790130H	SCE			790130H_F Buffalo St P/P 110' N - Tier 2		Santa Ana	Santa Ana	33.76601	-117.868		
796906E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 796906E	SCE			796906E_F S/O 190Th R-P/L E/O A Tier 2		Torrance	South Bay	33.85716	-118.362		
811824E_P QUANTA 4		7/16/2020	7/22/2020	Contractor			Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 811824E	SCE			811824E_F Saddle Pnt St E/S 300' I Tier 2		Palos Verdes	South Bay	33.75999	-118.318		
829760H_FQC Scope_1		7/6/2020	7/24/2020	Contractor			Pole Loadir Committed	Yes	Yes	No	Walk out	Other	Tablet; vendors prop s 829760H	SCE			829760H_F 8' P/P S/O N/Ln 346' E Tier 2		Riverside	Ontario	33.85793	-117.387		
837179E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 837179E	SCE			837179E_F 04-512Ega Pl/W 110' S Tier 3		Monrovia	Monrovia	34.15895	-117.899		
853638H_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 853638H	SCE			853638H_F Alta Vista Ave. P/S 40I Tier 3		Riverside	Ontario	34.42692	-118.594		
862015E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 862015E	SCE			862015E_F Enrose Ave P/L/W, 17I Tier 2		Los Angeles	South Bay	33.74532	-118.319		
905208E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 905208E	SCE			905208E_F Pp W/O Chino Corona Tier 2		Chino	Ontario	33.56769	-117.383		
921892E_P QUANTA 4		7/7/2020	7/9/2020	Contractor			Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 921892E	SCE			921892E_F 168Th St N/S 100' W/C Tier 2		Torrance	South Bay	33.87817	-118.33		
933900E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 933900E	SCE			933900E_F Boundary Av W/S Extd Tier 2		Los Angeles	Montebell	34.09736	-118.193		
935362E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 935362E	SCE			935362E_F Via Zumaya S/S 1' W/C Tier 2		Palos Verdes Estates	South Bay	33.77088	-118.413		
945908E_P QUANTA 4		7/14/2020	7/15/2020	Contractor			Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 945908E	SCE			945908E_F Valencia Rd Sw/S Tier 2		Rolling Hills	South Bay	33.76053	-118.321		
953327E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 953327E	SCE			953327E_F Rocking Av Extd C/L P Tier 3		Brea	Fullerton	33.93318	-117.851		
959302E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 959302E	SCE			959302E_F Matley Rd P/L 112' W. Tier 2		La Canada Flintridge	Monrovia	34.22196	-118.226		
971588E_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 971588E	SCE			971588E_F Covainhills Rd. P/P 15C Tier 2		Covina	Covina	34.07464	-117.854		
A4384Y_PLP				Contractor			Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s A4384Y	SCE			A4384Y_PL 16 Silver Saddle Ln, Ro Tier 2	</						

AilogID	VmpLogID	InspectionS dby	InspectionE ndDate	Performe dBy	Performe ent	Inspector Name	Inspection Type	Inspection Commen t	Inspection QA	Inspection Comments	Complianc e Finding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	Aid	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
W202Y_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s W202Y	SCE				W202Y_PLP Sharpless Dr S/S 100' V Tier 3	La Habra Heights	Fullerton	33.96248	-117.929			
W9630Y_P_Cyient 26	2	4/24/2017	6/29/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s W9630Y	SCE			W9630Y_P 14816 Edgeridge Dr Tier 2	La Puente	Covina	33.99995	-117.992				
X15525_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s X15525	SCE			X15525_PLP 18500 Kimbrough Tier 3	Vanuys Country	Monrovia	34.16491	-117.897				
X17700E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s X17700E	SCE			X17700E_P 47810 Bee Canyon 20C Tier 3	Valley City	Menifee	33.73937	-116.826				
560132H_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 560132H	SCE			560132H_F Druid St. P/P 126' N. 11 Tier 2	Los Angeles	Montebell	34.9004	-118.177				
206246M_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 206246M	SCE			206246M_Alhambra Ave. A/W E/ Tier 2	Los Angeles	Montebell	34.07376	-118.173				
120381M_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 120381M	SCE			120381M_Alhambra Ave. A/W 1' Tier 2	Los Angeles	Montebell	34.07069	-118.176				
933879E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 933879E	SCE			933879E_F Alta St. W/S 4' S/O Em Tier 2	Los Angeles	Montebell	34.07713	-118.204				
497435H_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 497435H	SCE			497435H_F Ave. 63 E/S 65' N/O Yo Tier 2	Los Angeles	Monrovia	34.11511	-118.182				
1657817E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 1657817E	SCE			1657817E_Oakgrove Ave. S/S 120 Tier 2	Santa Monica	Monrovia	34.13137	-118.201				
229M_PLP QUANTA 2	2	2/4/2019	6/1/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 229M	SCE			229M_PLP Ave. 65 E/S 30' N/O M Tier 2	Los Angeles	Monrovia	34.12046	-118.177				
1843535E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 1843535E	SCE			1843535E_Meridison St. N/S 3' W/ Tier 2	Los Angeles	Monrovia	34.12022	-118.183				
182406E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 182406E	SCE			182406E_F Ave Miravilla Pp 15' S. Tier 3	Beaumont	Redlands	33.73934	-118.011				
4357474E_Cyient 30	2	6/16/2020	6/30/2020		Contractor		Pole Loadir Committed	Yes	No	No	Walk out	Other	Tablet; vendors prop s 4357474E	SCE			4357474E_Hwy 60 310' N, 3923' E Tier 2	Riverside	Foothill	34.01577	-117.45				
560132H_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 560132H	SCE			560132H_F Druid St. P/P 126' N. 11 Tier 2	Los Angeles	Montebell	34.9004	-118.177				
206246M_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 206246M	SCE			206246M_Alhambra Ave. A/W E/ Tier 2	Los Angeles	Montebell	34.07376	-118.173				
120381M_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 120381M	SCE			120381M_Alhambra Ave. A/W 1' Tier 2	Los Angeles	Montebell	34.07069	-118.176				
933879E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 933879E	SCE			933879E_F Alta St. W/S 4' S/O Em Tier 2	Los Angeles	Montebell	34.07713	-118.204				
497435H_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 497435H	SCE			497435H_F Ave. 63 E/S 65' N/O Yo Tier 2	Los Angeles	Monrovia	34.11511	-118.182				
101375E_P_Cyient 39	2	3/6/2017	7/10/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 101375E	SCE			101375E_V Ventura Ojai Ave W/S2 Tier 3	Ojai	Ventura	34.42344	-119.289				
1719080E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 1719080E	SCE			1719080E_Rockdale Ave W/S At h Tier 2	Los Angeles	#N/A	34.13521	-118.188				
1657817E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 1657817E	SCE			1657817E_Oakgrove Ave. S/S 120 Tier 2	Santa Monica	Monrovia	34.13137	-118.201				
229M_PLP QUANTA 2	2	2/4/2019	6/1/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 229M	SCE			229M_PLP Ave. 65 E/S 30' N/O M Tier 2	Los Angeles	Monrovia	34.12046	-118.177				
1843535E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 1843535E	SCE			1843535E_Meridison St. N/S 3' W/ Tier 2	Los Angeles	Monrovia	34.12022	-118.183				
2121654E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 2121654E	SCE			2121654E_Jurupa Ave. P/P 215' N, Tier 2	Fontana	Foothill	34.04967	-117.409				
4241201E_Cyient 31	2	3/5/2019	7/2/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 4241201E	SCE			4241201E_11585 Bostick Ave Gra Tier 2	Colton	Redlands	34.04354	-117.335				
4887299E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4887299E	SCE			4887299E_Avalon St P/P 429' W, Tier 2	Ribuidoux	Foothill	34.00315	-117.407				
4885926E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4885926E	SCE			4885926E_9117 Hemlock Ave Tier 2	Fontana	Foothill	34.08816	-117.475				
5946F_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 5946F	SCE			5946F_PLP Agua Mansa Rd N/S 17 Tier 2	Colton	Redlands	34.0443	-117.36				
628975H_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 628975H	SCE			628975H_F Agua Mansa Rd N/S 6S Tier 2	Colton	Redlands	34.0518	-117.35				
4862850E_Cyient 30	2	6/20/2020	6/25/2020		Contractor		Pole Loadir Committed	Yes	No	No	Walk out	Other	Tablet; vendors prop s 4862850E	SCE			4862850E_747 W/O Alicante Ave, Tier 2	Jurupa Valley	Foothill	34.03199	-117.399				
422827E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 422827E	SCE			422827E_F Santa Ana Ave S/S App Tier 2	Rialto	Redlands	34.05589	-117.36				
V288323_P_Cyient 30	2	11/8/2017	6/26/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s V288323	SCE			V288323_F Between Archibald An Tier 3	Rancho Cucamonga	Foothill	34.16951	-117.593				
4530414E_Cyient 30	2	6/16/2020	6/19/2020		Contractor		Pole Loadir Committed	Yes	No	No	Walk out	Other	Tablet; vendors prop s 4530414E	SCE			4530414E_N/O Lytle Creek Rd W/ Tier 3	Fontana	Foothill	34.19963	-117.446				
4463746E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4463746E	SCE			4463746E_So Highland S/S C/O Se Tier 2	Fontana	Foothill	34.13406	-117.48				
X5905E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s X5905E	SCE			X5905E_PL 2450E, 2570N S/W Coi Tier 3	Sbn Forest	Foothill	34.18693	-117.448				
4329721E_Cyient 30	2	6/26/2020	6/28/2020		Contractor		Pole Loadir Committed	Yes	No	No	Walk out	Other	Tablet; vendors prop s 4329721E	SCE			4329721E_N/S Riverside W/O Loc Tier 2	Fontana	Foothill	34.16368	-117.41				
4101774E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4101774E	SCE			4101774E_Rimburst Ct S/S 600' E, Tier 2	San Bernardino	Foothill	34.23051	-117.411				
533410H_F_Cyient 30	2	6/16/2020	6/19/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 533410H	SCE			533410H_F Formosa St E/S N/O Pe Tier 2	Mira Loma	Foothill	34.00987	-117.445				
533409H_F_Cyient 30	2	6/16/2020	6/19/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 533409H	SCE			533409H_F Formosa St E/S, Joan A Tier 2	Mira Loma	Foothill	34.01037	-117.445				
6612F_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 6612F	SCE			6612F_PLP 1 Pole S/O 827459E Tier 2	Colton	Redlands	34.04499	-117.36				
1891616E_QC Scope 1		7/9/2015	7/15/2020		Contractor		Pole Loadir Committed	Yes	No	No	Walk out	Other	Tablet; vendors prop s 1891616E	SCE			1891616E_43 MI Nw/O Institutio Tier 2	San Bernardino	Foothill	34.18765	-117.376				
4752845E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4752845E	SCE			4752845E_E/S La Cadena Ave., 12 Tier 2	Colton	Redlands	34.02547	-117.336				
4601076E_Cyient 31	2	3/6/2019	7/2/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 4601076E	SCE			4601076E_N/O 1239980E Tier 2	Redlands	Redlands	34.04226	-117.332				
1745864E_QC Scope 1		7/9/2015	7/15/2020		Contractor		Pole Loadir Committed	Yes	No	No	Walk out	Other	Tablet; vendors prop s 1745864E	SCE			1745864E_30 MI Nw/O Institutio Tier 2	San Bernardino	Foothill	34.18587	-117.374				
1891627E_QC Scope 1		7/9/2015	7/15/2020		Contractor		Pole Loadir Committed	Yes	No	No	Walk out	Other	Tablet; vendors prop s 1891627E	SCE			1891627E_2073' S/O Institutio R Tier 2	San Bernardino	Foothill	34.1746	-117.369				
4619626E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4619626E	SCE			4619626E_Granite Hills Dr, E/O D Tier 2	Fontana	Foothill	34.01281	-117.437				
4286918E_Cyient 31	2	9/10/2014	7/2/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 4286918E	SCE			4286918E_15 Poles N/O Barton O Tier 2	Grand Terrace	Redlands	34.0413	-117.332				
2152963E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 2152963E	SCE			2152963E_W/S Haven Ave 2313' T Tier 3	Rancho Cucamonga	Foothill	34.16785	-117.576				
4538550E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 4538550E	SCE			4538550E_Riverside Avenue E/S, Tier 2	Rialto	Foothill	34.17183	-117.425				
35275_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 35275	SCE			35275_PLP W/O Deercrrest Dr S/O Tier 3	Delvore	Foothill	34.23458	-117.397				
782406E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 782406E	SCE			782406E_F Ave Miravilla Pp 15' S. Tier 3	Beaumont	Redlands	33.73934	-118.011				
1903781E_Cyient 31	2	9/29/2017	6/29/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 1903781E	SCE			1903781E_Bolton Dr So Westwan Tier 3	Beaumont	Redlands	33.91761	-116.991				
2210645E_Cyient 31	2	6/17/2020	6/19/2020		Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet; vendors prop s 2210645E	SCE			2210645E_Oak Glen P/P 1080 N/T Tier 3	Yucaipa	Redlands	34.10052	-116.964				
2118_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet; vendors prop s 2118	SCE			2118_PLP Lawton Av N/S 760' W, Tier 2	Loma Linda	Redlands	34					



AilogID	VmpLogID	InspectionS tardDate	InspectionE ndDate	Performe dBy	Performe ent	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
1947790E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1947790E	SCE			1947790E_265' N/O Foothill P/P 2 Tier 3			San Bernardino	Redlands	34.1568	-117.241		
2721045_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2721045	SCE			2721045_P 2385' N, 2475' W Fr. S, Tier 3			San Bernardino	Redlands	34.12757	-117.285		
2254734E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2254734E	SCE			2254734E_Linden Av P/P 240' W (Tier 3)			Yucaipa	Redlands	34.06464	-117.041		
42515_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 42515	SCE			42515_PLP W/S 215 N/O Little Lea Tier 2			Veddemont	Redlands	34.19896	-117.373		
60180S_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 60180S	SCE			60180S_PL 1525' S & 900' W Fr N/ Tier 3			Barton Fla	Redlands	34.17668	-116.946		
405337E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 405337E	SCE			405337E_F Waterman Cyn Rd E/O Tier 3			San Bernardino Natl Fc	Redlands	34.20774	-117.281		
4730626E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4730626E	SCE			4730626E_S/S Reche Cyn Rd 218E Tier 3			Colton	Redlands	34.00167	-117.235		
4824459E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4824459E	SCE			4824459E_Reche Cyn Rd P/P 381' Tier 3			Redlands	Redlands	33.99178	-117.231		
GT300690_Cyient 31 2	1/27/2018	6/29/2020		Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s GT300690	SCE			GT300690_9171 Corral Rd Tier 3			Forest Falls	Redlands	34.08707	-116.928		
1407337E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1407337E	SCE			1407337E_W/S/O Grand Terrace, Tier 2			Grand Terrace	Redlands	34.04077	-117.303		
A510S_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s A510S	SCE			A510S_PLP 3740'S, 4280'E/O N/W Tier 3			Yucaipa	Redlands	34.00582	-116.971		
2241988E_Cyient 31 2	5/16/2019	7/9/2020		Contractor			Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s 2241988E	SCE			2241988E_N/O New Port Ave; In ' Tier 2			Grand Terrace	Redlands	34.04214	-117.32		
2277033E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2277033E	SCE			2277033E_Minnesota St E/S 298' Tier 2			Beaumont	Redlands	33.92224	-116.988		
2047699E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2047699E	SCE			2047699E_S/S Hampton Rd At Yu. Tier 2			Yucaipa	Redlands	34.02787	-117.12		
X17066E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s X17066E	SCE			X17066E_Fp 600' W/O Refuge R. Tier 3			Redlands	Redlands	34.02385	-117.208		
4760041E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4760041E	SCE			4760041E_1485' E And 120' S/O T Tier 3			Reche Canyon	Redlands	34.00105	-117.242		
4175622E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4175622E	SCE			4175622E_Myers Rd N/S/W/O Liti Tier 3			San Bernardino	Redlands	34.2131	-117.372		
4666074E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4666074E	SCE			4666074E_Hwy 60 P/P 532' W/O Tier 2			Beaumont	Redlands	33.99182	-116.999		
4028351E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4028351E	SCE			4028351E_Cajon Blvd W/S, 6240' Tier 2			Muscoy	Redlands	34.17599	-117.353		
4157524E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4157524E	SCE			4157524E_Set By Transmission Tier 3			Yucaipa	Redlands	34.07434	-117.077		
256471E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 256471E	SCE			256471E_F Orange St Ws 731' No Tier 3			Riverside	Redlands	33.99272	-117.226		
466758E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 466758E	SCE			466758E_F Richardson St Extd P/P Tier 2			San Bernardino	Redlands	34.08035	-117.255		
1298579E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1298579E	SCE			1298579E_Canyon Rd P/P 40' W 3 Tier 3			Yucaipa	Redlands	34.02371	-116.998		
CWT57759_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s CWT57759	SCE			CWT57759_Cienega Rd W/S 170 N Tier 3			Mentone	Redlands	34.10145	-116.996		
4551431E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4551431E	SCE			4551431E_Waterman Canyon 22(T Tier 3			San Bernardino	Redlands	34.21522	-117.289		
57763E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 57763E	SCE			57763E_PL_Cienega Rd. E/S 530' P, Tier 3			Mentone	Redlands	34.10145	-116.996		
4629699E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4629699E	SCE			4629699E_At Zanja Sub Tier 3			Yucaipa	Redlands	34.07401	-117.048		
122221S_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 122221S	SCE			122221S_P Not Avail-Corona Dist Tier 2			Bell	Dominguez	33.97709	-118.19		
2115103E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2115103E	SCE			2115103E_W/S Santa Fe 108' S/O Tier 3			Carson	Dominguez	33.84414	-118.213		
4860946E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4860946E	SCE			4860946E_Cheney Dr P-P 200' S 1 Tier 3			Thousand Oaks	Thousand	34.11562	-118.586		
4838994E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4838994E	SCE			4838994E_22072 St N/D 578' W/(Tier 3			Torrance	Dominguez	34.10686	-118.792		
732576H_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 732576H	SCE			732576H_F P/P 15' S/O Avenida Si Tier 3			Simi Valley	Thousand	34.28981	-118.722		
T767Y_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s T767Y	SCE			T767Y_PLP Manzanita Ln N-S 170' Tier 3			Thousand Oaks	Thousand	34.16742	-118.842		
1053280E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1053280E	SCE			1053280E_Las Posas Rd N/S, 5200 Tier 3			Ventura	Thousand	34.24356	-118.908		
1709472E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1709472E	SCE			1709472E_Rear Of 3091 Lisa Ct Tier 3			Newbury Park	Thousand	34.18835	-118.939		
677969E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 677969E	SCE			677969E_F Ramirez Cyn Rd E/S 29 Tier 3			Malibu	Thousand	34.03075	-118.79		
4848053E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4848053E	SCE			4848053E_Old Top Cyn Rd P-P 97 Tier 3			Thousand Oaks	Thousand	34.11137	-118.631		
810056H_Cyient 35 2	4/7/2017	6/28/2020		Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 810056H	SCE			810056H_F (Oh-810056H)3395 Ta Tier 3			Simi Valley	Thousand	34.29672	-118.758		
4865441E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4865441E	SCE			4865441E_Grandview Dr N/S 280 Tier 3			Topanga Canyon	Thousand	34.08049	-118.6		
1209690E_Cyient 51 2	4/26/2017	7/9/2020		Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 1209690E	SCE			1209690E_Hawaii St E/S 82' N/O Tier 3			Porterville	San Joaqui	36.07548	-119.023		
1856764E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1856764E	SCE			1856764E_S/S Cadman St @ Hiett Tier 3			Simi Valley	Thousand	34.2721	-118.722		
4416606E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4416606E	SCE			4416606E_W/S Park Dr N/O Plum Tier 3			Calabasas	Thousand	34.08471	-118.706		
806077E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 806077E	SCE			806077E_F 0 Tier 2			Moorpark	Thousand	34.15945	-118.64		
4510604E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4510604E	SCE			4510604E_13, 601' S/O 6116 E Tel Tier 2			Valencia	Valencia	34.35671	-118.714		
4730120E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4730120E	SCE			4730120E_Erbes Rd E/S Svc Pole I Tier 3			Thousand Oaks	Thousand	34.1835	-118.848		
859575E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 859575E	SCE			859575E_F P/P Gabbert Rd 1200' I Tier 3			Moorpark	Thousand	34.28688	-118.892		
795847E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 795847E	SCE			795847E_F Park Rd W/S 18' N/O E Tier 3			El Monte	Thousand	34.10523	-118.64		
3007238E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 3007238E	SCE			3007238E_Rancho Rd E/S S/O Hill Tier 3			Thousand Oaks	Thousand	34.18617	-118.857		
29552Y_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 29552Y	SCE			29552Y_PL Topanga Cyn Blvd W/S Tier 3			Topanga	Thousand	34.06112	-118.585		
1515395E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1515395E	SCE			1515395E_P/L 105' N/O Fitzgerald Tier 3			Simi Valley	Thousand	34.25762	-118.746		
4836050E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4836050E	SCE			4836050E_Windsor Dr Ple 225' N, Tier 3			Thousand Oaks	Thousand	34.19142	-118.867		
4539479E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4539479E	SCE			4539479E_S/S Santa Rosa Rd At N Tier 3			Moorpark	Thousand	34.24595	-118.869		
GT112299_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s GT112299	SCE			GT112299_Topanga Cyn Bl E/S 55 Tier 3			Malibu	Thousand	34.03706	-118.612		
4377273E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4377273E	SCE			4377273E_S/S Los Angeles Ave SC Tier 3			Simi Valley	Thousand	34.28537	-118.816		
4198856E_Cyient 49 2	4/1/2019	7/10/2020		Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4198856E	SCE			4198856E_Sherwood Dr W/S 975 Tier 3			Goleta	Santa Barb	34.44275	-119.772		
4855100E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4855100E	SCE			4855100E_Calamigos Rd P/P N/S Tier 3			Thousand Oaks	Thousand	34.09462	-118.817		
4278990E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4278990E	SCE			4278990E_E/O Sycamore Dr Park Tier 3			Simi Valley	Thousand	34.04168	-118.745		
1538941E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1538941E	SCE			1538941E_P/P 93' N/O Triangel Si Tier 3			Thousand Oaks	Thousand	34.20456	-118.871		
1449591E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1449591E	SCE			1449591E_Dorena Dr Pl/E 410' S/ Tier 3			Newbury Park	Thousand	34.18136	-118.942		
4594620E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4594620E	SCE			4594620E_Casitas Rd P/P 660' S 1 Tier 3			Santa Barbara	Santa Barb	34.28628	-119.493		
1329562E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1329562E	SCE			1329562E_1216' N/O El Cerrito D Tier 3			Thousand Oaks	Thousand	34.19694	-118.851		
383002M_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 383002M	SCE			383002M_S/S 200' E/O Coastline I Tier 3			Malibu	Arrowhead	34.0416	-118.567		
983802E_PLP				Contractor																				

AilogID	VmpLogID	InspectionS dBy	InspectionE ndDate	Performe dBy	Performe ent	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Technology	Inspection Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
1709482E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1709482E	SCE	1709482E		1709482E_Old Conejo Rd N-S 500 Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.19003	-118.942	
4047162E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4047162E	SCE	4047162E		4047162E_W/S Yucca Dr, N/O Sar Tier 3	Camarillo	Thousand	Oaks	Thousand	34.23588	-118.927	
1013307H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1013307H	SCE	1013307H		1013307H_Little Sycamore Cyn R Ct Tier 3	Malibu	Thousand	Oaks	Thousand	34.09733	-118.884	
4635361E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4635361E	SCE	4635361E		4635361E_Flood Ave P/P 121' S & Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.29393	-118.724	
1513680E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1513680E	SCE	1513680E		1513680E_P/P 123' E/O Parkmor Tier 3	Calabasas	Thousand	Oaks	Thousand	34.15384	-118.696	
412303E_F C	2/18/2019	7/17/2020			Contractor		Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s 412303E	SCE	412303E		412303E_F Tapo Dr W/S 4090' N/(Tier 3)	Simi Valley	Thousand	Oaks	Thousand	34.30903	-118.72	
4251243E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4251243E	SCE	4251243E		4251243E_2Nd St N/S 150' E/O M Tier 3	Moorpark	Thousand	Oaks	Thousand	34.28302	-118.881	
1831657E_C	2/18/2019	7/10/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 1831657E	SCE	1831657E		1831657E_P/P 953' E/O Lemon D Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.28676	-118.724	
4547940E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4547940E	SCE	4547940E		4547940E_Malibu Creek Rd W-S 3 Tier 3	Malibu	Thousand	Oaks	Thousand	34.03994	-118.685	
431924E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 431924E	SCE	431924E		431924E_F Facility Rd 165' S 582' Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.22035	-118.877	
4125745E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4125745E	SCE	4125745E		4125745E_95' N/O Wicks Rd E/O Tier 3	Moorpark	Thousand	Oaks	Thousand	34.28869	-118.883	
2102466E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2102466E	SCE	2102466E		2102466E_E-S Gabbert Rd 350' E/Tier 3	Moorpark	Thousand	Oaks	Thousand	34.28993	-118.899	
1561150E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1561150E	SCE	1561150E		1561150E_Ventura Couty Line,62 Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.24044	-118.648	
4198855E_C	4/1/2019	7/10/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4198855E	SCE	4198855E		4198855E_Sherwood Dr E/S 1073 Tier 2	Goleta	Thousand	Oaks	Santa Barb	34.44244	-119.772	
1513678E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1513678E	SCE	1513678E		1513678E_P/P 128' S/O Parkmor Tier 3	Calabasas	Thousand	Oaks	Thousand	34.15333	-118.696	
1500531E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1500531E	SCE	1500531E		1500531E_P/P 70' S/O Township, Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.29335	-118.722	
809923H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 809923H	SCE	809923H		809923H_F/L P/L E/O W Mayan Dr L Tier 3	Chatsworth	Thousand	Oaks	Thousand	34.27732	-118.598	
554675E_C	2/12/2019	6/28/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 554675E	SCE	554675E		554675E_P/P 50' S/O Laura La P Tier 3	Agoura	Thousand	Oaks	Thousand	34.13994	-118.784	
468125H_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 468125H	SCE	468125H		468125H_F/W Cor/O Moorpark Tier 3	Moorpark	Thousand	Oaks	Thousand	34.2877	-118.883	
4343502E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4343502E	SCE	4343502E		4343502E_383' N/O Saddlepeak, Tier 3	Malibu	Thousand	Oaks	Thousand	34.07822	-118.661	
GT93486_F	7/2/2020	7/7/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s GT93486	SCE	GT93486		GT93486_F William Dr P/L/S 240' Tier 3	Newbury Park	Thousand	Oaks	Thousand	34.18364	-118.946	
1199229E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1199229E	SCE	1199229E		1199229E_W/S Valley Circle Dr 14 Tier 3	West Hills	Thousand	Oaks	Thousand	34.19176	-118.657	
1515276E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1515276E	SCE	1515276E		1515276E_Bancho Conejo Blvd 2f Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.20829	-118.921	
4831774E_C	7/6/2020	7/9/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 4831774E	SCE	4831774E		4831774E_Stunt Rd N/S 855' E/O Tier 3	Topanga	Thousand	Oaks	Thousand	34.09065	-118.659	
X11816E_F	7/2/2020	7/7/2020			Contractor		Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s X11816E	SCE	X11816E		X11816E_F N/S Royal Ave 165' E/C Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26443	-118.795	
X11333E_F	2/6/2019	7/17/2020			Contractor		Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s X11333E	SCE	X11333E		X11333E_F 140 N/O Bonita St W/S Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26803	-118.796	
X11579E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s X11579E	SCE	X11579E		X11579E_F 330 N/O Royal Ave W/ Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26552	-118.796	
X11584E_F	2/6/2019	7/17/2020			Contractor		Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s X11584E	SCE	X11584E		X11584E_F 725 N/O Royal Ave W/ Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26664	-118.796	
X11588E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s X11588E	SCE	X11588E		X11588E_F Madera Rd W/S 900N Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26982	-118.796	
X11589E_F	2/6/2019	7/17/2020			Contractor		Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s X11589E	SCE	X11589E		X11589E_F S/Strathead Pl 1075 Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.27391	-118.8	
X11331E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s X11331E	SCE	X11331E		X11331E_F 15' N/O Bonita St, W/S Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26775	-118.796	
2170199E_C	2/5/2019	6/28/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 2170199E	SCE	2170199E		2170199E_Church St P/P 100' W/Tier 3	Moorpark	Thousand	Oaks	Thousand	34.26625	-118.736	
2305652E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2305652E	SCE	2305652E		2305652E_P/P 644 N/O E. Thousa Tier 3	Agoura Hills	Thousand	Oaks	Thousand	34.15631	-118.773	
2116265E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 2116265E	SCE	2116265E		2116265E_1400' S/O L.A. Ave -30 Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.28431	-118.827	
4387706E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4387706E	SCE	4387706E		4387706E_N/S Tierra Rejada Rd 5 Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.27415	-118.805	
X11580E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s X11580E	SCE	X11580E		X11580E_F/S Madera Rd 150' N Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26502	-118.796	
X11577E_F	2/6/2019	7/17/2020			Contractor		Pole Loadir Committed	No	Yes	Walk out	Other	Tablet; vendors prop s X11577E	SCE	X11577E		X11577E_F/W S Madera Rd 510' N Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.26587	-118.796	
1556700E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1556700E	SCE	1556700E		1556700E_North East Of Las Virg Tier 3	Calabasas	Thousand	Oaks	Thousand	34.09585	-118.711	
1722905E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1722905E	SCE	1722905E		1722905E_S/W West Lake Blvd. 82 Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.14352	-118.854	
1602892E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1602892E	SCE	1602892E		1602892E_Monticello Ave P/L W Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.29824	-118.717	
GT74374_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s GT74374	SCE	GT74374		GT74374_F Gerald Dr P-P 65' Ne/C Tier 3	Newbury Park	Thousand	Oaks	Thousand	34.1837	-118.944	
1344061E_C	2/27/2018	6/28/2020			Contractor		Pole Loadir Committed	No	No	Walk out	Other	Tablet; vendors prop s 1344061E	SCE	1344061E		1344061E_(Oh-1344061E)1299 Ls Tier 3	Newbury Park	Thousand	Oaks	Thousand	34.19566	-118.931	
93252GT_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 93252GT	SCE	93252GT		93252GT_F Pacific View Dr E/S 822 Tier 3	Mupu	Thousand	Oaks	Thousand	34.0882	-118.985	
4669708E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4669708E	SCE	4669708E		4669708E_S/S La 349' E/O Millarc Tier 3	Moorpark	Thousand	Oaks	Thousand	34.27881	-118.878	
1722908E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1722908E	SCE	1722908E		1722908E_Bvd/S West Lake Blvd. 75 Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.14307	-118.854	
1518104E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1518104E	SCE	1518104E		1518104E_Potrero Rd N/S 3160' E Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.15575	-118.94	
4671133E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4671133E	SCE	4671133E		4671133E_Burtonwood Ave P/E Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.19237	-118.866	
1647190E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 1647190E	SCE	1647190E		1647190E_P/L E/O Brentwood N/ Tier 3	Simi Valley	Thousand	Oaks	Thousand	34.27269	-118.737	
20423SPR_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 20423SPR	SCE	20423SPR		20423SPR_W/S Kanan Dume Rd 4 Tier 3	Malibu	Thousand	Oaks	Thousand	34.07981	-118.819	
4205006E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4205006E	SCE	4205006E		4205006E_S/S Poindexter Ave., 2 Tier 3	Moorpark	Thousand	Oaks	Thousand	34.28502	-118.889	
4343592E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 4343592E	SCE	4343592E		4343592E_Read Rd P/P 334' N 21 Tier 3	Moorpark	Thousand	Oaks	Thousand	34.26856	-118.862	
17096171E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet; vendors prop s 17096171E	SCE	17096171E		17096171E/S S Dune St 150' W/O Tier 3	Thousand Oaks	Thousand	Oaks	Thousand	34.19526	-118.876	
434392E_PLP																							

AilogID	VmpLogID	InspectionS dBy	InspectionE ndDate	Performe dBy	Performe ent	Inspector Name	Inspection Type	Inspection Commen t	Inspection QA	Inspection Comments	Complianc e Finding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
1185089E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1185089E	SCE		1185089E_Los Padres Rd S/S 50' \ Tier 2		Frazier Park		Antelope V	34.82428	-118.949			
4683838E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4683838E	SCE		4683838E_25' E/O 135Th St West Tier 2		Lancaster		Antelope V	34.70203	-118.367			
759847E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 759847E	SCE		759847E_F Elizabeth Lake Pine Cai Tier 3		Lake Hughes		Antelope V	34.67699	-118.444			
4739021E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4739021E	SCE		4739021E_P_P 1440' N/O & 1035' I Tier 3		Lancaster		Antelope V	34.60993	-118.242			
1937639E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1937639E	SCE		1937639E_Freeman Dr,E/S,1245' Tier 3		Valencia		Antelope V	34.84669	-119.164			
1661332E_Cyient 36 2	7/5/2016	6/28/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 1661332E	SCE		1661332E_W/S Frontage Rd.100' I Tier 2		Unknown		Antelope V	34.76243	-118.798			
4759497E_Cyient 36 2	5/21/2015	7/1/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 4759497E	SCE		4759497E_1540' S/O Johnson Rd, Tier 3		Lancaster		Antelope V	34.6601	-118.326			
4905665E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4905665E	SCE		4905665E_13375 Elizabeth Lake F Tier 3		Palmdale		Antelope V	34.63714	-118.342			
4905674E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4905674E	SCE		4905674E_40451 86Th St W Tier 3		Palmdale		Antelope V	34.61786	-118.279			
4039973E_Cyient 36 2	7/28/2020	7/31/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 4039973E	SCE		4039973E_9779 W Eliz Lake Blvd, Tier 3		Leona Vall		Antelope V	34.62488	-118.304			
735492E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 735492E	SCE		735492E_F Behind House At End C Tier 2		Frazier Park		Antelope V	34.84032	-119.071			
4373580E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4373580E	SCE		4373580E_Lebec Rd. W/S 500' N/ Tier 2		Frazier Park		Antelope V	34.81926	-118.885			
1964030E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1964030E	SCE		1964030E_S/S Copco Ave, E/O Hv Tier 2		Lebec		Antelope V	34.7578	-118.795			
917839E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 917839E	SCE		917839E_F 460' E/O & 2515' S/O I Tier 3		Lancaster		Antelope V	34.66709	-118.456			
2250130E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 2250130E	SCE		2250130E_Ave "J" N/S 2098' W/O Tier 2		Lancaster		Antelope V	34.68933	-118.314			
4905659E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4905659E	SCE		4905659E_S/O Pearlblossom Hwy Tier 2		Palmdale		Antelope V	34.52139	-118.006			
492783E_P Cyient 36 2	10/3/2018	6/28/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 492783E	SCE		492783E_F 402' N & 70' W/O Se C Tier 2		Palmdale		Antelope V	34.55111	-118.046			
568104E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 568104E	SCE		568104E_F Hartmanrdp/P4420 & J Tier 2		Frazier Park		Antelope V	34.81886	-118.883			
4905670E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4905670E	SCE		4905670E_16290 Elizabeth Lake F Tier 3		Lake Hughes		Antelope V	34.674	-118.433			
4626274E_Cyient 36 2	7/15/2020	7/21/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 4626274E	SCE		4626274E_Hwy 399 Pp 3200' W 9' Tier 2		Lancaster		Antelope V	34.78052	-119.444			
4905700E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4905700E	SCE		4905700E_36433 Bouquet Canyon Tier 3		Santa Clarita		Antelope V	34.58403	-118.357			
4906833E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4906833E	SCE		4906833E_131113 Johnson Rd Tier 3		Lake Hughes		Antelope V	34.04251	-118.371			
K11276_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s K11276	SCE		K11276_PL Eliz Lk Rd S/S & 10' W/ Tier 3		Lancaster		Antelope V	34.66622	-118.39			
4793783E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4793783E	SCE		4793783E_Ss Hwy 138 & 1017' Eo Tier 2		Lancaster		Antelope V	34.7831	-118.649			
7015649_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 7015649	SCE		7015649_F S/O Santa Clarita Tier 2		Rosamond		Antelope V	34.89938	-118.467			
951668E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 951668E	SCE		951668E_F 677h St East W/S 800' Tier 3		Lancaster		Antelope V	34.70237	-118.01			
4202835E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4202835E	SCE		4202835E_Pp 245' E/O 44Th St E. Tier 2		Palmdale		Antelope V	34.55363	-118.049			
4905675E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4905675E	SCE		4905675E_North Side Of Bouquet Tier 3		Santa Clarita		Antelope V	34.58403	-118.357			
333228M_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 333228M	SCE		333228M_Eliz Lk Rd N/S & 450' E Tier 3		Lake Hughes		Antelope V	34.66315	-118.385			
2248975E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 2248975E	SCE		2248975E_1225' W/O Lockwood Tier 2		Frazier Park		Antelope V	34.74808	-119.084			
1403560E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1403560E	SCE		1403560E_Sund Ridge P/L East 2 Tier 3		Lake Hughes		Antelope V	34.66043	-118.394			
4552856E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4552856E	SCE		4552856E_Pp 2185' S/O Pine Cyn Tier 3		Lancaster		Antelope V	34.70903	-118.557			
698947E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 698947E	SCE		698947E_F Pp 1320' N/O & 1' E/O Tier 2		Lancaster		Antelope V	34.5884	-117.888			
4727835E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4727835E	SCE		4727835E_492' N/O Elizabeth Lak Tier 3		Palmdale		Antelope V	34.59701	-118.23			
1190711E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1190711E	SCE		1190711E_Elizabeth Cyn Rd E/S 1 Tier 3		Lake Hughes		Antelope V	34.65415	-118.47			
819983H_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 819983H	SCE		819983H_F Shannon Valley Rd,N/S Tier 3		Saugus		Antelope V	34.52462	-117.237			
GT73497E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s GT73497E	SCE		GT73497E_Eliz. Lk Pine Cyn Rd. N/ Tier 3		Lake Hughes		Antelope V	34.6801	-118.453			
GT46042_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s GT46042	SCE		GT46042_F S/W Cor Ranch C/Ubrc Tier 3		Lancaster		Antelope V	34.66077	-118.392			
4628786E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4628786E	SCE		4628786E_Coolcrest Dr P/L/E 221 Tier 3		Lancaster		Antelope V	34.66187	-118.396			
9490T_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 9490T	SCE		9490T_PLP Cuddy Valley Rd,S/S,1' Tier 3		Cuddy Vall		Antelope V	34.81942	-119.005			
4630656E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4630656E	SCE		4630656E_Pp 1570' W/O 990' S/O Tier 2		Lancaster		Antelope V	34.77655	-118.738			
735938E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 735938E	SCE		735938E_F P-P 2360' E/O & W/L 3 Tier 2		Lake Hughes		Antelope V	34.73002	-118.6			
7015686_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 7015686	SCE		7015686_F S/O Sebastion Rd. Tier 2		Rosamond		Antelope V	34.99087	-118.544			
2175998E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 2175998E	SCE		2175998E_0 Tier 3		0		Antelope V	34.65616	-118.153			
1309693E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1309693E	SCE		1309693E_1110'S,120' E/O N/E Cc Tier 3		Frazier Park		Antelope V	34.83855	-119.084			
1102976E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1102976E	SCE		1102976E_Frazier Mtn. Rd,N/O 3 Tier 2		Frazier Park		Antelope V	34.82181	-118.939			
691981H_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 691981H	SCE		691981H_F Spr W/S 9440' S/O Cas Tier 3		Ventura		Ventura V	34.34037	-119.292			
4551915E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4551915E	SCE		4551915E_Pp 392'S, 570' W/O N/ Tier 3		Ojai		Ventura V	34.33387	-119.009			
552153E_P Cyient 39 2	4/27/2020	5/20/2020			Contractor		Pole Loadir Committed	No	Yes	No	Walk out	Other	Tablet, vendors prop s 552153E	SCE		552153E_F Tico Rd Pp 200' W & 2' Tier 3		Ojai		Ventura V	34.44974	-119.257			
4936171E_Cyient 39 2	6/30/2020	6/30/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 4936171E	SCE		4936171E_Spr Ss/ 685' W/O Cou Tier 3		Ojai		Ventura V	34.44255	-119.256			
4010657E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4010657E	SCE		4010657E_Dalyrd P/P 140 E,1390 Tier 3		Ojai		Ventura V	34.66362	-119.241			
4127792E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4127792E	SCE		4127792E_Goodenough Rd Ext'd F Tier 3		Fillmore		Ventura V	34.459	-118.924			
437243E_P Cyient 39 2	5/7/2020	5/13/2020			Contractor		Pole Loadir Committed	No	Yes	No	Walk out	Other	Tablet, vendors prop s 437243E	SCE		437243E_F Telegraph Rd P-P 1400 Tier 2		Santa Paula		Ventura V	34.37067	-119.009			
1024483E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 1024483E	SCE		1024483E_Spr W/S 9440' S/O Cas Tier 3		Ventura		Ventura V	34.33215	-119.295			
570659E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 570659E	SCE		570659E_F Pp 325' N/O Rice Rd 3 Tier 3		Ojai		Ventura V	34.4298	-119.294			
340800E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 340800E	SCE		340800E_F W/O Ventura Vista Del Tier 2		Ventura		Ventura V	34.36247	-119.445			
2188687E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 2188687E	SCE		2188687E_LA. Ave N/O 1000'; 13 Tier 3		Moorpark		Ventura V	34.27317	-118.933			
1033395E_Cyient 39 2	6/10/2020	6/18/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 1033395E	SCE		1033395E_Sumset Pl P/W 299' N Tier 3		Ojai		Ventura V	34.45497	-119.238			
4748309E_Cyient 39 2	6/29/2020	6/30/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 4748309E	SCE		4748309E_Ventura Ca 93003 Tier 3		Ventura		Ventura V	34.42398	-119.053			
4626797E_Cyient 39 2	4/28/2017	7/10/2020			Contractor		Pole Loadir Committed	No	No	No	Walk out	Other	Tablet, vendors prop s 4626797E	SCE		4626797E_Maricopa Hwy P/P 37C Tier 3		Ojai		Ventura V	34.26732	-118.688			
GT61244_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s GT61244	SCE		GT61244_3 So Mtn Rd S/S 5565 E/ Tier 3		Santa Paula		Ventura V	34.3515	-119.031			
4865724E_PLP					Contractor		Pole Loadir Pending	No	No	No	Walk out	Other	Tablet, vendors prop s 4865724E	SCE		4865724E_1289' N &									

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2060826E_Cyient 59 2		7/7/2020	7/9/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 2060826E	SCE	2060826E_Telegraph Rd 60' N 10X Tier 3		Fillmore	Valencia		34.40105	-118.826		
1406095E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1406095E	SCE	1406095E_Hall Rd Ext'd P/P 2085' Tier 3		Santa Paula	Ventura		34.39598	-118.997		
729174E_P_Cyient 39 2		5/6/2020	5/13/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 729174E	SCE	729174E_F Canada Larga 5357' E/Tier 2		Ventura	Ventura		34.34447	-119.278		
4430419E_Cyient 79 2		2/1/2018	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 4430419E	SCE	4430419E_S/Rincon & 50' E/O CTier 2		Rancho Mirage	Palm Sprin		34.16919	-119.035		
901521E_P_Cyient 39 2		7/9/2019	6/28/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 901521E	SCE	901521E_F370' S/O Young Rd 271Tier 2		Fillmore	Ventura		34.40709	-118.965		
500718E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 500718E	SCE	500718E_F 250' N/O S A Ave 2580 Tier 3		Moorpark	Ventura		34.27833	-118.924		
1359479E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1359479E	SCE	1359479E_V Arroyo Pp 161E & Tier 2		Ventura	Ventura		34.29224	-119.208		
732557H_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 732557H	SCE	732557H_V Daly Rd P-P 120' E 360 Tier 3		Ojai	Ventura		34.46087	-119.24		
4127798E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4127798E	SCE	4127798E_Foothill Rd Pp 147' N, 1 Tier 3		Ventura	Ventura		34.27965	-119.258		
1049543H_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1049543H	SCE	1049543H_M Maricopa Hwy W/S 58 Tier 3		Ojai	Ventura		34.45364	-119.277		
545041H_F_Cyient 39 2		7/9/2019	6/28/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 545041H	SCE	545041H_F 1002 Country Club Dr Tier 3		Ojai	Ventura		34.43577	-119.254		
4094566E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4094566E	SCE	4094566E_Ventura Ave P/P 260 V Tier 3		Ventura	Ventura		34.30869	-119.294		
385845E_P_Cyient 39 2		6/25/2020	6/27/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 385845E	SCE	385845E_F Guberson Rd S/S 4865 Tier 3		Fillmore	Ventura		34.38205	-118.865		
4625155E_Cyient 39 2		6/12/2020	6/17/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 4625155E	SCE	4625155E_Ojai Rd S/S 7501' E/O ITier 3		Santa Paula	Ventura		34.42658	-119.107		
4097051E_Cyient 39 2		2/17/2020	5/5/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 4097051E	SCE	4097051E_2240' N 1270' E/O Cen Tier 3		Ventura	Ventura		34.48571	-118.88		
4858875E_Cyient 39 2		6/10/2020	6/16/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 4858875E	SCE	4858875E_Goodenough Rd W/S 5Tier 3		Ventura	Ventura		34.43739	-118.92		
882823E_P_Cyient 39 2		11/4/2017	6/28/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 882823E	SCE	882823E_F Grimes Cyn Rd P/P 44CTier 3		Bardsdale	Ventura		34.36594	-118.922		
4836384E_Cyient 39 2		7/9/2019	6/28/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 4836384E	SCE	4836384E_S Luxenberg Dr, 205Tier 3		Moorpark	Ventura		34.30048	-118.937		
787355E_P_Cyient 39 2		6/25/2020	6/27/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 787355E	SCE	787355E_F Lomita Ave P/P 140' S Tier 3		Ojai	Ventura		34.44296	-119.284		
4827676E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4827676E	SCE	4827676E_Osborn Rd P/P 333' N Tier 3		Santa Paula	Ventura		34.43402	-119.122		
1324252E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1324252E	SCE	1324252E_Casitas Pass Rd P/P 19Tier 2		Sb/Carp	Santa Barb		34.38763	-119.459		
729479E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 729479E	SCE	729479E_F Lloyd Corp P.P. 15729' Tier 3		0	0	Ventura		34.32332	-119.238	
22042091_Cyient 39 2		9/6/2014	7/17/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 22042091	SCE	22042091_N Signal St Tier 3		Ventura	Ventura		34.46234	-119.249		
2178746E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 2178746E	SCE	2178746E_Casitas Pass Rd P/P 43Tier 2		Ventura	Santa Barb		34.37885	-119.453		
4762268E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4762268E	SCE	4762268E_La Ave N/S 260' E/O HiTier 3		Moorpark	Ventura		34.27593	-118.927		
1871911E_Cyient 39 2		6/12/2020	6/19/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 1871911E	SCE	1871911E_Copco Sub, 50' S/S Tier 3		Ventura	Ventura		34.32906	-119.294		
1746348E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1746348E	SCE	1746348E_Spr R/W S/S 1315' E/CTier 3		Ojai	Ventura		34.44178	-119.258		
81694H_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 81694H	SCE	81694H_PL Pp N/S Tico Rd 80' E/O Tier 3		Ojai	Ventura		0	-119.171		
X14834E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s X14834E	SCE	X14834E_F Guberson Rd P-P 125' S Tier 3		Ojai	Ventura		34.4327	-119.252		
729012E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 729012E	SCE	729012E_F Los Encinos Rd, E/S, 71Tier 3		Ojai	Ventura		34.4226	-119.306		
1033443E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1033443E	SCE	1033443E_Villanova Rd Pp 60' N/ Tier 3		Ojai	Ventura		34.42905	-119.277		
6964X_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 6964X	SCE	6964X_PLP Sta Ana Rd P/P 635' S Tier 3		Oak View	Ventura		34.4246	-119.356		
1531613E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1531613E	SCE	1531613E_Org Card Not In File Tier 3		Oak View	Ventura		34.38756	-119.303		
1255833E_Cyient 39 2		1/30/2018	7/1/2020	Contractor			Pole Loadir Committed	No	Yes	Walk out			Other	Tablet, vendors prop s 1255833E	SCE	1255833E_Baldwin Rd P/P 4925 N Tier 3		Meiner Oak	Ventura		34.44183	-119.301		
465147E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 465147E	SCE	465147E_F Maricopa Hwy W/S 71 Tier 3		Ojai	Ventura		34.4629	-119.286		
2334825E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 2334825E	SCE	2334825E_O Camino Cielo 375 Tier 3		Miners Oaks	Ventura		34.48177	-119.297		
2334824E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 2334824E	SCE	2334824E_O Camino Cielo, S O/Tier 3		Ojai	Ventura		34.48105	-119.298		
1987800E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 1987800E	SCE	1987800E_Old Grade Rd 100' W, 4 Tier 3		Oak View	Ventura		34.39272	-119.297		
4547915E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4547915E	SCE	4547915E_2160 Baldwin P/P 46' S Tier 3		Ojai	Ventura		34.43612	-119.348		
396257E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 396257E	SCE	396257E_F Santa Ana Rd. E/S 148' Tier 3		Oak View	Ventura		34.40528	-119.313		
529080H_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 529080H	SCE	529080H_f 0 Tier 3		0	0	Dominguez		33.91265	-118.243	
1406180E_Cyient 39 2		7/8/2019	6/28/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 1406180E	SCE	1406180E_0 Tier 3		0	0	Ventura		34.26414	-119.241	
GT132163_Cyient 40 2		9/9/2016	6/26/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s GT132163	SCE	GT132163_E/S Bear Springs Rd 12 Tier 3		Rimforest	Arrowhead		34.23263	-117.225		
2008036E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 2008036E	SCE	2008036E_Pp 25' E 380 S/O N 1/4 Tier 3		Hook Creek	Arrowhead		34.2512	-117.128		
4748303E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4748303E	SCE	4748303E_P/P 41' S/O Valley Ridg Tier 3		Rimforest	Arrowhead		34.21195	-117.116		
4519585E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4519585E	SCE	4519585E_20' W/O Palisades, 148' Tier 3		Rimforest	Arrowhead		34.25618	-117.173		
534579E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 534579E	SCE	534579E_F Old Waterman Aakv CTier 3		San Bernardino	Redlands		34.22341	-117.295		
4620063E_Cyient 40 2		7/6/2016	6/26/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s 4620063E	SCE	4620063E_50' W/S P/P Pvt Rd, 14 Tier 3		Lake Arrowhead	Arrowhead		34.24873	-117.209		
2250620E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 2250620E	SCE	2250620E_1 Pole N/O 2250617E Tier 3		Running Springs	Arrowhead		34.22189	-117.122		
GT108852_Cyient 40 2		12/26/2017	6/26/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s GT108852	SCE	GT108852_Pine Ct S/S W/O Mead Tier 3		Lake Arrowhead	Arrowhead		34.23523	-117.205		
X6782E_PL_Cyient 40 2		7/20/2015	7/17/2020	Contractor			Pole Loadir Committed	No	No	Walk out			Other	Tablet, vendors prop s X6782E	SCE	X6782E_PL 1 Pole S/O X6783E Tier 3		Running Springs	Arrowhead		34.18778	-117.094		
4558843E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4558843E	SCE	4558843E_W/S Forest View Dr 19 Tier 3		?? View/Highland	Arrowhead		34.23025	-117.254		
4515117E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out			Other	Tablet, vendors prop s 4515117E	SCE	4515117E_P_P 3700' E/O & 1065' Tier 3		Running Springs	Arrowhead		34.22662	-117.126		

AilogID	VmpLogID	InspectionS tdtDate	InspectionE ndDate	Performe dBy	Performent ent	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc eFinding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4576071E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4576071E	SCE		4576071E_16' W/O C/L Morman	Tier 3	Lake Arrowhead	Arrowhead	34.2409	-117.292			
570214E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	570214E	SCE		570214E_F Waterman Ckt 1655'	E Tier 3	Arrowhead	Arrowhead	34.24453	-117.203			
4519580E_Cyient 40		9/1/2016	6/26/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	4519580E	SCE		4519580E_E/O S/Lo Ln 31/32 Stra	Tier 3	Twin Peaks	Arrowhead	34.23861	-117.248			
4562291E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4562291E	SCE		4562291E_City Creek Rd P/P	Tier 3	Lake Arrowhead	Arrowhead	34.20655	-117.128			
4767780E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4767780E	SCE		4767780E_Madera Ln W/S 280'	N Tier 3	Rimforest	Arrowhead	34.26448	-117.223			
4566327E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4566327E	SCE		4566327E_Aldorf Dr Pp 55'	N/O (Tier 3	Lake Arrowhead	Arrowhead	34.2373	-117.278			
1669396E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1669396E	SCE		1669396E_State Hwy 173 S/S 20'	Tier 3	Lk Arrowhd	Arrowhead	34.26769	-117.171			
1669227E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1669227E	SCE		1669227E_P.P.985' E/O & 440 S/O	Tier 3	Running Springs	Arrowhead	34.23556	-117.116			
376780M_Cyient 42		9/11/2015	6/26/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	376780M	SCE		376780M_1108 N Wetherly Dr	Tier 2	West Hollywood	Santa Mon	34.09086	-118.389			
GT1213_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	GT1213	SCE		GT1213_PL/S/340' W/O W.Chann	Tier 2	Los Angeles	Santa Mon	34.02843	-118.52			
GT1216_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	GT1216	SCE		GT1216_PL/S/865' W/O W.Chann	Tier 2	Los Angeles	Santa Mon	34.02924	-118.522			
4853485E_Cyient 42		2/2/2018	6/28/2020	Contractor			Pole Loadir Committed	No	Yes	Walk out	Other	Tablet, vendors prop s	4853485E	SCE		4853485E_419 S Maple Dr	Tier 2	Beverly Hills	Santa Mon	34.05871	-118.393			
GT1221_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	GT1221	SCE		GT1221_PL/S/1765' W/O W. Cha	Tier 2	Los Angeles	Santa Mon	34.03061	-118.524			
GT1215_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	GT1215	SCE		GT1215_PL/S/690' W/O W.Chann	Tier 2	Los Angeles	Santa Mon	34.02895	-118.521			
345698M_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	345698M	SCE		345698M_Pch S/S/1066' W/O W	(Tier 2	Santa Monica	Santa Mon	34.03004	-118.522			
GT1214_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	GT1214	SCE		GT1214_PL/S/515' W/O W. Chan	Tier 2	Los Angeles	Santa Mon	34.02866	-118.521			
4929215E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4929215E	SCE		4929215E_S Sunset Blvd 225'	N Tier 2	Beverly Hills	Santa Mon	34.08642	-118.404			
1657729E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1657729E	SCE		1657729E_Riverside Dr. S/S 181'	Tier 2	Los Angeles	Santa Mon	34.11209	-118.267			
1618162E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1618162E	SCE		1618162E_5099 Plant 5 Rd, Bisho	Tier 2	Bishop	Whittier	37.33685	-118.482			
1287191E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1287191E	SCE		1287191E_S P R R P/P 450 N 160C	Tier 2	Sb/County	Santa Barb	34.47257	-120.231			
4421815E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4421815E	SCE		4421815E_Cheltenham Rd N/S, 4'	Tier 3	Santa Barbara	Santa Barb	34.44897	-119.721			
1675525E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1675525E	SCE		1675525E_San Marcos Pass Rd W	Tier 3	Sb/Gol	Santa Barb	34.50979	-119.824			
4805474E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4805474E	SCE		4805474E_Hollister Ranch Rd P/P	Tier 2	Goleta	Santa Barb	34.47018	-120.259			
4199054E_Cyient 49		4/8/2020	5/5/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	4199054E	SCE		4199054E_165' S/O Paradise Rd,	Tier 3	Santa Barbara	Santa Barb	34.54589	-119.778			
4844753E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4844753E	SCE		4844753E_Sycamore Cyn Rd E/S	Tier 3	Montecito	Santa Barb	34.4381	-119.65			
4854781E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4854781E	SCE		4854781E_Sycamore Cyn Rd N/S	Tier 3	Santa Babara	Santa Barb	34.43967	-119.652			
GT23901_Cyient 49		7/8/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	GT23901	SCE		GT23901_F6801 Shepard Mesa Dr	Tier 2	Carpinteria	Santa Barb	34.39458	-119.473			
SZ7302Y_Cyient 49		7/8/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	SZ7302Y	SCE		SZ7302Y_P Camino Manadero W/	Tier 3	Goleta	Santa Barb	34.45901	-119.82			
GT67105_Cyient 49		7/8/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	GT67105	SCE		GT67105_F/W/S Patterson Ave 15'	Tier 3	Goleta	Santa Barb	34.45375	-119.808			
1675572E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1675572E	SCE		1675572E_Priv/P 630', 560' W/C	Tier 3	Santa Barbara	Santa Barb	34.54255	-119.771			
4892686E_Cyient 49		7/9/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	4892686E	SCE		4892686E_Ortega Ridge Rd E/S	Tier 2	Summerland	Santa Barb	34.4254	-119.607			
1675526E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1675526E	SCE		1675526E_San Marcos Pass Rd W	Tier 3	Goleta	Santa Barb	34.50944	-119.824			
4127655E_Cyient 49		7/8/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	4127655E	SCE		4127655E_Vail View St W/S 20'	N Tier 3	Santa Barbara	Santa Barb	34.48982	-119.799			
GT142953_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	GT142953	SCE		GT142953_E/S El Bosque Rd 250'	F Tier 3	Montecito	Santa Barb	34.43733	-119.627			
4170597E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4170597E	SCE		4170597E_15' W/O Refugio Rd O	Tier 2	Goleta	Santa Barb	34.46708	-120.069			
2296251E_Cyient 49		1/26/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	2296251E	SCE		2296251E_Jimeno Rd E/S 474'	N/Tier 2	Santa Barbara	Santa Barb	34.43504	-119.699			
4854762E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4854762E	SCE		4854762E_Picacho Lane W/S, 317'	Tier 3	Santa Barbara	Santa Barb	34.44553	-119.638			
4371717E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4371717E	SCE		4371717E_N Jameson Ln N/S 230'	Tier 2	Santa Barbara	Santa Barb	34.42203	-119.639			
4371369E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4371369E	SCE		4371369E_350' S/O San Marcos R	Tier 3	Santa Barbara	Santa Barb	34.50177	-119.806			
4890866E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4890866E	SCE		4890866E_6699 Casitas Pass Rd	Tier 2	Carpinteria	Santa Barb	34.39488	-119.476			
4868502E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4868502E	SCE		4868502E_E_Valley Rd S/S 122'	N Tier 3	Santa Barbara	Santa Barb	34.43633	-119.58			
4854787E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4854787E	SCE		4854787E_Ladera Ln E/S 45' S/O	Tier 3	Montecito	Santa Barb	34.44176	-119.579			
2143854E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	2143854E	SCE		2143854E_Hwy 101 5980' N 8400'	Tier 3	Santa Barbara	Santa Barb	34.45393	-119.859			
1524084E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1524084E	SCE		1524084E_Mountain Dr.P/P 720'	Tier 3	Santa Barbara	Santa Barb	34.45692	-119.669			
GT214087_Cyient 49		7/8/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	GT214087	SCE		GT214087_1252 Franklin Ranch R	Tier 3	Goleta	Santa Barb	34.46301	-119.841			
1608711E_Cyient 49		7/9/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	1608711E	SCE		1608711E_646 Akuras Dr	Tier 2	Santa Barbara	Santa Barb	34.43819	-119.679			
GT214064_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	GT214064	SCE		GT214064_Michelorena St S/S 15'	Tier 2	Santa Barbara	Santa Barb	34.4336	-119.7			
4890867E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4890867E	SCE		4890867E_7125 Gobernador Cyn	Tier 2	Carpinteria	Santa Barb	34.40242	-119.463			
4170596E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4170596E	SCE		4170596E_400' W/O Refugio Rd O	Tier 2	Goleta	Santa Barb	34.46694	-120.07			
4797506E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4797506E	SCE		4797506E_Mountain Dr P/P 60'	E Tier 3	Santa Barbara	Santa Barb	34.45109	-119.688			
1372665E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1372665E	SCE		1372665E_Alston Rd P/P 310' S	44 Tier 2	Santa Barbara	Santa Barb	34.43026	-119.661			
GT69462_Cyient 49		7/8/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	GT69462	SCE		GT69462_F1240 San Antonio Cree	Tier 3	Santa Barbara	Santa Barb	34.46158	-119.729			
4238814E_Cyient 49		7/9/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	4238814E	SCE		4238814E_Las Canoas Rd N/S 436'	Tier 3	Santa Barbara	Santa Barb	34.4496	-119.695			
1675523E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	1675523E	SCE		1675523E_San Marcos Pass Rd, E,	Tier 3	Sb/Gol	Santa Barb	34.51048	-119.824			
2383744E_Cyient 49		7/9/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	2383744E	SCE		2383744E_Mission Ridge Rd S/S	4 Tier 3	Santa Barbara	Santa Barb	34.44237	-119.689			
4854785E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4854785E	SCE		4854785E_Hidden Valley Rd S/S	1 Tier 3	Santa Barbara	Santa Barb	34.44433	-119.573			
4425035E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4425035E	SCE		4425035E_Stamwood Dr N/S 200'	Tier 2	Santa Barbara	Santa Barb	34.44682	-119.682			
4550532E_Cyient 49		2/6/2019	7/2/2020	Contractor			Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s	4550532E	SCE		4550532E_1335 Vanonali St At Sy	Tier 2	Santa Barbara	Santa Barb	34.42901	-119.677			
4832140E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	4832140E	SCE		4832140E_Bella Vista Dr. S/S 15'	N Tier 3	Santa Barbara	Santa Barb	34.4475	-119.605			
422321E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	422321E	SCE		422321E_F Rich Ls Ds Pbls,NI 2920'	Tier 3	Goleta	Santa Barb	34.45617	-119.919			
2244932E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	2244932E	SCE		2244932E_N/S East Valley Rd 50'	F Tier 3	Montecito	Santa Barb	34.4411	-119.614			
849520E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	849520E	SCE		849520E_E_Valley Rd.N/S 4930'	E Tier 3	Montecito	Santa Barb	34.43622	-119.585			
557434E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s	557434E	SCE		557434E_F Alston Rd. S/S 265'	W/Tier 2	Santa Barbara	Santa Barb	34.43117	-119.66			
4754704E_PLP				Contractor																				



AilogID	VmpLogID	InspectionS date	InspectionE ndDate	Performe dBy	Inspection Type	Inspector Name	Inspection TypeCom ment	Inspection QA	Inspection Comments	Complianc eFinding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
1203553CTC_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	1203553CTC	SCE	1203553CTC	Kawah Ave W/S, 239'	Tier 2	Exeter	San Joaqui	36.31846	-119.135			
4875433E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4875433E	SCE	4875433E	E/S River, Approx 5 Mi	Tier 2	Three Rivers	San Joaqui	36.45095	-118.79			
4701623E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4701623E	SCE	4701623E	'250' S/O S. Reservatic	Tier 2	Porterville	San Joaqui	36.02037	-118.793			
4456855E_Cyient 51 2 10/28/2015	6/28/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4456855E	SCE	4456855E	'165' Se/O Kaweah Ph#	Tier 2	Three Rivers	San Joaqui	36.48575	-118.835			
4363759E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4363759E	SCE	4363759E	'344' S/E/O & 165' N/E,	Tier 2	Three Rivers	San Joaqui	36.48997	-118.827			
4875434E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4875434E	SCE	4875434E	E/S Of River, Approx 5	Tier 2	Three Rivers	San Joaqui	36.4507	-118.79			
4363761E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4363761E	SCE	4363761E	'200' S/E/O Stepdow n	Tier 2	Three Rivers	San Joaqui	36.49018	-118.827			
4856763E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4856763E	SCE	4856763E	'Mineral King Rd Sc 43c	Tier 2	Three Rivers	San Joaqui	36.4563	-118.878			
458918E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	458918E	SCE	458918E	'F 1265' E & 130' S/O	N1,Tier 2	Springville	San Joaqui	36.10733	-118.846			
X16357E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	X16357E	SCE	X16357E	'F Cor Rd M-129 P/P 1	N Tier 2	Porterville	San Joaqui	36.02247	-118.806			
4913477E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4913477E	SCE	4913477E	'353' W/O 1738' N/O S	Tier 2	Posey	San Joaqui	35.82585	-118.859			
4729899E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4729899E	SCE	4729899E	'Tule Indian Reservatio	Tier 2	Porterville	San Joaqui	36.0266	-118.795			
630794E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	630794E	SCE	630794E	'F 250' N 30' E/O S4 Co4	Tier 2	Tulare	San Joaqui	36.48549	-118.839			
W23PGE_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	W23PGE	SCE	W23PGE	'F 36.177444 -118.69741	Tier 2	Springville	San Joaqui	36.17744	-118.697			
W1PGE_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	W1PGE	SCE	W1PGE	'Pl 36.163024 -118.70671	Tier 2	Springville	San Joaqui	36.16302	-118.707			
743709E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	743709E	SCE	743709E	'F 980' E/O, 1600' S/O	Nn,Tier 2	Woody	San Joaqui	35.43389	-118.484			
4779967E_Cyient 52 2 6/24/2020	6/26/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4779967E	SCE	4779967E	'Woodford Rd P/P-E21,	Tier 3	Tehachapi	Tehachapi	35.14144	-118.495			
4931344E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4931344E	SCE	4931344E	'Quail Springs Rd S/S 4	Tier 3	Golden Hills	Tehachapi	35.14974	-118.504			
4831893E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4831893E	SCE	4831893E	'Caliente Creek Rd S/S,	Tier 2	Caliente	Tehachapi	35.31578	-118.399			
4424606E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4424606E	SCE	4424606E	'P.R. East Of Oak Creek	Tier 2	Mohave	Tehachapi	35.05307	-118.35			
4424605E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4424605E	SCE	4424605E	'P.R. East Of Oak Creek	Tier 2	Mohave	Tehachapi	35.053	-118.35			
18907607E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	18907607E	SCE	18907607E	'S Hacienda Dr 230' V	Tier 3	Teachapi	Tehachapi	35.14368	-118.507			
4751097E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4751097E	SCE	4751097E	'T24 S R 33Esec 32 S/E	Tier 3	Kernville	Kernville	35.79512	-118.431			
1870896E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	1870896E	SCE	1870896E	'Kr-1 Tier 2	Wofford Heights	Kernville	35.45914	-118.782				
4875689E_Cyient 53 2 7/13/2020	7/17/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4875689E	SCE	4875689E	'345' S/O & 2' E/O N/W	Tier 2	Glenville	Kernville	35.72946	-118.727			
2343953E_Cyient 53 2 6/23/2020	6/27/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	2343953E	SCE	2343953E	'W-S Rocky Rd, 350' S	(Tier 3	Bodfish Cy	Kernville	35.58245	-118.468			
4911231E_Cyient 53 2 6/23/2020	6/27/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4911231E	SCE	4911231E	'T24 S R 33Esec 32 S/E	Tier 3	Kernville	Kernville	35.60503	-118.468			
526911E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	526911E	SCE	526911E	'F Pp 550 S 340 W/O N 1,	Tier 2	Kernville	Kernville	35.92558	-118.481			
4441523E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4441523E	SCE	4441523E	'44797 Old Stage Rd. -	Tier 2	Posey	Kernville	35.80492	-118.657			
4875449E_Cyient 52 2 11/13/2018	6/29/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4875449E	SCE	4875449E	'1703 Bodfish St Tier 3		Bodfish	Kernville	35.60004	-118.491			
2261260E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	2261260E	SCE	2261260E	'Tree Conctr 185 S/O	F Tier 2	Posey	Kernville	35.81117	-118.637			
1662949E_Cyient 53 2 12/1/2015	6/30/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	1662949E	SCE	1662949E	'199' E/O Hwy 155 367'	Tier 2	Kernville	Kernville	35.71815	-118.726			
4911229E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4911229E	SCE	4911229E	'551' E/O 695' O N/W	Tier 2	Kernville	Kernville	35.70425	-118.69			
4751095E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4751095E	SCE	4751095E	'80' Due North Of 4408	Tier 2	Wofford Heights	Kernville	35.55216	-118.599			
4591237E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4591237E	SCE	4591237E	'Hillview Acres Rd S/S	V Tier 3	Weldon	Kernville	35.64483	-118.335			
2261443E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	2261443E	SCE	2261443E	'P-P 100' W/O Flicker,	7Tier 3	Squirrel Valley	Kernville	35.62827	-118.395			
2261442E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	2261442E	SCE	2261442E	'W-S Flicker Rd, 590' N,	Tier 2	Squirrel Valley	Kernville	35.62858	-118.395			
1870895E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	1870895E	SCE	1870895E	'Kr-1 Tier 2	Wofford Heights	Kernville	35.45921	-118.782				
1870894E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	1870894E	SCE	1870894E	'Near Kr-1 Tier 2	Wofford Heights	Kernville	35.45928	-118.782				
4236846E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4236846E	SCE	4236846E	'710 S/O & 1160 E/O	N Tier 3	Kernville	Kernville	35.76085	-118.437			
4293128E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	4293128E	SCE	4293128E	'10511 Holly Alta Sierra	Tier 3	Greenhorn	Kernville	35.72519	-118.551			
4883291E_Cyient 53 2 9/27/2017	6/29/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4883291E	SCE	4883291E	'10Th St & O St Tier 3		Kernville	Kernville	35.66829	-118.495			
4714614E_Cyient 53 2 6/23/2020	6/27/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4714614E	SCE	4714614E	'Sierra Wwy 55' W/O,	23 Tier 3	Kernville	Kernville	35.72876	-118.417			
1235462E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	1235462E	SCE	1235462E	'P-P 420' W/O And 540	Tier 3	Lake Isabella	Kernville	35.64004	-118.47			
2299262E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	2299262E	SCE	2299262E	'Burlandord Es 490' So	Tier 3	Wofford Heights	Kernville	35.70559	-118.457			
1423753E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	1423753E	SCE	1423753E	'Burlando Rd E/S 326'	Tier 3	Wofford Heights	Kernville	35.70598	-118.457			
954820E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954820E	SCE	954820E	'F St Hwy Kern 142F	W/S Tier 3	Kernville	Kernville	35.65808	-118.482			
954812E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954812E	SCE	954812E	'F St Hwy Kern 142F	E/S Tier 3	Kernville	Kernville	35.65924	-118.477			
1423752E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	1423752E	SCE	1423752E	'Burlando Rd E/S 165'	Tier 3	Wofford Heights	Kernville	35.7064	-118.456			
954745E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954745E	SCE	954745E	'F St Hwy Kern 142F	W/S Tier 3	Kernville	Kernville	35.68711	-118.468			
954824E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954824E	SCE	954824E	'F St Hwy Kern 142F	W/S Tier 3	Kernville	Kernville	35.65849	-118.484			
954877E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954877E	SCE	954877E	'F St Hwy Kern 142F	W/S Tier 3	Kernville	Kernville	35.63361	-118.481			
954842E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954842E	SCE	954842E	'F St Hwy Kern 142F	E/S Tier 3	Kernville	Kernville	35.64997	-118.485			
4515838E_Cyient 53 2 6/23/2020	6/27/2020			Contractor	Pole Loadir	Committed	No	No	No	Walk out	Other	Tablet, vendors prop s	4515838E	SCE	4515838E	'Pp 500' S/O Hwy 178;	Tier 3	Kernville	Kernville	35.66572	-118.269			
954760E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954760E	SCE	954760E	'F St Hwy Kern 142F	E/S2 Tier 3	Kernville	Kernville	35.68034	-118.47			
954828E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954828E	SCE	954828E	'F St Hwy Kern 142F	W/S Tier 3	Kernville	Kernville	35.65661	-118.485			
954834E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954834E	SCE	954834E	'F St Hwy Kern 142F	W/S Tier 3	Kernville	Kernville	35.65364	-118.486			
954839E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954839E	SCE	954839E	'F St Hwy Kern 142F	E/S Tier 3	Kernville	Kernville	35.65125	-118.486			
954848E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954848E	SCE	954848E	'F St Hwy Kern 142F	W/S Tier 3	Kernville	Kernville	35.6473	-118.486			
954843E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954843E	SCE	954843E	'F St Hwy Kern 142F	E/S Tier 3	Kernville	Kernville	35.6495	-118.485			
954836E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954836E	SCE	954836E	'F St Hwy Kern 142F	E/S Tier 3	Kernville	Kernville	35.65247	-118.486			
954817E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954817E	SCE	954817E	'F St Hwy Kern 142F	E/S Tier 3	Kernville	Kernville	35.65818	-118.481			
954743E_PLP				Contractor	Pole Loadir	Pending	No	No	No	Walk out	Other	Tablet, vendors prop s	954743E	SCE	954743E									

AILogID	VmpLogID	InspectionS dBy	InspectionE ndDate	Performe dBy	Performe ent	Inspector Name	Inspection Type	Inspection Commen t	Inspection QA	Inspection Comments	Complianc e Finding	Inspection Method	Inspection Comment	Inspection Technology	Inspection Comment	AID	UtilityID	AILogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude		
																										Pole Loadir Pending	Pole Loadir Pending
954815E_PLP																											
954844E_PLP																											
954821E_PLP																											
954757E_PLP																											
4605436E_PLP																											
954837E_PLP																											
954841E_PLP																											
954758E_PLP																											
954759E_PLP																											
4650515E_Cyient 53 2	7/13/2020	7/17/2020																									
954838E_PLP																											
954742E_PLP																											
954818E_PLP																											
954864E_PLP																											
4789519E_PLP																											
4556596E_PLP																											
820434H_Cyient 52	3/26/2019	7/10/2020																									
4780213E_PLP																											
1186886E_PLP																											
4010743E_Cyient 52	6/16/2020	6/19/2020																									
4312574E_PLP																											
1936833E_PLP																											
1671654E_PLP																											
1671782E_PLP																											
4235650E_Cyient 52	2/16/2017	6/29/2020																									
2334943E_PLP																											
2366859E_Cyient 52	7/6/2020	7/8/2020																									
2366858E_Cyient 52	7/6/2020	7/8/2020																									
2366860E_Cyient 52	7/6/2020	7/8/2020																									
4556592E_Cyient 52	7/2/2020	7/7/2020																									
4722516E_Cyient 52	3/11/2020	6/2/2020																									
41918CWT_PLP																											
4729672E_Cyient 52	7/16/2020	7/17/2020																									
1832171E_PLP																											
4790975E_Cyient 52	7/7/2020	7/9/2020																									
100033H_Cyient 52	7/7/2020	7/9/2020																									
4789521E_Cyient 52	7/6/2020	7/10/2020																									
899H_PLP_Cyient 52	7/7/2020	7/9/2020																									
1832170E_PLP																											
676435E_Cyient 52	6/16/2020	6/19/2020																									
4840422E_PLP																											
2366862E_Cyient 52	7/6/2020	7/8/2020																									
4041463E_Cyient 52	7/2/2020	7/7/2020																									
4446743E_Cyient 52	7/2/2020	7/7/2020																									
1937274E_PLP																											
2366855E_Cyient 52	7/6/2020	7/8/2020																									
1671655E_PLP																											
4458028E_PLP																											
2366856E_Cyient 52	7/6/2020	7/8/2020																									
2366857E_Cyient 52	7/6/2020	7/8/2020																									
1020898H_Cyient 52	6/16/2020	6/19/2020																									
2366854E_Cyient 52	7/6/2020	7/8/2020																									
2366861E_Cyient 52	7/6/2020	7/9/2020																									
2366863E_Cyient 52	7/6/2020	7/8/2020																									
1671653E_PLP																											
3990H_PLF_Cyient 52	6/16/2020	6/19/2020																									
4753704E_PLP																											
4780214E_PLP																											
4255632E_PLP																											
2366853E_Cyient 52	7/6/2020	7/8/2020																									
40411269E_PLP																											
128757M_PLP																											
4457960E_Cyient 52	7/2/2020	7/7/2020																									
4446744E_Cyient 52	7/2/2020	7/7/2020																									
4425928E_PLP																											
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727670H_PLP																											
4607356E_PLP																											
1492563E_PLP																											
1492561E_PLP																											



AiLogID	VmpLogID	InspectionS dBy	InspectionE ndDate	Performe dBy	Performer Name	Inspector Name	Inspection Type	Inspection Comment	Inspection QA	Complianc e Finding	Inspection Method	Inspection Technology	Inspection Comment	Inspection Technology	Inspection Comment	AiID	UtilityID	AiLogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4534746E_PLP					Contractor		Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4534746E	SCE					4534746E_3 7/10 Miles N/O Wilfr Tier 2		Bishop	Bishop	37.73448	-118.74		
1618179E_Cyient 85 2	7/8/2019	6/29/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 1618179E	SCE					1618179E_99 Plant 6 Rd, Bishop, Tier 2		Independence	Bishop	37.34375	-118.473		
345780E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 345780E	SCE					345780E_F590 Rocking K Rd, Bish Tier 2		Bishop	Bishop	37.35251	-118.489		
1618172E_Cyient 85 2	7/8/2019	6/29/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 1618172E	SCE					1618172E_98 Plant 6 Rd, Bishop, Tier 2		Independence	Bishop	37.34048	-118.477		
4756015E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4756015E	SCE					4756015E_T65 R32E Sec4 S/E 1/4 Tier 2		Inyokern	Bishop	37.37643	-118.458		
1618171E_Cyient 85 2	7/8/2019	6/29/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 1618171E	SCE					1618171E_98 Plant 6 Rd, Bishop, Tier 2		Independence	Bishop	37.34038	-118.477		
345801E_P Cyient 85 2	5/22/2020	6/15/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 345801E	SCE					345801E_F1184' N/W/ Of Control Tier 2		Bishop	Bishop	37.36362	-118.497		
1830515E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 1830515E	SCE					1830515E_Pine Creek Rd, Bishop, Tier 2		Independence	Bishop	37.39702	-118.634		
345777E_P Cyient 85 2	5/22/2020	6/15/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 345777E	SCE					345777E_F Ave 272 Extd 375' W/C Tier 2		Exeter	Bishop	37.35019	-118.487		
1615914E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 1615914E	SCE					1615914E_3-3/4 Miles N/O Lee V Tier 2		Mono Co	Bishop	38.0021	-119.152		
4418650E_Cyient 85 2	8/1/2016	6/29/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4418650E	SCE					4418650E_37.33667144, -118.47 Tier 2		Bishop	Bishop	37.33667	-118.48		
A7523558E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s A7523558E	SCE					A7523558E4 Poles S/W Lower Hiv Tier 2		Inyokern	Bishop	31.31433	-118.52		
1580960E_Cyient 85 2	5/8/2020	6/22/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 1580960E	SCE					1580960E_7660' S/O Lundy Road Tier 2		Mono	Bishop	38.01631	-119.159		
1994470E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 1994470E	SCE					1994470E_Azimuth Rd Pl/W, 190' Tier 2		Mammoth Lakes	Bishop	37.6375	-118.973		
4501224E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4501224E	SCE					4501224E_T75 R32E Sec 8 S/E 1/4 Tier 2		Inyokern	Bishop	37.34717	-118.481		
A7643811E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s A7643811E	SCE					A7643811E?? Tier 2		Bishop	Bishop	37.34219	-118.485		
1829601E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 1829601E	SCE					1829601E_4000' N/O Big Pine Dui Tier 2		Bishop	Bishop	37.15557	-118.297		
A764382E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s A764382E	SCE					A764382E_Outside- W/O Control Tier 2		Bishop	Bishop	37.33504	-118.484		
A764383E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s A764383E	SCE					A764383E_Outside- W/O Control Tier 2		Bishop	Bishop	37.33504	-118.484		
1829602E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 1829602E	SCE					1829602E_4000' N/O Big Pine Dui Tier 2		Bishop	Bishop	37.16355	-118.297		
1735557E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 1735557E	SCE					1735557E_Control Substation Tier 2		Bishop	Bishop	37.33747	-118.484		
M23922V_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s M23922V	SCE					M23922V_Hwy 395 P/P 1000' E, Tier 2		Lee Vining	Bishop	37.9492	-119.105		
4512950E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4512950E	SCE					4512950E_Map Page 166, Grid 31 Tier 2		Riv/Blythe	Blythe	33.5093	-114.677		
4869185E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4869185E	SCE					4869185E_849' W/O Sca R/W 370 Tier 3		Valencia	Valencia	34.43094	-118.583		
4869155E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4869155E	SCE					4869155E_Newvale Rd W/S 423' Tier 3		Antelope Valley	Antelope V	34.67723	-118.449		
4789587E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4789587E	SCE					4789587E_210 W/S E/L & 530' N/Tier 3		Valencia	Valencia	34.33894	-118.344		
4847026E_Cyient 30 2	6/22/2020	6/23/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4847026E	SCE					4847026E_Lindsay St E/S, 1864' N, Tier 2		Foothill	Foothill	34.02459	-117.498		
4847030E_Cyient 1	6/30/2020	7/7/2020	Contractor				Pole Loadir Committed	Yes	No	Walk out	Other	Tablet, vendors prop s 4847030E	SCE					4847030E_State Hwy #60P/Rd.11 Tier 2		Foothill	Foothill	34.02264	-117.493		
4847028E_Cyient 30 2	6/22/2020	6/23/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4847028E	SCE					4847028E_Campbell St. E/S 993' Tier 2		Foothill	Foothill	34.0223	-117.494		
4846146E_Cyient 30 2	6/16/2020	6/19/2020	Contractor				Pole Loadir Committed	Yes	No	Walk out	Other	Tablet, vendors prop s 4846146E	SCE					4846146E_Xstr 200' Ne Granite Tier 2		Jurupa Valley	Foothill	34.02201	-117.507		
4846785E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4846785E	SCE					4846785E_Palm Springs Blvd. P/L/S 44' Tier 3		Palm Springs	Palm Spring	33.75862	-117.661		
4827120E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4827120E	SCE					4827120E_11910 Malkli Rd, 440' Tier 3		Banning	Palma Spring	33.9488	-116.823		
4868537E_QC Scope 1	7/22/2020	7/31/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4868537E	SCE					4868537E_266' N/O Aspen Dr, 12 Tier 2		Morongo Valley	Yuca Valle	34.06575	-116.555		
1309878E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 1309878E	SCE					1309878E_4213 N Summit Dr. Tier 2		Fraizer Park	Antelope V	34.82456	-118.953		
1527482E_Cyient 59 2	1/29/2020	7/21/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 1527482E	SCE					1527482E_R/O 2748 Banuelo Av Tier 3		Valencia	Valencia	34.43888	-118.52		
721754E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 721754E	SCE					721754E_F3090' E/O, 830' S/O 3: Tier 2		Springville	San Joaqui	36.14036	-118.597		
GT258336_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s GT258336	SCE					GT258336_S/S Of Valley Of The Fa Tier 3		Forest Falls	Redlands	34.08722	-116.916		
329255E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 329255E	SCE					329255E_F2965 E Valley Rd, Sant Tier 3		Santa Barbara	Santa Barb	34.43521	-119.573		
GT104962_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s GT104962	SCE					GT104962_Greenwater Rd S/S 49' Tier 3		Malibu	Thousand C	34.00842	-118.807		
CTC81901_Cyient 85 2	9/27/2016	7/17/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s CTC81901	SCE					CTC81901_Crowley Lk Dr S/S 190' Tier 2		Aspen Spr	Bishop	37.55678	-118.723		
27187CIT_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 27187CIT	SCE					27187CIT_Kilbreth Dr S/S P/P 100' Tier 3		Bodfish	Kernville	35.60059	-118.49		
4887482E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4887482E	SCE					4887482E_54Th St. N/S C/O Sunsi Tier 2		Riverside	Foothill	33.99012	-117.467		
405106M_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 405106M	SCE					405106M_Canoga Av W/S 309' S/ Tier 2		Canoga Park	#N/A	34.2327	-118.598		
4772250E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4772250E	SCE					4772250E_1st Pole Out Of Poole Tier 2		Lee Vining	Bishop	37.9464	-119.215		
4717701E_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s 4717701E	SCE					4717701E_819' S/O Big Pines Rd, Tier 3		Wrightwood	Victorville	34.39024	-117.728		
1734198E_Cyient 30 2	6/20/2020	6/30/2020	Contractor				Pole Loadir Committed	Yes	No	Walk out	Other	Tablet, vendors prop s 1734198E	SCE					1734198E_S/W Cor/O Castellano Tier 2		Crestmore	Foothill	34.03136	-117.393		
S1844Y_PLP			Contractor				Pole Loadir Pending	No	No	Walk out	Other	Tablet, vendors prop s S1844Y	SCE					S1844Y_PL Emerson Ave. S/S, 10' Tier 2		Santa Barbara	Santa Barb	34.43774	-119.71		
240899CIT_Cyient 53 2	6/15/2016	7/17/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 240899CIT	SCE					240899CIT_P-P 940' W/O & 930' N Tier 3		Wofford Heights	Kernville	35.69903	-118.392		
4776645E_QC Scope 1	7/21/2020	7/31/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4776645E	SCE					4776645E_Ranch Center Dr W/S Tier 3		Palmdale	Antelope V	34.58494	-118.201		
4777406E_QC Scope 1	7/21/2020	7/31/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4777406E	SCE					4777406E_Ranch Center Dr W/S Tier 3		Palmdale	Antelope V	34.58763	-118.203		
4777405E_QC Scope 1	7/21/2020	7/31/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4777405E	SCE					4777405E_Ranch Center Dr W/S Tier 3		Palmdale	Antelope V	34.58712	-118.202		
4777403E_QC Scope 1	7/21/2020	7/31/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4777403E	SCE					4777403E_Ranch Center Dr W/S Tier 3		Palmdale	Antelope V	34.58641	-118.202		
4776643E_QC Scope 1	7/21/2020	7/31/2020	Contractor				Pole Loadir Committed	No	No	Walk out	Other	Tablet, vendors prop s 4776643E	SCE												

AilogID	VmpLogID	InspectionS tardDate	InspectionE ndDate	Performe dBy	Performe nt	Inspector Name	Inspection Type	Inspection TypeCom ment	Inspection QA	Inspection Comments	Complianc eFinding	Inspection Method	Inspection MethodCo mment	Inspection Technology	Inspection Technology Comment	AilD	UtilityID	AilogID	ParcelAPN	HFTDClass	City	County	District	Latitude	Longitude
4440627E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4440627E	SCE				4440627E_Sattelback Rd W/S 17 Tier 3		Tehachapi	Tehachapi		35.14914	-118.634	
4465686E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4465686E	SCE				4465686E_On Flectcher Dr. Just V Tier 2		San Angeles	#N/A		34.11881	-118.237	
4385989E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4385989E	SCE				4385989E_E/S Banning Cyn Rd, 1f Tier 3		Redlands	Redlands		34.01694	-116.897	
4385990E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4385990E	SCE				4385990E_E/O Banning Cyn Rd, 6 Tier 3		Redlands	Redlands		34.01738	-116.896	
4385992E_Cyient 31 2	6/16/2020	6/19/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 4385992E	SCE				4385992E_E/O Banning Cyn Rd @ Tier 3		Redlands	Redlands		34.01854	-116.895	
4385993E_Cyient 31 2	6/16/2020	6/19/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 4385993E	SCE				4385993E_E/O Banning Cyn Rd, N Tier 3		Redlands	Redlands		34.01881	-116.894	
4343503E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4343503E	SCE				4343503E_380' N/O Saddlepeak V Tier 3		Malibu	Thousand C		34.07763	-118.66	
4343359E_Cyient 35 2	7/2/2020	7/9/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 4343359E	SCE				4343359E_Seaboard Way, S/S 23: Tier 3		Malibu	Thousand C		34.04011	-118.624	
4338262E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4338262E	SCE				4338262E_W/S Riverside Ave 411 Tier 2		Fontana	Foothill		34.027	-117.364	
4254342E_Cyient 53 2	7/13/2020	7/21/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 4254342E	SCE				4254342E_150' S/O Bodfish Cyn R Tier 3		Bodfish	Kernville		35.58198	-118.458	
4270204E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4270204E	SCE				4270204E_N/S Eucalyptus Dr. L/L Tier 3		Arrowhead	Arrowhead		34.26144	-117.152	
4173310E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4173310E	SCE				4173310E_Millcreek Rd E/S, 192' Tier 3		Redlands	Redlands		34.07564	-117.065	
1031524H_QC Scope_1	6/22/2020	7/24/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 1031524H	SCE				1031524H_Agua Mansa Rd S/S, W Tier 2		Colton	Redlands		34.05392	-117.335	
4259315E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4259315E	SCE				4259315E_7639' N/O Sar#3 Rack Tier 3		Highland	Redlands		34.11773	-117.079	
1028152H_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1028152H	SCE				1028152H_460' S, 1250' E/O Nw C Tier 3		Saugus	Valencia		34.57215	-118.389	
4036725E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4036725E	SCE				4036725E_Mountain View P/P 12 Tier 3		Pioneertow	Yucca Valle		34.15234	-116.503	
499832E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 499832E	SCE				499832E_F Puesta Del Sol Rd, P/P2 Tier 2		Santa Barbara	Santa Barb		34.44225	-119.717	
581316H_FCyient 39 2	5/7/2020	6/2/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 581316H	SCE				581316H_FNone Tier 3		Ojai	Ventura		34.4605	-119.183	
GT134719_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s GT134719	SCE				GT134719_5Th St E/S 605' S/O Av Tier 2		Yucaipa	Redlands		34.01037	-117.058	
4013881E_Cyient 30 2	6/19/2020	6/25/2020	Contractor				Pole Loadir Committed	Yes	No	Walk out	No	Other	Tablet; vendors prop s 4013881E	SCE				4013881E_Lytle Creek 1632' N/O Tier 2		Cajon	Foothill		34.15844	-117.393	
2320394E_Cyient 59 2	7/6/2020	7/8/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 2320394E	SCE				2320394E_Rowher Cyn Rd, 273' N Tier 3		Saugus	Valencia		34.50324	-118.381	
2337965E_Cyient 36 2	7/2/2020	7/7/2020	Contractor				Pole Loadir Committed	No	Yes	Walk out	No	Other	Tablet; vendors prop s 2337965E	SCE				2337965E_Crown Valley P/P 340' Tier 3		Acton	Antelope V		34.50242	-118.2	
2320915E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 2320915E	SCE				2320915E_San Gabriel W/S 160' Tier 3		Tehachapi	Tehachapi		35.1338	-118.483	
2334942E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 2334942E	SCE				2334942E_5'E & 125' N Fr S/W C Tier 3		Saugus	Valencia		34.46254	-118.361	
2232180E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 2232180E	SCE				2232180E_Oskar Ln S/S, 85' W/O Tier 2		Morongo Valley	Yucca Valle		34.083	-116.553	
4839385E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4839385E	SCE				4839385E_Grand Ave N/S 1510' E Tier 3		Ojai	Ventura		34.45434	-119.223	
2293902E_Cyient 36 2	7/15/2020	7/20/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 2293902E	SCE				2293902E_Longview Rd E/S 1300' Tier 2		Juniper Hills	Antelope V		34.45274	-117.902	
4837042E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4837042E	SCE				4837042E_So Mt.Lemon Co Rd. P, Tier 3		Somis	Ventura		34.33251	-119.07	
4837041E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4837041E	SCE				4837041E_So Mt.Lemon Co Rd. P, Tier 3		Somis	Ventura		34.33251	-119.07	
2185703E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 2185703E	SCE				2185703E_Acorn Drive P/P 500' E, Tier 3		Wrightwood	Victorville		34.35411	-117.64	
2165098E_Cyient 51 2	6/9/2020	6/12/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 2165098E	SCE				2165098E_1555E & 1490 N/O E/C Tier 2		Tulare	San Joaqui		36.40998	-119.012	
GT46245_F Cyient 31 2	3/7/2019	7/23/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s GT46245	SCE				GT46245_F King St P/P 315' E 972' Tier 2		Mentone	Redlands		34.04549	-117.125	
GT46247_F Cyient 31 2	3/8/2019	7/23/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s GT46247	SCE				GT46247_F King St Ext D P/P 315' Tier 2		Mentone	Redlands		34.04451	-117.125	
1826262E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1826262E	SCE				1826262E_P/P 255' N/O & State I Tier 2		Bishop	Bishop		37.9412	-119.127	
1868674E_Cyient 49 2	2/20/2019	7/23/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 1868674E	SCE				1868674E_Canada St.E/S 300'S/O Tier 2		Santa Barbara	Santa Barb		34.42916	-119.679	
1818983E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1818983E	SCE				1818983E_340' N/O & 1610' W/O Tier 3		Crestline	Arrowhead		34.23069	-117.3	
1633866E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1633866E	SCE				1633866E_2939' E/O 120Th East f Tier 3		Lancaster	Antelope V		33.70955	-117.624	
1638521E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1638521E	SCE				1638521E_Pp Mulholland Hwy 19 Tier 3		Thousand Oaks	Thousand C		34.09689	-118.7	
1710951E_Cyient 53 2	7/13/2020	7/21/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 1710951E	SCE				1710951E_Juniper Lane P/E 240' Tier 3		Wofford Heights	Kernville		35.63876	-118.408	
1482880E_Cyient 59 2	7/2/2020	7/7/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 1482880E	SCE				1482880E_Steinway St.P/L N/S,6C Tier 3		Valencia	Valencia		34.43555	-118.478	
1848306E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1848306E	SCE				1848306E_Davenport Rd,N/S,411 Tier 3		Agua Dulce	Valencia		34.47908	-118.363	
1203065E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1203065E	SCE				1203065E_4182 Angela St Tier 3		Simi Valley	Thousand C		34.27797	-118.713	
668950H_FCyient 39 2	12/27/2017	7/17/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 668950H	SCE				668950H_F Canada St Tier 3		Ojai	Ventura		34.45091	-119.249	
1134716E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 1134716E	SCE				1134716E_1050'S/E Soledad Cyn I Tier 3		Santa Clarita	Valencia		34.43217	-118.376	
4317896E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 4317896E	SCE				4317896E_S/S 168 - 15 Poles N/E Tier 2		Inyokern	Bishop		37.30703	-118.528	
A7523560E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s A7523560E	SCE				A7523560E 6 Poles S/W Lower Hiv Tier 2		Inyokern	Bishop		37.31348	-118.521	
A7523559E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s A7523559E	SCE				A7523559E 5 Poles S/W Lower Hiv Tier 2		Inyokern	Bishop		37.31385	-118.521	
2900S_PLP Cyient 31 2	6/23/2020	6/25/2020	Contractor				Pole Loadir Committed	Yes	No	Walk out	No	Other	Tablet; vendors prop s 2900S	SCE				2900S_PLP Kendall Dr P/P 90' N 2f Tier 2		San Bernardino	Redlands		34.18059	-117.339	
759446E_PLP				Contractor			Pole Loadir Pending	No	No	Walk out	No	Other	Tablet; vendors prop s 759446E	SCE				759446E_F 670' N/O & 2645' E/O Tier 3		Lancaster	Antelope V		34.42862	-117.879	
715117E_P Cyient 31 2	3/29/2019	7/23/2020	Contractor				Pole Loadir Committed	No	No	Walk out	No	Other	Tablet; vendors prop s 715117E	SCE				715117E_F Florida P/P 215' S 240' Tier 2		Yucaipa	Redlands		34.0221	-117.113	
4789588E_PLP				Contractor</																					

**SCE-10**  
**LACK OF DETAIL ON EFFECTIVENESS OF**  
**INSPECTION PROGRAM QA/QC**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-10***

**Name:** Lack of detail on effectiveness of inspection program QA/QC.

**Category:** Asset Management and Inspections

**Class:** B

**Deficiency:**

SCE's WMP fails to discuss the effectiveness of its QA/QC program to determine effectiveness of inspections nor how it corrects the issues identified by the program and ensures they are communicated to inspectors to prevent future occurrences.

**Condition:**

In its first quarterly report, SCE shall provide:

- i. all metrics and other measures it uses to track and evaluate the ability of its inspectors in identifying and classifying the potential safety and reliability risks of GO 95 violations, potential ignition risks, and other safety hazards;
- ii. the threshold values of metrics and measures identified in (i) that mandate response action (e.g. retraining, change in protocols or checklists, etc.); and
- iii. all possible response actions related to findings from QA/QC review and performance metrics evaluation.

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**Response:**

Beginning in 2020, with the addition of High-Fire Risk-Informed (HFRI) Inspections, the work scope and complexity of incremental inspections of overhead lines, structures and equipment in HFRA increased significantly. This resulted in SCE increasing the number of inspectors, many who are new to SCE's service area and operational practices. All inspectors are trained however many are performing detailed inspections under the HFRI program for the first time in 2020. To help ensure inspections are being performed in accordance with SCE standards, an independent organization<sup>32</sup> utilizes a risk-informed approach to perform quality control inspections to determine the effectiveness of the HFRI inspections. The actionable findings identified during these quality control inspections are used for performance scoring to measure the ability of SCE inspectors to accurately identify and classify the potential safety and reliability risks of General

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<sup>32</sup> Quality inspectors not responsible for initial asset inspections.

Order (GO) 95 violations, potential ignition risks, and other safety hazards. All findings during this quality review are remediated, and in some instances, corrective actions are initiated. Below, SCE further describes its QC program per the conditions.

i. **All metrics and other measures it uses to track and evaluate the ability of its inspectors in identifying and classifying the potential safety and reliability risks of GO 95 violations, potential ignition risks, and other safety hazards:**

SCE deemed it important to institute a formal risk-informed quality control initiative that relied on statistical sampling to identify work errors and target corrective actions including improving training and tools. The inspection quality control program helps ensure that inspections conform to the requirements of SCE's overhead inspection related programs by evaluating the results of the completed inspections.

SCE inspectors visually evaluate SCE's overhead electrical distribution facilities with the intent to identify and document discrepancies for appropriate corrective action. Inspectors also identify and perform certain maintenance tasks during the detailed inspection, as warranted. Figure 1, below, includes a snapshot of SCE's Overhead Detailed Inspection Guidelines that provides a high-level summary of the items and areas to inspect on the overhead system. The inspectors also identify and report any GO 95 safety and reliability infractions related to SCE distribution facilities by non-utility third parties.

Inspection quality control follows a two-step prioritization. First, the inspection program is categorized as very high risk, high risk, medium risk, and low risk based on the program's maturity, process complexity, organizational complexity, and downstream impacts.

SCE utilizes the risk categorization of the inspection program, along with REAX consequence scores, to establish a confidence level (CL), confidence interval (CI), and threshold level (TL) for the inspection programs. When developing sample sizes, structures in HFRA were risk-ranked using REAX consequence scores grouped by the 99th percentile and above, the 90th-98th percentile, and the 90th percentile and below. By using a higher confidence level in the higher-risk categories, the quality control program samples more from the higher-risk locations to achieve the overall desired CL and CI in those areas. This two-step process accounts for the program and location consequence risk attributes.

The following figure includes the CL, CI and TL levels for the QC inspections, as described in Section 5.3.4.14 of our 2020-2022 WMP, SCE is doing in 2020.

**Figure 13 - SCE-10  
QC Risk Confidence Levels/Intervals and Threshold Levels**

		Risk of Geography								
		Very High: REAX 98 %ile			High: REAX 90-98 %ile			Medium: REAX 0-90 %ile		
Risk of Program		CL	CI	TL	CL	CI	TL	CL	CI	TL
High		99.0%	1.00%	98.0%	97.0%	1.00%	95.0%	97.0%	3.00%	95.0%

SCE’s QC program defines a conforming structure as one that DOES NOT have an actionable finding identified during the quality review or inspection, i.e., the quality inspection matched the previous inspection performed by an inspector. SCE calculates a monthly conformance rate by dividing the count of conforming structures inspected by the count of inspected structures. For example, if 90 structures are found to be conforming out of 100 structures reviewed by quality inspectors, the conformance rate would be 90%. The results of the quality reviews or inspections are closely monitored on a monthly basis to decide if corrective action is necessary.

ii. **the threshold values of metrics and measures identified in (i) that mandate response action (e.g. retraining, change in protocols or checklists, etc.):**

When the conformance rate drops below the established TL across a rolling three-month average, a formalized action plan, root cause analysis, and corrective actions are instituted. Additionally, although TL is the primary metric used to mandate corrective actions, quality metrics are being monitored on a monthly basis to identify opportunities for continuous improvement even when corrective action plans are not required.

iii. **all possible response actions related to findings from QA/QC review and performance metrics evaluation:**

All findings identified during the quality review are remediated. As an example, if an inspector finds no conditions on an asset and the quality inspector subsequently finds a damaged conductor, it is counted as an actionable finding and reported to the program owners. Additionally, the program owners must then create a notification to be prioritized for repair or replacement depending on the significance of the condition. Corrective actions are initiated when the three-month rolling average for the conformance rate falls below the acceptable TL. The corrective action taken will vary depending upon the nature or extent of the conformance rate drop but can include training, program enhancements, standard changes (e.g. clarifying a standard that may be confusing), or other appropriate actions to improve performance. A corrective action may also result in a cause evaluation, such as one of the following:

**Root Cause Evaluation (RCE)** - Typically assigned when an incident results in a major impact (e.g., fatality, outage effecting 30,000 customers, equipment failure resulting in significant financial loss, etc.) to SCE and/or personnel. The incident presents significant

risks and consequences to the safe, clean, reliable operation to SCE, personnel safety, or organizational and human behaviors such that recurrence is unacceptable.

**Apparent Cause Evaluation (ACE)** - Typically assigned when an incident results in a moderate impact (e.g., Actual or Potential Life Threatening or Life Altering incident) to SCE and/or personnel. The incident For Internal Use Only –Southern California Edison presents moderate risks and consequences to the safe, clean, reliable operation to SCE, personnel safety or organizational and human behaviors such that we want to learn from the incident to prevent or minimize the probability of recurrence.

**Standard Cause Evaluation (STDCE)** - Typically assigned when an incident results in a minor impact (e.g., minor DART Injury) to SCE and/or personnel. The incident presents low risks and consequences to the safe, clean, reliable operation to SCE, personnel safety or organizational and human behaviors such that the incident is minor.

**Common Cause Evaluation (CCE)** – Typically assigned to collectively evaluate a set of data or occurrences (i.e., patterns or commonalities within a series of incidents) for commonly shared issues that typically indicate an adverse trend or failure of a program or process

**Learning Team Evaluation (LTE)** - Typically assigned when an open team approach for an incident(s) is Desired.

Corrective actions resulting from cause evaluations are assigned, tracked, escalated when necessary, and verified complete prior to closure. SCE's Corrective Action Program is intended to identify conditions adverse to quality and assigns corrective actions for their resolution. For significant conditions adverse to quality, the program provides measures to:

- Determine the cause
- Implement corrective action to preclude recurrence
- Report the cause and corrective action taken to management
- Verify the implementation and effectiveness of corrective action taken

Figure 14 – SCE-10 Overhead Detailed Inspection Guidelines Summary



**Attachment 1-1: Overhead Detailed Inspection Guideline**

1. Condition of Equipment, Apparatus, and Hardware
  - Broken, chipped, or severely contaminated insulators/Primary insulator or pin above 750 V (cracked/damaged/loose)
  - Pole switch indicating need for repair
  - Indication of equipment oil leak
  - Bulged or discolored capacitor units
  - Blown or dry fuses, blown surge arresters, broken fuseholders
  - Streetlights broken or damaged
  - Animals, birds, foreign material interfering with operation
  - Evidence of tracking or burning
  - Broken pins or squatters (primary or secondary)
  - Broken, bent pole steps
  - Damaged or missing ground wire molding or ground wire exposed
  - Condition of transformer's Internal Fault Detector (IFD), if so equipped; see DOM, TR-9.
2. Condition of Pole and Structures
  - Damage/deteriorated pole
  - Crossarm broken, split, or extremely canted
  - Washout or excavation around pole or anchor
  - Check pole setting depth marked from brand. (Brands are at 10 feet on 60-foot poles and less; at 13 feet for poles taller than 60 feet.)
  - Damage down guys, guy guard missing (Install guard where required.)
  - Excessive slack on down guys or span guys
  - Six-foot Fiberglass Guy Strain Insulator installed (upgrade to standard 12-foot version)
  - Visually check pad-mounted equipment for movement and cabinet secured or locked.
  - Visually check BURD lids, vault lids, vent pipes, and handhole lids.
3. Conductors and Covered Conductors
  - Inadequate primary, secondary, or service ground clearances
  - Exposed conductor (covering falling off) – service drops, secondary, and primary
  - Excessive slack in primary conductors in high wind areas
  - Clearance from building, television or radio antenna, billboard signs, scaffolding, streetlights, communication cable or hazardous locations for primary, secondary or services
  - Trees touching or above primary conductors or covered conductors (overhangs) unless special encased aerial bundled cable (18 inches required)
  - Hazardous tree conditions, limbs over wire, dead or decaying trees, palm fronds
  - Foreign objects in line, such as kites, Mylar balloons
  - Bare conductors in rack construction
  - Bare service drops
  - Deflection, strain or abrasion on service drops and secondaries
  - Abandoned conductors

EFFECTIVE DATE 07-31-2020	Overhead Detail Inspections	IN-1
APPROVED <i>RR</i>	Distribution Inspection and Maintenance Program ► SCE Internal ◀	PAGE 1-5



4. Risers
  - Riser straps, blocks broken
  - Opening in riser conduit coupling, damaged
  - Riser in climbing space in rack construction
5. Climbing Space
  - Obstructions in climbing space (bolts, wire)
  - Climbing space obstructed by cable TV or phone, and a hazard to climb
6. General Conditions
  - Unlocked substations, pole switches, equipment
  - Verify circuit-to-circuit map for additional equipment and tap lines not identified.
  - Check status of fault indicators with circuit map inventory.
  - Validate asset information – maps, asset characteristics, location
  - Unauthorized attachments
  - Foreign attachments to SCE ground

IN-1	Overhead Detail Inspections	EFFECTIVE DATE 07-31-2020
PAGE 1-6	Distribution Inspection and Maintenance Program ► SCE Internal ◀	APPROVED <i>RR</i>

**SCE-11**  
**LACK OF EXPLANATION AROUND SHIFT TO**  
**RISK-BASED ASSET MANAGEMENT**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-11***

**Name:** Lack of explanation around shift to risk-based asset management.

**Category:** Asset Management and Inspections

**Class:** B

**Deficiency:**

SCE states an intention to move from a compliance based to a risk-based asset management and inspection strategy. However, beyond indicating an intent to shift to a risk-based strategy, SCE provides minimal information to detail how this shift will take place. Without sufficient detail regarding how it plans to make this transition, the WSD is unable to determine whether SCE is taking the appropriate steps to achieve its ambition. SCE does not explain how it intends to shift to a risk-based asset management and inspection strategy.

**Condition:**

In a first quarterly report, SCE shall detail:

- i. all initiatives it is implementing to make this transition to a risk-based strategy;
- ii. all data sources, models, and tools it is using to implement this initiative;
- iii. how it is adjusting its inspection and maintenance programs to incorporate such changes; and
- iv. how it is planning to communicate and train its inspectors of such changes.

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**Response:**

**i. all initiatives it is implementing to make this transition to a risk-based strategy**

In HFRA, SCE has augmented its compliance-based inspection program by adding a risk-informed inspection program. SCE launched an Inspection Redesign (IRD) Program in 2019 to manage the transition from a compliance-based inspection strategy to a risk-informed inspection strategy. The IRD Program includes workstreams related to enhancing the inspection process, improving data quality, and expanding the use of unmanned aerial systems.

SCE's risk-informed strategy exceeds the Commission's compliance requirements by performing inspections more frequently than required on higher-risk structures while still meeting the compliance inspection requirements for lower-risk structures. SCE is also collecting data and identifying conditions that surpass a traditional inspection. Therefore, SCE's risk-informed approach goes beyond compliance rather than being limited by it.

Prior to 2019, SCE's inspection programs followed the timelines set forth in the Commission's General Orders.<sup>33</sup> In 2019, SCE introduced its Enhanced Overhead Inspection (EOI) program targeting HFRA. EOI focused on detecting potential hazards, that if not remediated, would increase the risk of wildfire ignition in HFRA. Furthermore, recognizing that not all hazards can be detected from the ground, SCE began aerial inspections in order to get a 360-degree view of each structure. In 2020, SCE continued to refine its risk-informed approach. Being mindful of the need to balance risk mitigation and the cost of inspections, rather than inspecting all HFRA structures, SCE used risk models based on the probability of ignition and the consequence of ignition to identify high and medium risk structures for inspection. These risk models, as well as the planned improvements to the models, are described in SCE's RCP for the Guidance-3 deficiency.<sup>34</sup> As SCE continues to refine its risk models, the lessons learned will be incorporated to determine the frequency and type of inspections in future years. In the future, SCE expects to continually improve its risk-based analyses and apply a risk-informed approach in its non-HFRA as well. Additionally, SCE made its inspections more rigorous by increasing the level of detail and the type of information captured as described in response to condition iii below.

As the risk models are expanded and SCE gains experience applying the results, SCE expects to engage with the Commission to reevaluate compliance timelines consistent with information from its predictive models rather than a one-size-fits-all inspection schedule. To advance our risk-informed inspection program, SCE is doing the following:

- Deploying an updated consequence model (e.g., Technosylva)
- Refining existing probability of failure models
- Creating new probability of failure models, for components not model prior
- Launching new inspection tools (e.g., Salesforce)
- Developing application to detect conditions from aerial inspection photos
- Examination of crowd sourcing application
- Expansion of Risk-informed Inspections in Non-High Fire areas

#### **ii. all data sources, models, and tools it is using to implement this initiative**

The data sources and predictive models SCE uses to understand the risk of its assets are described in its Guidance-3 RCP, Section III, IN-1.1 through IN-1.6 and include probability of ignition and fire propagation models. Please also see SCE's response to condition iii, below, for more information on how technology is being used to implement these initiatives.

#### **iii. how it is adjusting its inspection and maintenance programs to incorporate such changes**

The following explains the significant changes SCE has made to its programs. These changes are grouped into People, Process, and Technology areas.

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<sup>33</sup> One exception is SCE's Intrusive Pole Inspection program which inspects poles more frequently than required by General Order 165.

<sup>34</sup> SCE 2020 Wildfire Mitigation Plan Remedial Compliance Plan Class A Conditions, filed July 27, 2020, available at <https://www.cpuc.ca.gov/wildfiremitigationplans/>

### ***People***

SCE has onboarded, equipped, and trained additional resources to perform these inspections. For the distribution ground inspections (IN-1.1), SCE added over 40 new inspection resources in addition to bringing on contractor resources. For aerial inspections, high-definition pictures are captured from either helicopter or drone, and then a team of Qualified Electrical Workers (QEWs) review the high-definition imagery and complete the survey checklist and identify any hazards or ignition risks. More information on SCE's people management is found below in our response to condition iv.

### ***Process***

SCE has added new types of inspections, increased the frequency of existing inspections and expanded the scope of its inspections beyond regulatory requirements in order to reduce wildfire risk while meeting compliance with General Orders. For example, SCE has added aerial inspections, infrared inspections and Corona Scanning (of Transmission facilities). These new types of inspections are not required to meet compliance, but are key to risk mitigation because they provide additional insight into the condition of structures and equipment that traditional compliance inspections do not. Benefits of these new inspections allow SCE to see damage that cannot be assessed from a typical ground inspection. Infrared inspections detect heat differential of components, such as splices, transformers, and jumpers which are not visible to the eye. Likewise, corona scanning can detect broken strands of conductors which may not be easily visible from a ground inspection. Aerial inspections can detect damage to the top of crossarms or top of poles, which is not visible from the ground.

As explained in our response to condition i, another significant change is the frequency of inspections in HFRA. SCE has increased the frequency of its existing inspections from once every five years for distribution and three years for transmission, as required by the Commission, to more frequent inspections informed by the risk of ignition at each structure. Currently, high risk assets (assets that are located in a high consequence area) are inspected yearly from both the ground and air. Furthermore, SCE made its inspections more rigorous by increasing the level of detail and the type of information captured. Previously, a structure was inspected to identify any hazards or infractions. The inspection focused on compliance with the General Orders and identified non-compliance items such as missing visibility strips or missing high voltage signs. New inspection methods incorporate a detailed survey with questions that cover an inventory of equipment, the type of equipment, and the condition of the equipment on the structure.

Additionally, the inspection protocol includes taking various photographs of the structure to document its condition. These photographs can be used later to identify condition changes over time. While the inspectors still identify non-compliance items, they also identify potential risks that may be compliant, but could, under certain circumstances such as high winds, create an ignition risk. The distribution overhead inspection survey has over 150 questions depending on what type of equipment is on the pole. This additional data will provide valuable information allowing SCE to continue to enhance its risk models and improve our ability to monitor asset health over time.

## ***Technology***

SCE's transition to a risk-informed strategy goes hand-in-hand with the deployment of new technology. SCE is developing artificial intelligence (AI) and machine learning (ML) models to enhance its inspection programs. For example, models are being developed for use in the aerial inspection program to assess the clarity and composition of the photos coming from the aerial image capture prior to an inspector viewing them. This speeds the turn-around time if a 'refly' is needed and allows inspectors to focus their efforts on valid scope. Eventually, SCE anticipates that AI/ML technology can be used for object recognition and condition assessment.

SCE's aerial inspections use a combination of helicopters and drones equipped with high-definition cameras to collect photos at various angles of the structure. SCE is exploring expanded use of drone technology. Drones allow us to get closer to the structure and take pictures with more angles of equipment and structures while reducing customer impacts compared to helicopters. SCE is seeking Beyond Visual Line-of-Sight capability that would allow SCE to inspect more of its structures using drones. SCE is also looking at combining ground and aerial inspections for greater efficiency.

Field inspectors are equipped with iPads utilizing applications (Apps) designed specifically for their needs. These Apps guide them through the survey questions and record answers as well as providing geospatial and other reference information. Using the Ipad's built-in camera reduces the amount of equipment inspectors need to carry. SCE is also exploring the use of LiDAR data captured during aerial inspections. This data could potentially provide valuable information including span length and latitude and longitude that can also improve our data quality.

## **iv. how it is planning to communicate and train its inspectors of such changes**

Training programs and Organizational Change Management (OCM) are critical to the success of changing the mindset from compliance only to compliance plus risk-informed inspection programs and for continuous improvement. OCM is a framework for managing the effect of new/improved business processes, changes in organizational structure or cultural changes within an enterprise. A strong OCM program ensures alignment among stakeholders and anticipates and removes potential resistance to change. More importantly, SCE's OCM personnel train leaders in change management so they can effectively manage through change.

OCM is particularly important in this situation because SCE uses an 'Agile' implementation, which is a common method of software implementation that focuses on phased rollouts that make incremental improvement incorporating user feedback. SCE's IRD program consists of frequent evolution of software and processes requiring close coordination with the field inspectors, QC, supervisors and office personnel to ensure understanding of the changes and provide opportunities for feedback. Training is a key component of the implementation. User training provides an understanding of the reasons for changing the inspection program as well as technical training on the survey questions, processes and tools. The OCM team puts together podcasts and an Ebook to communicate SCE's vision to all employees involved in the program.

For example, change management for distribution ground inspections (IN-1.1) began in October 2019 with senior leadership holding an offsite with the inspectors to explain the transformation to risk-informed inspections, describe process changes, and preview the new field tools. This

offsite was followed up with another training session in December 2019. Inspectors receive up to three days of classroom training and up to two months of field training, depending on their prior experience. Once the inspection program went live, there was frequent communication in biweekly “Flash Updates” covering updates to App functionality, survey questions, and previews of planned enhancements. A portal site was set up as a one-stop shop for field personnel to reference training, job aids, flash updates, contacts to get help, and related links (e.g., COVID-19 information and vehicle policies). Senior managers traveled throughout the service territory meeting with field inspectors to understand what worked well and what improvements were needed. Focus groups were used to gain a better understanding of how the team was adapting. One of the innovations that resulted from a focus group was phased roll outs of software updates. Now, when new functionality is added to an App, it is first tested by Super Users. Then, it is rolled out to larger groups until it is deployed to all users. This allows any bugs to be identified and corrected early. The aerial and transmission inspection programs also applied similar OCM activities including senior leadership engagement, training, and communications. These examples demonstrate the importance of OCM activities to the success of the IRD Program. As SCE’s risk-informed inspection programs evolve, it is critical to have continued OCM support.

Lastly, as referenced in SCE-10, SCE is doing QC inspections as another check to ensure that field inspectors are trained and qualified to perform accurate inspections. The QC department provides feedback to managers and supervisor to enable continuous improvement.

**SCE-14**

**SCE RELIES ONLY ON GROWTH RATE TO  
IDENTIFY “AT-RISK” TREE SPECIES**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-14***

**Name:** SCE relies only on growth rate to identify “at-risk” tree species.

**Category:** Vegetation Management and Inspections

**Class:** B

**Deficiency:**

SCE only relies on growth rate to determine "at-risk" tree species. Part of SCE's vegetation management program involves its identification of "at-risk" tree species. However, SCE appears to only rely on the growth rate of trees to identify the "at-risk" species. This focus only on tree characteristics raises concern that SCE's process for identifying "at-risk" tree species does not account for factors related to outage, ignition, or PSPS risk.

**Condition:**

In its first quarterly report, SCE shall detail:

- i. all the factors it considers in identifying "at-risk" tree species;
- ii. how it plans to measure the effectiveness of focusing work on "at-risk" species is for reducing vegetation-caused outages and ignitions; and
- iii. what measurable impact its work on "at-risk" tree species has on its thresholds for initiating a PSPS event.

**Response:**

**i. All the factors it considers in identifying "at-risk" tree species**

As WSD observed, the primary driver that SCE uses to determine “at-risk tree species” is to classify the genus or species’ growth rate as fast, medium, or slow. However, this is not the only factor SCE uses to determine at-risk tree species. SCE has developed a comprehensive list of attributes that drive additional risk. Further, SCE has developed a list of the top 10 tree types that demonstrate these attributes. These lists are based on both in-house arborist expertise and historic data tracking of Tree Caused Circuit Interruptions (TCCIs)<sup>35</sup>. The list of risk attributes can be found in Table 26 and the list of tree types with significant risk attributes in Table 27 below.

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<sup>35</sup> Tree-Caused Circuit Interruptions (TCCIs): events during which trees, or portions of trees, have contacted electrical equipment and caused circuit interruptions. TCCIs can result from vegetation that has fallen-in, blown-in, or grown-in.

**Table 26 – SCE-14 Known Risk Attributes**

#	Attributes: Definition
1	Fast growing
2	Prone to trunk failure
3	Prone to branch failure
4	Prone to insect or nuisance infestation
5	Incompatibility with hardiness zone
6	Subject to improper pruning practices when in proximity to high voltage lines
7	Invasive (does not promote native plant life)
8	Prone to limb sway during windy conditions (whipping)
9	Prone to frond drop
10	Prone to root failure
11	Large maturing tree height
12	Wood and material flammability (high risk)

**Table 27 – SCE-14 Known Risk Attributes by Type**

Type	Attribute #'s
Ailanthus	1,3,6,7,11
Ash	1,3,4,6,11
Athel / Salt Cedar	1,3,6,7,10,11,12
Bamboo	1,6,7,8,12
Eucalyptus	1,2,3,4,6,8,11,12
Mulberry	1,3,6,8
Palm	1,6,7,8,9,11,12
Pepper	1,2,3,6,8,12
Poplar/Aspen/Cottonwood	1,2,3,6,8,10,11
Vine	1,7,12

SCE also considers the following factors in determining whether at-risk vegetation has the potential for causing outages or ignitions:

- Proximity to utility infrastructure that fall within regulated clearance distances
- Location is in a HFRA and falls within enhanced clearance distances (as defined per recommended clearances in General Order 95, Rule 35, Appendix E)

SCE's vegetation crews are knowledgeable about tree growth rates and the additional tree risk attributes. The crews incorporate the risk attributes into the decision-making process to determine the appropriate mitigations for the trees. Based on the factors considered above, vegetation crews will assign a mitigation to the species to ensure that compliance clearances are maintained or determine that tree removal is warranted. For example, although an aspen might be 12' from conductors, its propensity for limb sway (Attribute #8) may result in a crown reduction so that the limbs are all below conductor height.

Species risk is currently considered within the context of SCE's line-clearing and hazard tree work. SCE's Hazard Tree Management Program (HTMP) and VM Quality Control Program currently use REAX scores to identify areas of highest consequence and prioritize inspections in those locations. SCE's HTMP then assesses individual trees in the strike zone that are not dead or dying using a Tree Risk Calculator to determine the risk of the tree failing. In the second step, if a tree species were prone to certain risks (such as those identified in Table 1 above) then the Tree Risk Calculator would take those risks into consideration in the calculation. Thus, for example, when assessing a species such as Eucalyptus, which is prone to both branch and trunk failure, those species-driven risks would be identified in the HTMP Tree Risk Calculator. Hazard tree mitigation is based on the risk score produced by the calculator, which would take into consideration, where applicable, the risks posed by at-risk tree species.

For other types of VM work, however, SCE uses REAX scoring or relies on factors other than species risk to inform the work performed. The Pole Brushing Program aims to inspect and clear brush to a 10-foot radial clearance on distribution poles in HFRA and is independent of the species type. The Expanded Clearances for Generation Facilities Program works to establish additional buffers to avoid encroachment, in which species do not play a significant role. As part of the Drought Relief Initiative, the program looks for dead, dying, and diseased trees, in which species type is not a factor. SCE's VM Quality Control program looks for encroachments into the clearance distance, and tree species is not applicable. As described in SCE's response to SCE-13, SCE plans to incorporate more risk-informed strategies to determine the 2021 schedule for line clearing and will evaluate other workstreams for opportunities to integrate risk modeling.

## **ii. How it plans to measure the effectiveness of focusing work on "at-risk" species is for reducing vegetation-caused outages and ignitions**

SCE plans to quantify the impact of the effectiveness of its work on at-risk species in reducing ignitions by measuring changes in TCCIs in our HFRA. TCCI data includes information about the type of species involved in the outage and the reasons for the outage, as captured in Table 2 above. Although compliance requires vegetation management for all trees, focusing work on at-risk species and prescribing remediation as appropriate (e.g., trimming or enhanced trimming, removal, increased frequency of inspections) is expected to reduce TCCIs and vegetation-caused ignition events.

In HFRA, the goal of managing at-risk species is to reduce the probability of vegetation contacting electric facilities in areas that are at heightened risk for wildfire. One objective in HFRA is to avoid "grow ins" of species, by clearing to greater than enhanced clearance distances for individual trees whose growth rates may be faster than typical or anticipated, in order to

maintain the clearance for a full annual cycle when feasible. Additionally, if the tree that is at full maturity has the potential to encroach upon the regulated clearance distance (RCD), the tree is removed. Another objective is to reduce “blow-ins” caused by trees with certain risk attributes, such as frond drops and shed limbs. Trimming and limb removals are performed to minimize the effect of these blowing into conductors, especially during heavy winds.

SCE will leverage its implementation of data collection and analysis processes for enhanced clearances in HFRA<sup>36</sup> to measure effectiveness of focusing work on "at-risk" species for reducing vegetation-caused outages and ignitions by analyzing the TCCI data. To perform this analysis and evaluate at-risk species mitigations in HFRA, SCE will leverage the analyses being performed on comparing areas with and without enhanced clearances, which is described in SCE's RCP in response to SCE-12, condition i., and will add an analysis of the data collected on which TCCIs were a result of at-risk species. The timing of these activities will be aligned with SCE's work to quantify the effectiveness of its enhanced clearances as described in our RCP for SCE-12, condition i.

### **iii. What measurable impact its work on "at-risk" tree species has on its thresholds for initiating a PSPS event.**

SCE's PSPS thresholds are determined by factors such as wind speed, Fire Potential Index (FPI), ignition consequence modeling, circuit conditions, length of conductor, and other technical characteristics for the applicable circuit. De-energization wind speed triggers are dynamic and unique to each circuit, based on evolving environmental and circuit-specific characteristics. When determining if wind speed thresholds for recommending de-energization should be lowered, circuit condition evaluation may account for characteristics such as a higher FPI, multiple historical outages, or outstanding vegetation maintenance items. FPI considers different kinds of fuel moisture inputs along with the amount, or loading, of fuel which has been summarized into a fuel loading modifier. This modifier reduces the FPI score according to how much vegetation is on the ground. Estimates of fuel loading were obtained through LANDFIRE<sup>37</sup> data and applied to the FPI as: Low, Moderate, and Heavy fuel loading. Generally, a lower FPI value means there is less of a fire threat.

While work on at-risk tree species is not currently considered directly in PSPS thresholds, these factors will be considered in the future as SCE integrates more granular vegetation data into its

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<sup>36</sup> See SCE's Remedial Compliance Plan (RCP) in response to SCE-12, condition i, for SCE's discussion of the effectiveness of its enhanced clearance program in reducing vegetation-caused ignitions and outages.

<sup>37</sup> LANDFIRE (LF), Landscape Fire and Resource Management Planning Tools, is a shared program between the wildland fire management programs of the U.S. Department of Agriculture Forest Service and U.S. Department of the Interior, providing landscape scale geo-spatial products to support cross-boundary planning, management, and operations.

modeling and risk-informed PSPS decision-making framework. In addition to species information, SCE plans to include other types of vegetation data, such as distance between vegetation and lines, and routine vegetation clearing and removals. In the future, the FPI will also differentiate between fuel types such as grass, brush, and timber, as well as incorporate updated datasets to address fuel loading. SCE anticipates that it will be able to complete its refinement of these models for PSPS thresholds by the end of 2021.

**SCE-15**  
**LACK OF DETAIL ON HOW SCE ADDRESSES**  
**FAST-GROWING SPECIES**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-15***

**Name:** Lack of detail on how SCE addresses fast-growing species

**Category:** Vegetation Management and Inspections

**Class:** B

**Deficiency:**

SCE's WMP lacks detail on measures taken to address fast growing species. In Section 5.3.5.15 of its WMP, SCE indicates that it takes "additional measures" to address fast growing species but does not provide any detail regarding what those measures are or how SCE determines which additional measures must be implemented.

**Condition:**

In its first quarterly report, SCE shall:

- i. list and describe what "additional measures" it takes to address fast growing tree species;
- ii. how it determines which additional measures must be implemented; and
- iii. how it evaluates the effectiveness of these additional measures at reducing vegetation-caused outages and ignitions.

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**Response:**

**i. list and describe what "additional measures" it takes to address fast growing tree species;**

SCE clarifies that "additional measures" in Section 5.3.5.15 of its 2020-2022 WMP did not mean that SCE implemented any new measures to address fast growing species, but that each tree is treated with respect to its expected ability to maintain the appropriate clearance distance until the time of the next inspection. The three main ways SCE addresses this for fast growing species are: more pruning (i.e., greater clearances at the time of pruning), removal, or mid-cycle inspections.

Tree species' growth rates are one of the primary factors considered in tailoring trim distances for routine and expanded line clearing SCE categorizes its tree species inventory according to fast, medium, and slow growth. Additionally, SCE has developed a list of risk attributes<sup>38</sup> associated with species within SCE's service territory that have historically caused problems such as Tree Caused Circuit Interruptions (TCCIs). Some of these risk attributes include, for

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<sup>38</sup> To view full list of risk attributes, please see the tables provided in SCE's response to SCE-14, Condition i.

example: trunk failure, branch failure, limb sway during windy conditions, frond drop, and root failure. When assigning specific mitigations, vegetation crews incorporate information about species' growth rates and risk attributes into the decision-making for the necessary work prescriptions, such as tree trimming distance or tree removal.

**ii. how it determines which additional measures must be implemented; and**

Certain species, including fast-growing species, have a higher potential within HFRA to cause outages that could lead to vegetation-caused ignitions, thereby necessitating further action to address these species. SCE thus strives to achieve the CPUC-recommended clearances of General Order 95, Rule 35, Appendix E (i.e., enhanced clearances) for all species in these areas., More vegetation is removed from faster growing species if the enhanced clearance is insufficient to maintain minimum clearance for the annual cycle and the greater distance is based on arboriculture knowledge. However, when enhanced clearances cannot be achieved, SCE's maintenance procedures still require removal of sufficient vegetation to maintain the regulatory clearance distance (RCD) requirement for a species' full annual growth cycle. Finally, SCE removes fast-growing tree species that are expected to encroach into the minimum clearance distance during the annual cycle.

If the sufficient clearance cannot be attained for fast growing species at the time of scheduled maintenance due to easements, other legal agreements, or regulations that restrict vegetation management practices, the maximum allowable amount of vegetation will be removed or otherwise controlled as appropriate. These Exception Tree(s) are documented in the vegetation work management system and re-inspected as needed throughout the year to avoid potential encroachments.

**iii. how it evaluates the effectiveness of these additional measures at reducing vegetation-caused outages and ignitions.**

SCE plans to use the reduction in TCCIs over time to measure the effectiveness of mitigations to address at-risk species, of which fast-growing species is a component. For a discussion of how SCE plans to track the effectiveness of its at-risk species work, please see SCE's response to SCE-14, condition ii.

**SCE-17**  
**DETAILS NOT PROVIDED FOR COLLABORATIVE**  
**RESEARCH PROGRAMS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-17***

**Name:** Details not provided for collaborative research programs.

**Category:** Data Governance

**Class:** B

**Deficiency:**

SCE asserts that it has well-established initiatives for collaborative research with academic institutions, but its WMP fails to provide details on how this collaboration is executed, planned to evolve over the plan term, or which research it plans to invest in.

**Condition:**

In its first quarterly report, SCE shall detail:

- i. with whom and how it collaborates with academic institutions to further its research on utility ignition issues;
- ii. how it plans to evolve these collaborations over the plan term; and
- iii. which research it plans to invest in during the plan term.

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**Response:**

**On-Going Academic Collaborative Research**

Southern California Edison (SCE) has collaborated with several academic institutions on projects and technologies related to the overall wildfire mitigation effort. SCE understands the need for utilities to be involved, not only on utility caused ignitions, but in all stages of a wildfire from the root weather causes, ignition sources, emergency responders, and the consequence of wildfires. SCE is collaborating on research topics in these areas with the following academic institutions:

- Advancing Fire Weather Science – **San Jose State University**
- Incipient Fault Detection through Distribution Fault Anticipation – **Texas A&M University**
- Support 1<sup>st</sup> Responders and Enhance Situational Awareness with HD Cameras – **University of California, San Diego & University of Nevada, Reno**
- Reduce Customer Impacts with Microgrids – **University of California, Los Angeles**
- Land Use policy, Fire Suppression usage and Utility Wildfire funding source – **University of California, Santa Barbara**
- Support Electric System Planning through the Grid Resilience & Intelligence Platform – **Stanford University and University of California Berkeley**

- Collective Research on Wildfire Issues – **Cal Poly San Luis Obispo**

#### Advancing Fire Weather Science

San Jose State University (SJSU) has a robust fire weather program that Southern California Edison is interested in engaging with to help reduce utility-caused wildfires. In doing so, SCE is looking to use LiDAR technology, owned and operated by San Jose State University, to profile winds in the lower atmosphere in areas where winds are difficult to forecast and monitor. This would provide increased situational awareness during PSPS situations and could help with potential proactive de-energization decisions. SCE has been in talks with SJSU and is presently developing the scope for this effort as they have been pioneers in advancing the understanding of lower atmospheric winds and smoke plume dynamics.

#### Incipient Fault Detection through Distribution Fault Anticipation

As stated in 2020-2022 WMP section 5.3.7.2, SCE continues to collaborate with Texas A&M on its Distribution Fault Anticipation (DFA) deployment which is further detailed as AT-2 as part of the Guidance 9 response on the DFA pilot. SCE has been working closely with Texas A&M in providing information about SCE's system configuration / networks and also providing on-going exchange of the field validations to optimize the DFA software algorithms which will continue to improve through the plan term as it collects additional grid event data.

#### Support 1<sup>st</sup> Responders and Enhance Situational Awareness with HD Cameras

Expanding on the WMP section 5.3.7.2, SCE has a close relationship with University of California, San Diego (UCSD) and the University of Nevada, Reno (UNR) on SCE's deployment of the HD camera system onto the ALERTWildfire<sup>39</sup> system. This camera system has proven to be helpful to first responders, confirming existence of fires and helping direct fire response. While SCE has reached the practical limit on the installation of the HD camera system, we are furthering efforts to improve the use of the system to continue to advance the situational awareness through the WIFIRE<sup>40</sup> program is being led by UCSD.

#### Reduce Customer Impacts with Microgrids

SCE has funded a microgrid study with the University of California, Los Angeles (UCLA) Luskin Center for Innovation to support SCE's *Pathway 2045* whitepaper, which underscores the need to expand and build additional resiliency solutions. Working with SCE, UCLA Luskin Center is developing a report that examines where, when and the type of microgrids that would best meet the needs of California's communities, while remaining affordable to all of California's consumers, including California's most vulnerable residents. The report is informed by the continuous activities of the CPUC Rulemaking #19-09-009, California SB-1339, and SCE's PSPS-8 activity (WMP section 5.3.3.8.2). As part of the study, UCLA is analyzing policy and regulatory considerations of microgrid implementation. As microgrid conversations

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<sup>39</sup> ALERTWildfire, <http://www.alertwildfire.org/>

<sup>40</sup> UCSD WIFIRE Labs, <https://wifire.ucsd.edu/>

continue to evolve, so may the study, including a potential second phase focused on deeper technical aspects, use cases, market operation/business models, and challenges/benefits for each of the use cases. SCE anticipates the first phase to be complete by first quarter 2021.

#### Land Use Policy, Fire Suppression, and Utility Wildfire Funding Source

SCE funded a study with the University of California, Santa Barbara (UCSB) Bren School of Environmental Science & Management to understand various strategies in managing wildfire risks around the Wildlife Urban Interface especially in regard to land use, public policy, fire suppression applications, and understanding how to finance wildfire damage for utilities. This was a directed research effort through the Strategic Environmental Research Initiative (SERI) from UCSB sponsored by SCE to map and determine fire risk. The SERI study was funded in 2018 and delivered several reports in the research areas concluding with a final report as of September 2019. There are no current plans to expand this policy research.

#### Support Electric System Planning through the Grid Resilience & Intelligence Platform

As part of its long-term Grid Technology Innovation efforts, SCE has helped advise and guide the requirements, development and design of the Grid Resiliency Intelligence Platform (GRIP)<sup>41</sup> with the Stanford Linear Acceleration Center (SLAC), X (Google), and others. SCE/SLAC and the GRIP partners are working on a feasible path to validate a new simulating tool/platform on Google's Cloud Platform (GCP) environment. SCE has advised the GRIP effort on providing possible and added benefits from the utility perspective such as predicting pole vulnerability, wind impacts, and the design of a second virtual islanding concept (e.g. grid of microgrids which could provide the critical level of energy needed from the loss of substation due fire, PSPS or other impacts). The first use case is focused on improving grid stability through climate adaptation planning, vegetation planning, workforce management prior to storms, and situation awareness during red flag events. The second use case (conceptual only) is for a downsized design and implementation of a 4 to 5-month virtual islanding scenario behind the customer meter.

#### Collective Research on Wildfire Issues

SCE and the other major IOUs are looking to work with Cal Poly San Luis Obispo's Wildland Urban Interface Fire Information Research and Education (Cal Poly SLO WUI FIRE) Institute to develop a more centralized collaborative effort to align research efforts between academy, industry, state agencies (CAL FIRE, Cal OES, Caltrans), and the utilities.

#### **Summary of SCE's Academic Collaboration Process**

SCE's Letter of Support (LOS) process provides universities (and other stakeholders) the opportunity to submit a request for support – ranging from in-kind services, financial commitments and letters of recommendation. Since 2015, SCE has received 559 letters of support requests and approved 430 of them (359 conceptual, 18 in-kind, 53 financial).

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<sup>41</sup> Grid Mod Laboratory Consortium GRIP Fact. Sheet, [https://gmlc.doe.gov/sites/default/files/resources/1.5.01\\_GRIP\\_Fact%20Sheet\\_8-30-18.pdf](https://gmlc.doe.gov/sites/default/files/resources/1.5.01_GRIP_Fact%20Sheet_8-30-18.pdf)

Specifically, as it relates to 2020-2022 WMP, SCE's Grid Resiliency Program Management Office (GR PMO) assesses every opportunity to collaborate with universities submitting request tied to wildfire mitigation and safety. This strategic partnership helps academia diversify their research, while also helping SCE expand its understanding of potential challenges and research gaps. SCE will continue to support various universities in their wildfire research efforts through this established process.

In addition to the LOS process, SCE business units and the GR PMO meet with vendors, universities, and various stakeholders regularly to assess the value of various wildfire mitigation proposals. Mature technologies/efforts that are valuable are collected into new or existing WMP activities, while less mature opportunities of strong utility value generally become Alternative Technology activities.

### **Other Academic Collaboration Opportunities Presented to SCE**

SCE has met with the Cal Poly SLO's High performance Assured Resilient Dependent Infrastructure (HARDI) lab to present an early wildfire detection system utilizing power grid dynamic line rating sensors. SCE has also met with the University of Waterloo, Ontario, who had partnered with the Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) in Port Hueneme to propose another early wildfire detection opportunity using multi-sensory monitoring. SCE did not pursue either of these opportunities as, while SCE sees value in early wildfire detection and monitoring, we believe there is more value in fire prevention through inspections/remediation, system hardening, vegetation management than fire mitigation through early fire detection. SCE is open to potential partnership opportunities with CAL FIRE for technology CAL FIRE deems viable in this space.

The academic institutions listed in the table below have submitted wildfire specific LOS requests. The UC Irvine opportunity was also submitted to the California Energy Commission for funding support but was not selected thus it was listed as denied. The similar situation was true for the UC Riverside opportunity as that effort was not selected as part of a Department of Energy funding opportunity. The remaining two opportunities are pending further evaluations.

**Table 28 – SCE-17  
Partnerships with Academic Institutions**

<b>Opportunity Title</b>	<b>Project Description</b>	<b>Funding Status</b>	<b>Partner Lead</b>	<b>SCE's Role</b>
Data-Driven Monitoring, Assessment, and Decision-Support Tool to Improve the Resilience of Solar-Assisted Grid under Wildfires	This project develops a highly scalable (for more than 10 substations, with 1000 distribution feeders) platform to integrate thousands to millions of information tags of power generation, load profiles, smart meter data, and grid models with geographic data, weather data, wildfires metrics and HD cameras data to improve real-time situational awareness.	Denied	<b>University of California, Riverside</b>	Technical Advisory & Provide Test Beds
CAL-WARM: California Wildfire Adaptation and Risk Management	The project focuses on developing more robust and computationally efficient wildfire models using updated climate and wildfire science for assessing potential damage to electricity infrastructure due to wildfires. Additionally, the project includes a first assessment of how wildfires at the wildland-urban interface will affect electricity infrastructure such as substations and distribution lines, using data from the CPUC Distributed Resource Plan.	Denied	<b>University of California, Irvine</b>	Conceptual
Fighting Wildfires under Climate Change: A Data-Informed Physics-Based Computational Framework for Probabilistic Risk Assessment and Mitigation, and Emergency Response Management	This project features three distinct and novel components that will be developed and implemented into practice to fill the present knowledge gaps and technical capabilities. These are (i) a probabilistic framework for wildfire risk and loss assessment that integrates the uncertainties in the predictive models, input data, and socioeconomic losses due to WUI fires; (ii) machine learning techniques for heterogeneous data fusion and uncertainty quantification; and (iii) a novel Bayesian inference framework for efficient assimilation of measurements during a live fire into the near-real-time forward simulation models.	Pending	<b>University of Nevada Reno</b>	Technical Advisory
Electric Grid Situational Awareness for Wildfire Risk Reduction	This project will conduct an experimental research to understand the dynamics of electrical fires and also identify factors that influence the occurrence and spread of fires caused by electrical equipment. In addition, it develops an analytical tool to detect and diagnose electrical grid faults before they spark a blaze by real-time mining the high-frequency sensor data.	Pending	<b>University of California, Riverside</b>	Conceptual

**SCE-18**  
**DISCUSSION OF CENTRALIZED**  
**DATA REPOSITORY LACKS DETAIL**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-18***

**Name:** Discussion of centralized data repository lacks detail.

**Category:** Data Governance

**Class:** B

**Deficiency:**

SCE explains its plans for creating and implementing a centralized repository of data to be leveraged across a number of wildfire mitigation programs and activities. SCE's discussion of this centralized data repository lacks sufficient detail on goals and targets related to this program, as well as how the centralized data repository will evolve during the plan period.

**Condition:**

In its first quarterly report, SCE shall detail:

- i. its goals and targets related to implementation of this centralized data repository;
  - ii. how the centralized data repository will evolve during the plan period;
  - iii. which specific WMP programs or initiatives will utilize this centralized data repository;
  - iv. all the sources of data input into this centralized data repository; and
  - v. treatment and QA/QC of data identified in (iv).
- 

**Response:**

SCE appreciates the opportunity to share more details on its wildfire-related system strategy. SCE has been on a long journey to improve grid resiliency and safety through data and analytics. From smart meters to distribution automation, customer notification systems and grid modernization, SCE has invested in new processes and technologies to continuously improve our ability to make data-driven decisions for safe, reliable, affordable, and clean energy transmission and delivery. In the past several years, we have focused on accelerating our wildfire risk mitigation efforts through digital technologies, data governance, and advanced analytics, amongst other activities.

We are currently continuing efforts by transforming our enterprise data architecture to a cloud-based solution that federates data from disparate sources, diminishes manual efforts and improves the speed, accuracy and efficiency of using the data to further mitigate the ignition risks associated with our assets. The platform will be capable of evolving to accommodate new requirements in the future and will include geospatial data and advanced analytic capabilities so data scientists across the state may collaborate and share data. System development and implementation takes time as these are complex projects that require careful consideration of system design and business process changes, input from users, alignment with current and future

industry standards, training and change management needs, and optimal phases of implementation.

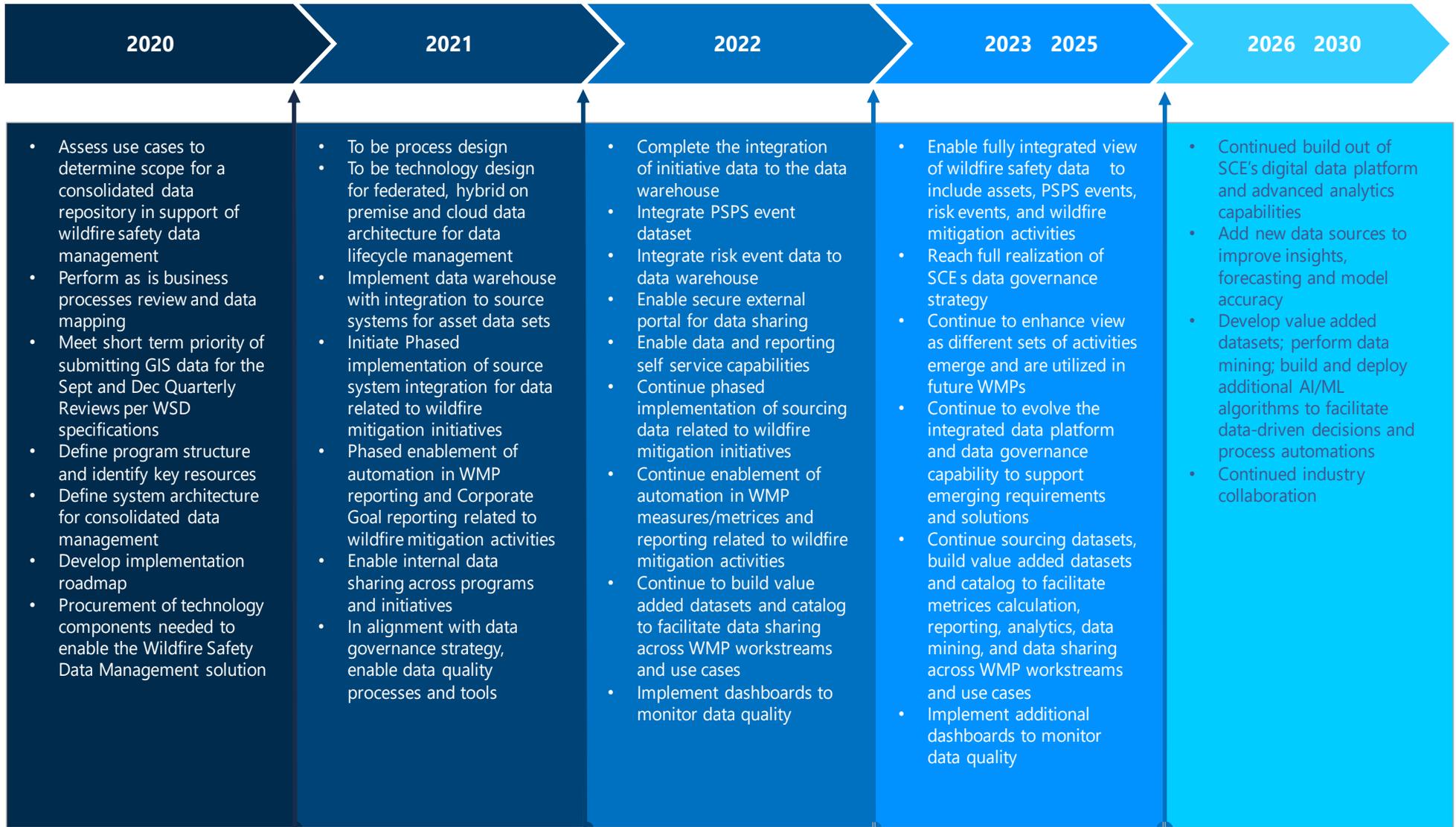
SCE's system strategy goals in support of the centralized data repository are as follows:

- To provide a single source of truth for reporting, analytics, and data-driven decision making
- To simplify the reporting and analytics capabilities for SCE internal decision makers, end-users, analysts and data scientists
- To simplify data sharing with internal and external entities
- To provide traceability and auditability for reporting and data sharing with internal and external entities
- Internal and external managed accessibility for data discovery, metric reporting and operational dashboards
- To develop a platform that can evolve and continuously improve SCE's ability to adapt to new requirements and conditions to improve public safety over time.
- Enable fact-based and risk informed decisions to mitigate the ignition risks from our assets and to help prevent wildfires and other public safety events.
- To align with WSD's vision for utility wildfire mitigation data strategy and comply with the adopted GIS data reporting standards

Below, SCE responds to this deficiency by providing more details on its forthcoming wildfire-related system strategy.

I. SCE goals and targets related to implementation of this centralized data repository.

Figure 15 – SCE-18 Goals and Roadmap



#### Program Targets for 2020

- Initiate the Wildfire Safety Data Management (WSDM) project
- Conduct as-is data inventory
- Complete Technology Architecture Vision Definition document (AVD) for WSDM

#### II. How the centralized data repository will evolve during the plan period.

SCE's centralized data repository in support of wildfire safety data will be realized in a phased approach by staggered integration of datasets from source Systems of Record (with both historical as well as ongoing incremental data) and the implementation of a secure portal for data consumption by external stakeholders. SCE envisions WSDM capabilities will evolve during the plan period per the high-level capability roadmap listed in the figure above in Section I.

#### III. Which specific WMP programs or initiatives will utilize this centralized data repository.

Data relevant to all of the work streams in support of wildfire risk mitigation will be feeding into and utilizing the data mart for various reporting, analytical, and data sharing needs. Collecting the data into a central data mart with the capability to correlate and conduct probability exploration to help establish causation to better manage risk is a central approach to our wildfire mitigation efforts. As such, WMP programs and initiatives within the following categories will use the WMP data mart:

- Public Safety Power Shutoff
- Grid Hardening
- Asset Management Inspections
- Vegetation Management
- Wildfire Risk Analysis
- Grid Resilience Alternative Technology Programs
- Operational Practice Improvement Programs

#### IV. All the sources of data input into this centralized data repository

Any data pertaining to wildfire safety data reporting, analytics and data sharing requirements will be captured from system of records (transactional systems), user defined applications, and third-party sources will be captured and maintained in Enterprise Analytics Landscape. The following list includes several of the key data sources.

- Consolidated GIS (cGIS)
- ArcGIS Online (AGOL)
- SAP
- Customer Service System (CSS)
- Outage Management System (OMS)
- Copperleaf C55
- Primavera P6
- Salesforce

- Technosylva
- SAS
- PSPS Operational Dashboard sources
- Google Cloud Platform
- Public data sources (to be detailed further)

V. Treatment and QA/QC of data identified in (iv).

SCE has plans for a multi-faceted QC/QA approach for its WMP data mart. This consists of data quality (DQ) rules and metrics that will be defined for key master and transactional datasets. Additionally, DQ dashboards will be developed for data stewards and data subject matter experts to track and monitor data quality of key datasets. Data audit checks will be built to ensure data consistency and completeness between the source systems and the target WMP data mart. Keys (primary and foreign) shall maintain referential integrity across platforms. Interfaces with built in data validations will be developed as well as the flexibility to deliver the data through the WMP data mart in the desired formats.

**SCE-19**

**SCE DOES NOT SUFFICIENTLY JUSTIFY THE RELATIVE  
RESOURCE ALLOCATION OF ITS WMP INITIATIVES TO  
ITS COVERED CONDUCTOR PROGRAM**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-19***

**Name:** SCE does not sufficiently justify the relative resource allocation of its WMP initiatives to its covered conductor program.

**Category:** Resource Allocation Methodology

**Class:** B

**Deficiency:**

SCE's total investment in covered conductor is 42% of the entire WMP budget, growing from \$240 million actual spending in 2019 to \$775 million projected spending in 2022, as shown in Appendix B, Figure 3.5a. SCE's spend on covered conductors is much greater than that of its peer electrical corporations. It is also noteworthy that while SCE projected spending \$42 million on covered conductor installation in its 2019 WMP, its 2020 WMP reports SCE actually spent \$240 million – nearly five times over its 2019 projections. SCE does not sufficiently justify the relative resource allocation of its WMP initiatives to its covered conductor program with any quantifiable risk reduction information.

**Condition:**

In its first quarterly report, SCE shall provide:

- i. further justification, including a RSE analysis of alternatives, for the costs associated with the covered conductor initiative,
- ii. an explanation of how SCE derived the ignition reduction potential of covered conductor, including with reference to its projected ignitions in Table 31 of its WMP,
- iii. a detailed explanation of why this initiative, as opposed to others, warrants such a large percentage of its spend given its ignition reduction potential,
- iv. justification and rationale for its planned ramping up of spend on covered conductor each year of the plan term, and
- v. a detailed description of relationship between spend and forecasted circuit miles approved in D.20-04-013 and that presented in SCE's 2020-2022 WMP.

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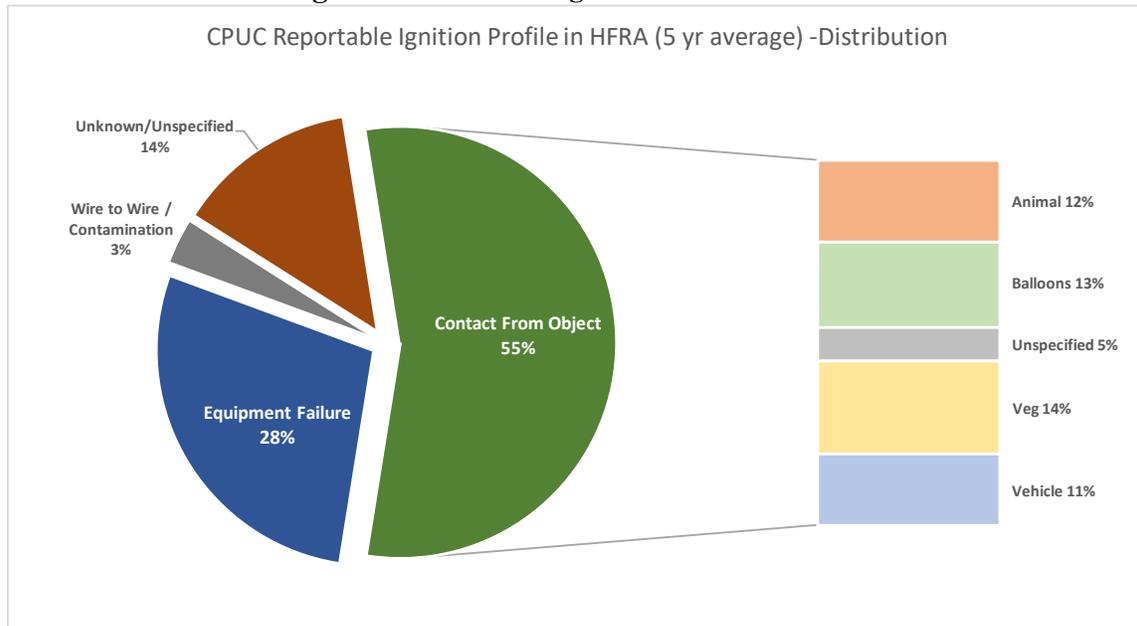
**Response:**

- i. further justification, including a RSE analysis of alternatives, for the costs associated with the covered conductor initiative**

Over the past five years, a large majority of SCE's CPUC reportable ignitions (> 90%) have occurred on Distribution voltage circuits as compared to Transmission voltage circuits, with an even greater percentage occurring on overhead versus underground lines. Within Distribution, the data shows that over the past five years, approximately 58% of the ignition frequency is

associated with Contact from Object (CFO) and Wire-to-Wire contact.<sup>42</sup> Figure 16 below summarizes different ignition risk drivers.

**Figure 16 – SCE-19 Ignition Profile in HFRA**



In its 2020-2022 WMP, the initiatives included to reduce faults (and related ignitions) associated with all CFO ignition drivers and Wire-to-Wire contact in distribution overhead systems are the Covered Conductor Program (SH-1) and Undergrounding Overhead Conductors (SH-2).

Undergrounding, as a program, does mitigate most risk drivers, however, it is financially prohibitive and practically infeasible from a widespread deployment perspective – SCE has over 9,600 distribution circuit miles in its HFRA, and many of these miles are in areas with terrain prohibitive to undergrounding. In addition, SCE’s RSE calculation shows that undergrounding has five times lower RSE than that of covered conductor.

Covered conductor can be deployed much faster and more cost-effectively than undergrounding circuits. Because circuits that receive covered conductor treatment also get brought up to current standards for related equipment, the benefits of covered conductor deployment extend beyond just mitigating CFO and Wire-to-Wire contact risk drivers, and also include mitigating additional equipment failure ignition drivers (e.g., conductor, crossarm, insulator, splice/clamp/connectors). More details on covered conductor’s effectiveness in mitigating different ignition drivers can be found in condition (ii) below.

The ability for covered conductor to mitigate such a broad spectrum of wildfire risks, its cost-effectiveness, and deployment efficiency versus other alternatives is why it is the foundational mitigation program in SCE’s portfolio.

<sup>42</sup> See SCE’s 2020-2022 WMP, Table 18A.

Furthermore, SCE provided, in its response to Guidance-1, the reduction in ignition risk by mitigation. In the table shown below, covered conductor has the largest impact on reducing ignition risk within the 2020-2022 WMP period. Moreover, the RSE for our covered conductor program is 23, whereas the RSE for undergrounding overhead conductors is 5.

**Table 29 – SCE-19  
Ignition Reduction (Distribution) by Initiative**

Description	% Incremental Reduction		
	2020	2021	2022
Wildfire Covered Conductor Program, Tree Attachment Remediation	6.4%	8.8%	9.6%
Undergrounding Overhead Conductor	0%	< 0.1%	0.1%
Fire-Resistant Composite Poles & Composite Crossarms WCCP	< 0.1%	< 0.1%	< 0.1%
Hazard Tree Removals	0.7%	0.7%	0.8%
Distribution Detailed Overhead Inspections, Remediations - Distribution, Generation Inspections, Generation Remediation	1.3%	1.6%	1.4%
Distribution Infrared & Corona Inspections	< 0.1%	< 0.1%	< 0.1%
DRI Quarterly Inspections and Tree Removals	0.6%	0.5%	0.5%
Distribution Aerial Inspections	1.3%	0.8%	0.8%
Branch Line Strategy Replace	< 0.1%	< 0.1%	< 0.1%
Expanded Pole Brushing	3.4%	2.2%	1.4%

For all the reasons discussed above, SCE has committed to targeting 1,000 - 1,600 miles of the highest risk distribution overhead circuit segments for covered conductor deployment annually between 2020 and 2022. As more of the system is hardened, SCE will continue to reevaluate the marginal effectiveness of additional covered conductor deployment in conjunction with other wildfire mitigation initiatives, and make refinements and adjustments as necessary to efficiently address wildfire-related risks.

***Other System Hardening Alternatives Considered***

In addition to calculating an RSE for covered conductor and undergrounding, SCE also conducted RSE analysis, and submitted in our 2020-2022 WMP Tables 21-30, for other system hardening alternatives such as Fire Resistant (FR) Poles (RSE of 4), Branch Line Strategy (RSE of 9), Circuit Breaker Fast Curve Settings (RSE of 8), and Remote Controlled Automatic Reclosers Installations (RSE of 2). None of these alternatives, though, mitigate CFO risk drivers, which is the primary risk driver for ignitions in SCE’s HFRA. These other initiatives complement covered conductor by mitigating some of the equipment failure risk drivers and also reduce the probability of ignition given a fault, but they are not as comprehensive and effective as a risk reduction initiative as covered conductor, as illustrated in Table 29 above and in the RSE

scores. More details on other alternative mitigations that SCE considered can be found in SCE's response to Guidance-2.

### ***Other Vegetation and Inspections Alternatives Considered***

SCE also conducted RSE analysis for a number of Inspections initiatives, such as Ground-based Overhead Equipment (RSE of 22 and 3), Aerial (RSE of 17 and 1) and Infrared Inspections (RSE of 4 and 0) for Distribution and Transmission respectively. These inspection programs primarily mitigate equipment failure risk drivers. For vegetation-related initiatives, SCE calculated a number of RSEs for activities such as Hazard Tree Removals (RSE of 25), Expanded Pole Brushing (RSE of 59), and Drought Relief Initiatives (DRI) (RSE of 30). These initiatives target the vegetation risk driver, which is only one out of the five CFO ignition risk drivers shown in Figure 1 above. Although an initiative such as DRI has a higher RSE than covered conductor, it only mitigates the vegetation ignition risk driver compared to the comprehensive breadth of ignition risk drivers mitigated by covered conductor. While covered conductor is designed to withstand contact from objects that develop into an electrical fault, it is also designed to withstand reasonable mechanical contact forces with objects such as palm fronds, and small tree limbs. However, covered conductor, similar to bare conductor, is not designed to withstand a major contact force from a fall-in or blow-in object (e.g., a large tree trunk). However, the other programs listed above, such as Hazard Tree Removals, address these issues and complement covered conductor in mitigating a wider range of potential vegetation contacts. Furthermore, the inspection initiatives described above provide the ability to detect and repair/replace equipment exhibiting imminent failure conditions, which covered conductor is not able to do. Thus, these various inspection programs are also complementary mitigations to covered conductor.

### ***RSE metric***

As illustrated in the example described in the previous paragraph about DRI, the RSE metric should not be the only factor used in determining the portfolio of mitigations. The RSE metric does not consider certain operational realities, resource constraints, and other factors that SCE must consider in developing its plan. Accordingly, SCE developed a comprehensive and balanced mitigation plan with activities that will collectively reduce the greatest amount of risk in the shortest amount of time, considering RSE as well as various regulatory, operational, resource, and cost constraints. It would be inappropriate to implement a comprehensive wildfire risk mitigation plan based solely on RSEs, which would likely lead to significant parts of the system and potentially significant risk issues left unaddressed. This rationale is supported in D.18-12-014, where the S-MAP Settlement<sup>43</sup> addresses this issue:

“The utility is not bound to select its mitigation strategy based solely on RSE ranking. Mitigation selection can be influenced by other factors including funding, labor resources, technology, planning and construction lead time, compliance requirements, and operational and execution considerations.”

An RSE metric does not reveal which risk driver(s) a particular initiative will mitigate, creating in some cases a false sense of effectiveness if it only addresses a very small subset of risk drivers

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<sup>43</sup> Condition 26.

for a correspondingly low cost. The goal instead should be to target the different drivers of ignition risk with a portfolio that balances cost, efficiency and speed of deployment. SCE believes that its portfolio with covered conductor as the foundational mitigation, complemented with other initiatives, achieves that goal. SCE shares WSD's long term vision<sup>44</sup> of "A sustainable California, with no catastrophic utility-related wildfires" and believes that a portfolio based on the Covered Conductor deployment scope outlined in our 2020-2022 WMP is the most viable option in achieving this vision as quickly as possible.

ii. **an explanation of how SCE derived the ignition reduction potential of covered conductor, including with reference to its projected ignitions in Table 31 of its WMP**

SCE estimated the ignition reduction potential of its covered conductor program and other wildfire-related initiatives based on historical averages of faults and ignitions, and expected mitigation effectiveness for each of the ignition drivers. In the table below and for purposes of calculating RSEs, SCE used the 5-year historical annual average ignition frequency as the starting point of the calculations.

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<sup>44</sup> Utility Wildfire Mitigation Strategy and Roadmap for the Wildfire Safety Division – May 2020

**Table 30 – SCE-19  
Covered Conductor Program Mitigation Effectiveness**

	<b>A</b>	<b>B</b>	<b>C = A*B</b>
	<b>Annual Frequency (5 yr Avg)</b>	<b>Mitigation Effectiveness [%]</b>	<b>Mitigated Frequency</b>
<b>D1 - CFO</b>	<b>19.60</b>		
D1a - Animal	4.40	99%	4.36
D1b - Balloons	4.60	99%	4.55
D1c - Unspecified	1.80	77%	1.39
D1d - Veg	5.00	60%	3.00
D1e - Vehicle	3.80	50%	1.90
<b>D2 - EFF</b>	<b>10.00</b>		
D2a - Cap. Bank	0.20	0%	0.00
D2b - Conductor	3.20	90%	2.88
D2c - Crossarm	0.20	50%	0.10
D2d - Fuse	0.20	0%	0.00
D2e - Insulator	1.20	90%	1.08
D2f - Splice/Clamp/Connector	2.20	90%	1.98
D2g - Transformer	1.20	0%	0.00
D2h - Unspecified	1.60	0%	0.00
D2i - Lightning arrester	0.00	0%	0.00
D2j - Switch	0.00	0%	0.00
<b>D3 - Wire to Wire / Contamination</b>	<b>1.20</b>	<b>99%</b>	<b>1.19</b>
<b>D4 - Unknown/Unspecified</b>	<b>4.80</b>	<b>0%</b>	<b>0.00</b>
<b>Total</b>	<b>35.60</b>		<b>22.42</b>
<b>Mitigation Effectiveness</b>	<b>63%</b>		

Column A represents the 5-year historical average for Distribution voltage CPUC Reportable Ignitions within HFRA. Column B represents the covered conductor mitigation effectiveness at the ignition driver level, based on historical data, testing, benchmarking, and SCE’s Subject Matter Expert’s judgment. For example, covered conductor is estimated to mitigate nearly all contact against wildlife and balloons, except in cases where the line is not insulated at connection points or dead-ends. Column C, the product of columns A and B, represents the ignitions mitigated from a complete deployment of covered conductor over HFRA. The total mitigation effectiveness of the covered conductor program of ~63%, based on the effectiveness against various ignition drivers, is calculated from dividing the totals from Columns C and A. This methodology is extended to other wildfire initiatives and more details pertaining to the forecasts in WMP Table 31 can be found in our response to SCE-4.

### **iii. a detailed explanation of why this initiative, as opposed to others, warrants such a large percentage of its spend given its ignition reduction potential**

As a summary to the discussion provided in response to the other conditions of this deficiency, the decision to dedicate significant labor and financial resources to covered conductor deployment was intentional and based on a number of factors, including those bulleted below. It is noted that 42% of SCE's 2020 WMP spend forecast is directed towards covered conductor and covered conductor is responsible for over half of the ignition driver reductions identified in SCE's plan. There are no other mitigations that can achieve the same level of risk reduction as quickly and cost effectively as covered conductor.

- Distribution overhead facilities contributed to most of the ignitions in the last five years associated with electrical facilities in SCE's service territory
- CFO (55%) and wire-to-wire contacts (3%), together constitute a majority of the ignition drivers in SCE's HFRA
- Deploying covered conductor also provides additional benefits by reducing equipment/facility failure (EFF) ignition drivers through replacement of aging overhead conductors, hardware, and construction components such as splices and insulators
- Covered conductor deployment, undergrounding overhead lines, and more frequent PSPS are the only three initiatives that address the drivers of both CFO and wire-to-wire contact (whereas inspections and vegetation management programs target only a specific subset of those drivers)
- Covered conductor deployment is more cost effective and operationally practical (in terms of lead time for deployment and constructability) than undergrounding distribution overhead lines.

### **iv. justification and rationale for its planned ramping up of spend on covered conductor each year of the plan term**

SCE's covered conductor program began in 2018 and 2019 was the first full-year of installation. Large-scale programs like covered conductor typically require a ramp-up time to plan, design and mobilize the necessary operational processes. In fact, scope initiation, planning, procurement, permitting and scheduling can take up to a year or longer prior to field construction. SCE's current resource-constrained plan is to install approximately 6,300 total circuit miles of covered conductor by 2023, and our 2020 WMP ramp up aligns with this plan. SCE has learned from its installations in 2018 and 2019, has dedicated and redeployed more resources to this effort, and expects to incrementally complete more installations on a year-to-year basis going forward. This ramp-up allows SCE to reduce wildfire risk at a faster pace over the next few years, while providing engineering and field operations the necessary time to plan and design more circuit miles. SCE will continue to reevaluate its methods to accelerate covered conductor deployment if resources are available or efficiencies can be gained in planning and construction so as to mitigate wildfire risks even faster. As mentioned earlier in this response, SCE will also continue to assess the marginal effectiveness of additional covered conductor deployment in conjunction with other wildfire mitigation initiatives, and make refinements and adjustments as necessary to efficiently address wildfire-related risks.

**v. a detailed description of relationship between spend and forecasted circuit miles approved in D.20-04-013 and that presented in SCE's 2020-2022 WMP**

SCE forecasted \$42 million for covered conductor deployment in 2019 in its 2019 WMP for 96 circuit miles of installation, consistent with its GSRP application and D.20-04-013, and also informed that it would continue to accelerate the program and endeavor to install approximately 291 circuit miles of covered conductor. SCE actually installed 372 total circuit miles of covered conductor in 2019 and incurred \$240 million in spend as part its Wildfire Covered Conductor Program, which included 277 of the 372 miles. SCE was able to ramp-up the program more quickly than our 2019 baseline forecasted plan, consistent with our accelerated projection. Given our experienced rate of installation and ability to design and engineer more circuit miles of covered conductor, SCE projects that it will be able to complete substantially more covered conductor in 2020 and through this WMP period.

The recorded costs in 2019 were driven by (1) additional scope of covered conductor installation, (2) pre-construction (e.g., design, engineering and procurement) costs associated with covered conductor scope planned in 2020, and (3) incremental cost of fire-resistant poles, which were forecasted separately in the 2019 WMP, but recorded in the covered conductor work orders as the work was performed concurrently.

As noted, SCE is projecting to significantly increase its covered conductor installation targeting 1,000 miles in 2020, 1,400 miles in 2021 and 1,600 miles in 2022. The ramp-up needed to meet these aggressive targets requires SCE to continue to accelerate planning, design and procurement activities. This made a significant impact in completing the additional circuit miles in 2019 and SCE expects it will have a similar result in ramping up installation in 2020 and through the WMP period.

**SCE-20**  
**POTENTIAL NOTIFICATION FATIGUE FROM**  
**FREQUENCY OF PSPS COMMUNICATIONS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-20***

**Name:** Potential notification fatigue from frequency of PSPS communications.

**Category:** Emergency Planning and Preparedness

**Class:** B

**Deficiency:**

SCE's rapid expansion of PSPS implementation and the associated decision-making to "call" a PSPS, led to constant and persistent PSPS events in the summer of 2019. Given PSPS notification requirements, this led SCE's customers and public safety partners to experience notification fatigue, which could potentially reduce the effectiveness of SCE's notifications. Striking the right balance for timely and accurate notifications is paramount to effective emergency planning and preparedness. SCE's PSPS notifications in 2019 were criticized for being overwhelming, inaccurate or confusing.

**Condition:**

In its quarterly report, SCE shall detail:

- i. its plans for ensuring PSPS notifications are both timely and accurate,
- ii. the number of PSPS events initiated during the prior quarter,
- iii. the number of pre-event notifications sent for each event, and
- iv. the number of false-positive pre-event notifications (i.e. a customer was notified of an impending PSPS event that did not occur) for each event.

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**Response:**

**Condition i:**

In 2020, SCE has taken several steps to help ensure timely and accurate PSPS notifications as described below:

Reducing probability of circuits being in scope: Based on analysis of its 2019 PSPS events, SCE has identified 85 distribution circuits that were frequently in scope for PSPS events because the forecasted wind speeds breached PSPS activation thresholds, but rarely they materialized in localized wind speeds high enough to exceed their de-energization triggers. SCE has adjusted circuit-specific thresholds for these 85 circuits based on historical weather patterns, which should lead to fewer PSPS events and notifications for them. A retrospective analysis validated that if the same weather was to occur in 2020, those circuits would be in consideration for PSPS de-energization 50-60% less and would not prompt notifications.

PSPS notification system automation: Since the 2019 fire season, SCE has automated large portions of its notification system that eliminates several manual processes and is expected to result in quicker and more accurate preparation of customer notifications.

Improved FPI and weather forecasting: Refining fuel moisture parameters, and the calibration against nearly 20 years of historical weather, fuels and fire data means that SCE's forecasting will continue to provide the most accurate FPI and weather forecasts which help to inform accurate and appropriate PSPS activations and notifications.

Notification message alignment: SCE has aligned all notification messaging with the California Alerting and Warning Guidelines and has worked in advance of the 2020 fire season with County Offices of Emergency Services in the SCE service territory when crafting notification messaging.

Enhanced customer outreach: SCE has instituted additional steps for its medical baseline and critical care customers, including in-person notifications if SCE is unable to reach a critical care customer through standard notification methods.

**Conditions ii. – iv.:** Based on regulatory requirements, SCE sends several kinds of PSPS notifications, broadly categorized as customer service notifications and liaison officer notifications. Once circuits are forecast to breach thresholds and an SCE Incident Management Team is activated to manage the upcoming event, notifications are sent to potentially affected customers and agencies, at the intervals specified in the PSPS compliance requirements.

Customer service notifications begin with “in-scope” notifications three days in advance, two days in advance and on the day of a forecast event, when possible. These notifications are designed to inform customers that SCE is exploring a potential Public Safety Power Shutoff of electrical lines in their area, that they are in scope if such an event were to occur, and that the conditions may result in SCE de-energizing their circuits. “Update notifications” are also sent noting any changes in weather forecasts, so that customers and key emergency partners have the most up to date information regarding the projected timing of concerning conditions. SCE interprets all these customer notifications to be “pre-event” notifications. Should conditions not materialize, or if they remain below pre-defined concerning levels, SCE will not de-energize that circuit. SCE considers these in-scope notifications to be a prudent step meant to give customers and public safety partners an advance warning of a potential de-energization and the ability to put into action their emergency plans.

Should a de-energization be deemed necessary because of the real-time risk to a circuit, SCE sends “imminent de-energization notifications,” which are delivered 1-4 hours before a PSPS de-energization, when possible. On the customer notification side, these notifications are sent only to affected parties on the targeted circuit or circuit section. Liaison Officer (LNO) Notifications provide event-specific notifications to all stakeholders in the impacted area(s). Once de-energization is undertaken, SCE sends a de-energization confirmation notification to affected customers and LNO stakeholders letting them know that they have indeed been interrupted because of PSPS. Next, customers and LNO stakeholders are sent an imminent re-energization notice when power is expected to be restored in the near future, when possible. Customers

receive a confirmation notice once re-energization is completed. Lastly, SCE sends an “all clear” notification once a PSPS event has ended.

WSD defined the number of false-positive pre-event notifications as a customer being notified of an impending PSPS event that did not occur. “Impending” can be reasonably interpreted to mean “imminent” or customers who were noticed 1-4 hours before the PSPS de-energization. However, in the spirit of transparency, SCE has provided all the notification information along with the actual de-energization information.

SCE notes that “false positives” typically refer to decisions made, or actions taken based on erroneous information. Differences between notifications and actual de-energizations, however, do not stem from incorrect data, but rather from actual ground conditions varying from forecast conditions. This variance is inherent in every weather forecast application because of the constantly changing nature of emergent weather. SCE hopes that the Commission will take this into consideration when clarifying the definition of false positives going forward.

SCE recognizes the impact of notifications and potential notification fatigue and makes every effort to avoid sending unnecessary communications during PSPS events. However, SCE must balance the risk of notifying customers too frequently with the risk of inadequate or late notification of PSPS events, which can leave customers unprepared for severe weather and service interruptions for extended hours. SCE’s decision-making process for PSPS events relies heavily on several uncontrollable and rapidly changing factors, primarily weather conditions. The risk of late notifications leading to under-preparation significantly outweighs the risks associated with notifications of potential PSPS de-energizations that do not materialize and potential over-preparation.

SCE’s Liaison Officer also sends notifications to its affected stakeholders including city, county and tribal government officials, public safety partners, specifically identified community choice aggregator administrators, state and federal legislative offices, key contacts at independent living centers, 211 operators, and the American Red Cross. The main difference between customer service and LNO notifications is that LNO “in-scope” notifications are sent starting at the three-day mark – one day prior to general Customer Service notifications, and then in a twice-daily cadence through the lifetime of the incident as well as in real time during PSPS events. LNO notifications are provided to share situational information as SCE knows it. To reduce notification fatigue while continuing to provide stakeholders with timely information about possible future PSPS events, stakeholders are encouraged to leverage their own group email address and control frequency and distribution on their side so the appropriate people are receiving the level of information they require while not overwhelming others. The LNO distribution list is based on contact information provided by each organization.

Table 31 – SCE-20 Customer Notifications and Table 32 – SCE-20 Liaison Officer Notifications provide the pre-event notification summary for the PSPS events initiated during the prior quarter (May 2020 to July 2020), in which SCE initiated three PSPS events. Customer notifications are counted by individual recipients who have opted in to receive notifications, whereas Liaison Officer notifications (LNO) are counted by notification campaigns not the number of individual contacts that were sent notifications.

**Table 31 – SCE-20 Customer Notifications  
PSPS Events (May 2020 – July 2020)**

<b>Category</b>	<b>PSPS Events Initiated<sup>45</sup></b>		
	<b>May 27, 2020</b>	<b>June 28, 2020</b>	<b>July 31, 2020</b>
Pre-event (In-Scope) notifications sent	7,256	11,067	1,019
Imminent De-Energization notifications sent	0	67	182
De-energize confirmations notification sent	0	0	11
Imminent Re-Energization notifications	0	0	14
Re-energize confirmations notification sent	0	0	11
All Clear notifications sent	3,340	11,408	367

**Table 32 – SCE-20 Liaison Officer Notifications  
PSPS Events (May 2020 – July 2020)**

<b>Category</b>	<b>PSPS Events Initiated<sup>46</sup></b>		
	<b>May 27, 2020</b>	<b>June 28, 2020</b>	<b>July 31, 2020</b>
Pre-event (In-Scope) notifications sent	12	7	17
Imminent De-Energization notifications sent	0	2	5
De-energize confirmations notification sent	0	0	3
Imminent Re-Energization notifications	0	0	5
Re-energize confirmations notification sent	0	0	2
All Clear notifications sent	2	3	3

*Note: Because SCE employs circuit segmentation when possible, it can be the case that SCE sends LNO notifications multiple times to only one circuit, based on a potential de-energization to a new portion of that circuit. When restoring, SCE may re-energize the circuit all at once, leading to fewer all-clear notices than de-energization notices for that circuit.*

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<sup>45</sup> “PSPS Events Initiated” date indicates starting date of a specific activation. Initiation of a PSPS event does not necessarily mean de-energization occurred. For the three events during the past quarter, de-energization did not occur for the May and June initiations. The July 31, 2020 activation was demobilized on August 4, 2020. The notification count for that event includes notifications sent through August 4, 2020.

<sup>46</sup> Id.

**SCE-21**  
**LACK OF SUFFICIENT DETAIL ON**  
**SHARING OF BEST PRACTICES**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-21***

**Name:** Lack of sufficient detail on sharing of best practices.

**Category:** Stakeholder Cooperation and Community Engagement

**Class:** B

**Deficiency:**

In Section 5.3.10 of its WMP, SCE did not provide sufficient detail regarding its sharing of best practices with entities outside of California. This discussion is a required element of 2020 WMPs pursuant to the Guidelines.

**Condition:**

In its first quarterly report, SCE shall:

- i. detail its progress regarding best practice sharing with entities outside of California,
- ii. include a description of how such interactions have changed or improved, including specific examples, and
- iii. include a description of how it has applied lessons learned into its 2020 WMP.

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**Response:**

SCE has been sharing its learnings and participating in devising strategic direction on wildfire activities with the broader electric utility industry since 2018. SCE has proactively engaged with organizations across California, the nation and globally to share and learn from best practices. During this period, SCE has engaged over 49 entities that operate or have influence outside California in varying forums. These interactions have helped SCE shape its position on wildfire mitigations including its development of the 2020-2022 Wildfire Mitigation Plan.

Thus far in 2020, SCE has engaged government institutions (e.g., The Federal Emergency Management Agency or FEMA), industry organizations (e.g., Edison Electric Institute or EEI), and technical standards development organizations (e.g., the American Society of Mechanical Engineers or AMSE). The focus of these interactions has been to share SCE's wildfire mitigation best practices, educate, and learn from outside perspectives. SCE has also partnered with EEI and other industry groups to increase cross collaboration on wildfire emergency preparedness exercises.

Table 33 lists and provides a brief description of SCE's external engagements that have influence outside of California. These events not only provide SCE with opportunities to share our ongoing wildfire mitigation efforts, but also opportunities to gather feedback, learn about approaches being used by other utilities, technology developers, communities and governmental agencies, and exchange ideas to further collaborate and refine wildfire mitigation approaches.

**Table 33 – SCE-21**  
**SCE’s External Engagements For Sharing of Best Practices in 2018**

<b>Mtg #</b>	<b>Meeting Date</b>	<b>Engagement / Forum</b>	<b>Purpose</b>
<b>1</b>	3/23/2018	Interview with <b>KPCC (National Public Radio)</b> on Power Line Safety	Share information on SCE’s initiative and activities to address wildfires and associated public safety power shutoffs
<b>2</b>	5/23/2018	<b>Various Media</b> Interviews on Drought Mortality	Participated in various media interviews on the topic of vegetation drought mortality and what SCE’s vegetation management activities to mitigate wildfire risks
<b>3</b>	8/27/2018	<b>Spectrum News Interview:</b> Wildfire Mitigation & Safety	Shared SCE's wildfire mitigation and safety strategies with the national cable news channel.
<b>4</b>	9/8/2018	Meeting with the <b>Taipei Economic Cultural Office - Disaster Preparedness Group</b>	In-language sharing of SCE's wildfire mitigation factsheets and approach with the Chinese group.
<b>5</b>	10/1/2018	<b>Edison Electric Institute (EEI)</b> Conference keynote presentation on SCE's clean energy pathway and wildfire mitigation strategy	EEI’s Transmission, Distribution, Metering & Mutual Assistance Conference is the premier conference that focuses on specific strategically relevant issues investor-owned electric utilities are facing. In this keynote, SCE shared with the audience the new wildfire normal in California, and what it is doing to mitigate the risks.
<b>6</b>	10/4/2018	<b>Edison Electric Institute (EEI)</b> Fall 2018 Meeting: Transmission Policy Task Force	Presented to a large national audience the details on SCE's wildfire mitigation strategy and clean energy pathway
<b>7</b>	10/30/2018	Interview with <b>KPCC (National Public Radio)</b> on SCE's wildfire mitigations	Provided a tour and interview at SCE's Wildomar's service center to highlight weather station and covered conductor installation.
<b>8</b>	11/14/2018	Interview with the <b>Wall Street Journal</b> and Wildfire Topics	Provided insights into SCE's wildfire efforts including community /first responder support, long term company plan, company response and legislative engagement.

Mtg #	Meeting Date	Engagement / Forum	Purpose
9	12/4/2018	<b>Center for Energy Advancement through Technological Innovation (CEATI)</b> Vegetation Management Conference	Presented SCE's vegetation management efforts at CEATI's conference.  CEATI's efforts are driven by 140+ participating organizations (electric & gas utilities, governmental agencies, provincial and state research bodies), represented within 20 topic-focused programs across generation, transmission and distribution. Continuously expanding its international reach, CEATI's participants represent 16 countries on 6 continents, a diversity that contributes to the strength of CEATI and brings value directly to the participants.
10	12/1/2018 – 12/3/2018	Visited <b>PowerCor</b> Australia as part of SCE's wildfire mitigation bench marking	Gathered lessons learned from an electric utility that has experience with significant wildfire risk.
11	12/4/2018 – 12/7/2018	Visited <b>AusNet</b> Australia as part of SCE's wildfire mitigation bench marking	Gathered lessons learned from an electric utility that has experience with significant wildfire risk.

**Table 34 – SCE-21**  
**SCE’s External Engagements For Sharing of Best Practices in 2019**

<b>Mtg #</b>	<b>Meeting Date</b>	<b>Engagement / Forum</b>	<b>Purpose</b>
1	3/26/2019	<b>Institute of Electrical &amp; Electronic Engineers (IEEE) Transformers Committee: Spring 2019 Meeting</b>	Shared SCE's wildfire, safety and grid resiliency activities with broad representation of IEEE engineers
2	3/28/2019	<b>i-PCGrid (Innovations in Protection and Control for Greater Reliability Infrastructure Development) Workshop - 2019, Keynote Presentation</b>	Hosted by the Mississippi State University, the goal of this conference is to showcase innovation that leads to high levels of reliability. In 2019, SCE presented to this broad audience "the role of technology in Grid Resiliency"
3	4/16/2019	<b>Utility Supply Chain Executive Forum</b>	Shared SCE's activities in wildfire risk management and response to catastrophic events
4	4/26/2019	<b>Edison Electric Institute (EEI) Wildfire Mitigation Workshop, Portland Oregon</b>	Shared SCE's wildfire mitigation efforts
5	5/8/2019	Wildfire preparedness collaboration meeting with <b>Communication Companies</b> including T-Mobile, AT&T, Sprint and Verizon	Shared SCE's wildfire mitigation efforts and plans to align efforts with telecom service providers
6	5/16/2019	<b>North American Reliability Corporation (NERC) and Western Electricity Coordinating Council (WECC) Coordination Meeting</b>	Shared SCE's wildfire mitigation and PSPS efforts
7	5/28/2019	<b>Ameren Electric Services Company</b> (Electric Utility in Missouri and Illinois) visit to SCE's Emergency Operations Center	Provided Ameren with a tour of SCE's Emergency Operations Center (EOC) and shared SCE's wildfire mitigation efforts
8	5/10/2019	<b>Green Tech Media Interview</b>	Shared SCE's PSPS efforts in an interview format
9	6/19/2019	<b>Western Energy Institute: Wildfire Planning + Mitigation</b>	Provided the national WEI group background on the "new normal" in terms of Wildfire risks and SCE’s mitigation approaches

<b>Mtg #</b>	<b>Meeting Date</b>	<b>Engagement / Forum</b>	<b>Purpose</b>
10	6/24/2019	<b>Institute of Electrical &amp; Electronic Engineers (IEEE)</b> 14th Annual International Conference on Transmission & Distribution	Presented a comprehensive view of SCE's Wildfire Mitigation, Safety and Grid Resiliency activities to a highly technical international audience
11	6/24/2019	<b>Standard &amp; Poor's</b> visit to SCE's Emergency Operations Center	Shared SCE's Business Resiliency and Wildfire Activities with an international scoring company
12	7/8/2019	<b>Fitch's</b> visit to SCE's Emergency Operations Center	Shared SCE's Business Resiliency and Wildfire Activities with an international scoring company
13	7/17/2019	<b>Behind the Meter Battery Developers</b> Conference	Shared SCE's wildfire mitigation and PSPS efforts with battery domestic and international developers
14	8/6/2019	<b>Institute of Electrical &amp; Electronic Engineers (IEEE)</b> PES General Meeting: Super Panel Session - Grid Reliability, Resiliency and Sustainability	Presented a comprehensive view of SCE's Wildfire Mitigation, Safety and Grid Resiliency activities to a highly technical international audience
15	8/9/2019	<b>AusNet</b> Visit of SCE's ROC and EOC	Hosted AusNet, an Australian energy company, and provided a tour of SCE's EOC and reliability operating center, and shared information on SCE's wildfire mitigation activities.
16	8/23/2019	<b>ComEd</b> Visit of SCE's Grid Technology Education Center	Provided ComEd of New York State with a summary of SCE's Grid Resiliency activities among other things.
17	8/28/2019	<b>Standard &amp; Poor's</b> financial services LLC, SCE wildfire mitigation plan update	Provided S&P an update on SCE's wildfire mitigation plan
18	8/29/2019	<b>Transmission &amp; Distribution Maintenance Management Association (TDMMA)</b> Conference	Shared SCE's wildfire mitigation efforts at a conference with representation across the country
19	10/8/2019	<b>Bonneville Power Administration</b> EOC Visit	Provided BPA with a tour of SCE's EOC and shared SCE's wildfire mitigation efforts
20	10/9/2019	<b>Western Labor and Management Public Affairs Committee</b> Fall Conference	Shared SCE's wildfire mitigation efforts at a conference with western states

<b>Mtg #</b>	<b>Meeting Date</b>	<b>Engagement / Forum</b>	<b>Purpose</b>
<b>21</b>	10/23/2019	<b>Edison Electric Institute (EEI)</b> Workshop: Current and Emerging Technology Roundtable	Shared SCE's wildfire mitigation plan
<b>22</b>	10/24/2019	<b>Texas A&amp;M University</b> Discussion	Shared SCE's wildfire mitigation plan
<b>23</b>	10/24/2019	<b>VERGE Conference:</b> The platform for accelerating the clean economy	Presented on SCE's Grid Resilience Efforts along with SCE's Clean Power and Electrification Pathway and Microgrid exploration
<b>24</b>	11/8/2019	<b>Edison Electric Institute (EEI) Financial Conference</b>	Provided on update on SCE's PSPS Events in 2019
<b>25</b>	12/6/2019	<b>Xcel Energy Minneapolis</b> Indiana	Shared SCE's wildfire mitigation and Business Resiliency efforts

**Table 35 – SCE-21**  
**SCE’s External Engagements For Sharing of Best Practices in 2020**

<b>Mtg #</b>	<b>Meeting Date</b>	<b>Engagement / Forum</b>	<b>Purpose</b>
<b>1</b>	1/7/2020	<b>Edison Electric Institute (EEI)</b> Western CEO Roundtable Meeting - Wildfires	Provided updates on emerging technologies that could be deployed by the 2020 fire season
<b>2</b>	1/17/2020	<b>Electricity Subsector Coordinating Council (ESCC)</b> (The CEO-led ESCC serves as the principal liaison between the federal government and the electric power industry on efforts to prepare for, and respond to, national-level disasters or threats to critical infrastructure)	The ESCC works across the sector, and with the Electricity Information Sharing and Analysis Center (E-ISAC), to develop actions and strategies that help protect the North American energy grid and prevent a spectrum of threats from disrupting electricity service. At this meeting the US Forest Service, Bureau of Land Management and the National Park Service were key contributors. SCE’s CEO provides the council with leadership and guidance on wildfire related matters by sharing SCE’s own successes and challenges.
<b>3</b>	1/22/2020	<b>Federal Emergency Management Agency (FEMA)</b> Greater Los Angeles Federal Executive Board Meeting	Provided FEMA representatives with a tour of SCE's EOC and provided an overview of Wildfire Mitigation efforts
<b>4</b>	2/6/2020	<b>Edison Electric Institute (EEI)</b> Subcommittee on Evolving Resiliency Needs	Discussed Customer Perspectives on Energy Resiliency specifically how can customers and electric companies work together to develop solutions that address evolving resiliency needs?
<b>5</b>	2/6/2020	<b>North American Electric Reliability Corporation (NERC)</b> Wildfire Risk Mitigation Discussion	Provided NERC an update on SCE's wildfire mitigation efforts.
<b>6</b>	2/18/2020	<b>Edison Electric Institute (EEI)</b> Wildfire Technology Summit	Moderated the "Advanced Grid Sensing and Detection Technologies" panel
<b>7</b>	2/25/2020	<b>Western Electric Institute (WEI)</b> Managing Risk and Building Residency Webinar	Provided an overview of its' Risk approach to Wildfire mitigation efforts

Mtg #	Meeting Date	Engagement / Forum	Purpose
8	3/3/2020	<b>California Large Energy Consumers Association (CLECA)</b> PSPS and Wildfire Mitigation Update	Although this meeting is about coordinating key energy topics with large energy consumers in California, the participants represent large National / International Companies. SCE provided updates on its PSPS and wildfire mitigation efforts with the intent of helping large energy consumers prepare and become more resilient.
9	3/10/2020	<b>Western Electricity Coordinating Council (WECC)</b>	Provided an update on SCE's PSPS Activities
10	3/16/2020	<b>National &amp; Key Accounts Update Meetings</b>	Assembled customers with national accounts (e.g. Rite Aid, Vons, etc.) and provided them with updates on SCE's efforts in a cleaner, smarter, more reliable grid including highlighting PSPS activities.
11	4/6/2020	<b>California Manufacturers and Technology Association (CMTA)</b> Spring Meeting	Brought together California Manufacturers (e.g. Boeing, Schultz Steel and Lockheed Martin) and provided them with updates on SCE's efforts in a cleaner, smarter, more reliable grid including highlighting PSPS activities.
12	4/16/2020	<b>Western Electric Institute (WEI)</b> Operations Conference: PSPS Update	Provided an update on SCE's PSPS Activities
13	5/7/2020	<b>Electric Power Research Institute (EPRI)</b> Wildfire Risk Reduction Methods Discussion	Shared strategies SCE is using to reduce wildfire risk in areas such as Fault Reduction, Enhanced Situational Awareness and Grid Hardening
14	5/29/2020	<b>American Society of Mechanical Engineers (ASME)</b> Special Report: Engineering Ways to Improve Electrical Grid Resilience	Provided ASME with details on what SCE is doing to improve electrical grid resilience for wildfire preparedness.
15	6/16/2020	<b>T&amp;D World Magazine</b> Wildfire Season Preparedness	Provided T&D World Magazine with an update on what SCE is doing to prepare for the 2020 Fire Season
16	07/20/20	<b>Cox Communications:</b> PSPS and Wildfire Mitigation Discussion	Provided Cox Communication leadership with an update on SCE's PSPS and Wildfire Mitigation activities with the intent of helping this customer and telecommunications

Mtg #	Meeting Date	Engagement / Forum	Purpose
			provider become more resilient to wildfire risks.

SCE finds sharing information and gaining varying perspectives on wildfire mitigations valuable. SCE’s involvement in many forums provides consistent opportunities to share its best practices in wildfire mitigations and learn from others. This includes memberships in industry organizations, outreach to commercial customers with national accounts, participation in technical forums and meeting regularly with electric utilities nationally and abroad. Most recently, the COVID-19 pandemic and its associated travel restrictions have hindered SCE’s ability to conduct face-to-face outreach. Instead, SCE has shifted to digital platforms to maintain its engagement and collaboration with industry stakeholders. SCE is now hosting and participating in webinars that have audiences from outside of California. Thus far in 2020, SCE has received positive feedback from government officials and large national account customers on its willingness to share lessons learned about the wildfire risk mitigation. One California Manufacturers and Technology Association (CMTA) participant recently commented on its post-event survey by stating *“We operate under many utilities across the country and the time and resources that SCE puts forth in preparing and presenting this level of information is second to none. It has been extremely beneficial to the planning of our business and network operation. Thanks again to the entire SCE team!”*

SCE also remains committed to maintaining its relationship with other utilities and has established regular check-ins including the establishment of an International Wildfire Risk Management Consortium (IWRMC) between California and Australian utilities (AusNet and Powercor). The IWRMC’s mission is to establish a system of working channels between members of the global utility community to support ongoing sharing of data, information, technology, and operational practices, to proactively address wildfire risks through learning, innovation, analysis, performance assessment and collaboration. As a founding member of the consortium, SCE, in collaboration with the other two IOUs, have attracted many electric utilities nationally and abroad. The consortium will be a wildfire “think tank” that allows for sharing best practices with global representation of electric utilities and academia exploring topics that enhance mitigation efforts worldwide. In 2020, the IWRWC is planning to focus on four major topics:

- Risk Management
- Vegetation Management
- Asset Management
- Operating Procedures

SCE has actively solicited wildfire perspectives from organizations that have historically faced similar wildfire challenges. After discussing many wildfire topics with national and international electric utilities, standards development organizations, and industry groups, in late 2018 SCE conducted a wildfire mitigation benchmarking exercise. To ensure a comprehensive analysis, SCE leveraged participating members of the Edison Electric Institute (EEI), Western Underground Committee (WUC) and the Association of Edison Illuminating Companies (AEIC). SCE used several tools including surveys, roundtable discussions, and field visits to explore and

better understand the various wildfire mitigations being used by electric utilities facing similar climate change and wildland urban interfaces challenges. As a result, SCE was able to benchmark wildfire mitigations with several domestic and international utilities including:

- Seattle City Light (Washington)
- Puget Sound Energy (Washington)
- ConEdison (New York)
- Orange and Rockland Utilities (New York)
- Liberty Utilities (New Hampshire)
- Groveland Light (Massachusetts)
- Holyoke (Massachusetts)
- Middleton (Massachusetts)
- AusNet (Victoria, Australia)
- Powercor (Victoria, Australia)
- Korea Electric Power Company (South Korea)
- National Grid (Massachusetts)
- Eversource (New Hampshire)
- United Power (Colorado)

During these discussions' SCE explored a wide range of wildfire topics including vegetation management, operational practices, and alternative technologies. The perspectives gathered from the exercise provided insights and helped inform its 2019 and 2020-2022 WMPs. Among the most notable areas resulting from the benchmarking are the deployment of covered conductor and pilot projects to evaluate promising new foundational technologies such as Rapid Earth Fault Current Limiters (REFCL). Technology pilots developed as a result of these benchmarking exercises include:

- AT-2.1: Distribution Fault Anticipation (DFA)
- AT-2.2: Advanced Unmanned Aerial Systems
- AT-3.1: REFCL - Ground Fault Neutralizer (GFN)
- AT-3.2: REFCL - Arc Suppression Coil
- AT-3.4: Distribution Open Phase Detection
- AT-7: Early Fault Detection (EFD)

#### Covered Conductor:

After surveying several utilities (Seattle City Light, Puget Sound Energy, ConEdison, Orange and Rockland Utilities) SCE learned the application details of covered conductor such as cable type, size, voltage levels and failure mode insights and has leveraged those learnings into the continued roll-out of Covered Conductor (Activity SH-1 in its 2020-22 WMP). During an in-person round table discussion with Northeast Utilities (Liberty Utilities, Groveland Light, Holyoke and Middleton) that SCE hosted, we learned that 80% of New England's distribution circuits are covered conductor that continue to operate safely after 50+ years of service. These utilities seldom experienced failures except for occasional phase-to-ground faults (via induction /corona) associated with vegetation encroachment and often were avoided via standard vegetation management. Field visits to AusNet, Korea Electric Power Corporation (KEPCO),

National Grid, Eversource Energy, and United Power confirmed SCE's plans for deploying covered conductor as an effective tool in significantly reducing ignitions caused by contact with foreign objects. For example, SCE learned that KEPCO has used covered conductor for 100% of its distribution circuits since 1978. The utilities also shared their experiences about successfully avoiding outages, wire down events and ignitions including impacts of large trees falling on covered conductor lines.

#### Rapid Earth Fault Current Limiters (REFCL):

During the field visits mentioned above, the Australian utilities shared lessons learned on the use of REFCLs to reduce the risk of ignition by faults involving a single-phase conductor. The Victoria State of Australia is one of the most fire-prone areas in the world and for years the Australian utilities have been extensively testing REFCL technology as a transformational mitigation for wildfire ignitions. SCE learned that the Australian utilities evaluated two distinct REFCL configurations (Arc Suppression Coil and Ground Fault Neutralizer which is Arc Suppression Coil and Inverter in Parallel), and in 2016, the Australian government established performance criteria for REFCL technology and mandated its use. Based on this information, in 2019, SCE conducted its own feasibility assessment for REFCL application on its infrastructure and concluded that REFCL technology had enough wildfire mitigation benefits to justify inclusion of several pilot projects (AT-3.1 – AT-3.3) in its 2020-2022 WMP.

#### Unmanned Aerial Systems (UAS) Program:

Another example where SCE has leveraged relationships with entities outside of California to further advance its WMP is in the development of its Unmanned Aircraft System (UAS) inspection program. In August of 2019, SCE conducted a benchmarking exercise with national electric utilities known to have advanced UAS inspection programs. Among the entities surveyed and responded for this program were:

- PowerSouth Energy Cooperative
- Baltimore Gas and Electric (BGE)
- Philadelphia Electric Company (PECO)
- Florida Light and Power (FPL)
- Consumers Energy
- Alabama Power / Southern Co.
- Pepco Holdings
- American Electric Power (AEP)
- Tennessee Valley Authority
- Oklahoma Gas and Electric
- Eversource
- First Energy
- Dominion Energy

The learnings from the benchmark exercise along with SCE's 2019 evaluation of UAS technology has shaped the 2020-2022 WMP UAS workstreams (AT-2.2 and OP-3) for additional flight demonstrations and operator training. The findings validated SCE's leadership in the application of Beyond Visual Line of Sight (BVLOS) UAS operations in one of the country's most congested airspace and diverse geography (highest and lowest points in the continental

US). The survey results emphasized the need to bolster in-house expertise and augment the tools field workers need to address issues in HFRA quickly.

SCE will continue to collaborate with entities within and outside of California and believes it is valuable in sharing with and learning from others. Given the COVID-19 crisis and restrictions, SCE has adjusted the means for such engagement, but remains committed toward continuous improvement by seeking collaboration with others.

**SCE-22**  
**SCE DOES NOT DESCRIBE RESOURCES NEEDED ON FUEL  
REDUCTION EFFORTS**

***Southern California Edison Company***  
***2020-2022 WMP - SCE Deficiency***  
***SCE-22***

**Name:** SCE does not describe resources needed on fuel reduction efforts.

**Category:** Stakeholder Cooperation and Community Engagement

**Class:** B

**Deficiency:**

A large portion of SCE's HFTD area falls within federal lands. As such, it is imperative that SCE maintain close coordination and working relationships with the U.S. Forest Service (USFS), who is responsible for managing federal lands. SCE identifies specific ways in which it coordinates with the USFS, which appear sufficient for receiving permits for fuel reduction, but SCE does not address the resources needed to collaborate on fuel reduction efforts and establish formal agreements.

**Condition:**

In its first quarterly report, SCE shall describe:

- i. whether it plans to collaborate with the USFS on fuel reduction programs in its service territory;
- ii. what programs or agreements, if any, it has in place with the USFS for fuel reduction programs;
- iii. the timeline for implementing initiatives identified in (i) and (ii);
- iv. how it plans to identify the resources needed to collaborate with the USFS on fuel reduction; and
- v. the status of reaching any formal agreements on fuel reduction efforts.

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**Response:**

As explained in our 2020-2022 WMP, SCE coordinates with the U.S. Forest Service (USFS) through various mechanisms and agreements in conducting vegetation management work, including fuel reduction efforts. SCE has well established relationships with the USFS and regularly interacts with its staff and leadership (at the Forest and Region 5 level). Additionally, SCE has a cost recovery agreement with the USFS to ensure resources are available to assist SCE in our fuel reduction efforts. Over the past year-and-a-half and in support of our wildfire mitigation efforts, SCE has been collaborating with Sierra National Forest to significantly reduce fuels in and around our powerlines. SCE has also been working closely with Inyo National Forest over the past several months to reduce fuel hazards. Below, SCE responds to the conditions according to our wildfire mitigation efforts.

**i. whether it plans to collaborate with the USFS on fuel reduction programs in its service territory;**

SCE does collaborate with the USFS on fuel reduction efforts within and near our rights-of-ways (ROWs). As part of SCE's vegetation management program, SCE is currently working on several activities which reduce fuel within and near our existing ROWs and adjacent fire-prone corridors, including on USFS land. SCE's fuel reduction efforts on USFS land are managed under SCE's USFS Master Special Use Permit (MSUP), which was developed in collaboration with the USFS. SCE's activities under the MSUP involve ongoing collaboration with the USFS. These wildfire-related activities include removing, thinning, or treating vegetation as described in more detail below.

1. Integrated Vegetation Management: SCE has long-term goals to reduce high-risk fuels within our ROW. SCE is in the early stages of developing its Integrated Vegetation Management Plan (IVM). The goal of IVM is to develop sustainable shrub or grassy areas that do not interfere with overhead power lines, pose a fire hazard, or restrict access on SCE transmission ROW or applicable distribution easements. IVM will promote desirable, stable, low-growing plant habitat resistant to invasion from tall growing tree species through appropriate, environmentally sound, and cost-effective control methods. These methods can include a combination of chemical, biological, cultural, mechanical, and/or manual treatments. This approach can reduce costs over the long-term and reduce the risk of outages and fires, while improving wildlife habitat. SCE is currently working with Sierra National Forest on the National Environmental Policy Act (NEPA) document associated with its IVM within that forest. The NEPA process further improves collaboration with the forest and key stakeholders in improving fuel reduction efforts. We are anticipating approval in 2021. SCE's strategy is to develop a pilot program within Sierra National Forest, with the goal of implementing this within the other forests in the future. SCE is also exploring with Region 5 of the USFS on implementing this program region wide, to eliminate the need for a forest-by-forest approval.

2. Drought Relief Initiative (DRI): DRI was established as a result of the epidemic of dead and dying trees brought on by climate change and years of drought. Under its DRI, SCE conducts patrols in Tier 2 and Tier 3 HFRA several times per year for tree mortality to identify and remove dead, dying, or diseased trees affected by drought conditions. As part of SCE's ongoing DRI program, SCE performs annual inspections in accordance with program requirements and all trees within strike distance of SCE overhead facilities that are dead or expected to die within a year are removed, including trees outside our ROWs. SCE has removed approximately 43,000 trees on USFS land from 2015-2019. This work was done through emergency permits issued by the USFS at first, and later through the MSUP. The MSUP has helped improve collaboration and consistency with USFS in scheduling and executing the work.

3. Hazard tree removals: In 2019, SCE expanded its vegetation program to include the assessment of green trees with the height and a feasible path to strike electrical lines or equipment, where significant visible defects are present. SCE will perform mitigation, up to and including removal. SCE's plans include removing approximately 97,500 hazard trees

with strike potential within our service area from 2019-2023, including trees outside our ROWs. Approximately 10% of SCE's planned removals over this period are projected to be on USFS land. Tree removals on USFS land are managed through the MSUP.

Additionally, SCE has timber sales agreements with both the Inyo National Forest and Sierra National Forest that require SCE to compensate the forests when removing significant amounts of wood products such as during hazard tree removal.

4. Pole Brushing: SCE expanded its pole brushing activities to clear brush to a 10-foot radial clearance from all distribution poles in HFRA. Of the approximately 300,000 poles in scope, approximately 20,000 poles are located within a National Forest. This activity was submitted to the forests under our MSUP.

5. Fuel Management Programs: SCE is working collaboratively with Region 5 of the USFS and each individual forest on preparing a fuel management program on how to dispose of fuel (i.e., left over plant matter) after routine vegetation management activities. SCE reduces slash (e.g., cut limbs and other woody debris) from vegetation management activities by chipping and then hauling the material away to be disposed or recycled by pruning/removal contractors. Some of SCE's vegetation programs, such as DRI, send its debris to a biomass plant. SCE would prefer to manage green waste through biomass recycling projects. SCE is currently performing a study to determine the best use of fuel reduction and anticipates completing this study by year-end 2020.

In addition to the programs listed above that are within and near SCE's ROW, SCE is performing an assessment on whether it should provide funding to USFS to implement fuel reduction projects outside of our ROW to further reduce wildfire risk related to our electrical infrastructure. SCE has consulted with PG&E about a similar partnership program they have with the USFS to understand resource needs, costs, risk reduction benefits, and types of agreements they use. This assessment will ultimately identify feasibility to potentially initiate a similar program in 2021 as well as the program's potential effectiveness to reduce wildfire risk. SCE is also identifying existing USFS-approved fuel reduction projects within the seven forests outside our ROWs in order to identify potential projects that could be acted on and quickly funded in the event the assessment suggests this effort can be effective at reducing wildfire risks related to our electrical infrastructure. SCE expects to complete this assessment by year-end 2020 and present the results in our 2021 WMP Update submission.

**ii. what programs or agreements, if any, it has in place with the USFS for fuel reduction programs;**

Beyond the agreements described in part (i) above, SCE worked on a multi-year plan with PG&E and USFS Region 5, which has oversight over the seven Forests SCE operates in, to consolidate the majority of the utilities' 650+ land use authorizations, including easements, special use permits, and other authorizations, for electric utility infrastructure. Many of these land use authorizations were expired. The goal is to have one or two land use authorizations per utility for each Forest to streamline operations and improve collaboration.

Operation and maintenance (O&M) work activities under the consolidated land use authorizations are defined by a Regional O&M Plan, dividing O&M activities into four classes based on scope and extent of work to be performed. The Regional O&M plan provides a consistent process for utilities to perform routine, low-impact maintenance activities within defined parameters for the term of the land use authorizations. Routine work under this O&M Plan includes work associated with protecting electrical infrastructure, along with road maintenance and vegetation management, including tree removal. A programmatic NEPA analysis was used to assess all O&M activities to provide adequate coverage for routine classes of actions that are low-impact and low-risk to environmental resources.

This effort is helping the utilities to perform vegetation management work in a consistent manner with predictable notification and approval timelines for many routine O&M activities and increasing collaboration within the seven Forests SCE operates in.

**iii. the timeline for implementing initiatives identified in (i) and (ii);**

As described in part (ii) above, SCE currently has an agreement with the USFS, the MSUP, to carry out O&M work, and is currently implementing the programs identified in part (i), under our MSUP. As described in part (i) above, SCE is also currently exploring collaboration with USFS for work outside of our ROW and anticipates completing this assessment by year-end 2020. Should SCE determine that this type of work is feasible, the benefits (i.e., risk reduction) of providing funding outweigh the costs and have relatively high risk-spend efficiency scores compared to other alternatives, SCE would expect to initiate such a program in 2021.

**iv. how it plans to identify the resources needed to collaborate with the USFS on fuel reduction; and**

SCE currently has a cost recovery agreement with each of the seven USFS national forests we have facilities within, to support staff's time on our vegetation management programs. This helps ensure USFS resources get assigned to SCE initiatives that traverse USFS lands and SCE can efficiently collaborate with USFS resources to accomplish our goals. In addition, SCE has regular meetings with the USFS to facilitate proper implementation of the MSUP, discuss necessary resources, and ensure the work gets scheduled and completed in a safe and timely manner. As also explained above, as part of the assessment regarding fuel reduction opportunities outside our ROWs on USFS land, we plan to work with the USFS to understand and determine resource needs.

**v. the status of reaching any formal agreements on fuel reduction efforts.**

As identified in the MSUP agreement and explained above, SCE is working with the USFS to implement fuel removal efforts within and near our ROW. In addition, after completing the evaluation of assessing fuel reduction opportunities outside our ROWs with the USFS, referenced in part (i) above, if SCE determines to move forward with this type of program, SCE will likely enter into a separate cost recovery agreement to support this work.