State of California – A Natural Resources Agency
Gavin Newsom, Governor

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Caroline Thomas Jacobs, Director

To: The Public, Local and State Agencies, and Stakeholders for Southern California Edison's 2021 Wildfire Mitigation Plan Independent Evaluator Annual Report on Compliance

July 15, 2022

Enclosed is the Final 2021 Wildfire Mitigation Plan (WMP) Independent Evaluator Annual Report on Compliance detailing the independent evaluator's assessment of Southern California Edison's (SCE's) compliance with its 2021 WMP. This report was prepared by SCE's contracted independent evaluator and issued to the Office of Energy Infrastructure Safety (Energy Safety) on July 1, 2022, to fulfill the requirements of Public Utilities Code Section 8386.3(c)(2)(B)(i).

The content of this report is the work product of the respective independent evaluator. The findings and conclusions in this report do not represent the views or opinions of the Office of Energy Infrastructure Safety (Energy Safety) or any of its employees. Pursuant to Public Utilities Code Section 8386.3(c)(2)(B)(ii) the independent evaluator's findings are not binding on Energy Safety. Neither Energy Safety nor the State of California, nor any officer, employee, or any of its contractors or subcontractors makes any warranty, express or implied, or assumes any legal liability whatsoever for the contents of these documents.

On July 15, 2022, a public version of this 2021 WMP Independent Evaluator Annual Report on Compliance is published for public review and comment. Please be advised, information designated by SCE as confidential has been redacted from the published report. Comments must be submitted no later than August 15, 2022.[1] Comments must be submitted to Energy Safety's e-filing system in the 2022 Independent Evaluator docket (#2022-IE).[2]

Sincerely,

Melissa Semcer
Deputy Director | Electrical Safety Directorate
Office of Energy Infrastructure Safety

[1] Dates falling on a Saturday, Sunday, or a holiday as defined in Government Code Section 6700 have been adjusted to the next business day in accordance with Government Code Section 6707.
[2] Submit comments to the 2022-IE docket via the Energy Safety e-filing system here: https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2022-IE (accessed June 28, 2022)

INDEPENDENT EVALUATOR ANNUAL REPORT ON COMPLIANCE

Independent Evaluators: Guidehouse Inc. & NV5

Utility: Southern California Edison (SCE)

June 30, 2022

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1. EXECUTIVE SUMMARY

The Executive Summary should contain key takeaways from the Independent Evaluator's evaluation, including key findings from the Independent Evaluator's audit of Wildfire Mitigation Plan (WMP) activity completion, verification of funding, and verification of QA/QC programs.

This report provides a review of the wildfire mitigation initiatives SCE implemented in 2021 and an accounting of whether SCE met its performance objective targets, whether it is underfunding any of those initiatives, and whether SCE is following its QA/QC processes. The Independent Evaluator (IE) review of these elements determined that SCE is largely achieving the reviewed initiative objectives, it is not failing to fund the portfolio of its initiatives, and lastly, is following its QA/QC processes.

The table below illustrates the IE findings for those initiatives that were not deemed sufficient due to sufficient evidence to completely validate the evidence during the review period, a lack or insufficiency of evidence, or funding below the planned 2021 targets set forth by the **Southern California Edison 2021 Wildfire Mitigation Plan Update (Revision) 2021, dated June 3, 2021**.

Table 1: SCE 2021 WMP Execution – Findings

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.2.4	SA-8	Fire Science Enhancements	Initiative Target Not Met	SCE did not meet target. Vendor developed a climatology output containing a 40-year history of wildfires for multiple variables but unable to complete because vendor work was reprioritized to support other emergent work. resource constraints, evaluation will take place in 2022.

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.2.6.2	SA-4	Fire Spread Modeling	Initiative Target Not Met	SCE made progress toward the 2021 WMP goal but the IE is unable to reasonably assure SCE has met the 2021 qualitative goal as the written methodology and evidence of testing FireCast/FireSim implementation must remain confidential and cannot be reviewed.
7.3.3.9	SH-5	Automatic Reclosers	Initiative Target Not Met	SCE made progress toward the 2021 goal, installing 17 of the targeted 18 automation equipment devices.
7.3.3.17	SH-15	Vertical Switches	Initiative Target Not Met	SCE did not meet target for 2021. Installed 16 of the targeted 20 vertical switches in 2021. Crews and material for the remaining 4 were reassigned due to storm restoration efforts.
7.3.4.3	IN-8	Inspection Work Management Tools	Initiative Target Not Met	T&D Aerial completed the transition of inspection processes to a single digital platform and met the target to train at least 75% of inspectors. However, Transmission Ground did not complete the transition of inspection processes to a single digital platform and did not meet the target to train at least 75% of

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
				inspectors. Key artificial intelligence/machine learning (AI/ML) models met target. Scope Mapping Tool (SMT) did not meet target to deploy the tool to Distribution Planning and Engineering users. Remediation mobile software and iPad devices were deployed for Transmission. However, the target was not met for Distribution users.
7.3.5.5	VM-2	Expanded Pole Brushing	Initiative Target Not Met	SCE did not meet 2021 target. This activity cleared ~163,100K of the 200K poles and fell short of meeting the target due to contractor performance, loss of crews, access constraints, and delays in obtaining environmental permitting.
7.3.5.19	VM-6	VM Work Management Tool	Initiative Target Not Met	SCE did not meet 2021 target. SCE did complete initial discovery and design architecture for the routine Line Clearing portion of this activity and deployed as planned.
7.3.6.5.2	PSPS-2	Customer care programs	Initiative Target Not Met	SCE was not able to meet all targets set under this goal. See

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
				Table 20 for additional details.
7.3.4.9.1	IN-1.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details
7.3.4.10	IN-1.2	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details
7.3.4.5	IN-4	Infrared inspections of transmission electric lines and equipment:	Initiative Underfunded	See Section 3.2 for more details
7.3.4.9.2	IN-5	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details
7.3.4.3	IN-8	Improvement of Inspections	Initiative Underfunded	See Section 3.2 for more details
7.3.7.1	DG-1	Centralized repository for data	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.9.1	DEP-2	Adequate and trained workforce for service restoration: SCE Emergency Response Training	Initiative Underfunded	See Section 3.2 for more details
7.3.9.5		Preparedness and planning for service restoration	Initiative Underfunded	See Section 3.2 for more details
7.3.3.17.1	SH-11	Updates to grid topology to minimize risk of ignition in HFTDs	Initiative Underfunded	See Section 3.2 for more details
7.3.3.15	SH-13	Transmission tower maintenance and replacement	Initiative Underfunded	See Section 3.2 for more details
7.3.3.12	SH-14	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details
7.3.3.7	SH-4	Expulsion Fuse Replacement	Initiative Underfunded	See Section 3.2 for more details
7.3.2.6.1	SA-3	Weather forecasting and estimating impacts on electric lines and equipment:	Initiative Underfunded	See Section 3.2 for more details
7.3.2.2	SA-9	Continuous Monitoring Sensors	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.2.1	SA-1	Advanced weather monitoring and weather stations:	Initiative Underfunded	See Section 3.2 for more details
7.3.2.4.2	SA-5	Forecast of a fire risk index, fire potential index, or similar	Initiative Underfunded	See Section 3.2 for more details
7.3.2.4.3	SA-7	Forecast of a fire risk index, fire potential index, or similar	Initiative Underfunded	See Section 3.2 for more details
7.3.2.4.4	SA-8	Forecast of a fire risk index, fire potential index, or similar	Initiative Underfunded	See Section 3.2 for more details
7.3.10.1.1	DEP-1.2	Community engagement	Initiative Underfunded	See Section 3.2 for more details
7.3.10.1.3	DEP-1.3	Community engagement	Initiative Underfunded	See Section 3.2 for more details
7.3.10.1.1	DEP-4	Community engagement	Initiative Underfunded	See Section 3.2 for more details
7.3.10.3	DEP-5	Community engagement	Initiative Underfunded	See Section 3.2 for more details
7.3.5.3		Detailed inspections and management practices for vegetation clearances around transmission electrical lines and equipment	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.5.16.1	VM-1	Removal and remediation of trees with strike potential to electric lines and equipment (HTMP)	Initiative Underfunded	See Section 3.2 for more details
7.3.5.5.2	VM-3	Fuel management (including all wood management) and management of "slash" from vegetation management activities (Expanded Clearances for Legacy Facilities)	Initiative Underfunded	See Section 3.2 for more details
7.3.5.16.2	VM-4	Removal and remediation of trees with strike potential to electric lines and equipment (Dead and Dying Tree Removal/DRI)	Initiative Underfunded	See Section 3.2 for more details
7.3.5.13	VM-5	Quality assurance / quality control of inspections	Initiative Underfunded	See Section 3.2 for more details
7.3.5.19	VM-6	Vegetation inventory system (Arbora)	Initiative Underfunded	See Section 3.2 for more details

2. INTRODUCTION

The Introduction should contain upfront context and a high-level summary of the work performed by the Independent Evaluator

The Southern California Edison (SCE) service territory covers a vast stretch of Southern California and serves millions of customers. It encompasses several mountain ranges, deserts,

the second largest metropolitan area in the United States, and remote rural stretches. The vegetation in its service territory spans from dense forests, to chaparral, to sparse desert vegetation. Accordingly, SCE's service area represents numerous expanses of the California Public Utilities Commission (CPUC) defined High Fire Threat Districts (HFTDs) including Tier 2 elevated and Tier 3 extreme risk areas.

The state of California has seen an increase of disastrous wildfires in recent years. In the last decade, the California Department of Forestry and Fire Protection (CAL FIRE) reports that larger and more aggressive fires are occurring year over year resulting from prolonged drought conditions, a hotter climate, historic fire suppression, forest management, and bark beetle infestations. Several of the most damaging fires, including but not limited to the Camp Fire and the Dixie Fire, were ignited by utility equipment and operations. This spurred California to pass legislation and supporting regulations requiring electrical corporations (ECs) to develop and implement an annual wildfire mitigation plan (WMP), submit periodic filings on the implementation of initiatives under the WMP, and submit to an Independent Evaluator to review and assess the EC's compliance with their WMP[1] by a Qualified Independent Evaluator (IE).[2]

Wildfire Mitigation Plan Independent Evaluation Engagement

This report serves as the IE Annual Report on Compliance (IEARC or "Report") that aligns with the scope set forth by the Office of Energy Infrastructure Safety (Energy Safety) on November 5, 2021.[3] All California ECs are required to engage and contract with qualified IEs to perform the compliance assessment and deliver a report before July 1, 2022.

This IE report aims to verify the WMP compliance activities of SCE, a regulated investor-owned utility (IOU) under the CPUC, for its 2021 performance as it corresponds to the initiatives the IOU planned to accomplish in 2021 compared to actual performance, verify whether those activities were funded appropriately, and validate and describe the EC's QA/QC programs for WMP compliance.

Methodology and Approach

The Report is the product of the IE's assessments of the EC's WMP, publicly available documentation submitted to the Energy Safety, data request responses, field visits, and interviews with the EC's subject matter experts (SMEs). The Report scope includes an

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[1] Public Utilities Code (PUC) § 8386.3.

[2] NV5 and Guidehouse were designated as an eligible Qualified Independent Evaluator on February 8, 2022 as part of the *2021 WMP: Revised 2022 IE Enlistment* available at https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=52018&shareable=true.

[3] California Public Utilities Commission, "Final Independent Evaluator Scope of Work for the Review of Compliance with 2020 WMP," April 21, 2021 ("April 21 IE Scope of Work"). Available at https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/Final%20IE%20SOW_20210421. Available at https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Divisions/WSD/Final%20IE%20SOW_20210421.pdf.

assessment of the successful implementation of the EC's WMP initiative activities, funding, and QA/QC efforts executed in 2021.

To perform this assessment, the IE adopted the following approach:

- **Review publicly available information, including the WMP:** The IE reviewed publicly available information to prepare for the assessment including the subject utility's WMP, WMP initiatives, and other publicly released or submitted documents.
- **Prepare initiative and subsequent data requests:** The first data request focused on programmatic level documentation, such as the utility's vegetation management program(s), inspection program, grid hardening program(s), etc. Additional information requests include any of the WMP submissions that are not on public websites, or not available in useful formats, and supplemental geographic information system (GIS) spatial data. This provides the IE a baseline understanding of available documentation apart from publicly available sources.
- **Document discovery review:** Review the supplemental information about the WMP initiatives in the Quarterly Data Reports (QDRs), Quarterly Notification Letters (QNs), Annual Report on Compliance (ARC), and the Quarterly Initiative Update (QIU). Review each data request response for completeness, responsiveness, and thoroughness. These materials should address all three subject areas addressed in the report – implementation of initiatives, initiative funding, and QA/QC material.
- **Perform risk assessment for field inspections:** Using GIS maps submitted by the EC, the IE identified areas where there is a substantial intersection between risk areas, including HFTDs and Wildland Urban Interface (WUI) populations, and WMP initiative activities across the utility's service territory to select meaningful locations for possible site visits to verify initiative activities performed in 2021.
- **Conduct field inspection survey:** This includes a visual patrol assessment of identified circuits and electrical assets within the selected areas. Results are captured on site and incorporated with other findings of the document discovery tasks.
- **Interpret documents and field inspection results:** Utilizing the WMP and other related compliance documents submitted to Energy Safety, the IE reviews the field inspection site notes, data request responses, and other evidence of the performed WMP activities and prepared findings surrounding each scoped initiative activity. The IE also conducts interviews, as needed, with SME(s) to gain additional details and clarify questions on program and project targets and QA/QC performance.

3. INDEPENDENT EVALUATOR REVIEW OF COMPLIANCE

The Independent Evaluator Review of Compliance section is for the Independent Evaluator to provide an overview of its process for review and assessment of the electrical corporation's compliance with its WMP.

In the sections below, provide a review of the electrical corporation's WMP activity completion, verification of funding and verification of QA/QC programs.

3.1 WMP Activity Completion

The WMP Activity Completion section should detail the Independent Evaluator's review and verification of compliance for all WMP activities that have specific quantifiable or qualitative performance goals/targets set forth in the electrical corporation's 2021 WMP.

In-scope WMP activities have been broken out into four categories:

1. *Large volume (≥100 units) + quantifiable goal/target + field verifiable WMP activities*
2. *Large volume (≥100 units) + quantifiable goal/target + non-field verifiable WMP activities*
3. *Small volume (<100 units) + quantifiable goal/target WMP activities*
4. *Qualitative goal/target WMP activities*

Energy Safety expects Independent Evaluators to assess compliance via multiple dimensions, including work completion, work quality, and adherence to applicable protocols and procedures. For Field Verifiable WMP activities, the Independent Evaluator must verify work quality in addition to completion of initiative installation and adherence to applicable protocols and procedures. For all other WMP activities, the Independent Evaluator must verify initiative installation and adherence to applicable protocols and procedures.

3.1.1 Sampling Methodology and Discussion

In this section, the Independent Evaluator should describe its sampling methodology, the samples that were chosen, and areas of focus. The Independent Evaluator may include the samples that were chosen in the Appendix instead of this section.

The Independent Evaluator should also include a discussion of how results of the sampled assessment are indicative of the electrical corporation's broader implementation of WMP initiatives, to give Energy Safety an understanding of the process the Independent Evaluator used to estimate full completion.

IE Evidence Sampling Methodology

The IE approach to sampling initiatives attempted to formalize a strategy to achieve a statistically valid representative sample of project initiatives in a manner that is objective.

The IE conducted a random sample of the data for each initiative requiring it. The sample size is based upon the North American Electric Reliability Corporation (NERC) ***ERO Sampling Handbook Revision 1.0.***[4] This methodology is recognized by the Generally Accepted Government Auditing Standards (GAGAS or "the Yellow Book" which is the US federal government's General Accounting Office's auditing guidebook) and the Institute of Internal Auditors (IIA).[5]

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[4] ERO Sampling Handbook, Revision 1.0, North American Electric Reliability Corp. (2015). Available at https://www.nerc.com/pa/comp/Documents/Sampling_Handbook_Final_05292015.

[5] *Id.* at p. 1.

This handbook sets forth the statistically valid sample size for different populations as can be seen in **Table 2: Sampling Methodology Based on Overall Population** below. This method is used to sample populations of tens of thousands of relays and cyber devices, among other things, in accordance with NERC's obligations mandated by FERC as part of the Federal Power Act Sec 215.[6]

Table 2: Sampling Methodology Based on Overall Population

Sample Table A	
Population Description	**Sample Selection**
Statistical Sampling	
Primary Population (Examples: Substations, Generating Stations, ESPs, PSPs,	**Using Statistical Sampling**
1-8	Entire population
9 +	8 Samples
Dependent Population of Elements: (Examples: Relays, CCAs, Routers, Firewalls & Other	**Using Statistical Sampling**
1-9	All Elements
10-19	9 Samples
20-40	16 Samples
41-100	23 Samples
101-1000	29 Samples
1001 +	33 Samples
Independent Population of Elements: (Examples: Transmission Segments, Blackstart units, Outages, Mis-operations, Daily Operations reports, Line Ratings, others)	**Using Statistical or Judgemental Sampling**
1-9	All Elements
10-19	9 Samples
20-40	16 Samples
41-100	23 Samples
101-1000	29 Samples
1001 +	33 Samples

Once a sample size is generated, the IE developed and utilized a random sampling tool developed in Excel, to automatically select the sample from the list based on the table above. The IE applied that methodology to the populations of identified elements in the selected areas. The IE used the same sampling methodology for initiatives that were field verifiable and not field verifiable.

Review of Discovery & Field Inspection Results

Field inspection findings contributed to the documentation discovery process by validating whether activities were executed in accordance with the WMP description of activities. The IE

[6] 16 U.S.C. § 824o.

compared these results with documentation produced by the EC to verify accuracy in reporting.

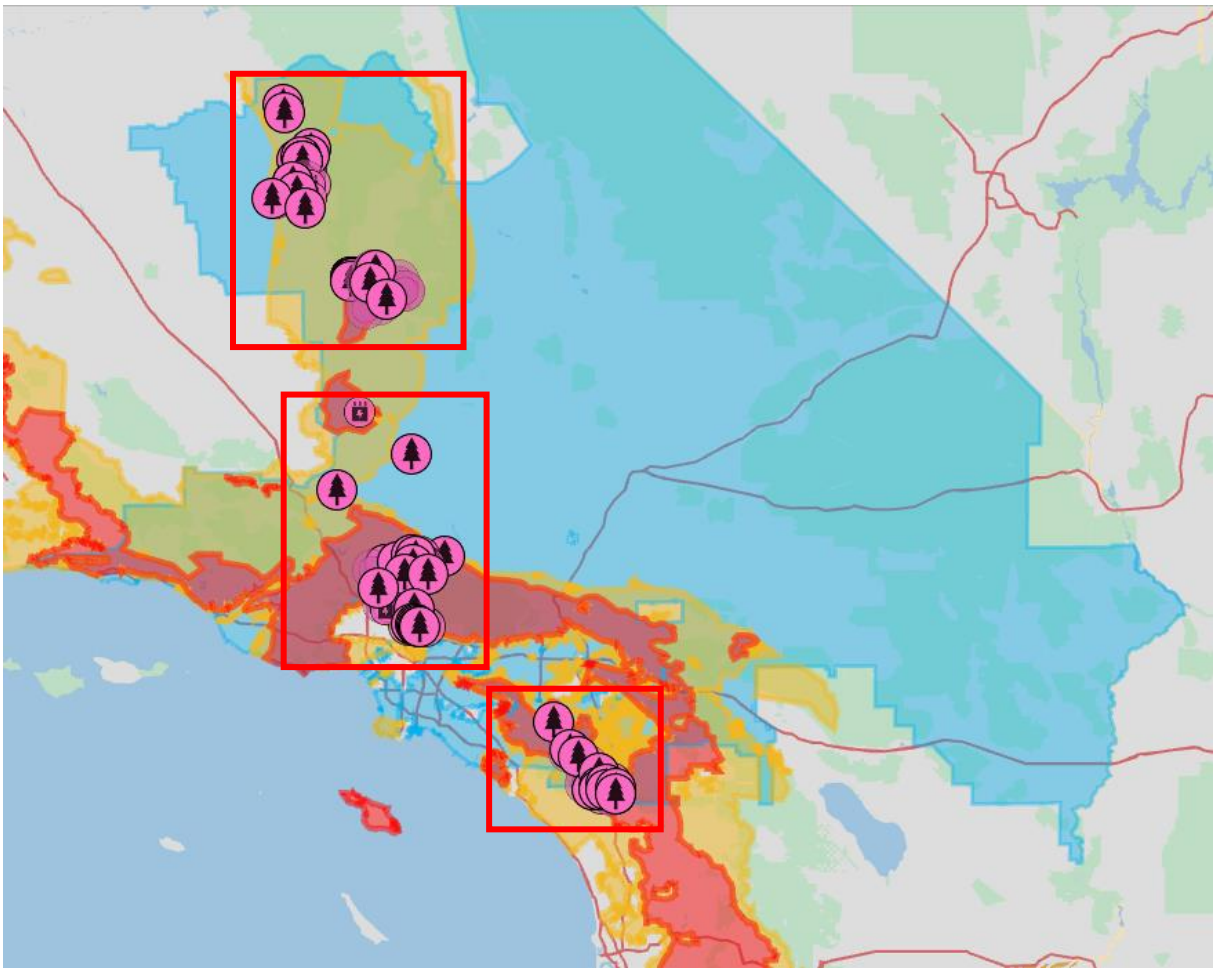
The IE identified sample areas with conditions illustrating high fire risk and ignition potential within the EC's service territory. The field inspection location boundaries were layered over the service territory of the utility, along with owned and operated assets, and other geological factors to determine the location of the evaluation. As the principal map, the IE layered the three Tiers within the CPUC's HFTD map.

Due to the size of SCE's territory, the IE concentrated its field verification efforts in three regions/zones. The selected areas were identified through both risk and practical considerations. The practical element focused on the accessibility of the locations for physical, ground-based inspections and unmanned aerial vehicle (UAV) operations, as well as the observability of the work completed. The final regions were selected in consultation with Energy Safety and focused on areas that: (1) Energy Safety had not done its own verifications, (2) had significant levels of field verifiable activities completed, (3) provided the ability to perform the greatest number of verifications given the time frame limitations, (4) had conditions that present high fire risk and ignition potential (5) assets that were not verified in previous evaluation years.

The IE then developed and utilized a random sampling tool developed within the IE's proprietary mapping and auditing tool, INSITE, to randomly select assets for field verification within the chosen zones.

The image below illustrates the amount of reported field verifiable work completed by SCE in 2021 as part of the efforts made to comply with the WMP.

SCE field verification activities were concentrated in the areas shown below. Site selection was made using the methodology and criteria explained above and in consultation with Energy Safety.



3.1.2 Large Volume Quantifiable Goal/Target – Field Verifiable

Table 3: 2021 Large Volume, Quantifiable, Field Verifiable Initiatives

Program Categories	WMP Identifier	Initiative/ Activity	Program Target	Records Inspected	Field Inspected
Situational Awareness & Forecasting	SA-1	Weather Stations	375 Installations	Yes	No
Grid Design & System Hardening	SH-1	Covered Conductor	1000 Circuit Miles	Yes	Yes
	SH-4	Branch Line Protection	330 Fuse Installations	Yes	Yes

Program Categories	WMP Identifier	Initiative/ Activity	Program Target	Records Inspected	Field Inspected
	SH-10	Tree Attachment Remediation	500 Remediations	Yes	Yes
	SH-14	Long Span Initiative	300 Remediations	Yes	Yes
Vegetation Management & Inspections	VM-2	Expanded Pole Brushing	200,000 Poles Brushed	Yes	Yes

3.1.2.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Large Volume Quantifiable Goal/Target – Field Verifiable category. Independent Evaluators shall conduct field verification to confirm installation, work quality, and adherence to applicable utility protocols and standards for such work.

Include the electrical corporation's list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Field Verifiable category, including respective goals/targets for each, in the Appendix or within the body of this subsection.

Advanced weather monitoring and weather stations (SA-1)

Under Section 7.3.2.1 in the ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE describes its initiatives for increasing the number of weather stations across distribution and transmission circuits in its High Fire Risk Area (HFRA). SCE planned to install 375 additional weather stations, to advance SCE weather modeling and situational awareness capabilities to better understand wildfire risks and more precisely target PSPS de-energization events to affect as few customers as possible, while still addressing dangerous fire threat conditions.

SCE reported in ***SCE Q4 2021 QIU*** and ***SCE Q4 2021 Quarterly Notification***, SCE met this target by installing a total of 406 weather stations in 2021.

The IE submitted *Data Request 2* for supporting evidence of the installation of the weather stations to further verify that the weather stations installation was completed. SCE responded to the request with workbook ***03_SA-1 Weather Stations Installs***, which provided evidentiary support that the weather stations were installed in 2021 on the dates provided. Information included structure number, date installed, and additional GIS coordinates for the specific location. This workbook listed a total of 406 installed weather stations. Also provided were ***Station_to_circuit_complete_data***, ***SubTrans_Segment_station_to_circuit_results***, and

BulkTrans_Segment_station_to_circuit_results that show the correlations of HFRA circuits and the sub-transmission and bulk transmission segments with HFRA circuits to weather Stations.

The IE submitted *Data Request 7* to obtain installation work orders or other evidence for the selected sample set to further verify that weather stations were completed. SCE responded to the request, with ***SA-1 Weather Station Samples*** which contains spreadsheets for the sampled weather stations, labeled by station ID, providing hourly data for each, and a screen shot from the dashboard that populates the data. Using this sampling methodology, the IE has reasonable assurance that the Weather Stations are operational and installed.

Finding: Based on the evidence provided, the IE has reasonable assurance that SCE has demonstrated meeting its planned target of 375 and exceeding the target in 2021 with 406 stations installed, according to data submitted to the IE. The desktop review results are detailed in **Table 4** below.

Table 4: Sample set of Advanced Weather Stations Results

Circuit	Substation Name	In service Date	IE Evaluated Desktop Review
JARVIS	SCE Azusa Wilderness Park	10/14/21	Yes
LINDERO	SCE Rock Tree Dr	09/07/21	Yes
HELENKA	SCE Arcadia Ln	06/10/21	Yes
SADDLEBACK	SCE Highland Springs Ave	06/16/21	Yes
HILLFIELD	SCE Beneda Ln	06/04/21	Yes
SOCRATES	SCE El Terraza Dr	07/29/21	Yes
HACKBERRY	SCE Radio Rd	07/28/21	Yes
BOOTLEGGER	SCE Mill Creek Summit	08/31/21	Yes
VALLEY-MWD-STETSON	SCE Newport Rd	10/07/21	Yes
PARADISE	SCE Zuniga Rd	07/20/21	Yes
STRATHERN	SCE Campus Park	09/09/21	Yes
CONDOR	SCE Springwood Ct	07/28/21	Yes
MAGUIRE	SCE Arroyo Sequit	09/09/21	Yes
NEARGATE	SCE Bermite Rd	08/27/21	Yes
INTAKE	SCE Power Station KR3	09/15/21	Yes
MEMPHIS	SCE Yucaipa Creek	06/22/21	Yes
MCLAUGHLIN	SCE Holland Rd	08/24/21	Yes
PIONEERTOWN	SCE Griffis Rd	07/28/21	Yes
STEEL	SCE Knoch Rd	06/25/21	Yes
SAUNDERS	SCE Toll Gate Rd	06/29/21	Yes
SPANADA	SCE Palm Dr	06/10/21	Yes
STUTZ	SCE Carinthia Dr	08/09/21	Yes
INDEPENDENCE	SCE Castelli Cir	08/03/21	Yes
DEVERS-BANNING-	SCE Gold Canyon Access	08/04/21	Yes

Circuit	Substation Name	In service Date	IE Evaluated Desktop Review
WINDPARK	Rd		
VENTURA	SCE Poli St	08/11/21	Yes
BROADCAST	SCE Clear Creek	06/17/21	Yes
ALOLA #2	SCE Alola	06/07/21	Yes
MENTRY	SCE Mentryville Park	08/06/21	Yes
CONDOR	SCE N Lower Valley Rd	06/09/21	Yes

Covered Conductor (SH-1)

Section 7.3.3.3.1 of SCE's ***2021 Wildfire Mitigation Plan Update (Revision)*** included a 2021 target to install 1,000 circuit miles of covered conductor in HFRA territory. This target was subject to resource constraints and other execution risks. As reported in SCE's ***Q4 2021 QIU*** quarterly submission workbook, SCE indicates that approximately 1,500 circuit miles within the HFRA were executed in 2021, exceeding the target by 140%.

The IE submitted *Data Request 2* for initial location data to develop a random sample for field verification and desktop verification based on the methodology described in section 3.1.1 above. The IE used the list provided in ***Covered Conductor_SCE*** to develop a random sample of 16 locations. To further confirm the completion of the evaluations for this initiative, the IE submitted *Data Request 9* for evidence to support and demonstrate the performance of this initiative. SCE provided document ***Covered Conductor_SCE*** workbook in response to the data request. This document included the list of completed covered conductor work orders, latitude and longitude data, circuit name, and circuit ID. The spreadsheet provided a full list of each pole for each span that was reconductored as part of this initiative. The IE compared the sampled data and verified that the work was completed in 2021 at each individual location sampled.

The IE performed a field verification on the sample set to verify that covered conductor had been installed at the sampled locations. The IE determined 31 of the 33 locations were found to be compliant. Two assets could not be ground, or UAV inspected due to access or weather restrictions as well as the time frame associated with the evaluation. The field inspection results are detailed in **Table 5** below.

Finding: Based on the evidence provided and the field verification of the randomly sampled conductors, the IE determined with reasonable assurance SCE met and exceeding their 2021 target of installing covered conductors for a minimum of 1,000 circuit miles.

Table 5: Covered Conductor Field Inspection Results

Inspection Date	Asset ID	Circuit ID	Status	UAV Verification
5/19/2022	4441817E	ED-02662	Compliant	
5/19/2022	4062273E	ED-02662	Compliant	
5/19/2022	2173316E	ED-10785	Compliant	
5/19/2022	2173320E	ED-10785	Compliant	
5/19/2022	2182060E	ED-02662	Compliant	
5/19/2022	4064799E	ED-04793	Compliant	
5/19/2022	4772701E	ED-04457	Compliant	
5/19/2022	3000518E	ED-03297	Compliant	
5/19/2022	4330772E	ED-02662	Compliant	
5/23/2022	1798551E	ED-01100	Compliant	
5/23/2022	4022468E	ED-01100	Compliant	
5/23/2022	1505812E	ED-01100	Compliant	
5/23/2022	810632H		Compliant	
5/23/2022	861169E	ED-01100	Compliant	
5/23/2022	1226585E	ED-04900	Compliant	
5/23/2022	4038927E	ED-08140	Compliant	
5/26/2022	4675588E	ED-16600	Compliant	X
5/26/2022	4544503E	ED-16600	Compliant	X
5/26/2022	1966139E	ED-16600	Compliant	X
5/26/2022	X16275E	ED-16600	Compliant	X
5/26/2022	4464722E	ED-16600	Compliant	X
5/26/2022	X16265E	ED-16600	Compliant	X
6/7/2022	4441818E	ED-02662	Compliant	X
6/7/2022	1775032E	ED-14047	Compliant	X
6/7/2022	4244815E	ED-14047	Compliant	X
6/7/2022	693481E	ED-01954	Compliant	
6/7/2022	4649740E	ED-17165	Compliant	X
6/7/2022	3000518E	ED-03297	Compliant	X
6/15/2022	4465075E	ED-16600	Compliant	
6/21/2022	1865840E	ED-10705	Compliant	
6/21/2022	4727228E	ED-02680	Compliant	

Branch Line Protection Strategy (SH-4)

SCE 2021 WMP Update Revision – CLEAN included a 2021 target for this initiative to install fuses at 330 locations, and up to 421 locations subject to constraints. This was a smaller target than previous years as SCE is focusing on areas across HFRAs rather than a target area like in years past. Reported in the ***04_SCE_2021 Q4 QIU_20220201*** quarterly submission workbook, SCE indicates that approximately 350 fuses were installed or replaced in 2021. Project Spend for this initiative in **SCE*_2021ARC*** indicated a forecast of $0 in CAPEX with an actual reported

output of credit $479,000 and a forecast of $1,154,000 in OPEX with an actual reported output of $36,000. SCE provided detail to the variance stating "SCE met its WMP target (install/replace 330 fuses) by completing installation or replacement of ~340 fuses but did not reach its strive goal (421 fuses). Spending below forecast for this program was also due to bundling of costs for Current Limiting Fuses with other projects. There was a net credit from purchased material in 2020 that was returned in 2021." This is supported in the ***07_IE01-SCE-2021_2021 ARC Report Part C_Final_3.31.22*** received with *Data Request 1.*

The IE submitted *Data Request 2* for locational data details demonstrating where, what types of actions, and dates of actions executed for the 2021 WMP activities. SCE provided document ***01 _SH-4 Branch Line Fuses*** which included the necessary information to conduct random sampling for field and desktop verification. The IE submitted *Data Request 8* to obtain evidence of work performed for the 36 sampled fuses so a desktop evaluation could be conducted. In responses to *Data Request 8* SCE provided ***02_IE08-SCE-2021 Q. 02 Answer*** which provided reference dates for the 36 requested assets. The desktop review confirmed that work was completed for all 36 assets in calendar year 2021.

The IE surveyed the sample locations within SCE's service area. As seen in **Table 6**, 36 of the 36 assets surveyed were deemed to be compliant with associated rules and regulations. **Table 6** contains duplicate line items as there were assets that either could not be inspected via ground or where a verification UAV inspection was conducted.

Table 6: Branch Line Fuse Field Inspection Results

Inspection Date	Equipment	Floc	Status	UAV Verification
5/27/2022	207878363	OH-1123470E	Compliant	X
6/21/2022	208050517	OH-1155135E	Compliant	
5/18/2022	207974133	OH-12946S	Compliant	
5/25/2022	207889456	OH-1504900E	Compliant	
5/27/2022	207889456	OH-1504900E	Compliant	X
5/19/2022	207811939	OH-1530012E	Compliant	
5/27/2022	207811939	OH-1530012E	Compliant	X
5/18/2022	207877374	OH-1787461E	Compliant	
5/27/2022	207877374	OH-1787461E	Compliant	X
5/18/2022	207897068	OH-1798205E	Compliant	
5/26/2022	207896507	OH-1849873E	Compliant	X
5/27/2022	207917075	OH-2124265E	Compliant	X
5/17/2022	207827322	OH-2129487E	Compliant	
5/27/2022	207827322	OH-2129487E	Compliant	
5/17/2022	207959978	OH-2150578E	Compliant	
5/17/2022	207850560	OH-2173396E	Compliant	
5/17/2022	207886400	OH-2182074E	Compliant	
5/24/2022	207817537	OH-2224995E	Compliant	

Inspection Date	Equipment	Floc	Status	UAV Verification
5/17/2022	207886387	OH-2289374E	Compliant	
5/27/2022	207886387	OH-2289374E	Compliant	X
5/17/2022	207827338	OH-2345133E	Compliant	
5/27/2022	207827338	OH-2345133E	Compliant	X
5/25/2022	207814490	OH-2354572E	Compliant	X
5/26/2022	207819993	OH-345331E	Compliant	X
6/21/2022	207878323	OH-4033512E	Compliant	
5/17/2022	207816712	OH-4062268E	Compliant	
5/26/2022	207961021	OH-4368294E	Compliant	X
5/26/2022	207714861	OH-4417753E	Compliant	X
5/26/2022	207716582	OH-4441043E	Compliant	X
5/26/2022	207883530	OH-4506021E	Compliant	X
5/17/2022	207817772	OH-4532696E	Compliant	
5/26/2022	207648125	OH-4566712E	Compliant	X
5/27/2022	207811360	OH-4570430E	Compliant	X
6/15/2022	207884377	OH-4620920E	Compliant	
6/21/2022	207789116	OH-4621649E	Compliant	
5/18/2022	207820358	OH-4710021E	Compliant	
5/27/2022	207811356	OH-4714643E	Compliant	X
5/19/2022	207811941	OH-4843146E	Compliant	
5/27/2022	207811941	OH-4843146E	Compliant	X
5/24/2022	207815262	OH-4871264E	Compliant	X
5/27/2022	207815262	OH-4871264E	Compliant	X
5/27/2022	207811603	OH-725033E	Compliant	X
5/27/2022	207887519	OH-794725E	Compliant	X
5/26/2022	207647596	OH-916090E	Compliant	X

Finding: Based on the evidence provided and the field verification of the randomly sampled fuse reasonable assurance that SCE met its target of 330 Branch Line Fuse installation/replacements in 2021 based on the provided evidence and field verification.

Tree Attachment Remediation (SH-10)

According to section 7.3.3.3.2 of the ***SCE 2021 WMP Update Revision – CLEAN***, SCE plans to continue its program of removing overhead conductors attached to trees with a goal to remediate 500 tree attachments in 2021. SCE's forested service area utilized older construction, tree attachment methods, which used trees to support overhead conductors, opposed to installing utility poles. This methodology no longer meets SCE's design standards and increases the probability of faults and damages due to vegetation.

SCE reported in their Q4 QIU workbook and supplemental ***06_IE01-SCE-2021 Initial Q.06***

Answer that 530 tree attachment remediations were completed in 2021, exceeding the target by 30. To verify this, the IE submitted *Data Request 2* for population evidence of the remediations. SCE provided the workbook ***SH-10 Tree Attachments***, containing work order numbers, completion dates, and latitude/longitude data for all tree remediations completed in HFTD Tier extreme for 538 items, exceeding the reported 530.

To further verify SCE completed the tree attachment remediation activities, the IE selected a random sample of 36 locations to perform a field inspection review. Of the 36, 35 of the inspections were found to be compliant, one inspection was inconclusive due to incorrect location data. The IE field inspection results are in **Table 7** below.

Findings: Based on the evidence provided and the results of the field inspection; the IE has reasonable assurance SCE met and exceeded its 2021 target of completing 500 tree attachment remediations.

Based on the WMP 2021 goal, evidence provided by SCE, and the results of the field inspection; the IE has reasonable assurance SCE met and exceeded its 2021 target of completing 500 tree attachment remediations. The IE notes that due to the limited sample, this result may not be representative.

Table 7: Field Inspection Results – Tree Attachment Remediation

Inspection Date	FLOC	Status	UAV Verification
5/26/2022	OH-1517814E	Compliant	X
5/26/2022	OH-773420E	Compliant	X
6/15/2022	OH-773416E	Compliant	
5/26/2022	OH-773419E	Compliant	X
6/15/2022	OH-773415E	Compliant	
5/26/2022	OH-773414E	Compliant	X
5/26/2022	OH-4875554E	Compliant	X
6/15/2022	OH-756398E	Compliant	
5/26/2022	OH-756399E	Compliant	X
5/26/2022	OH-756400E	Compliant	X
6/15/2022	OH-773433E	Compliant	
6/15/2022	OH-1999824E	Compliant	
6/7/2022	OH-773441E	Compliant	X
5/26/2022	OH-1999826E	Compliant	X
5/26/2022	OH-1999825E	Compliant	X
5/26/2022	OH-773442E	Compliant	X
5/26/2022	OH-2230500E	Compliant	X
5/26/2022	OH-773443E	Compliant	X
6/15/2022	OH-773444E	Compliant	
6/15/2022	OH-4445833E	Compliant	

Inspection Date	FLOC	Status	UAV Verification
6/15/2022	OH-4445834E	Compliant	
5/26/2022	OH-1617400E	Compliant	X
6/15/2022	OH-4445836E	Compliant	
6/15/2022	OH-4445839E	Compliant	
6/15/2022	OH-4445840E	Compliant	
6/21/2022	OH-2330262E	Compliant	
5/26/2022	OH-1517815E	N/A	X
6/15/2022	OH-1686702E	Compliant	
5/26/2022	OH-1957742E	Compliant	X
6/15/2022	OH-685540E	Compliant	
5/26/2022	OH-1980330E	Compliant	X
6/15/2022	OH-894567E	Compliant	
6/7/2022	OH-4885174E	Compliant	X
6/21/2022	OH-4885164E	Compliant	
6/21/2022	OH-4885163E	Compliant	
6/21/2022	OH-4866439E	Compliant	

Long Span Initiative Remediation (SH-14)

SCE 2021 WMP Update Revision – CLEAN included a 2021 target for this initiative to remediate approximately 300 locations, and up to 600 locations, subject to the completion timeline for field validations, resource constraints, and other execution risks. Reported in the ***04_SCE_2021 Q4 QIU_20220201*** quarterly submission workbook, SCE indicates that approximately 360 remediations were conducted in 2021. Project Spend for this initiative in the ***SCE_2021ARC*** indicated a forecast of $5,943,000 in CAPEX with an actual reported output of $92,000 and a forecast of $2,221,000 in OPEX with an actual reported output of $0. SCE provided detail to the variance stating "Although SCE met its WMP target, it was not able to reach its strive target due to program strategy changes. Further savings were realized by utilizing infrastructure scenario planning and assessments, and survey process tools.". This is supported in the ***07_IE01-SCE-2021_2021 ARC Report Part C_Final_3.31.22*** received with *Data Request 1.*

The IE submitted *Data Request 2* for locational data details demonstrating where, what types of actions, and dates of actions executed for the 2021 WMP activities. SCE provided document ***01 _SH-14 LSI Assessments*** which provided a detailed list of the assessments conducted as part of the initiative. SCE also provided ***01 _SH-14 LSI Remediations*** which provided a detailed list of the remediations conducted as part of the initiative. Both documents included the necessary information to conduct random sampling for field and desktop verification. The IE submitted *Data Request 8* to obtain evidence of work performed for the 36 sampled Long Spans so a desktop evaluation could be conducted. In responses to *Data Request 8* SCE provided ***04_IE08-SCE-2021 Q. 04 Answer*** which provided reference dates for the 36 requested

assets. The desktop review confirmed that work was completed for all 36 assets in calendar year 2021.

The IE surveyed the sample locations within SCE's service area. As seen in **Table 8**, 35 of the 36 assets surveyed were deemed to be compliant with associated rules and regulations. The one remaining asset for which the IE could not confirm its compliant status could not be ground or UAV inspected due to access or weather restrictions as well as the time frame associated with the evaluation.

Table 8: Long Span Remediation Field Inspection Results

Inspection Date	Structure	FLOC	Status	UAV
5/26/2022	1177917E	OH-1177917E	Compliant	X
6/15/2022	1293858E	OH-1293858E	Compliant	
5/26/2022	1293952E	OH-1293952E	Compliant	X
5/26/2022	1732537E	OH-1732537E	Compliant	X
5/26/2022	1843594E	OH-1843594E	Compliant	
5/26/2022	1941178E	OH-1941178E	Compliant	X
5/26/2022	1999906E	OH-1999906E	Compliant	X
5/26/2022	2042031E	OH-2042031E	Compliant	X
5/26/2022	2063003E	OH-2063003E	Compliant	X
6/21/2022	2086377E	OH-2086377E	Compliant	
5/19/2022	2113100E	OH-2113100E	Compliant	
5/19/2022	2113101E	OH-2113101E	Compliant	
6/21/2022	2150138E	OH-2150138E	Compliant	
6/21/2022	2163422E	OH-2163422E	Compliant	
5/26/2022	2206757E	OH-2206757E	Compliant	
	2206759E	OH-2206759E		
5/26/2022	2230348E	OH-2230348E	Compliant	X
6/15/2022	2269971E	OH-2269971E	Compliant	
6/21/2022	4404630E	OH-4404630E	Compliant	
5/26/2022	4410509E	OH-4410509E	Compliant	X
5/26/2022	4422066E	OH-4422066E	Compliant	X
5/19/2022	4524227E	OH-4524227E	Compliant	
5/19/2022	4568470E	OH-4568470E	Compliant	
5/26/2022	4596651E	OH-4596651E	Compliant	X
6/15/2022	4649740E	OH-4649740E	Compliant	
5/26/2022	4659761E	OH-4659761E	Compliant	X
6/21/2022	4729395E	OH-4729395E	Compliant	
5/26/2022	652210E	OH-652210E	Compliant	X
6/21/2022	676314E	OH-676314E	Compliant	

Inspection Date	Structure	FLOC	Status	UAV
5/26/2022	676663E	OH-676663E	Compliant	X
6/21/2022	676673E	OH-676673E	Compliant	
6/21/2022	676686E	OH-676686E	Compliant	
5/26/2022	676689E	OH-676689E	Compliant	
6/15/2022	765173E	OH-765173E	Compliant	
5/26/2022	940307E	OH-940307E	Compliant	X
6/21/2022	GT135868	OH-GT135868	Compliant	

Finding: Based on the evidence provided, and the results of the field inspection; the IE has reasonable assurance SCE met and exceeded its 2021 target of completing 300 Long Span remediations.

Expanded Pole Brushing (VM-2)

Under Section 7.3.5.5.1 in the ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE describes its initiative for expanded pole brushing with a target of 200,000 poles cleared by the end of 2021 in accordance with Public Resource Code (PRC) 4292, SCE plans to maintain a 10-foot clearance around distribution poles in the HFRA. SCE reported in *Data Request 2*, in ***02_IE02-SCE-2021 Completed Work Q. 02 Answer*** and in the ***2021 Q4 QIU***, that at the end of December 2021, 163,253 poles had been cleared, falling short of the WMP objective by 36,747 due to "contractor performance, loss of crews, access constraints, and delays in obtaining environmental permitting."

To verify the poles that SCE reported having cleared, the IE sent *Data Request 2* requesting population evidence of the 163,253 poles reported. SCE provided ***Q02-Pole Brushing 2021_Final YE Data_Update***, a spreadsheet which listed the record identification, the date completed, and the GIS coordinates for all poles cleared during 2021. The evidence provided shows that 163,253 poles were cleared, which is below the reported goal of 200,000 by 36,747 but matches what was reported as completed by the end of 2021. To further validate the pole clearing activity, 36 individual poles were selected, and work orders or other evidence of work performed were requested. SCE provided PDF files for each sampled site with the record identifier (e.g., ***8e6a78f4-f6eb-440c-8b59-a6db886d7b31***). The evaluation team performed a desktop review of the evidence provided and found that all 36 examined poles were inspected during the QC process of VM-2.

To further validate the recorded activities, the IE performed a field inspection and surveyed a sampling of 15 of the poles reviewed in the desktop assessment. Of those, nine poles were found to be potentially non-compliant based on clearance and vegetation present at the time of inspection, two did not have access due to locked gates, and one was deemed to be exempt. Ultimately only leaving three of the fifteen selected for the sample identified as Compliant based on the standards set forth in the WMP. See **Table 9** below for the inspection results. It is important to note that this field inspection is not reflective of what it looked like when the work

was performed by SCE and the IE recognizes and acknowledges that these poles were likely cleared as reported and the vegetation found was a result of re-growth or new growth since the original clearing and likely these have not yet been brushed for the current year. To reflect this, the status states "Potentially not compliant" to indicate that if not cleared, these could

Finding: SCE reported they did not meet their pole brushing objectives in 2021, reporting 163,253 poles cleared within the HFRA. The IE verified that upwards of 160,000 poles were inspected during the QC process from the desktop data review. The field inspection did not find any growth that would indicate more than a year's worth of growth. The IE notes that several of the potentially non-compliant findings were live vegetation and not likely to cause fire despite not meeting WMP clearance specifications for brushing.

Table 9: Field Inspection Results – Expanded Pole Brushing

Inspection Date	Asset ID	Object ID	Status	Comments
5/18/2022	1843594e	4de81fa-7854-49ba-9f94-e3802f98fbd6	Potentially Not Compliant	Not cleared to bare dirt around pole, green vegetation within 6' of pole
5/18/2022	1661091E	ab2c840d-afcf-4203-b919-65263d7c3485	Potentially Not Compliant	Not cleared to bare dirt, however, unlikely to carry fire.
5/18/2022	699672e	0da324ba-0520-417d-a19f-7f22652f780f	Compliant	
5/18/2022	4454025E	03710d69-224c-420e-ae90-5b94fc1906c0	Compliant	
5/18/2022	2238560E	29a868d7-eaff-4699-b5fb-0bbec9dca185	No Access	No access locked gate
5/18/2022	441449E	c1eb77d9-b907-4a2f-b2ea-b811351756ee	Potentially Not Compliant	Not cleared to bare dirt. Sparse vegetation but has potential to carry fire. No structure matching point given. Pole number doesn't match point.
5/18/2022	1735148E	0ed677e3-097e-4a20-bed4-f84f91b66578	No Access	No access, locked gate
5/18/2022	1661731E	7d84cda5-ac3c-4a49-8bef-8412e5fc103a	Compliant	Landscaping around pole
5/18/2022	681102E	950fe4aa-f133-461f-a7f1-d6840f2fb643	Exempt	Pole is listed as non-exempt; however, it is exempt

Inspection Date	Asset ID	Object ID	Status	Comments
5/18/2022	13124A	e1025854-58fb-426f-8f54-a55ed63850de	Not Compliant	Pole number does not match data point, point listed as unknown but appears as non-exempt based on equipment
5/18/2022	4709347E	bedcfbfc-0fdf-4b0d-b527-ac0cc6b12d54	Potentially Not Compliant	Green vegetation within 6' of pole at 14' above grade. Majority bare ground cleared but some vegetation has resprouted.
5/18/2022	215084E	8b514661-b247-4ae1-bf4a-f2e0ee4f7c5c	Potentially Not Compliant	Trees planted within 10' of pole
5/18/2022	2206906E	19bddf9c-c981-4d9b-bcca-55545aa79986	Compliant	
5/18/2022	4465636E	1f442365-f30c-4c5a-ac40-e21236f74748	Potentially Not Compliant	Green vegetation within 4-6 feet of pole
5/18/2022	4441818E	863a3886-4a45-4876-8ced-c28f4d10b947	Potentially Not Compliant	Green vegetation touching pole ground not cleared to 10'

3.1.2.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Large Volume Quantifiable Goal/Target – Field Verifiable initiatives.

The IE surveyed several high-risk areas with field inspection patrols and found very few issues of noncompliance, with the exception of expanded pole brushing.

3.1.3 Large Volume Quantifiable Goal/Target – Not Field Verifiable

The following is a list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category and their respective goals/targets.

Table 10: 2021 Large Volume, Quantifiable, Non-Field Verifiable Initiatives

Program Categories	WMP Identifier	Initiative/Activity	Program Target	IE Evaluated Desktop Review
Asset Management & Inspections	IN-1.1	Distribution High Fire Risk Informed Inspections in HFRA	Inspect between 163,000 and 198,000 structures in HFRA, via both ground and aerial inspections	Yes
	IN-1.2	Transmission High Fire Risk Informed Inspections in HFRA	Inspect between 16,800 and 22,800 structures in HFRA, via both ground and aerial inspections	Yes
	IN-3	Infrared Inspection of Energized Overhead Distribution Facilities and Equipment	Inspect approximately 50% of distribution circuits in HFRA	Yes
	IN-4	Infrared Inspection, Corona Scanning, and High-Definition Imagery of Energized Overhead Transmission facilities and Equipment	Inspect 1,000 transmission circuit miles on HFRA circuits	Yes
	IN-5	Generation High Fire Risk Informed Inspections in HFRA	Complete inspection of 181 generation-related assets in HFRA	Yes
Situational Awareness & Forecasting	SA-9	Distribution Fault Anticipation	120 DFA Installations	Yes
Vegetation Management & Inspections	VM-1	Hazard Tree Management Program	120,000 Assessments	Yes
	VM-4	Drought Relief Initiative (DRI) Inspections and Mitigations	1,302 Mitigations	Yes

3.1.3.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category. Independent Evaluators shall select a sample to seek additional documentation and conduct SME interviews, as needed, to verify that the activity was completed and executed in accordance with all applicable work procedures and protocols.

Include the electrical corporation's list of initiatives that fall into the Large Volume Quantifiable Goal/Target – Not Field Verifiable category, including respective goals/targets for each, in the Appendix or within the body of this subsection.

Distribution High Fire Risk Informed Inspections in HFRA (IN-1.1)

Section 7.3.4.9.1 of the ***SCE 2021 Wildfire Mitigation Plan Update (Revision)*** states that the utility performs inspections of distribution infrastructure, both ground-based and aerial, across SCE's HFRA using a targeted quantitative approach. SCE uses the Technosylva model to determine inspection scope. SCE identified 17 areas of concern within its HFRA based on fire history, weather conditions, fuel type, exposure to wind, and egress. SCE provided a 2021 goal of performing between 163,000 and 198,000 distribution inspections.

SCE provided ***12_Distribution Aerial Condition Assessment Form Approved 2021-10-18***; which outlines all the information an inspector must collect when performing an aerial inspection. Similarly, SCE provided ***12_Distribution Ground InspectApp Survey Approved 2021-10-26***, which outlines all information collected by inspectors during a distribution ground inspection. The IE has reviewed the documents and finds that they are useful job aids in performing effective inspections.

The IE reviewed documents provided in *Data Request 2* for this initiative, which included a list of all ground inspections performed for the year 2021. This list is detailed in the ***11_IN-1.1a Dist Ground Insp***. Through the provided documentation, the IE was able to confirm 179,645 ground distribution inspections were logged in SCE's tracking software. SCE reported in their ARC that ~179,600 inspections were completed.

SCE also provided a list of all aerial distribution inspections conducted in 2021. This list is detailed in ***11_IN-1.1b Dist Aerial Insp***. SCE provided a 2021 goal of performing between 163,000 and 198,000 aerial distribution inspections. Through the provided documentation, the IE was able to confirm that 180,252 aerial inspections were logged in SCE's tracking software. SCE reported in their ARC that ~180,200 aerial structures had been inspected.

The IE submitted *Data Request 5* to obtain a sample of data to further verify that distribution inspections were completed. SCE provided in response to *Data Request* 5, ***04. A_IE DR 5 Item 4a – Inspection Sample Data Evidence***, which provided inspection results for the 33 randomly requested distribution ground inspection sample points. Using this sampling methodology, the IE has reasonable assurance that SCE has exceeded the 2021 goal set forth in the WMP.

SCE also provided ***04. A_IE DR 5 Item 4b – Inspection Sample Data Evidence***, which provided inspection results for the 33 randomly requested distribution aerial inspection sample points.

Using this sampling methodology, the IE has reasonable assurance that SCE has exceeded the 2021 goal set forth in the WMP.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE has met their goal of performing at least 163,000 distribution inspection by performing 179,645 distribution facility ground inspections and 180,252 distribution facility aerial inspections.

Transmission High Fire Risk Informed Inspections in HFRA (IN-1.2)

Section 7.3.4.10.1 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision)*** states that the utility performs inspections of transmission infrastructure, both ground-based and aerial, across SCE's HFRA using a targeted quantitative approach. These inspections are in addition to the requirements set forth in GO 165. SCE uses the Technosylva model to determine inspection scope and has identified 17 areas of concern within its HFRA based on fire history, weather conditions, fuel type, exposure to wind and egress. SCE provided a 2021 goal of performing between 16,800 and 22,800 aerial transmission inspections.

SCE provided ***12_Transmission Ground & Aerial Condition Assessment Form Approved 2021-10-25***. This document outlines all the information an inspector must collect when performing an aerial or ground transmission inspection. The IE has reviewed the documents and finds that they are useful job aids in performing effective inspections.

The IE reviewed initial documents provided in *Data Request 2* for this initiative, which included a list of all ground inspections performed for the year 2021. This list is detailed in the ***11_IN-1.2a Trans Ground Insp***. SCE provided a 2021 goal of performing between 16,800 and 22,800 transmission inspections. Through the provided documentation, the IE was able to confirm 20,815 ground distribution inspections were logged in SCE's tracking system. SCE reported in their ARC that ~20,800 inspections were completed.

SCE also provided a list of all aerial distribution inspections conducted in 2021. This list is detailed in ***11_IN-1.2b Trans Aerial Insp*.** Through the provided documentation, the IE was able to confirm that 20,799 aerial inspections were logged in SCE's tracking software. SCE reported in their ARC that ~20,790 aerial structures had been inspected.

The IE submitted *Data Request 5* to obtain a sample of data to further verify that transmission inspections were completed. SCE provided in response to *Data Request 5*, ***05. A_IE DR 5 Item 5a – Inspection Sample Data Evidence***, which provided inspection results for the 33 randomly requested transmission ground inspection sample points. Using this sampling methodology, the IE has reasonable assurance that SCE has exceeded the 2021 goal set forth in the WMP.

SCE also provided ***05. A_IE DR 5 Item 5b – Inspection Sample Data Evidence***, which provided inspection results for the 33 randomly requested transmission aerial inspection sample points. Using this sampling methodology, the IE has reasonable assurance that SCE has exceeded the 2021 goal set forth in the WMP.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE has met their goal of per at least 16,300 transmission inspections by performing 20,815 transmission facility ground inspections and 20,799 transmission facility aerial inspections.

Infrared Inspection of Energized Overhead Distribution Facilities and Equipment (IN-3)

Section 7.3.4.4 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision)*** states that the utility intends to complete inspections of approximately 50% of distribution circuits in HFRA. SCE uses infrared technology to detect thermal differences and identify hot splices and connectors that can be leading indicators of asset failure.

SCE provided ***38_IE01-SCE-2021 Initial Q. 38 Answer*** as response to *Data Request 1*. This document outlines the total population size for Infrared asset management inspections. Specifically, according to SCE they possess 8,816 linear miles of distribution circuits. Further, SCE responded to *Data Request 2* with ***11_IN-3 Dist IR Insp*** which lists the completed distribution circuits. The IE reviewed this document and noted that the total amount of miles inspected is 4,409 miles which meets the 50% goal outlined in the WMP.

The IE reviewed these documents and issued *Data Request 5* for SCE to provide an inventory of all applicable distribution circuits in HFRA as well as work orders or other evidence for the sample sets identified in the "Initiatives Requiring Sampling" workbook. SCE responded to *Data Request 5* with a list of timestamped locations indicating when sections of the sampled distribution lines were inspected (breadcrumbs). The IE followed up with *Data Request 7* asking for a screenshot of how “breadcrumbs” are tracked in SCE’s tracking software. SCE provided a screenshot showing each individual point plotted within ArcGIS for one of the sampled circuits.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE met its goal of performing inspections on 50% of distribution circuits in HFRA by performing inspections on 4,409 miles of distribution facilities and equipment.

Infrared Inspection, Corona Scanning, and High-Definition Imagery of Energized Overhead Transmission facilities and Equipment (IN-4)

Section 7.3.4.5 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision)*** states that the utility intends to perform infrared and corona inspections for 1,000 transmission circuit miles per year. SCE uses infrared technology to detect Deteriorated connection points on electrical equipment such as conductors, insulators, splices, or connectors that can be leading indicators of asset failure.

SCE provided ***11_IN-4 Trans IR-Corona*** in response to *Data Request 2*. This document outlines the total population size for transmission asset management inspections. Specifically, according to SCE, they inspected 1,046 high fire miles of transmission which meets the annual goal.

The IE reviewed these documents and issued *Data Request 5* for SCE to provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook. SCE responded to *Data Request 5* with ***06_IE05-SCE-2021 Q. 06 Answer*** which provides timestamped evidence of the randomly selected inspection records. The evidence shows a timestamp screenshot of the inspection to demonstrate the inspections occurred.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE has met its goal of performing inspections on at least 1,000 transmission circuit miles in 2021.

Generation High Fire Risk Informed Inspections in HFRA (IN-5)

Section 7.3.4.9.2 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision)*** states that SCE continues its inspection program of relevant generation-related assets in HFRA, including powerhouses, substations, and pumps to identify remediations to reduce the risk of wildfire ignition. Because the utility's generation facilities are located in or near heavily forested areas, wildfire propagation in these areas could affect critical power generation infrastructure and equipment. SCE states it intends to complete inspections of 181 generation-related assets in HFRA.

SCE reported in the SCE ***Q4 2021 QIU*** that the initiative target of 181 generation-related asset inspections in the HFRA was exceeded. SCE reported that it completed approximately 230 generation-related asset inspections in 2021.

The IE submitted *Data Request 5* requesting supporting evidence of generation-related asset inspections for a sample set of inspections. In response, SCE provided ***IN-5 DR 5 Sampling***. SCE also responded by stating Generation Field Employees utilized Survey123 to complete survey questions for each inspection point. The survey question responses feed into SCE's ArcGIS system. ***IN-5 DR 5 Sampling*** identifies the inspection date and survey responses for each of the facilities included in the sample set.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE met its goal of completing at least 181 generation-related asset inspections in 2021.

Continuous monitoring sensors (Distribution Fault Anticipation SA-9)

Section 7.3.2.2 in the ***2021 Wildfire Mitigation Plan Update (Revision)*** describes SCE's initiative for expanding installations of Distribution Fault Anticipation devices (DFA) beyond the small-scale deployment to cover a larger circuit base to aid in avoiding faults and ignitions. In 2021, SCE planned to install 150 additional DFA units in HFRA areas.

SCE reported in ***SCE Q4 2021 QIU*** and ***SCE Q4 2021 Quarterly Notification***, that the initiative target was for the installation of 120 DFA units on circuits in SCE's HFRA and continue evaluation of DFA technology which may result in SCE installing up to 150 units. SCE reported completing this target by installing a total of 130 DFA devices on circuits in HFRA in 2021.

The IE submitted *Data Request 2* for supporting evidence of the installation of DFAs to further verify that the DFA installation was completed. In response, SCE provided ***03 Supplemental_SA-9 DFA InService Summary***, which contained evidentiary support that the DFAs were installed in 2021 on the dates provided. Additional information included circuit, substation, operational date, and additional GIS coordinates for the specific location. This workbook listed a total of 130 installed DFAs.

The IE submitted *Data Request 7* to obtain installation worker orders or other evidence for the sample set to further verify that DFAs were installed. SCE provided to *Data Request 7*, DFA ***2021 - In-Service Emails***, containing emails from the vendor or the Construction Project Manager confirming the DFA devices became available. The DFA devices were considered available when installed and communicating to the Master Station.

To further verify, the IE submitted *Data Request 9*, to obtain additional detailed information demonstrating that the sampled DFAs were in-service and communicating with the Master Station. (e.g., Master Station screen captures of the DFA in service, dated historical data received or other evidence). For each of the sampled DFAs, SCE provided dated screenshots showing the data received that correspond with the vendor or construction project manager provided email verifications that the DFA units were in-serviced. Using this sampling methodology, the IE has reasonable assurance that SCE has met its planned targets.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE met its planned targets and exceeded the initial target of 120 by the end of 2021, as they reported 130 installed according to data submitted to the IE. The desktop review results are detailed in **Table 11** below.

Table 11: Sample Set of DFAs

Circuit	Substation Name	Operational Date	IE Evaluated Desktop Review
COPPERHEAD	NORTH OAKS	12/10/2021	Yes
RAINBOW	SOMIS	12/14/2021	Yes
GINGER	MORENO	12/15/2021	Yes
RHODA	CRATER	11/12/2021	Yes
ETHANAC	VALLEY	12/31/2021	Yes
NORTH SHORE	BURNT MILL	12/29/2021	Yes
DEACON	VALLEY	12/31/2021	Yes
DIAMONDBACK	NORTH OAKS	12/10/2021	Yes
ANTON	MOORPARK	12/13/2021	Yes
ERRINGER	ROYAL	12/14/2021	Yes
PLATEAU	CRATER	11/12/2021	Yes
PHOTON	SUN CITY	12/22/2021	Yes
HEAPS PEAK	BURNT MILL	12/29/2021	Yes
BING	MARASCHINO	12/27/2021	Yes
RIM	BURNT MILL	12/29/2021	Yes
MONTGOMERY	ROYAL	12/14/2021	Yes
PASCAL	PECHANGA	12/29/2021	Yes
IDA	MARASCHINO	12/27/2021	Yes
MATILIJA	OJAI	10/15/2021	Yes
SONOMA	VALLEY	12/31/2021	Yes
JUBILEE	MARASCHINO	12/27/2021	Yes
SAWPIT	ARROWHEAD	12/14/2021	Yes
THORNTON	MAYBERRY	12/10/2021	Yes
HORIZON	VALDEZ	11/20/2021	Yes
NAVEL	MENTONE	12/23/2021	Yes
CANAL	NELSON	12/17/2021	Yes
GABBERT	MOORPARK	12/13/2021	Yes
APPLETON	ROYAL	12/14/2021	Yes

Circuit	Substation Name	Operational Date	IE Evaluated Desktop Review
SERNA	PECHANGA	12/29/2021	Yes

Hazard Tree Mitigation Program (VM-1)

Section 7.3.5.16.1 in the ***2021 Wildfire Mitigation Plan Update (Revision)*** describes SCE's Hazard Tree Management Program (HTMP), which requires a detailed inspection and evaluation of trees that pose risks to SCE despite necessary actions taken, such as trimming and pruning, and appropriate mitigations up to removal of these trees. Detailed inspections for HTMP involve a two-level assessment process. A Level 1 limited visual assessment is performed to determine if the tree is within the Utility Strike Zone (USZ) and has the capability to hinder operations of an SCE facilities if it fails. If a tree meets these criteria, a Level 2 assessment of the tree is conducted using SCE's tree risk calculator. A level 2 assessment consists of conducting a basic assessment which is comprised of a detailed visual inspection of a tree and its surrounding site, and a synthesis of the information collected. It also requires that a tree be inspected completely around the tree.

In the ***2021 Q4 QIU,*** a 2021 target amended by change order for this initiative sets a target to assess between 120,000 and 130,000 trees for hazardous conditions and perform prescribed mitigations in accordance with program guidelines, described above. SCE reported in the ***2021 Q4 QIU*** that ~131,400 trees were assessed. The IE submitted *Data Request 2* for initial evidence to support and demonstrate the performance of this initiative. SCE provided document ***02_IE02-SCE-2021 Completed Work Q.2 Answer*** which states that in 2021, 724 circuits were inspected, and 131,307 trees were assessed. As a result of these 2021 assessments, 2,245 trees were mitigated. An additional 1,124 trees were mitigated from the 2020 assessment and 21 trees were mitigated from the 2019 assessment, for a total of 3,390 trees mitigated in 2021. SCE provided ***Q02-VM-1_2021 Assessments*** and ***Q02-VM-12021 Mitigations*** spreadsheets of the trees assessed by latitude/longitude, and tree prescriptions (vegetation management actions) which included the date of work.

Finding: Based on the 2021 WMP target and supporting evidence, the IE has reasonable assurance that SCE met their updated 2021 goal to assess 120,000 to 130,000 trees by assessing 131,400 trees. Although SCE exceeded the number of circuits patrolled in 2021, SCE found fewer trees with strike potential (subject trees) than originally forecasted, therefore fewer assessments were performed, and found a lower than anticipated number of subject trees that required subsequent mitigation.

Dead and Dying Tree Removal (VM-4)

Section 7.3.5.16.2 of the ***2021 Wildfire Mitigation Plan Update (Revision)*** introduced a 2021 program for Dead and Dying Tree Removal (formerly Drought Relief Initiative [DRI]) to address GO 95 and Public Resources Code 4923 to mitigate hazards posed by dead or significantly compromised trees by removing any identified hazards within strike distance of SCE lines and equipment. SCE identified a goal to remove of 90% of active inventory within 6 months. The

target identified in the ***2021 QIU*** was to complete inspections of SCE circuits and perform mitigations in accordance with program guidelines and schedules.

The IE submitted *Data Request 3* for evidence to support and demonstrate the performance of this initiative. In response to the data request, SCE provided a schedule of DRI inspections showing completion of each inspection pass (***VM-4 2021 Completed DRI Circuits***), a list of trees identified for removal (***VM-4 2021 Assessments***), and a list of tree removals tracked (***VM-4 2021 Mitigations***).

Based on a review of the three documents provided for this initiative, it appears that 8,249 trees were identified for mitigation (removal) in 2021. Of those identified in calendar year 2021, 2,179 were removed and an additional 1,262 were removed that were identified from previous years. It is unclear which of these trees are considered "active inventory" as noted in the WMP, and therefore the IE is unable to assess the target of 90% cleared in six months. However, the documents provide do reflect that the DRI inspections were completed, and mitigations recommended based on program descriptions. The IE submitted *Data Request 5* with a sampling of 33 inspections for further evaluation of the target performance. SCE provided individual documents (e.g.*,* ***MONTREAL***, to correspond with the MONTREAL line item sampled) for each item sampled in the data request. The IE reviewed each record provided and based on the information provided, the completed work appears to match what is reported.

Finding: Based on the WMP target and supporting evidence reviewed, the IE was not able to confirm that 90% of active inventory was removed within six months. However, the IE does have reasonable assurance from the evidence provided that SCE met the targets set for inspection in 2021 and the reporting is accurate***.***

3.1.3.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Large Volume Quantifiable Goal/Target – Not Field Verifiable initiatives.

The IE did not note any significant trends or themes with respect to SCE's large volume quantifiable goal/target – not field verifiable initiatives. The IE was able to verify that the stated goals were met for all initiatives in this category.

3.1.4 Small (fewer than 100 items) Volume Quantifiable Goal/Target

3.1.4.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Small Volume Quantifiable Goal/Target category. Independent Evaluators shall perform data/documentation review and conduct SME interviews, as needed, to verify completion of these activities and adherence to all applicable work procedures and protocols.

Include the electrical corporation's list of initiatives that fall into the Small Volume Quantifiable Goal/Target category, including respective goals/targets for each, in the Appendix or within the body of this subsection.

Table 12: 2021 Small Volume, Quantifiable Initiatives

Program Categories	WMP Identifier	Initiative/Activity	Program Target	Records Inspected
Emergency Planning & Preparedness	DEP-1.2	Customer Education and Engagement – Community Meetings	Host 9 Virtual Community Meetings	Yes
	DEP-1.3	Customer Education and Engagement – Marketing Campaign	PSPS Awareness goal: 50%	Yes
Grid Design & System Hardening	SH-2	Undergrounding Overhead Conductor	Install 4 miles	Yes
	SH-5	Installation of System Automation Equipment – RAR/RCS	N/A – If RARs/RCSs are determined to be necessary based on the SH-7 analysis, SCE will develop appropriate project plans	Yes
	SH-6	Circuit Breaker Relay Hardware for Fast Curve	Upgrade 60 relay units	Yes
	SH-8	Transmission Open Phase Detection	Install 10 circuits	Yes
	SH-13	C-Hooks	Replace C-Hooks on 40 Structures	Yes
	SH-15	Vertical Switches	Install 20 Switches	Yes
Vegetation Management & Inspections	VM-3	Expanded Clearance for Legacy Facilities	Treat 46 Sites	Yes

Customer Education and Engagement – Community Meetings (DEP-1.2)

According to section 7.3.10.1.1 of the **2021 Wildfire Mitigation Plan Update (Revision)**, "SCE holds a variety of meetings and workshops to inform and educate stakeholders and customers about SCE's WMP, PSPS, customer programs, and resources available to assist customers with emergency preparedness" to prepare customers and communities for SCE's wildfire mitigation work and PSPS events. Specifically, this year SCE set a target to hold nine virtual meetings (up to 18, as needed), per the fourth quarter QIU. SCE reported 11 meetings were held and provided links to the meeting minutes posted on SCE's website for the meetings as verification,

which the IE reviewed (see *Data Request 2* response document ***13_IE02-SCE-2021 Completed Work Q. 13 Answer***). The record shows recordings of the meetings and links to presentations given. The site lists 11 meetings, showing that the goal was exceeded by two. The IE identified no issues with SCE's approach to this initiative.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE has met the goal of increasing their customer education and engagement by conducting 11 virtual meetings through 2021. SCE provided substantial evidence to support this initiative's activities in 2021.

Marketing Campaign (DEP-1.3)

According to section 7.3.10.1.3 of the **2021 Wildfire Mitigation Plan Update (Revision)**, "SCE seeks to educate customers and the public on PSPS, including the conditions that trigger a PSPS, how to prepare for a PSPS, what SCE has done and continues to do to mitigate the risk of wildfires, and how to prepare for emergencies." The plan also states SCE will employ a variety of social media, advertising, and radio campaigns to reach its target audience. The target set for this initiative was an awareness of at least 50%, as measured by survey feedback asking, "In the last three months, do you recall, reading, seeing, or hearing messaging about Public Safety Power Shutoff, California's program to reduce the risks of wildfires?"

The evaluation team reviewed the document **2021 PSPS Ad Campaign**. This document provides an overview of the communications and outreach that was planned and delivered. It also contains survey data performed by a third party to assess impressions and overall awareness. The document reports awareness of 60% (+/- 5%) at the end of 2021, surpassing SCE's target goal of 50% awareness.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE has met its goal of increasing public awareness by reaching at least 50% awareness of the PSPS program. SCE provided substantial evidence to support this initiative's activities in 2021.

Undergrounding Overhead Conductor (SH-2)

According to section 7.3.3.16.1 of ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE continued its evaluation and installation of targeted undergrounding of overhead conductors in HFRA. SCE identified a scope of at least four circuit miles with an overall target of six circuit miles in HFRA installed in 2021. Reported in SCE ***Q4 2021 QIU*** quarterly submission workbook, SCE indicates that approximately 5.83 circuit miles within the HFRA were executed in 2021, exceeding the minimum target of four circuit miles.

The IE submitted *Data Request 2* for initial evidence to support and demonstrate the performance of this initiative. SCE provided document ***01-SH-2 Undergrounding*** workbook in response to the data request. This document included the list of completed underground circuit installation work orders. The workorders represented the undergrounding work spread across seven different circuits. To further confirm the completion of the evaluations for this initiative, the IE submitted *Data Request 7* for locational data details demonstrating where, what types of actions, and dates of actions executed for 2021 WMP activities. Since the number of miles

added up to 5.83 circuit miles, the IE did a full population request and did not request a statistical sample of the work orders. In response to the data request, SCE provided document ***03_IE07-SCE-2021 Q. 03 Answer***. This document includes screen shots of the completed workorders requested by the IE across the seven circuits.

The IE performed a desktop review of workorders associated with all seven circuits included in the 2021 WMP work, as provided by SCE. The workorders provided the circuit miles, circuit, completion date, and status in which the underground lines were "Ready for Service". As seen in **Table 5** all the workorders were reviewed and the IE, through the tabletop review was able to validate that the undergrounding of overhead conductor had been completed as stated.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE met the obligation to install four miles underground circuit for this initiative and installed approximately 5.8 circuit miles of underground cable in the HFRA. The tabletop verification results are detailed in **Table 5** below.

Table 13: Sample Set of Workorders for Underground Circuit Installation

Workorder	Circuit	Miles per Work Order	Completion Date	Installation Validated
TD1667573	CLARINET	0.41	10/12/2021	Y
TD1667753	PALOMINO	2.3	11/10/2021	Y
TD1667788	CORSAIR	0	12/9/2021	Y
TD1715098	ROTEC	0.85	11/22/2021	Y
TD1715103	ROTEC	1.15	11/23/2021	Y
TD1715106	CORSAIR, ROTEC	1.12	11/24/2021	Y
TD1755244	PENSTOCK	0	3/25/2021	Y

Installation of system automation equipment Remote Controlled Automatic Reclosers (RAR) Settings Update (SH-5)

According to section 7.3.3.9 of SCE's ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE installs automation equipment to improve reliability, provide operational flexibility, and expand its distribution automation activities as part of wildfire and PSPS mitigation. The expansion would include targeting both RARs and additional devices to provide isolating capabilities that could minimize the frequency of customer outages during PSPS. SCE committed to a goal of developing project plans based on the SH-7 PSPS Grid Hardening analysis in 2021. The 2021 goal was updated following the SH-7 analysis determining RARs/RCSs to be necessary. SCE targeted a small volume quantifiable goal of developing a corrective action project plan and installing 18 system automation devices.

SCE reported its quantifiable goal was met by developing the Corrective Action Plan and installing 18 devices, per the ***SCE Q4 2021 QIU, ARC, and QN***.

The IE requested in *Data Request 2* that SCE provide their corrective action plan produced in 2021 and work orders for the 18 automation devices installed. SCE provided an excel spreadsheet listing work order and device numbers, GPS coordinates, circuit names, and completion dates for automation equipment installed in 2021. The spreadsheet contains details of 17 automation equipment installation activities in 2021 and one installation in 2022. The spreadsheet and data within can be reviewed in ***01 _SH-5 Automation Equipment***.

The IE performed a desktop review of the 17 automation equipment installations documented to further verify the activities occurred in 2021. The IE requested work orders for a sample set of the 17 automation equipment installation activities documented. SCE provided a pdf file of screenshots from an unidentifiable computer application. The screenshots detail the work order and device number, order description, completion date, and field contents of activities pertaining to grid resiliency. The pdf file and data within the document can be reviewed in ***04_IE07-SCE-2021 Q. 04 Answer (1)***. The IE reviewed the work orders to ensure the work order and device number, GPS coordinates, and circuit name corresponded with the automation equipment installation activity documented in ***01 _SH-5 Automation Equipment***. Based on the data within the provided work orders and spreadsheet, the IE has reasonable assurance SCE completed 17 automation equipment installations.

Finding: Based on the WMP goal and supporting evidence, the IE has reasonable assurance SCE made progress but did not meet the quantifiable target set out in ***06_IE01-SCE-2021 Initial Q.06 Answer*** of developing a corrective action plan and installing 18 automation equipment devices. The IE is reasonably assured that SCE installed 17 automation equipment devices during 2021 and that the 18th device was installed in 2022.

Table 14: Sample Set of Workorders for Automation Equipment Installation

Workorder	Circuit	FLOC	Completion Date	Installation Validated
TD1837598	EASTER	OH-2335264E	08/19/2021	Y
TD1825225	TANAGER	OH-4009422E	08/13/2021	Y
TD1825258	LOPEZ	OH-4257635E	08/06/2021	Y
TD1827086	BIG ROCK	OH-4831164E	09/21/2021	Y
TD1838724	EASTER	UG-5584263	09/17/2021	Y
TD1825752	BIG ROCK	UG-5704050	10/02/2021	Y
TD1830971	ENERGY	UG-5727718	08/30/2021	Y
TD1825266	HILLFIELD	UG-5736452	07/22/2021	Y
TD1828808	HILLFIELD	OH-1472634E	08/24/2021	Y

Circuit breaker maintenance and installation to de-energize lines upon detecting a fault

Circuit Breaker Relay Hardware for Fast Curve (SH-6)

According to section 7.3.3.2 of the ***2021 Wildfire Mitigation Plan Update (Revision)***, in 2019 SCE initiated a program to deploy Fast Curve (FC) settings at substation circuit breaker (CB) relays and developed a plan for upgrading non-compatible and/or older vintage

electromechanical and microprocessor relays for HFRA feeder circuits. SCE set a target of replacing/upgrading 60 relay units in HFRA with a high-end target of 86 relay units replaced/upgraded in 2021. Reported in SCE ***Q4 2021 QIU*** quarterly submission workbook, SCE indicated that 95 relays were replaced/upgraded, exceeding the high-end target of 86 relays.

The IE submitted *Data Request 2* for initial evidence to support and demonstrate the performance of this initiative. SCE provided document ***01 Supplemental_SH-6 Circuit Breaker Relay for Fast Curve*** workbook in response to the data request. This document included the list of replaced/upgraded relays and their impacted circuits.

The IE utilized the list of workorders in the workbook and created a random statistical sample of nine separate workorders. The sampled workorders represent 49 of the 95 installed devices. The sampled work orders are provided in the table below. To further confirm the completion of the evaluations for this initiative, the IE submitted *Data Request 7* for locational data details demonstrating where, what types of actions, and dates of actions executed for 2021 WMP activities for the nine sampled workorders.

In response to *Data Request 7*, SCE provided a zipped folder that contained internal emails verifying the completion of the work and the In-Service date for the workorders. The in-service dates represent the date that the equipment was energized. The following documents were included:

- ***In-Service Notification Fairfax 902855566 Redacted***
- ***In-Service Notification Crater 902855563 Redacted***
- ***In-Service Notification Gaviota 902855567 Redacted***
- ***In-Service Notification Latigo 902855568 Redacted***
- ***In-Service Notification Lockheed 902855569 Redacted***
- ***In-Service Notification Malibu 902855571 Redacted***
- ***In-Service Notification Saticoy 902855576 Redacted***
- ***In-Service Notification Olinda 902855574 Redacted***
- ***In-Service Notification Moreno 902855573 Redacted***

The emails provide the in-service date for the HFRA work completed for each individual workorder.

Finding: Based on the WMP goal and supporting evidence, the IE has reasonable assurance SCE met and exceeded the quantifiable target of installing 60 relays in the HFRA area and installed a total of 95 relays in the HFRA area.

Table 15: Sample Set of Workorders with Relay Units Replaced in HFRA

Workorder No.	Circuit	No. of Relays	In-service Date(s)	Installation Verification
902855566	Hollywood & Larabee (16kV)	2	9/14/2021	Y
902855563	Mulholand, Plateau, Rhoda, Serra, & Bustie	5	9/23/2021	Y

Workorder No.	Circuit	No. of Relays	In-service Date(s)	Installation Verification
	(16kV)			
902855567	Cojo, Conception, Bustie (16kV)	3	7/16/2021	Y
902855568	Cuthbert, Galahad, Maguire, Merlin, & Bustie (16kV)	5	10/7/2021	Y
902855569	Blackbird, Nighthawk, Bustie, Orion, Electra, & Starfighter (16kV)	6	9/16/2021	Y
902855571	Conejo, Triunfo, Lindero, Crummer, Kanan, Chumash, Whizzin, & Bustie (16kV)	9	6/29/2021	Y
902855576	Maloy, Maxson, Middle Road, Sexton, & Bustie (16kV)	5	7/13/2021	Y
902855574	Driller, Gusher, Whipstock, and Bustie (12kV)	6	9/27/2021	Y
902855573	Basil, Clove, Ginger, Spice, Acent, Dill, & Bustie (12kV)	8	12/13/2021	Y

Transmission Open Phase Detection (SH-8)

According to section 7.3.3.17.1 of the ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE is deploying its transmission open phase detection scheme; a protection plan which detects open phase conditions on its transmission system. SCE targeted a small volume quantifiable goal of installing transmission open phase detection devices on 10 transmission circuits. SCE made projections of installing detection devices on eight transmission circuits in Q3 of 2021 and the remaining installations on two transmission circuits in Q4 of 2021, per ***SCE Q4 2021 QIU***.

SCE reported it met its target by installating transmission open phase detection devices on ten transmission circuits in 2021, per the ***06_IE01-SCE-2021 Initial Q.06 Answer***.

The IE requested location data and work orders for the installed transmission open phase detection devices installed on ten SCE transmission circuits in *Data Request 2*. SCE provided spreadsheet ***01 _SH-8 Trans Open Phase Detection*** which details the work order number, start and completion date, transmission circuit name, substation name, and GPS coordinates for transmission open phase detection device installation activities in *Data Request 2 Response*. The spreadsheet provides data for 20 transmission open phase detection device installation activities which took place on ten transmission circuits.

The IE performed a desktop review of the 20 detection devices reported to have been installed on ten transmission circuits to further verify the activities occurred in 2021. The IE requested work orders for a random sample of nine transmission open phase detection device installations reported to have occurred on SCE transmission circuits. SCE provided a pdf file of screenshots from an unidentifiable computer application. The screenshots detail the work order and device number, order description, completion date, and field contents of activities pertaining to grid resiliency. The pdf file and data within the document can be reviewed in ***04_IE07-SCE-2021 Q. 04 Answer***. The IE reviewed the work orders to ensure the work order and

device number, GPS coordinates, and circuit name corresponded with the transmission open phase detection device installation activity documented in ***01 _SH-8 Trans Open Phase Detection***.

Finding: Based on the WMP goal and supporting evidence, the IE has reasonable assurance SCE met its 2021 target by installing transmission open phase detection devices on ten transmission circuits.

Table 16: Desktop Verification of WOs for Transmission Open Phase Detection Device Installations

Workorder No.	Substation	HFTD Tier	Completion Date	Installation Verification
903255006	Magunden Substation	Tier 2	06/14/2021	Yes
903255150	Bailey Substation	Tier 2	10/05/2021	Yes
903255177	Rector Substation	Tier 2	09/02/2021	Yes
903260214	Springville Substation	Tier 2	08/25/2021	Yes
903255180	Big Creek 2 Substation	Tier 3	09/20/2021	Yes
903255182	Big Creek 3 Substation	Tier 2	09/23/2021	Yes
903259868	Springville Substation	Tier 2	10/27/2021	Yes
903255174	Victor 3 Substation	Tier 2	10/14/2021	Yes
903255175	Lugo Substation	Tier 2	10/13/2021	Yes

C-Hooks Insulator Attachment Hardware Replacements (SH-13)

Section 7.3.3.15.1 of the ***2021 WMP Update Revision – CLEAN*** included a 2021 target to replace C-Hooks on 40 structures and will strive to exceed its goal by removing all C-Hooks in SCE's HFRA (estimated 50-60, which were inherited from its past acquisition of Cal Electric). Reported in the ***04_SCE_2021 Q4 QIU_20220201*** quarterly submission workbook, SCE indicates that approximately 50 C-Hook were replaced on structures in 2021. Project Spend for this initiative in the ***SCE_2021ARC*** indicated a forecast of $0 in CAPEX with an actual reported output of $0 and a forecast of $1,000,000 in OPEX with an actual reported output of $723,000. SCE provided detail to the variance stating "SCE exceeded its WMP target to remove C-Hooks on at least 40 structures in HFRA by removing ~50 C-hooks. Team was able to find process efficiencies by bundling work. This resulted in fewer crew deployments while still meeting compliance requirements." SCE also noted that costs for this activity are normally captured in IN-1.2 HFRI Transmission Remediations in QDR **Table 12**. This is supported in the ***07_IE01-SCE-2021_2021 ARC Report Part C_Final_3.31.22*** received with *Data Request 1.*

The IE submitted *Data Request 2* for locational data details demonstrating where, what types of actions, and dates of actions executed for the 2021 WMP activities. SCE provided document ***01 _SH-13 C-Hook Replacement*** which included the necessary information to conduct random

sampling for desktop verification. The IE submitted *Data Request 7* to obtain the work orders for the 23 sampled C-Hook replacements.

The IE conducted a desktop evaluation of the documents provided by SCE as part of *Data Request 7*:

- ***07_Contractor Evidence (Folder)***
  - ***2022-05-16_21-29-34***
  - ***NEW C-HOOK-PICS (Folder)***
    - ***NEW C-HOOK-PICS***
- ***07_Grid Evidence (Folder)***
  - ***2022-05-16_21-20-03***
  - ***2022-05-16_21-42-19***
  - ***Eastern C-Hooks 11-4-21***
  - ***Structures 7000444E and 7000445E.docx***
- ***07_IE07-SCE-2021 Q. 07 Answer***
- ***07_SCE_Initiatives Requiring Sampling, revNL***

The documentation provided by SCE gave more detail to who performed the C-Hook replacement as well as the date the work was performed and the associated emails demonstrating the completion of the work performed. Of the 23 random sample C-Hook replacements, seven were performed by SCE while the remaining 16 were performed by a third-party contractor. The desktop evaluation results can be seen in **Table 17** below. As a follow up to information received in the DR responses, the IE held a call with SCE SMEs to review the before and after images of the work performed for the random sample items.

Table 17: Desktop Review of C-Hook Replacements

FLOC	Execution Resource	Line Name	Completion Date	IE Evaluated Desktop Review
OH-7000468	SCE	Arrowhead-Calectric-Devil Canyon-Shandin (Arrowhead Tap)	10/2/2021	YES
OH-7000496	Contractor	Victor-Aqueduct-Phelan	9/25/2021	YES
OH-7000522	Contractor	Victor-Aqueduct-Phelan	12/10/2021	YES
OH-7000452	SCE	Arrowhead-Calectric-Devil Canyon-Shandin (Arrowhead Tap)	10/2/2021	YES
OH-7000491	Contractor	Victor-Aqueduct-Phelan	9/26/2021	YES
OH-7000518	Contractor	Victor-Aqueduct-Phelan	9/22/2021	YES
OH-7000445	SCE	Arrowhead-Calectric-Devil Canyon-Shandin (Arrowhead Tap)	10/2/2021	YES
OH-7000493	Contractor	Victor-Aqueduct-Phelan	9/24/2021	YES

FLOC	Execution Resource	Line Name	Completion Date	IE Evaluated Desktop Review
OH-7000524	Contractor	Victor-Aqueduct-Phelan	9/21/2021	YES
OH-7000476	SCE	Arrowhead-Calectric-Devil Canyon-Shandin (Arrowhead Tap)	7/24/2021	YES
OH-7000515	Contractor	Victor-Aqueduct-Phelan	9/23/2021	YES
OH-7000505	Contractor	Victor-Aqueduct-Phelan	9/25/2021	YES
OH-7000503	Contractor	Victor-Aqueduct-Phelan	9/23/2021	YES
OH-7000516	Contractor	Victor-Aqueduct-Phelan	9/22/2021	YES
OH-7000526	Contractor	Victor-Aqueduct-Phelan	9/21/2021	YES
OH-7000356	SCE	Arrowhead-Calectric-Devil Canyon-Shandin (Arrowhead Tap)	9/18/2021	YES
OH-7000497	Contractor	Victor-Aqueduct-Phelan	9/25/2021	YES
OH-7000513	Contractor	Victor-Aqueduct-Phelan	9/26/2021	YES
OH-7000444	SCE	Arrowhead-Calectric-Devil Canyon-Shandin (Arrowhead Tap)	10/2/2021	YES
OH-7000520	Contractor	Victor-Aqueduct-Phelan	9/22/2021	YES
OH-7000531	Contractor	Victor-Aqueduct-Phelan	12/8/2021	YES
OH-7000480	SCE	Arrowhead-Calectric-Devil Canyon-Shandin (Arrowhead Tap)	7/24/2021	YES
OH-7000523	Contractor	Victor-Aqueduct-Phelan	9/21/2021	YES

Finding: Based on the WMP target and supporting evidence, the IE determined with reasonable assurance that SCE met its target of 40 C-Hook replacements in 2021 based on the provided evidence and SME interviews.

Vertical Switches (SH-15)

Section 7.3.3.17.3 of the ***SCE 2021 WMP Update Revision – CLEAN*** included a 2021 target to replace vertical switches at 20 sites in the HFRA in the North Coast Region districts and a strive goal to exceed this by installing 30 switches in HFRA. Reported in the ***04_SCE_2021 Q4 QIU_20220201*** quarterly submission workbook, SCE indicates that 16 vertical switches were replaced at sites in 2021. Project Spend for this initiative in the ***SCE_2021ARC*** indicated a forecast of $853,000 in CAPEX with an actual reported output of $602,000 and a forecast of $0 in OPEX with an actual reported output of $0. SCE provided detail to the variance stating "SCE installed 16 vertical switches in 2021. Crews and material for the remaining four were deferred due to storm restoration efforts. SCE has since completed installation of these four units in Q1 2022." This is supported in the ***07_IE01-SCE-2021_2021 ARC Report Part C_Final_3.31.22*** received with *Data Request 1.*

The IE submitted *Data Request 2* for locational data details demonstrating where, what types of actions, and dates of actions executed for the 2021 WMP activities. SCE provided document

01 _SH-15 Vertical Switches which included the necessary information to conduct random sampling for desktop verification. The IE submitted *Data Request 7* to obtain the work orders for the nine sampled Vertical Switch replacements. The sample set was reduced to nine due to SCE only being able to complete 16 of the 20 planned sites in 2021.

The IE conducted a desktop evaluation of the work orders provided as part of *Data Request 7* and determined all nine (9) of the randomly sampled Vertical Switch work orders verified the completion date provided in *Data Request 2*. The desktop evaluation results can be seen in **Table 18** below.

Table 18: Desktop Review of WOs for Vertical Switches

Work Order	FLOC	Completion Date	Circuit Name	IE Evaluated Desktop Review
TD1826199	OH-4798940E	12/9/2021	Erskine	YES
TD1823551	OH-836114E	11/12/2021	Buckhorn	YES
TD1826188	OH-940208E	12/9/2021	Tungsten	YES
TD1823776	OH-1863471E	10/1/2021	Tico	YES
TD1824161	OH-2116062E	10/1/2021	Canet	YES
TD1823465	OH-1882636E	9/24/2021	Seacliff	YES
TD1823480	OH-4744129E	8/25/2021	Hurst	YES
TD1823552	OH-1527514E	10/11/2021	Sand Canyon	YES
TD1820368	OH-1166196E	5/26/2021	Malloy	YES

Finding: Based on the WMP target and supporting evidence, the IE determined that SCE did not meet its goal of installing 20 vertical switch replacements in 2021. SCE was able to complete 16 vertical switch replacements in 2021, the remaining four switches were reassigned to be completed in Q1 2022 due to storm restoration efforts. Upon review of the random sample request work orders the IE can conclude that SCE did complete the documented 16 vertical switch replacements.

Expanded Clearances for Legacy Facilities (VM-3)

Section 7.3.5.5.2 of the ***2021 Wildfire Mitigation Plan Update (Revision)*** reports that SCE plans to treat all 156 Legacy Facilities in scope in accordance with California Public Resource Code § 4291 by keeping facilities clear of vegetation at risk for ignition within 10-30 ft. 61 of these locations were completed in 2020 and the remaining 95 are scheduled to be complete by the end of 2022. The target set in the 2021 Quarterly Initiative Report was to clear ~46 additional Legacy Facilities, and the ***2021 Q4 QIU*** update reports actual progress of 60 sites.

As part of *Data Request 2*, SCE provided ***Q02-VM-3 Expanded Clearances All of 2021***. This document provides a list of all areas treated for tree/brush removal, totaling 62. From this list, the IE requested a representative sample of 23 areas (*Data Request 5)*, per the sampling methodology identified. SCE provided ***VM-3 Sites DR 5 Sampling*** containing detailed work notes matching the site name and latitude/longitude locations of each site requested in *DR 5***.**

The evaluation team reviewed the evidence and found that all provided documentation matched what was reported and demonstrated thorough review of each area, including notes on any necessary follow up or monitoring of each site for future use.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance SCE has met its goal of clear 46 Legacy Facilities by clearing 60 sites. SCE provided substantial evidence to support this initiative's activities in 2021.

3.1.4.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Small Volume Quantifiable Goal/Target initiatives.

The IE did not note any significant trends or themes with respect to SCE's small volume quantifiable goal/target initiatives.

3.1.5 Qualitative Goal/Target

3.1.5.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of utility compliance with activities that fall into the Qualitative Goal/Target category. Independent Evaluators shall review documentation and conduct SME interviews, as needed, to verify the qualitative goals/targets of these activities were met.

Include the electrical corporation's list of initiatives that fall into the Qualitative Goal/Target category, including respective goals/targets for each, in the Appendix or within the body of this subsection.

Table 19: 2021 Qualitative Initiatives

Program Categories	WMP Identifier	Initiative/Activity	Program Target	Records Inspected
Emergency Planning & Preparedness	DEP-2	SCE Emergency Response Training	UAS (Unmanned Aircraft System): In 2021 SCE plans to expand the program by an additional 50 operators over 2020 levels.	Yes
	DEP-4	Customer Research and Education	Administer at least 4 PSPS-related surveys (PSPS Tracker Survey) to capture feedback on the 2020 events, wildfire Community meeting feedback survey, CRC/CCV feedback survey, In-Language Wildfire Mitigation Communications Effectiveness Pre/Post Survey	Yes

Program Categories	WMP Identifier	Initiative/Activity	Program Target	Records Inspected
	DEP-5	Aerial Suppression (DEP-5)	Will enter a Memorandum of Understanding (MOU) with CAL FIRE and local county fire departments to provide standby cost funding for up to 5 aerial suppression resources strategically placed around SCE service area.	Yes
Data Governance	DG-1	Wildfire Safety Data Mart and Data Management (WiSDM / Ezy)	WiSDM: Complete the WisDM solution analysis and design for centralized data repository Initiate staggered consolidation of datasets from SCE Enterprise systems Ezy Data: Implement the cloud platform infrastructure for Ezy Data Build a solution for data consumption, storage, and visualization of inspection data (LiDAR, HD video, photograph) Enable an environment for Artificial Intelligence (AI) assisted analytics	Yes
Asset Management & Inspections	IN-8	Inspection Work Management Tools	Transition aerial and Transmission ground inspection process to a single digital platform with at least 75% of inspectors trained to use the tool by year end 2021. Deploy scope mapping tool with GIS visualization to Distribution	Yes
Grid Operations & Operating Protocols	PSPS-2	Customer Care Programs	Community Resource Centers (CRC): Adjust as needed. Community Resiliency Programs: Goals for Resilience Zones dependent on community leaders identifying potential customers. Targeting to obtain 5 to 10 agreements. Complete installation of microgrid islanding (CREI) capability on second pilot customer.	Yes

Program Categories	WMP Identifier	Initiative/Activity	Program Target	Records Inspected
			Customer Resiliency Equipment: Critical Care Backup Battery (CCBB): Expand program to eligible MBL customers who are enrolled in CARE/ FERA and reside HFRA. Expand marketing and outreach plans. Well Water & Res Battery Station Rebates: Enhance the programs to increase customer participation by 20% - 40%.	
Situational Awareness & Forecasting	SA-2	Fire Potential Index	Back-cast 20 years of FPI using FPI 2.0 before typical height of fire season (Q3) to determine historical performance compared to current FPI and run FPI 2.0 in parallel with the current FPI and compare outputs for the 2021 fire season.	Yes
	SA-3	Weather and Fuels Modeling System	Install two additional High-Performance Computing Clusters (HPCCs) to facilitate the installation and operationalization of the Next Generation Weather Modeling System allowing for more precise, higher resolution output.	Yes
	SA-4	Fire Spread Modeling	Develop a methodology and a strategy to test FireCast/FireSim implementation into PSPS decision making based on back-cast information by Q3	Yes
	SA-5	Fuel Sampling Program	Maintain periodic fuel sampling across SCE's HFRA and evaluate the need to sample additional locations	Yes
	SA-7	Remote Sensing / Satellite Fuel Moisture	Initiate wind profiler pilot project to validate weather model performance for potential improvements to weather models	Yes
	SA-8	Fire Science Enhancements	Evaluate current wildfire events in context of 40-year history of wildfires.	Yes

Program Categories	WMP Identifier	Initiative/Activity	Program Target	Records Inspected
Grid Design & System Hardening	SH-7	PSPS-Driven Grid Hardening Work	SCE will develop a methodology to project probability of PSPS de-energization and impact. Utilizing this methodology, SCE will adopt a more targeted approach by evaluating highly impacted circuits from the remaining 50% circuits in HFRA	Yes
	SH-11	Legacy Facilities	Perform evaluation on 5 circuits for possible hardening. Create 2 project plans based on 2020 engineering assessments on low voltage site. Complete 12 additional assessments on grounding studies/lighting arrestor	Yes
	SH-12	Microgrid Assessment	Perform internal assessment of vendor bid and location options. If assessment favorable, issue engineering procurement construction (EPC) contract	Yes
Vegetation Management & Inspections	VM-6	VM Work Management Tool	Continue Work Management Tool (Arbora) agile development and releases in accordance with project plan – complete full rollout of Dead & Dying Tree Removal and Hazard Tree Mitigation, and conduct discovery and design architecture associated with Line Clearing	Yes

Adequate and trained workforce for service restoration (SCE Emergency Response Training DEP-2)

2021 Wildfire Mitigation Plan Update (Revision) Section 7.3.9.1 states that "SCE develops technical training programs that prepare employees to perform their jobs safely, comply with regulatory requirements and laws, maintain system reliability, and meet the demands of new technology;" including annual training for emergency response and specialized Incident Management Team (IMT) training. To meet this goal, SCE set a target of an additional 50 UAS operators and increasing their IMT with additional resources trained on FAA 107.

SCE provided the evaluation team with ***DEP-2a SCE Emergency Responder Training_Redacted***, a list of all training provided by date with completion confirmation (names redacted for

privacy) and ***DEP-2b UAS Completions***, a list of FAA certification completions (names redacted for privacy), one still pending FAA action as of 12/17/21. The IE reviewed the lists provide and determined they appear to match what is reported in SCE's ***QIU Q4 Update*** for this initiative.

Finding: Based on the WMP target and supporting evidence, the IE determined SCE has a total of 104 total active UAS operators. During 2021 SCE met their target by having 60 resources pass the FAA 107 exam in 2021.Therefore, the IE has reasonable assurance that SCE has met and exceeded the targets set for this initiative.

Customer Research and Education (DEP-4)

2021 Wildfire Mitigation Plan Update (Revision) Section 7.3.10.1.4 states that "SCE seeks to improve its understanding of how it can make adjustments to reduce the impacts of wildfires, PSPS, and wildfire mitigation work for its customers." SCE set a target for this initiative to conduct at least four PSPS-related surveys and capture feedback for use.

The evaluation team requested records of the surveys and results to verify that these were conducted and returned. SCE provided survey results by date as well as survey result readouts (see ***DEP-04 Surveys***) in response to *Data Request 5.* The evaluation team reviewed all records and compared against the WMP and Quarterly Initiative goals descriptions. These results showed several surveys, including many conducted by independent third-party organizations.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance that SCE met and exceeded the goal of performing at least four feedback surveys related to PSPS events, performing upwards of nine surveys in 2021.

Cooperation with suppression agencies (Aerial Suppression DEP-5)

2021 Wildfire Mitigation Plan Update (Revision) Section 7.3.10.3 states that "SCE is temporarily providing standby costs for aerial suppression resources in its service area to meet fire suppression needs." SCE noted that in order to complete this initiative, they entered into Memoranda of Understanding (MOUs) with local emergency response groups (e.g., CAL Fire) in counties near high fire risk areas to be on standby to provide aerial suppression services as needed. The target for this initiative was to increase suppression resources by up to five aerial suppression resources and this target was reported as met by reaching agreements with three counties.

The evaluation team requested the MOUs to review as evidence of this resource availability and were provided with the following documents:

- LA County: ***LA County Amendment (11-12-21 Final) sdp_Redacted***
- Orange County: ***OFCA Amendment 1 (11-10-21 Final) sdp_Redacted***
- Ventura County: ***Ventura Co. Amendment 1 (11-12-21 Final) sdp_Redacted***

The evaluation team reviewed the provided agreements and found this evidence to be sufficient to show additional suppression coverage.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance that SCE met its goal to increase suppression resources by up to five through agreements with three local counties (LA, Orange, and Ventura).

Centralized repository for data (Wildfire Safety Data Mart and Data Management DG-1)

The Southern California Edison ***2021 Wildfire Mitigation Plan Update (Revision)*** states that SCE is progressing wildfire mitigation capability maturity with a centralized data management process, development of more rigorous data governance processes, and integrated, real-time data access. The fourth quarter Initiative Update workbook expands on this goal with the following solutions:

1. WisDM solution:
    a. Complete the analysis and design of a centralized data repository
    b. Initiate staggered consolidation of datasets from SCE Enterprise systems
2. Ezy Data:
    a. Implement the cloud platform infrastructure for Ezy Data?
    b. Build a solution for data consumption, storage, and visualization
    c. Enable an environment for Artificial Intelligence (AI) assisted analytics

The IE requested documentation of the data storage plan and design to review for this initiative. SCE provided ***"09_DG-1_IE03-SCE- 2021DataResponse-09"*** which describes the framework and functionality of the solutions mentioned above and how they work to better manage and utilize the available historical data.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance that SCE is on track with this initiative and has completed the targets identified for 2021.

Inspection Work Management Tools (IN-8)

Section 7.3.4.3.1 of SCE's ***2021 Wildfire Mitigation Plan Update (Revision)*** states that SCE is developing a centralized cloud-based data repository and data platform that integrates information from disparate sources. The technology project involves implementing a single digital platform to support end-to-end Aerial and Ground inspection processes for Distribution and Transmission. SCE stated it intends to transition aerial and transmission ground inspection processes to the single digital platform with at least 75% of inspectors trained to use the tool by year end 2021.

SCE reported in ***SCE Q4 2021 QIU*** that the initiative target was not met. T&D Aerial completed the transition of inspection processes to a single digital platform and met the target to train at least 75% of inspectors. However, Transmission Ground did not complete the transition of inspection processes to a single digital platform and did not meet the target to train at least 75% of inspectors. Key artificial intelligence/machine learning (AI/ML) models met target. SMT did not meet target to deploy the tool to Distribution Planning and Engineering users. Remediation mobile software and iPad devices were deployed for Transmission. However, the target was not met for Distribution users.

Finding: Based on the WMP target and supporting evidence, the IE determined SCE did not meet its planned targets. SCE's target was to transition aerial and transmission ground inspection processes to a single platform and train at least 75% of the inspectors to use the tool by year end. T&D aerial transitioned to a single digital platform and trained at least 75% of inspectors. However, Transmission Ground did not transition to single digital platform and did

not train 75% of the inspectors.

Customer Care Programs (PSPS-2)

2021 Wildfire Mitigation Plan Update (Revision) Section 7.3.6.5.2 details SCE's Customer Care programs. This section states that for 2021 there will be three programs: Community Resource Centers, Community Resiliency Programs, and Customer Resiliency Equipment. The qualitative goals set in the Quarterly Initiatives workbook further detail these programs into five goals:

a. Community Resource Centers (CRC): Adjust as needed.
b. Community Resiliency Programs: Goals for Resilience Zones dependent on community leaders identifying potential customers. Targeting to obtain 5 to 10 agreements.
c. Customer Resiliency Equipment: Critical Care Backup Battery (CCBB): Expand program to eligible MBL customers who are enrolled in CARE/ FERA and reside HFRA. Expand marketing and outreach plans.
d. Complete installation of microgrid islanding (CREI) capability on second pilot customer.
e. Well Water & Res Battery Station Rebates: Enhance the programs to increase customer participation by 20% - 40%.

The IE evaluated each initiative individually to determine completeness and reach an overall determination for this initiative.

- Initiative 2a: SCE provided workbook ***a. _2022-04-27 2021 Activated CRCs in 2021*** detailing each CRC site activated during a PSPS and providing date started, date ended, facility name, and full address. The goal for this was to adjust as needed, these sites appear to be opened as needed during PSPS outages. SCE reports 64 sites enrolled in the program. 24 of the sites were never activated due to no PSPS events. Of the 40 that were activated, some were activated more than once for a total of 54 activations.
- Initiative 2b: SCE stated they were able to execute four contracts. To verify this, the IE requested copies of the agreements, which SCE provided (e.g., ***"b_Community Resiliency Zones Pilot ProFormaAgmt_Executed_Redacted"***). The IE reviewed these four agreements which are with local businesses that allow SCE to set up additional resources (e.g., backup generators) to be available to local residents during PSPS events in areas identified as having the most impact from these events historically.
- Initiative 2c: SCE provided attestation that they were able to extend the CCBB program to an additional 6,149 eligible customers.
- Initiative 2d: progress was made through regular meetings, updates, and collaboration with the microgrid developer. Per SCE's reporting, this sub-initiative was not met due to COVID-19 related supply issues in getting the necessary parts to install the microgrid. The project design is also still pending approval from the Department of State Architecture. There is no evidence to review for this installation as it was not completed.
- Initiative 2e: SCE reports this was met and exceeded with a reported 131% increase. Evidence provided for these rates were tracked rebates for 2021 vs. 2020 in workbook ***PSPS.2e.Q4-2021 Report out of PSPS Marketplace Incentives Processed*** which tracks the year the rebate was applied, and the number of rebates requested (each person can

request up to five). A review of this workbook confirms the provision of reported 2,427 rebates under this program, far exceeding the initial target of 20%-40% increase.

Finding: While it is noted that SCE was unable to meet all identified targets for 2021, they made significant progress on all initiatives and continued to work toward those that were ultimately not met. The evidence that was provided for the work reported as complete, the IE has reasonable assurances that SCE completed all items that were reported for sub-initiatives that were met as well as initiatives that were not. See Table 20 below for findings.

Table 20 – PSPS-2 Findings

Initiative	Goal	Progress	Target Met
2a: Community Resource Centers	Adjust as needed	40 site activations	Yes
2b: Community Resiliency Programs	Obtain 5-10 agreements	4 agreements obtained	No
2c: Customer Resiliency Equipment	Expand plan and marketing outreach	Extended to additional 6,149 customers	Yes
2d: Installion of microgrid islanding	Complete second pilot customer	Pending approval	No
2e: Well water and reserve batter station rebates	Increase customer participation by 20-40%	Increased participation by 131%	Yes

Fire Potential Index (FPI) (SA-2)

SCE's ***2021 Wildfire Mitigation Plan Update (Revision)*** Section 7.3.2.4.1 states that "SCE is improving the accuracy of its FPI through the integration of historical weather and vegetation data for more precise PSPS decision-making." SCE will implement its FPI improvements into two phases. In the first phase, SCE focused on the calibration of the FPI to contextualize the index with respect to historic fire activity, by correlating each discrete value of the index output (i.e., historical FPI values) with certain levels of previous fire activity (i.e., fire sizes). These calibrations allow for a potential recommendation to be made to PSPS activation FPI thresholds and will help to document what the index output values mean in terms of potential fire activity.

In the second phase, SCE will formulate a new FPI 2.0, which will put more emphasis on wind speeds and a new fuels component that accounts for the diversity of fuel conditions across SCE's service area such as fuel type. FPI 2.0 will capture more detailed environmental conditions than the current FPI and will provide a more accurate representation of fire potential across SCE's service area.

SCE reported in ***SCE Q4 2021 QIU*** and ***SCE Q4 2021 Quarterly Notification***, that the initiative target for 2021 was to back-cast 20 years of FPI using FPI 2.0 before typical height of fire season (Q3) to determine historical performance compared to current FPI and run FPI 2.0 in parallel with the current FPI and compare outputs for the 2021 fire season. SCE reported completing this target by completing evaluation of FPI 2.0 performance against previous FPI methodology.

The IE submitted *Data Request 2* for supporting evidence and demonstrate the performance of this initiative. In response, SCE provided ***Preliminary_FPI2 data - All Zones All Years 1980 to 2020***, that is a preliminary back-cast analysis of FPI 2.0 over a 40-year history and ***Preliminary_2021-10-22 Circuits_FPI_data***, that is a sample file showing a preliminary comparison of FPI vs. FPI 2.0 for select circuits. The IE had requested formalized documentation on the FPI 2.0 methodology; however, the documentation is still in the process of being developed. SCE stated that extensive evaluation and testing of FPI 2.0 is ongoing and will continue throughout 2022.

Finding: Based on the 2021 WMP goal of back-casting 20 years of FPI, using FPI 2.0 to determine historical performance compared to current FPI and run FPI 2.0 in parallel with the current FPI and compare outputs for the 2021 fire season and the supporting evidence, the IE has reasonable assurance SCE met the qualitative target for2021 by completing the evaluation of FPI 2.0 performance against previous FPI methodology**.** The IE found the documents provided to be sufficient.

Weather and Fuels Modeling (SA-3)

In section 7.3.2.6.1 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision)*** deficiencies linked to SCE's ability to meet increasing PSPS demands were identified. SCE targeted a qualitative goal of implementing the Next Generation Weather Modeling System and installing two HPCCs in 2021. SCE determined the NGWMS required additional computing power to operate, produce higher resolution (1km x 1km) ensemble weather forecasts, and generate extended five-to-seven-day PSPS forecasts.

Per SCE ***Q4 2021 QUI***, SCE met the qualitative goal by producing higher resolution (1km x 1km) ensemble weather forecasts and extended PSPS forecast from 5 to 7 days.

The IE reviewed documentation provided in *Data Request 2* for this initiative, which included purchase orders for HPCC's acquired by SCE in 2021. The purchase orders are detailed containing the vendor purchase order number, purchase date, and service list. SCE targeted a 2021 goal of purchasing and installing two HPCC's. SCE provided two purchase orders for HPCC's acquired in 2021. The details of each purchase order are provided in ***PowerWulf Cluster Parallux Storage - Gautam Shanbhag -SCE - AMD - ALH - 3*** and ***PO_4501311258_20210303 _212713_Complete***. Through the provided documentation, the IE was able to confirm that 2 HPCC's were purchased by SCE in 2021.

The IE submitted *Data Request 3* to obtain evidence of 1km x 1km ensemble weather forecasts and extended PSPS forecast from 5 to 7 days. SCE provided spreadsheets of 1km x 1km ensemble weather forecast data on a circuit level and 2km x 2km deterministic model spreadsheets for 7-day forecasts. The ensemble (1km x 1km) and deterministic (2km x 2km)

forecasts were provided respectively for distribution, bulk transmission, and substation transmission. The ensemble weather forecasts are detailed in *the* ***ensemble_circuit_level_ weather_Distribution_HFA.csv****, ensemble_circuit_segment_weather_ BulkTrans_HFA.csv, and* ***ensemble_circuit_segment_weather_SubTrans_HFA.csv*** files. The deterministic model forecasts are detailed in the following files, ***Distribution_2021-12-21_06.csv, Segment_level_ BulkTrans2021-12-21_06.csv*** and ***Segment_level_SubTrans2021-12-21_06.csv***. Through the provided documentation, the IE was able to confirm that data tracking for 1km x 1km and 2km x 2km forecasts takes place.

Finding: Based on the WMP goal and supporting evidence, the IE has reasonable assurance SCE installed two HPCCs capable of providing 1km x 1km ensemble weather forecasts and 2km x 2km deterministic 7-day forecasts.

Fire Spread Modeling (SA-4)

In section 7.3.2.6.2 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE planned to utilize Technosylva's advanced fire spread modeling tools, FireCast and FireSim, to predict and prepare for potential wildfires. SCE targeted a qualitative goal of developing a methodology and strategy to test FireCast/FireSim implementation into PSPS decision making by Q3.

SCE self-certified they met the target by developing a methodology for incorporating risk and consequence data, per SCE ***Q4 2021 QUI***.

The IE requested the documented procedure to test FireCast/FireSim integration into PSPS decision making in *Data Request 2.* SCE provided a purchase order containing the vendor's name, purchase order number, purchase date, and service list. The purchase order, ***PO_45013 20693_March 22, 2021_Complete***, details Technosylva Inc. (consultant) providing supervision, labor, material, tools, equipment, and professional services in accordance with conducting a FireCast PSPS Asset Risk Analysis. SCE provided a formal written data request response detailing the logistics surrounding the PSPS Asset Risk Analysis. SCE was unable to share the methodology and results of the PSPS Risk Asset Analysis performed due to the preclusion of disclosing proprietary and confidential information associated with Technosylva's Wildfire Analyst Enterprise. The formal written data request response is detailed in ***09_Review of wind profiler output for October and November Deployments.pptx***. Through the documentation provided, the IE was able to confirm that Technosylva was tasked with conducting a FireCast PSPS Asset Risk Analysis in 2021.

Finding: Based on the WMP goal and supporting evidence, the IE has reasonable assurance SCE has made progress toward the 2021 goal of developing a methodology and strategy to test FireCast/FireSim implementation into PSPS decision making by Q3. However, the IE is unable to obtain reasonable assurance SCE has met the 2021 qualitative goal as the written methodology and evidence of testing FireCast/FireSim implementation must remain confidential.

Fuel Sampling (SA-5)

Section 7.3.2.4.2 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision)*** states "SCE takes semi real-time vegetation moisture measurements for 15 sites across its service area."

Conducting fuel samples on native vegetation provides vital input on fire spread and fire potential calculations as the results are utilized in near real-time. SCE targeted a qualitative goal of maintaining periodic fuel sampling across its HFRA and evaluating the need to sample additional locations.

SCE prioritized the 15 fuel sampling sites where spatial gaps in data sampling existed, across its HFRA. SCE began conducting bi-weekly fuel samples for the selected sites in 2020 with intentions to continue sampling through 2022.

SCE declared its 2021 target was met by having vendor supply fuel sampling reports conducted every 2 weeks through the end of the year, per SCE ***Q4 2021 QUI***. SCE affirmed the 2021 goal was additionally met by assessing and verifying the quality of fuel sampling output with its vendor in Q4.

The IE requested bi-weekly vendor supply fuel sampling reports for the 15 selected sites and evidence of conducting an evaluation on the need to fuel sample additional locations under SCE's HFRA in *Data Request 3*. SCE provided live fuel moisture summary reports performed by its licensed internal fire scientist for each respective region (Los Angeles County, Western Sierra, Eastern Sierra, and Inland Empire). The live fuel moisture reports are detailed with the date performed, sites, species, and live fuel moisture calculation results for each region. The live fuel moisture report details for Los Angeles County can be assessed in the ***07_SCE LFM - Los Angeles County. Results week of 20210830*** file. The live fuel moisture reports for Inland Empire, Western Sierra, and Eastern Sierra are detailed in ***07_SCE LFM - Inland Empire. Results week of 20210830, 07_SCE LFM - Western Sierra. Results week of 20210830,*** and ***07_SCE LFM - Eastern Sierra. Results week of 202108130*.** SCE committed to maintaining periodic fuel sampling across its HFRA and evaluating the need to sample additional locations. The IE reviewed the provided reports and can confirm the fire scientist collected samples on vegetation moisture levels in the Inland Empire, Los Angeles County, Western Sierra, and Eastern Sierra HFRA regions belonging to SCE during 2021.

Finding: Based on the 2021 WMP goal of maintaining periodic fuel sampling across its HFRA and supporting evidence, the IE has reasonable assurance SCE performed fuel moisture sampling at 15 sites within its HFRA. Additionally, the IE has reasonable assurance SCE evaluated the need to sample additional locations based on identified gaps in sampling.

Remote Sensing (SA-7)

According to section 7.3.2.4.3 of the SCE ***2021 Wildfire Mitigation Plan Update (Revision),*** SCE continually explores new ways to bolster its situational awareness in remote areas and will implement remote sensing technology to collect additional information on weather, fuels, and fire activity. SCE targeted a qualitative goal of initiating a wind profiler pilot project to validate weather model performance for potential improvements to weather models. Remote sensing and LiDAR technology will be leveraged to obtain additional data points above ground level to support de-energization decisions where circuit level windspeeds are difficult to predict due to complex terrain.

SCE declared the 2021 target was met in October when its first wind profiler project deployed, per SCE ***Q4 2021 QUI***. SCE stated, "Future deployments will further help to determine the level of predictability to surface wind velocities and how weather model performance can be improved."

The IE requested remote sensing LiDAR resources, reports, and results from the October wind profiler project deployment in *Data Request 3*. SCE provided a PowerPoint presentation detailing the inputs and sample data from two wind profiler deployments in 2021. The presentation and its respective inputs and sample data can be verified in ***Review of Wind Profiler Output for October and November Deployments***.

Finding: Based on the WMP goal of initiating a wind profiler pilot project to validate weather model performance and supporting evidence, the IE has reasonable assurance SCE performed wind profiler pilot projects to validate weather model performance in October and November of 2021.

Fire Science Enhancements (SA-8)

SCE's ***2021 Wildfire Mitigation Plan Update (Revision) Section*** 7.3.2.4.4 states that SCE's fire science enhancements improve SCE's ability to estimate various outputs, including the number of PSPS events and the number of circuits that may be in scope for PSPS events. This climatology project leverages SCE's 40-year historical data set, resulting in a gridded weekly climatology for multiple variables at each grid cell across SCE service territory.

SCE reported in ***SCE Q4 2021 QIU*** and ***SCE Q4 2021 Quarterly Notification***, that the initiative plans to evaluate current wildfire events in context of 40-year history of wildfires, by working with a vendor on the development and operationalize climatology products in Q3 and Q4. SCE reported that this target was not meet. The vendor developed a climatology output containing a 40-year history of wildfires for multiple variables but was unable to complete because of a lack of available vendor resources. Due to vendor resource constraints, evaluation will take place in 2022.

The IE submitted *Data Request 3* for supporting evidence of the initiation of the contract with the vendor for the development of the climatology output containing a 40-year history of wildfires for multiple variables. In response to *Data Request 3*, SCE provided the ***Statement of Work (weather_wildfire_climatology_2021_sow)*** and the ***Purchase Order (PO_4501337602_May 07 2021_Complete)***, that provided evidentiary support that SCE successfully initiated the climatology project to develop and operationalize climatology products in Q3 and Q4.

Finding: Based on the 2021 WMP and reports from SCE and the Q4 QIU information, SCE planned to evaluate current wildfire events in context of 40-year history of wildfires, by working with a vendor on the development and operationalize climatology products in Q3 and Q4, the IE determined that that the qualitative target for this initiative was not met. SCE initiated the climatology project in 2021 and plans to complete the evaluation in 2022.

Circuit Evaluation for PSPS-Driven Grid Hardening Work (SH-7)

Southern California Edison's ***2021 Wildfire Mitigation Plan Update (Revision)*** section 7.3.3.8.1 entails evaluation of circuits highly impacted by PSPS to develop targeted plans for grid hardening and circuit modifications to reduce PSPS impact. This initiative involves SCE developing tailored solutions through circuit specific analysis that impact the various other system hardening initiatives (e.g., covered conductor deployment in SH-1 or remote automatic reclosers in SH-5).

In 2020 SCE completed its evaluation of the first 50% of circuits in HFRA, including circuits impacted by PSPS. The analysis resulted in SCE identifying mitigation/projects that could be implemented in other system hardening activities, such as SH-1 (Covered Conductor) and SH-5 (Remote Controlled Automatic Reclosers Settings Update).

In 2021 SCE developed and implemented a methodology to project the probability of PSPS de-energization to evaluate the highly impacted circuits from the remaining 50% of circuits in the HFRA. The methodology included

- Utilizing five years of backcasted weather data to predict a Probability of De-Energization (POD) score by circuit,
- Categorizing highly impacted circuits into tranches based on PSPS event history, previous review status, POD score, and percentage of grid hardening targeted for completion by 2022., and
- Ranking circuits according to their predicted POD score, estimated CMY reduction, and an Access and Functional Needs (AFN) and Non-Residential Critical Infrastructure (NRCI) multiplier.

SCE identified 68 circuits with the highest risk for PSPS. Of the 68 circuits identified, 62 were impacted previously by PSPS but were not part of the 2021 frequently impacted circuit review. Six circuits had no previous PSPS outages but were identified as having a future POD of one event every two years.

SCE provided a spreadsheet*, **06_SH-7 Execution Prioritization Plan Table*** for the 69 circuits that were analyzed through the methodology described above. The data provided shows the circuits broken down into four different tranches and includes the priority score for the circuits. The table also identifies mitigation/projects for SCE to complete for the applicable circuits as a result of the analysis.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance that SCE met the qualitative goal of developing a methodology to project probability of PSPS de-energization and impact.

Legacy Facilities (SH-11)

According to section 7.3.3.17.2 of SCE's ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE planned to continue its program at hydroelectric facilities consisting of updating hydro control circuits, hardening low-voltage sites, and assessing grounding grid and wildlife guard sites.

Legacy facilities refer primarily to high and low voltage equipment which supports hydroelectric operations. SCE provided an updated qualitative goal of performing evaluations on five circuits for possible hardening, creating two project plans based on the 2020 low voltage site engineering assessment, and completing 12 additional assessments on grounding studies per ***06_IE01-SCE-2021 Initial Q. 06 Answer***.

SCE reported in ***SCE Q4 QUI*** and ***06_IE01-SCE-2021 Initial Q. 06 Answer***, the target was met by completing five hydro control circuits assessments, two low voltage site hardening project plans based on 2020 engineering assessments, and 12 additional grounding study assessments.

The IE requested location data for applicable work performed under system hardening activities, such as excel worksheets with latitude, longitude, activity description, and activity identifiers in *Data Request 2*. SCE provided an excel spreadsheet listing completed work associated with system hardening for legacy facilities where SCE performed six remediation projects based on IN-5 inspections and completed four grounding remediation projects based on studies conducted in 2020. The spreadsheet and data within can be reviewed in ***01 Supplemental _SH-11 Legacy Facilities SH***.

The IE requested electronic copies of the five hydro control circuit assessments completed in 2021, 12 ground study assessments completed in 2021, and two project plans based on the low voltage site hardening 2020 engineering assessment from SCE in *Data Request 7*. In *Data Request Response 7*, SCE provided copies of two project plans, Water Tank WMP and Penstock ; the documents can be reviewed in ***09_BC3 Water Tank WMP Project Plan.docx*** and ***09_SH-11 BC3 Penstock Project Plan.pptx***. SCE also provided spreadsheets for the grounding study and hydro control circuit site remediations completed in 2021. The grounding site lists the facility name and type, risk level, age, and work order number for activities completed in 2021. Based on the provided documentation, SCE logged activities for 16 facilities. The hydro control circuit site spreadsheet provides the voltage, district, structure type, and age of five Big Creek Hydro Circuits (Jumbo, Manifold, Kinsman, and Redinger).

Finding: Based on the WMP goal of performing evaluations on five circuits for hardening, creating two project plans based on 2020 low voltage site engineering assessments, and completing twelve additional assessments on grounding studies the IE has reasonable assurance SCE met the 2021 qualitative goal. The IE assures the goal has been met and recommends SCE continue upgrading legacy facilities.

Microgrid Assessment (SH-12)

In section 7.3.3.8.2 of the Southern California Edison ***2021 Wildfire Mitigation Plan Update (Revision)***, SCE planned to install a microgrid in an area prone to outage events and wildfires. Microgrids are independent and provide backup power during PSPS events, increasing community resiliency. SCE targeted a qualitative goal of performing an internal assessment of vendor bids and location options and if the internal assessment is favorable, issue an EPC contract.

SCE reported the qualitative goal as completed per the ***SCE Q4 QUI*** and ***06_IE01-SCE-2021 Initial Q.06 Answer***. SCE reported the target was met by completing an internal assessment of

vendor bid and location options. The conditional EPC contract is in place with contingency on finalization of the land agreement.

In *Data Request 3*, the IE requested evidence of performing an internal assessment of vendor bid and location options from SCE. In *Data Request 3 Response*, SCE provided a copy of the spreadsheet utilized as the internal assessment for relevant SMEs. The spreadsheet aggregates the SME's scores on vendor proposals and provides technical recommendations on vendors based on pricing information. The spreadsheet can be reviewed in ***DR_Redacted_Summary_GRMS_ProposalEval-Master***. Based on the provided documentation, the IE has reasonable assurance SCE created an excel tool to assess and compare vendor bids.

SCE confirmed the assessment was favorable and an EPC contract was drafted. The IE reviewed the EPC contract provided by SCE in *Data Request 4*, ***1.01-EPCM-AME_Final_27APR21.***

Finding: Based on the WMP 2021 goal of performing an assessment of vendor bids and locations options, the IE has reasonable assurance SCE met their 2021 qualitative goal.

Vegetation Inventory System (VM Work Management Tool – Arbora – VM-6)

According to section 7.3.3.8.2 of the Southern California Edison ***2021 Wildfire Mitigation Plan Update (Revision),*** "vegetation management is a very important component of SCE's WMP and includes several separate high-volume activities, mostly managed using contract resources. It is challenging to assign work, monitor progress, and manage performance and quality without adequate tools to monitor and analyze work management data. SCE maintains multiple digital tools for Vegetation Management. Housing data from different vegetation management programs on different platforms, as well as the limited nature of the data analytic options on those platforms, constrains advances in efficiency and risk-optimization."

The intent of this initiative is "to consolidate these various digital tools into an integrated vegetation management platform, Arbora, in order to enhance efficiency, risk modeling, communication, reporting, planning, and scheduling...[T]he platform can be used to leverage artificial intelligence, remote sensing tools and predictive modeling to drive vegetation management decision-making based on various risk characteristics."

Per the ***Q4 QIU*** workbook, the target for 2021 was to "[c]ontinue Work Management Tool (Arbora) agile development and releases in accordance with project plan – complete full rollout of Dead & Dying Tree Removal and Hazard Tree Mitigation; and conduct discovery and design architecture associated with Line Clearing." SCE reports that initial discovery and design architecture for the routine Line Clearing portion of this was deployed as planned; however, "SCE had to re-design architecture for the Hazard Tree Management Program and Dead and Dying Tree Removal due to data volume limitations and inability to calculate and assess risk scores, requiring additional development time and moving timeline to 2022." There is not currently an updated timeline due to delays with the development partners SCE is working with on this implementation.

Finding: Based on the WMP target and supporting evidence, the IE has reasonable assurance that the qualitative target for this initiative was not met. SCE reports several value additions

from implementing this platform, and it appears that development will continue once a new timeline can be established.

3.1.5.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing utility compliance to Qualitative Goal/Target initiatives.

The IE did not note any significant trends or themes with respect to SCE's qualitative initiatives. A small number of the initiatives in this category did not meet the goal stated by SCE.

3.2 Verification of Funding

The Verification of Funding section should document all instances in which WMP activities were funded less than 100 percent. For all such instances, the Independent Evaluator shall request and document utility explanation of such instances.

Fill out the table below containing initiatives which the Independent Evaluator found to be funded less than 100 percent.

Table 21: 2021 WMP Funding Verification Summary

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Asset Management & Inspections	7.3.4.9.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	242	$83,759	SCE performed ~179,600 ground inspections and ~180,200 aerial inspections on structures in HFRA, meeting the WMP targets for inspecting between 163,000 and 198,000 structures in HFRA, via both ground and aerial inspections. SCE was able to bundle Distribution remediation work (remediations completed with other programs for operational efficiency such as covered conductor) and had fewer remediations to complete due to lower inspection find rates than forecast. Both of these factors contributed to lower spending relative to forecast. Note that this underspending was partially offset by the inclusion of HFRA compliance remediations (e.g., Breakdown Maintenance, and Preventative Maintenance) in the recorded amounts to align with SCE's 2021 GRC Decision.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Asset Management & Inspections	7.3.4.10	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	248	$38,461	SCE performed ~20,800 ground inspections and ~20,790 aerial inspections on transmission structures in HFRA, meeting the WMP targets for inspecting between 16,800 and 22,800 structures in HFRA, via both ground and aerial inspections. Spending below forecast was driven primarily due to lower remediations, driven by a lower find rate and execution limitations due to internal and external (GO95) exceptions.
Asset Management & Inspections	7.3.4.5	Infrared inspections of transmission electric lines and equipment:	239	$115	SCE met the WMP target by inspecting ~1,000 transmission circuit miles in HFRA. SCE identified process efficiencies by bundling work between IN-4 for IR inspections and SH-13. This resulted in fewer crew deployments while still meeting compliance requirements. Team also implemented process improvement solutions to streamline invoicing procedures.
Asset Management & Inspections	7.3.4.9.2	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	246	$166	SCE completed ~230 generation inspections in HFRA, exceeding its WMP target of 181 generation asset inspections in HFRA. Spending below forecast was due to fewer resource hours charging to the program than initially anticipated in 2021, resulting in lower costs incurred.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Asset Management & Inspections	7.3.4.3	Improvement of Inspections	236	$1,267	In 2021, SCE intended to migrate aerial and transmission ground inspections to a single digital platform with at least 75% of inspectors trained to use the tool by year-end. T&D aerial accomplished its WMP target by completing transition to a single digital platform and training 75% of inspectors. SCE experienced technical issues with vendor product development which caused a schedule delay resulting in costs deferred to 2022. Additionally, process enhancements were added to the automation scope for the SMT to help distribution and engineering planning bring more efficiency into the workflow which also delayed deployment. Contractor adoption of iPad deployment for remediation mobile software faced contractor user adoption challenges which slowed deployment.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Data Governance	7.3.7.1	Centralized repository for data	303	$7,469	SCE met its WMP targets for both the WiSDM and Ezy Data components of our Data Governance activity. Spending below forecast is primarily a result of the following: CAPEX: Underrun due to Ezy Data scheduling delays driven by interdependencies with the InspectForce program, technical issues, and some project scope deferred to 2022. WiSDM underrun driven by resource constraints, internal reprioritization efforts to support the PSPS Action Plan requirements mandated from the CPUC, and a technology strategy shift for the WiSDM Program resulting in reduced spending for 2021. OPEX: Underrun due to Ezy Data: 1) software interdependency technical challenges encountered with the InspectForce program, which resulted in scheduling delays on the Ezy Data project, and 2) reclassification of licensing fees from O&M to Capital, following internal capitalization assessment.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Emergency Planning & Preparedness	7.3.9.1	Adequate and trained workforce for service restoration: SCE Emergency Response Training	313	$2,168	The IMT completed PSPS IMT training and qualification in Q2 in alignment with the WMP target to complete by July 1, 2021. Additionally, the UAS achieved 60 additional personnel resources passing the FAA 107 Exam, exceeding the WMP target of 50 personnel resources. The program cost underrun resulted from COVID restrictions across all SCE Training Programs which limited in-person field training on patrolling and live field observations for senior patrols, journeyman, and troublemen positions.
Emergency Planning & Preparedness	7.3.9.5	Preparedness and planning for service restoration	189	$8,238	CAPEX: Underrun driven by vendor execution delays pertaining to this activity, which delayed certain scope into 2022. OPEX: Underrun driven primarily due to fewer PSPS events than forecast.
Grid Design & System Hardening	7.3.3.17.1	Updates to grid topology to minimize risk of ignition in HFTDs	231	$4,948	Although SCE met its WMP target of performing evaluations, plans, and assessments on hardening legacy facilities, it was not able to begin executing on the construction, leaving minimal capital charges for this activity in 2021.
Grid Design & System Hardening	7.3.3.15	Transmission tower maintenance and replacement	227	$277	SCE exceeded its WMP target to remove C-hooks on at least 40 structures in HFRA by removing ~50 C-hooks. Team was able to find process efficiencies by bundling work. This resulted in fewer crew deployments while still meeting compliance requirements. Note: For purposes of this Compliance Report, costs for this activity have been displayed, but typically are captured

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
					in IN-1.2 HFRI Transmission Remediations as displayed in Table 12.
Grid Design & System Hardening	7.3.3.12	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	226	$8,073	Although SCE met its WMP target, it was not able to reach the strive target due to program strategy changes. Further savings were realized by utilizing infrastructure scenario planning and assessments, and survey process tools.
Grid Design & System Hardening	7.3.3.7	Expulsion Fuse Replacement	219	$1,596	SCE met its WMP target (install/replace 330 fuses) by completing installation or replacement of ~340 fuses, but did not reach its strive (421 fuses). Spending below forecast for this program was also due to bundling of costs for Current Limiting Fuses with other projects. There was a net credit from purchased material in 2020 that was returned in 2021.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Situational Awareness	7.3.2.6.1	Weather forecasting and estimating impacts on electric lines and equipment:	207	$5,158	SCE met its target for this activity in 2021. SCE spent less than originally forecast as: 1) the Operational Analytics Project was deferred to 2022 due to re-prioritization of resources to address SCE's emergent PSPS Action Plan requirements from CPUC; 2) the delivery of supercomputers was delayed until the third quarter of 2021 due to supplier constraints, resulting in project scope being limited to integration activities only; and 3) a shift in accounting for Weather and Fuels Modeling Program (Next Gen weather software) from capital to O&M following internal capitalization accounting evaluation.
Situational Awareness	7.3.2.2	Continuous Monitoring Sensors	198	$1,309	While SCE met its WMP target of installing 120 DFA units by completing installation of 130 DFAs units, it did not meet the stretch target of installing 150 units. This was due in part due to resource constraints and lower vendor contract costs for program rollout than planned.
Situational Awareness & Forecasting	7.3.2.1	Advanced weather monitoring and weather stations:	196	$2,009	While SCE exceeded its WMP target by installing ~400 weather stations in 2021, they did not meet their stretch target of 475 weather stations. Underrun of O&M was also due to legacy weather station retrofits (maintenance work) which was reclassified as capital following internal capitalization evaluation.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Situational Awareness & Forecasting	7.3.2.4.2	Forecast of a fire risk index, fire potential index, or similar	203	$111	SCE met the WMP target for "periodic fuel sampling across SCE's HFRA" by having the vendor supply fuel sampling reports every 2 weeks through year end. Spending below target primarily due to lower than forecast costs associated with training and sampling sites.
Situational Awareness & Forecasting	7.3.2.4.3	Forecast of a fire risk index, fire potential index, or similar	204	$1,449	SCE met the WMP target to complete its first wind profiler project to validate weather model performance and align existing weather models and weather station outputs. O&M spending was less than forecast as UCSD ultimately paid for fire detection costs that SCE has originally forecasted in this activity.
Situational Awareness & Forecasting	7.3.2.4.4	Forecast of a fire risk index, fire potential index, or similar	205	$335	Vendor made progress in evaluating wildfire events in 40-year history of wildfires, but efforts were reprioritized to support other emergent work due to resource constraints. In addition, certain project payments were deferred to 2022.
Stakeholder Cooperation & Community Engagement	7.3.10.1.1	Community engagement	324	$99	SCE hosted 11 virtual community meetings, exceeding its WMP target of at least 9 meetings. However, SCE did not reach its stretch target of up to 18 meetings, resulting in a cost underrun for this activity. Use of virtual meetings incurred less cost than in-person meetings (avoided facility rental, employee lodging and expenses, refreshment, etc., where applicable).

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Stakeholder Cooperation & Community Engagement	7.3.10.1.3	Community engagement	331	$1,967	SCE's marketing campaign improved customer awareness and exceeded the WMP target of 50% awareness by achieving 60% awareness. Initiative cost savings were driven by ~460k (10%) fewer newsletters than initially forecasted and per-unit cost savings driven by the large distribution volume.
Stakeholder Cooperation & Community Engagement	7.3.10.1.1	Community engagement	333	$578	SCE administered 9 PSPS-related surveys to capture feedback on 2020 events, wildfire community meetings, CRC/CCV visitation surveys, and in-language wildfire mitigation communication effectiveness. This exceeded the program target of at least 4 PSPS-related surveys to capture the listed information. Program cost underrun resulted from bundling of costs between the social media, Search Engine Marketing, and Online Advertising with In-Language Communications.
Stakeholder Cooperation & Community Engagement	7.3.10.3	Community engagement	337	$455	SCE met its target to provide aerial suppression support resources in partnership with CAL FIRE and local county fire departments. SCE recorded a minor underrun due to a credit SCE received from Los Angeles, Orange and Ventura Counties, for a ten-day period when the aerial assets were deployed to northern California to fight the Caldor fire.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Vegetation Management & Inspections	7.3.5.3	Detailed inspections and management practices for vegetation clearances around transmission electrical lines and equipment		$260	Overrun in HFTD work due to premium time incurred, including use of 6/10 scheduled work week in order to complete critical planned work, and deeper trims.
Vegetation Management & Inspections	7.3.5.16.1	Removal and remediation of trees with strike potential to electric lines and equipment (HTMP)	278	$48,290	SCE met its WMP target to assess between 120,000 and 130,000 trees for hazardous conditions and perform mitigations as necessary, by completing ~131,000 tree assessments. Note that the WMP target is based on the Change Order submitted 11/1/2021. Although SCE exceeded the number of circuits patrolled in 2021, SCE found fewer trees with strike potential (subject trees) than originally forecasted, therefore fewer assessments were performed, and found a lower than anticipated number of subject trees that required subsequent mitigation. The original forecast was based on average historical prescription rate of 8% but the actual prescription rate for assessments performed in 2021 was closer to 5%. Additionally, compliance with environmental regulations resulted in delays for subsequent tree removals and mitigations in 2021. Additional drivers for spending below forecasted amounts include fewer than anticipated Palm field

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
					inspections within HFTD; lower customer enrollment and utilization of property owner incentives; contractor stand-down which halted execution of work for a number of weeks, and limitations of tree removal with environmental holds.
Vegetation Management & Inspections	7.3.5.5.2	Fuel management (including all wood management) and management of "slash" from vegetation management activities (Expanded Clearances for Legacy Facilities)	266	$551	SCE treated ~60 sites for Expanded Line Clearances on legacy facilities, exceeding the program WMP target of 46 sites. The initiative recorded an underrun due to United States Forest Service (USFS) permit approval delays for Big Creek 1 Project. USFS put a halt on all vegetation permit approvals, primarily due to the overwhelming amount of vegetation work resulting from the Creek fire.

Initiative Category	2021 Initiative Number	Initiative Name	2021 WMP Page Number	Underfunded Amount ($ thousands)	Detail on Funding Discrepancy
Vegetation Management & Inspections	7.3.5.16.2	Removal and remediation of trees with strike potential to electric lines and equipment (Dead and Dying Tree Removal/DRI)	280	$27,279	SCE met target by completing a first and second pass on ~1,300 circuits and performing prescribed mitigations. Program cost underrun due to lower than expected prescription rates and fewer dead trees requiring removal.
Vegetation Management & Inspections	7.3.5.13	Quality assurance / quality control of inspections		$2,326	Underrun due to significant stand-down of primary vendor, halting execution of work for 10 weeks. SCE had two of its primary VM contractors stand down due to safety concerns. Contractors have provided safety plans to address these concerns, and subsequently returned to work. As a result, the volume of completed work was less than initially forecasted in 2021.
Vegetation Management & Inspections	7.3.5.19	Vegetation inventory system (Arbora)	282	$2,452	SCE achieved partial deployment of the Work Management Tool (Arbora) by completing the initial discovery and design architecture for Routine Line Clearing. An architecture redesign was required for HTMP and Dead and Dying Tree Removal (DRI) due to data volume limitations and an inability to calculate and assess risk scores. This caused the project schedule to be delayed and costs to be deferred to 2022, resulting in project cost underrun in 2021. In addition, there was a licensing fee reclassification from O&M to capital, which further contributed to the underrun in O&M.

Below the table, provide more detail on the Independent Evaluator's findings regarding these initiatives that were funded less than 100 percent, including the utility's explanation.

To further verify the funding amounts presented in the table above, the IE requested that SCE provide all applicable transactions for 2021 with a sample initiative. The IE randomly selected the Weather Stations initiative, and SCE provided detailed both capital and operational expense transactions for the whole year. Through its evaluation, the IE was able to determine individual transactions were being tracked and allocated to the appropriate recovery memorandum accounts.

The IE was able to verify that the transactions corroborate the funding values presented in both the QDR and ARC. The IE feels confident through its review of this random sample that costs for each initiative are being tracked appropriately.

3.3 Verification of QA/QC Programs

This section should include a detailed description of all QA and QC programs that the Independent Evaluator validated during its compliance reviewed w. Independent Evaluators shall review all documentation and perform interviews to validate an electrical corporation's QA and QC programs for WMP compliance.

The following review is based on the IE's review of SCE's Quality Assurance/Quality Control (QA/QC) documentation included in its WMP, supporting documentation, documents requested, and interviews with SCE QA/QC personnel.

SCE developed and implemented QA/QC programs to ensure that their wildfire mitigation measures are performed at an acceptable level of quality consistently across its footprints and initiatives, whether the work is performed by SCE staff or contractors. These programs, described in Section 7.2 of the WMP, apply to their vegetation management and asset inspection programs and are reflected in a performance dashboard[7] which tracks progress on initiatives categories including inspections and vegetation management so SCE can "understand the progress on its wildfire mitigation activity goals."

SCE also develops Annual QC Plans which provides information on internal SCE targets related to QC (not WMP initiative targets). SCE has embarked upon a continuous improvement effort that involves QA/QC of their asset inspection and vegetation management programs, internal audits, and the application of lessons learned.

Additionally, SCE's Audit Services Department (ASD) assesses WMP implementation independently of the responsible operating unit and makes recommendations for improvement. QA/QC findings are reported via the Performance Management team to executive leadership of SCE. Audits are determined through a risk assessment informed by SCE's Board of Directors (Board), senior management, and regulatory requirements. ASD also conducts risk-informed audits of SCE's electrical line and equipment inspection program to provide reasonable assurance that SCE facilities are being appropriately inspected and identified conditions are timely remediated according to applicable requirements.

Asset Inspections

The asset inspection QA/QC program helps ensure high quality inspections are incorporated into initiatives IN-1.1, IN-1.2, and IN-5[8] and the *Overhead Detailed QC Inspection Process for*

[7] Sample for VM QC program included in response to Data Request 1 Question 12.

[8] IN 1.1 - Distribution High Fire Risk Informed Inspections in HFRA, IN-1.2 - Transmission High Fire Risk Informed Inspections in HFRA, and IN-5 - Generation High Fire Risk Informed Inspections in HFRA. These initiatives were formerly part of IN-2 in SCE's 2020 WMP. According to SCE "As this activity is formalized and operationalized, it will be discussed in this section and remain a part of SCE's WMP but will not have program targets specifically tracked by SCE to monitor wildfire mitigation implementation."

Distribution and Transmission Equipment.[9] Asset inspections and secondary QC inspections reduce the probability of equipment failure and ignitions by identifying and remediating hazardous equipment conditions.

Per the 2021 WMP, SCE performs the following QA/QC inspection activities:

- WMP Quality Oversight/QC activities require SCE inspectors and third-party reviewers to perform QC and oversight of inspections of transmission, distribution, and generation structures in HFRA.

- Monitoring and QA program for line/equipment inspections (as described in WMP Section 7.3.4.14): internal group performs field validations of inspections completed by T&D work crews

- The Compliance and Quality (C&Q) group[10] develops QA/QC processes to ensure that mitigation activities are proceeding as planned. C&Q performs testing and assessment of wildfire and non-wildfire activities to measure conformance and drive continuous improvement throughout the organization.

- SCE QC inspectors conduct the reviews by performing independent field inspections, essentially performing the same inspection activity and comparing the results.

- The QC process for completed inspections is the same for SCE and contract employees if contractors are utilized. C&Q will perform QC inspections of completed inspections for approximately 5,000 transmissions, distribution, and generation structures in HFRA.

Vegetation Management

SCE also maintains a vegetation management (VM) QA/QC program and performs the following QA/QC activities:

- Develops and implements an Annual Quality Control Plan.[11]
- VM maintenance (inspections, pruning, and removals) is performed by contractors whose work will be reviewed through a comprehensive QC methodology. SCE also uses external resources to perform VM QC (e.g., review if a tree trim met the correct clearance distance).[12]

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[9] *See* SCE *Overhead Detailed QC Inspection Process for Distribution Equipment*, QCP-006 and *Transmission Detail QC Inspection Process for Transmission Equipment*, QCP-014.

[10] The Compliance & Quality group transferred from T&D to Operational Excellence as of 3/28/22.

[11] *Vegetation Management 2021 Annual QC Plan* dated April 1, 2021.

[12] Section 7.3.5.13 of the WMP, detailing activity identified under VM-5 in the 2020 WMP, notes that some VM QA/QC activities such as QC for detailed inspections in HFRA and vegetation management have been incorporated as part of our on-going operations and are no longer included as WMP activities.

- Performs QC on 100% of its vegetation line clearing work in the highest risk-consequence zones.
- Utilizes ISA-certified arborists to conduct risk-informed sampling of HFRA areas to provide assurance vegetation management standards, such as clearance distances between conductors and vegetation, are met. Sought to perform 5,000 circuit miles of QC inspections of vegetation management work in HFRA.
- Quality Control Inspections (QCI) are performed by appropriately trained and qualified personnel whose function and organizational reporting is independent to the UVM operational organization. QCIs are focused on conformance to requirements outlined in SCE program documents including UVM-02, Transmission Vegetation Management Plan (TVMP), and UVM-03, Distribution Vegetation Management Plan (DVMP).
- Hazard Tree Management Program provides reasonable assurance that hazard tree assessments are performed consistently and accurately, and that prescribed mitigations have been completed.
- Training qualified personnel, including ISA-certified arborists to perform quality and timely VM work in response to identified deficiencies. This ensures that those involved in VM work are knowledgeable and capable to safely perform their responsibilities.
- SCE performs QC on 100% of its vegetation line clearing work in the highest risk-zones.
- Dead and Dying Tree Mitigation, formerly Drought Resolution Initiative (DRI), targets 100% inspection of all removals.

Finding:

The IE finds SCE is performing the QA/QC work as described in the WMP and associated documents. SCE has a robust QA/QC program that should continue to ensure SCE's wildfire mitigation activities are effectively performed.

The IE notes, however, the dual nature of the QA/QC programs run separately under inspections and vegetation management do not allow for common oversight, sharing of lessons learned, and optimization [redacted]

Therefore, the IE recommends SCE consider identifying responsible role/group to oversee all QA/QC activities and implement lessons learned. Further, this individual or group should administer QA/QC programs for the entirety of the WMP to ensure a similar level of oversight across all WMP initiatives including but not limited to risk assessment, grid operations and protocols, and data governance. Additionally, it may be beneficial for the EC to organize their

[redacted]

QA/QC documents and programs into a mapping document that includes the applicable teams, roles, program documents, and evidence.

4. CONCLUSION

The Conclusion section shall summarize all findings that the Independent Evaluator detailed in the sections above.

Fill out the table below with all findings.

The IE reviewed and assessed all of SCE's listed initiative activities and conducted a thorough review of evidence through documentary reviews and field assessments. Many of these detailed reviews and assessments were bolstered by interviews with SCE staff responsible for the management, oversight, and implementation of SCE's wildfire mitigation programs as well as subject matter experts responsible for technical guidance and implementation. The IE worked with SCE and the Energy Safety staff to determine relevant materials critical to produce a statistically significant, where possible, and concrete review of SCE's WMP work performance.

The table below presents the IE findings supported by desktop and field inspection reviews of SCE evidence. Results and interpretations from the verification of QA/QC programs are found in Section 3.3 above. Findings associated with verification of funding are presented within Section 3.2. ***Table 22*****,** below. further lists reviewed explanations and documentation determinations for underfunded activities and their associated deficiency determination.

The IE determined SCE is substantially compliant with its WMP. Except as otherwise noted, SCE is implementing its WMP initiatives as described in its WMP. Additionally, SCE is largely funding its programs appropriately, with some noted exceptions. Finally, SCE maintains a robust QA/QC program over its vegetation management and asset inspection activities but the IE believes this program could be enhanced with a more comprehensive view of the WMP and centralized oversight of such programs.

Reviewed initiative findings are presented in accordance with the WMP Initiative Activity below.

Table 22: IE Findings Summary

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.2.4	SA-8	Fire Science Enhancements	Initiative Target Not Met	SCE did not meet target. Vendor developed a climatology output containing a 40-year history of wildfires for multiple variables but unable to complete because vendor work was reprioritized to support other emergent work. resource constraints, evaluation will take place in 2022.
7.3.2.6.2	SA-4	Fire Spread Modeling	Initiative Target Not Met	SCE made progress toward the 2021 WMP goal but the IE is unable to reasonably assure SCE has met the 2021 qualitative goal as the written methodology and evidence of testing FireCast/FireSim implementation must remain confidential and cannot be reviewed.
7.3.3.9	SH-5	Automatic Reclosers	Initiative Target Not Met	SCE made progress toward the 2021 goal, installing 17 of the targeted 18 automation equipment devices.

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.3.17	SH-15	Vertical Switches	Initiative Target Not Met	SCE did not meet target for 2021. Installed 16 of the targeted 20 vertical switches in 2021. Crews and material for the remaining 4 were reassigned due to storm restoration efforts.
7.3.4.3	IN-8	Inspection Work Management Tools	Initiative Target Not Met	T&D Aerial completed the transition of inspection processes to a single digital platform and met the target to train at least 75% of inspectors. However, Transmission Ground did not complete the transition of inspection processes to a single digital platform and did not meet the target to train at least 75% of inspectors. Key artificial intelligence/machine learning (AI/ML) models met target. Scope Mapping Tool (SMT) did not meet target to deploy the tool to Distribution Planning and Engineering users. Remediation mobile software and iPad devices were

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
				deployed for Transmission. However, the target was not met for Distribution users.
7.3.5.5	VM-2	Expanded Pole Brushing	Initiative Target Not Met	SCE did not meet 2021 target. This activity cleared ~163,100K of the 200K poles and fell short of meeting the target due to contractor performance, loss of crews, access constraints, and delays in obtaining environmental permitting.
7.3.5.19	VM-6	VM Work Management Tool	Initiative Target Not Met	SCE did not meet 2021 target. SCE did complete initial discovery and design architecture for the routine Line Clearing portion of this activity and deployed as planned.
7.3.4.9.1	IN-1.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.4.10	IN-1.2	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details
7.3.4.5	IN-4	Infrared inspections of transmission electric lines and equipment:	Initiative Underfunded	See Section 3.2 for more details
7.3.4.9.2	IN-5	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details
7.3.4.3	IN-8	Improvement of Inspections	Initiative Underfunded	See Section 3.2 for more details
7.3.7.1	DG-1	Centralized repository for data	Initiative Underfunded	See Section 3.2 for more details
7.3.9.1	DEP-2	Adequate and trained workforce for service restoration: SCE	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
		Emergency Response Training		
7.3.9.5		Preparedness and planning for service restoration	Initiative Underfunded	See Section 3.2 for more details
7.3.3.17.1	SH-11	Updates to grid topology to minimize risk of ignition in HFTDs	Initiative Underfunded	See Section 3.2 for more details
7.3.3.15	SH-13	Transmission tower maintenance and replacement	Initiative Underfunded	See Section 3.2 for more details
7.3.3.12	SH-14	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 3.2 for more details
7.3.3.7	SH-4	Expulsion Fuse Replacement	Initiative Underfunded	See Section 3.2 for more details
7.3.2.6.1	SA-3	Weather forecasting and estimating impacts on electric lines and equipment:	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.2.2	SA-9	Continuous Monitoring Sensors	Initiative Underfunded	See Section 3.2 for more details
7.3.2.1	SA-1	Advanced weather monitoring and weather stations:	Initiative Underfunded	See Section 3.2 for more details
7.3.2.4.2	SA-5	Forecast of a fire risk index, fire potential index, or similar	Initiative Underfunded	See Section 3.2 for more details
7.3.2.4.3	SA-7	Forecast of a fire risk index, fire potential index, or similar	Initiative Underfunded	See Section 3.2 for more details
7.3.2.4.4	SA-8	Forecast of a fire risk index, fire potential index, or similar	Initiative Underfunded	See Section 3.2 for more details
7.3.10.1.1	DEP-1.2	Community engagement	Initiative Underfunded	See Section 3.2 for more details
7.3.10.1.3	DEP-1.3	Community engagement	Initiative Underfunded	See Section 3.2 for more details
7.3.10.1.1	DEP-4	Community engagement	Initiative Underfunded	See Section 3.2 for more details
7.3.10.3	DEP-5	Community engagement	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.5.3		Detailed inspections and management practices for vegetation clearances around transmission electrical lines and equipment	Initiative Underfunded	See Section 3.2 for more details
7.3.5.16.1	VM-1	Removal and remediation of trees with strike potential to electric lines and equipment (HTMP)	Initiative Underfunded	See Section 3.2 for more details
7.3.5.5.2	VM-3	Fuel management (including all wood management) and management of “slash” from vegetation management activities (Expanded Clearances for Legacy Facilities)	Initiative Underfunded	See Section 3.2 for more details
7.3.5.16.2	VM-4	Removal and remediation of trees with strike potential to electric lines and equipment (Dead and Dying Tree Removal/DRI)	Initiative Underfunded	See Section 3.2 for more details

2021 Initiative Number	SCE WMP Identifier	Initiative Name	Finding	Details on finding
7.3.5.13	VM-5	Quality assurance / quality control of inspections	Initiative Underfunded	See Section 3.2 for more details
7.3.5.19	VM-6	Vegetation inventory system (Arbora)	Initiative Underfunded	See Section 3.2 for more details

APPENDIX

5. APPENDICES

TABLE OF APPENDICES

APPENDIX A: DATA REQUEST LOG

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
1	1	2021 **Quarterly Data Reports Non-Spatial Data** (the non-public version, if applicable)	N/A
1	2	2021 **Quarterly Data Reports Spatial Data** (the non-public version, if applicable)	N/A
1	3	2021 **Annual Report on Compliance** (the non-public version, if applicable)	N/A
1	4	2021 **Quarterly Initiative Updates** (the non-public version, if applicable)	N/A
1	5	2021 **Quarterly Advice Letters/Notification Letters** (the non-public version, if applicable)	N/A
1	6	Provide a listing of all WMP initiative activities within the **four categories of sampling**: • **Large volume** (>= 100 units) + quantifiable goal/target + field verifiable • **Large volume** (>= 100 units) + quantifiable goal/target + non field verifiable • **Small volume** (<100 units) + quantifiable goal/target (could also be field verifiable) • **Qualitative** goal/target WMP activities	N/A
1	7	Accounting of **Cost Data for Wildfire Mitigation Activities** • may come from any of the following WMP projected, actual, and recovered financials can be found in: 2019+ General Rate Case work papers, Wildfire Mitigation Plan Memorandum Account (WMPMA), Fire Risk Mitigation Memorandum Account (FRMMA), Fire Hazard Prevention Memorandum Account (FHPMA), Catastrophic Event Memorandum Account (CEMA), the 2021 & 2022 WMP, and associated quarterly reports (Quarterly Data Reports).	N/A
1	8	Key Decision Reports, Business Cases, Documentation for Initiative Justification for **Vegetation Management**	VM-1, VM2, VM-3, VM-4, and VM-6
1	9	**Quality Assurance/Quality Control Plans** applicable to distribution and transmission **vegetation management** activities	VM-1, VM2, VM-3, VM-4, and VM-6
1	10	Are all **vegetation management activities** (e.g., detailed pre-inspection, completed routine tree work, hazard tree work, pole clearing) reviewed as part of the **QA/QC program**?	VM-1, VM2, VM-3, VM-4, and VM-6
1	11	Please provide **vegetation management inspection planning and results** documentation (e.g., invoices, third party audits, internal findings, etc.	VM-1, VM2, VM-3, VM-4, and VM-6

1	12	Provide **sample results of QC reviews of vegetation management** activities conducted in 2021. (Monthly, quarterly, or annual summary report, as available).	VM-1, VM2, VM-3, VM-4, and VM-6
1	13	Has the utility conducted a **QA review** of its **vegetation management processes**? • If so, what were the results of that review?	VM-1, VM2, VM-3, VM-4, and VM-6
1	14	**Detailed pre-inspection** population size in 2021 (e.g., annual circuit miles of lines, spans, number of pre-inspected locations, etc.)	VM-3
1	15	**Completed routine tree work** population size in 2021 (e.g., annual circuit miles of lines, spans, number of pre-inspected locations, etc.)	VM-1, VM-4
1	16	**Hazard tree work** population size in 2021 (e.g., annual circuit miles of lines, spans, number of pre-inspected locations, etc.)	VM-1, VM-4
1	17	**Pole clearing** population size in 2021 (e.g., annual number of poles that require clearing per the regulations, all poles with equipment that could be an ignition source, etc..)	VM-2
1	18	If QC reviews include a statistically valid sample size, please provide the **confidence level and margin of error** (e.g., 99% / 5%) used to determine the sample sizes for **Detailed Pre-Inspection**	VM-1, VM2, VM-3, VM-4, and VM-6
1	19	If QC reviews include a statistically valid sample size, please provide the **confidence level and margin of error** (e.g., 99% / 5%) used to determine the sample sizes for Completed **Routine Tree Work**	VM-1, VM-4
1	20	If QC reviews include a statistically valid sample size, please provide the **confidence level and margin of error** (e.g., 99% / 5%) used to determine the sample sizes for **Hazard Tree Work**	VM-1, VM-4
1	21	If QC reviews include a statistically valid sample size, please provide the **confidence level and margin of error** (e.g., 99% / 5%) used to determine the sample sizes for **Pole Clearing**	VM-2
1	22	Is there a **desktop review** (paper / electronic) of completed **VM & inspection** work? • If so, who conducts the desktop review? • What percentage of the completed work is subject to a desktop review?	VM-1, VM2, VM-3, VM-4, and VM-6
1	23	Has the utility established an **Acceptable Quality Level** (AQL) for its **vegetation management** contractors? • If so, does it vary by activity? • Provide certification listings for internal and contractor support	VM-1, VM2, VM-3, VM-4, and VM-6
1	24	What is the AQL for **Detailed Pre-Inspection** activities?	VM-3
1	25	What is the AQL for **Completed Routine Tree Work** activities?	VM-1, VM-4

1	26	What is the AQL for **Hazard Tree Work** activities?	VM-1, VM-4
1	27	What is the AQL for **Pole Clearing** activities?	VM-2
1	28	Based on the conformance rate of these activities, are the **vegetation management vendors** meeting the established AQL?	VM-1, VM2, VM-3, VM-4, and VM-6
1	29	Key Decision Reports, Business Cases, Documentation for **Initiative Justification** for **Asset Management & Inspections**	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	30	Provide any distribution and transmission **inspection management plan**(s)	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	31	Provide the **QA/QC Plan** applicable to wildfire mitigation distribution and transmission **inspection procedures**	IN-8
1	32	Are all **equipment inspection activities** (e.g., patrol, detailed, infrared, LiDAR, UAV surveys, etc.) reviewed as part of the **QC Program**? • If not all describe which and why	IN-8
1	33	Please provide **Asset Management & Inspection planning and results** documentation (e.g., invoices, third party audits, internal findings, etc.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	34	Provide **sample results of QC reviews of asset management & inspection** activities conducted in 2021. (Monthly, quarterly, or annual summary report, as available).	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	35	Has the utility conducted a **QA review** of its **asset management & inspection processes**? • If so, what were the results of that review?	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	36	Provide the population size for **Patrolled** asset management inspections.	IN-1.1, IN-1.2, IN-5
1	37	Provide the population size for **Detailed Inspections** asset management inspections.	IN-1.1, IN-1.2, IN-5
1	38	Provide the population size for **Infrared** asset management inspections.	IN-3
1	39	Provide the population size for **LiDAR** asset management inspections.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	40	Provide the population size for **Intrusive Pole Inspection** asset management inspections.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	41	Provide the population size for **UAV Survey** asset management inspections.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	42	Provide the population size for **any other (not listed)** asset management inspections.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8

1	43	Do the QC reviews include a statistically valid sample size for Asset Management Inspection **Patrols**? If so, provide the **Confidence Level and Margin of Error** (e.g., 99% / 5%) used to determine the sample size.	IN-1.1, IN-1.2, IN-5
1	44	Do the QC reviews include a statistically valid sample size for Asset Management **Detailed Inspections**? If so, provide the **Confidence Level and Margin of Error** (e.g., 99% / 5%) used to determine the sample size.	IN-1.1, IN-1.2, IN-5
1	45	Do the QC reviews include a statistically valid sample size for Asset Management **Infrared Inspections**? If so, provide the **Confidence Level and Margin of Error** (e.g., 99% / 5%) used to determine the sample size.	IN-3
1	46	Do the QC reviews include a statistically valid sample size for Asset Management **LiDAR Inspections**? If so, provide the **Confidence Level and Margin of Error** (e.g., 99% / 5%) used to determine the sample size.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	47	Do the QC reviews include a statistically valid sample size for Asset Management **Intrusive Pole Inspections**? If so, provide the **Confidence Level and Margin of Error** (e.g., 99% / 5%) used to determine the sample size.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	48	Do the QC reviews include a statistically valid sample size for Asset Management **UAV Inspections**? If so, provide the **Confidence Level and Margin of Error** (e.g., 99% / 5%) used to determine the sample size.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	49	Do the QC reviews include a statistically valid sample size for Asset Management **Not Listed Inspections**? If so, provide the **Confidence Level and Margin of Error** (e.g., 99% / 5%) used to determine the sample size.	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	50	Is there a **desktop review** (paper / electronic) of completed **Asset Management Inspection** work? • If so, who conducts the desktop review? • What percentage of the completed work is subject to a desktop review?	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	51	Has the utility established an **Acceptable Quality Level** (AQL) for its **asset management & inspection** contractors? • If so, does it vary by activity? • Provide certification listings for internal and contractor support	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	52	What is the AQL for **Patrol Inspection** activities?	IN-1.1, IN-1.2, IN-5
1	53	What is the AQL for **Detailed Inspection** activities?	IN-1.1, IN-1.2, IN-5
1	54	What is the AQL for **Infrared Inspection** activities?	IN-3
1	55	What is the AQL for **LiDAR Inspection** activities?	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	56	What is the AQL for **Intrusive Pole Inspection** activities?	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8

1	57	What is the AQL for **UAV Inspection** activities?	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	58	What is the AQL for **Other Not Listed Inspection** activities?	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
1	59	Based on the conformance rate of these activities, are the **Asset Management & Inspection vendors** meeting the established AQL?	IN-1.1, IN-1.2, IN-3, IN-4, IN-5, IN-8
2	1	Location Data for applicable work performed under System Hardening activities. Excel sheet with Latitude, longitude, activity description, structure numbers, and activity identifiers will be accepted.	SH-2 SH-4 SH-5 SH-6 SH-8 SH-10 SH-11 SH-13 SH-14 SH-15
2	2	Location Data for applicable work performed under System Hardening activities. Excel sheet with Latitude, longitude, activity description, structure numbers, and activity identifiers will be accepted.	VM-1 VM-2 VM-3 VM-4
2	3	Location Data for applicable work performed under Situational Awareness activities. Excel sheet with Latitude, longitude, activity description, structure numbers, and activity identifiers will be accepted.	SA-1 SA-9
2	4	Please provide SCE's report cited in SCE 2021 WILDFIRE MITIGATION PLAN UPDATE (REVISION), showing which weather stations are most representative of specific circuits and identify new weather stations on some of the frequently impacted circuits.	SA-1
2	5	Please provide formalized documentation on the FPI 2.0 methodology (e.g., Specifications, user guide, etc.)	SA-2
2	6	Please provide evidence that the evaluation of FPI 2.0 performance against previous FPI methodology and compare outputs for the 2021 fire season currently evaluating FPI 2.0 data output calculated on the circuit level and backcasted over a 40-year historical period by Fire Seasons. (e.g. dated evaluation reports containing data inputs, outputs and comparisons results, Team status emails, etc.)	SA-2
2	7	Please provide a sample of bi-weekly vendor supply fuel sampling report, and all associated policy, procedure, and evidence of how SCE evaluates the need to sample additional locations	SA-5

2	8	Please provide methodology/testing policy, procedure & evidence.	SA-4
2	9	Please provide evidence of the wind profiler projects initiation and completion dates.	SA-4
2	10	Provide NGWMS purchase receipt(s), installation work order(s) for both high-performance computing clusters, evidence of a 1km x 1km ensemble weather forecast, & evidence for extended PSPS 5 and 7 day forecasts.	SA-3
2	11	Identification Data for applicable work performed under Inspection activities. Excel sheet with total population of activity identifiers will be accepted.	IN-3 IN-4 IN-1.1 IN-5 IN-1.2
2	12	All process documentation governing how inspections are performed.	
2	13	Identification Data for applicable work performed under Emergency Planning and Preparedness activities. Excel sheet with total population of activity identifiers will be accepted.	DEP-2 DEP-1.2
2	14	Guidehouse/IE are requesting a meeting with the accounting group to better understand and verify the spend reported in the ARC.	N/A
3	1	Please provide detailed transactions that will allow us to verify the funding reported for all wildfire work associated with SA-1 in the 2021 ARC.	SA-1
3	2	Provide bi-weekly vendor supply fuel sampling reports for the 15 selected sites. Provide evidence of conducting an evaluation on the need to sample additional locations	SA-5
3	3	Provide the remote sensing LiDAR data, report, and results from the October pilot project and wind profiler deployments that have taken place since.	SA-7
3	4	Please provide the supporting documentation to corroborate the number of Distribution Fault Anticipations presented in SCE Q4 2021 QIU (e.g., list of all installed DFAs in 2021, date of installation, location, etc.)	SA-9
3	5	Please provide supporting documentation to collaborate the initiation the contract with the vendor for the development of the climatology output containing a 40-year history of wildfires for multiple variables (e.g., purchase order, signed contract, scope of work, evidence of developed climatology output).	SA-8
3	6	Please provide evidence that the remaining 50% of circuits in HFRA were evaluated in 2021 based on the methodology developed by SCE	SH-7

3	7	Please provide the internal assessment of vendors bid and location options. If the assessment was favorable, please provide the Engineering Procurement Construction (EPC) contract.	SH-12
3	8a	Were any CRC sites activated during PSPS events in 2021, if so, which ones.	PSPS-2a
3	8b	Provide evidence of the 4 community resiliency program agreements	PSPS-2b
3	8c	Number of MBLs taking part in CCBB program	PSPS-2c
3	8d	Evidence of microgrid installations performed	PSPS-2d
3	8e	Evidence of the 131% increase in customer participation of the well water & residential batter station rebates	PSPS-2e
3	9	Please provide a description of your data management program and any supporting documentation	DG-1
3	10	List of all 1300 circuits with prescribed mitigations performed	VM-4
4	1	Provide **sample results of QC reviews of vegetation management** activities conducted in 2021. (Monthly, quarterly, or annual summary report, as available).	VM-1, VM2, VM-3, VM-4, and VM-6
4	1a	Follow up to DR 1 request above: Response to question does not address question asked. Please provide sample results of QC reviews of vegetation management activities conducted in 2021. (Monthly, quarterly, or annual summary report, as available).	
4	2	**Pole clearing** population size in 2021 (e.g., annual number of poles that require clearing per the regulations, all poles with equipment that could be an ignition source, etc..)	VM-2
4	2a	Follow up Question to DR 1 request above: Were all poles under the PRC cleared in 2021 and if yes, how is this verified without doing QC? Since WMPs have been required, have there been any ignitions at non-exempt pole locations? Once the pole is cleared, how is clearance maintained after the initial clearance?	
4	3	If QC reviews include a statistically valid sample size, please provide the **confidence level and margin of error** (e.g., 99% / 5%) used to determine the sample sizes for **Detailed Pre-Inspection**	VM-1, VM2, VM-3, VM-4, and VM-6
4	3a	Follow up question to DR1 request above: What is the result of the QC, i.e., does QC verify that 100% of the remediations have been completed?	
4	4	If QC reviews include a statistically valid sample size, please provide the **confidence level and margin of error** (e.g., 99% / 5%) used to determine the sample sizes for **Hazard Tree Work**	VM-1, VM-4

4	4a	Follow up question to DR 1 request above: SCE indicates that 100% quality control has been conducted to verify that all hazard trees have been remediated. Is there protocol in the HTP that ensures all trees have been correctly identified for remediation?	
4	5	If QC reviews include a statistically valid sample size, please provide the **confidence level and margin of error** (e.g., 99% / 5%) used to determine the sample sizes for **Pole Clearing**	VM-2
4	5a	Follow up question to DR1 request above: How does SCE verify that the pole clearing that was conducted in 2021 (as stated in response to question 17) has been completed to spec without QC?	
4	6	What is the AQL for **Hazard Tree Work** activities?	VM-1, VM-4
4	6a	Follow up question to DR request 1: What qualifications do the personnel performing tree risk assessment have; does SCE require minimum qualifications/experience and ISA TRAQ certification for personnel conducting the assessments? If not using ISA TRAQ methodology, are the independent assessments conducted using another uniform methodology to reduce the subjectivity of risk assessment? If there is nothing established, how does SCE ensure that trees were correctly identified in their Hazard Tree Program?	
4	7	Based on the conformance rate of these activities, are the **vegetation management vendors** meeting the established AQL?	VM-1, VM2, VM-3, VM-4, and VM-6
4	7a	Follow up question: Have any ignitions been recorded by transformers during 2021?	
4	9	How many legacy facilities were cleared in 2021?	
4	10	In reference to section 7.3.5.5.4, what was the result of the study for determination of best practices for fuel management within SCE's service area?	VM-1, VM2, VM-3, VM-4, and VM-6
5	1	Documentation supporting the vendor work was reprioritized to support other emergent work and vendor resource constraints (e.g., dated emails, revised contracts, etc.).	SA-8
5	2	Provide an inventory of all applicable distribution circuits in HFRA	IN-3
5	3	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	IN-3
5	4a	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	IN-1.1
5	4b	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	IN-1.2
5	5a	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	IN-1.2

5	5b	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	IN-1.3
5	6	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	IN-4
5	7	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	IN-5
5	8	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	VM-3
5	9	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	VM-1
5	10	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	VM-4
5	11	Please provide the types of certifications and training courses IMT received or attended.	DEP-2
5	12	Please provide examples of community engagement. For example, a community engagement plan outlining timing, messaging mediums, frequency, etc. If available, provide samples of posts/flyers/mailers/etc. that were sent to customers.	DEP-1.3
5	13	Provide a copy of the surveys sent and/or tracking metrics showing engagement or number of responses.	DEP-4
5	14	Provide copies of the MOUs and/or evidence of payments sent.	DEP-5
6	1	Please provide location data and/or maps that show SCE's "Areas of Concern" related to wildfire protection.	
7	1	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SA-1
7	2	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SA-9
7	3	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SH-2
7	4	Provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SH-5
7	5	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SH-6
7	6	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SH-8
7	7	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SH-13
7	8	Please provide work orders or other evidence for the sample set identified in the "Initiatives Requiring Sampling" workbook.	SH-15

7	9	Provide assessment/evaluation spreadsheet/list and materials for the completed 5 Hydro Control Circuits completed in 2021. Provide 2 project plans based on the Low Voltage Site Hardening 2020 engineering assessment, and list of 12 ground studies/lightning arrestor assessments completed in 2021.	SH-11
7	10	Why were ground inspectors not trained fully by end of 2021? What was the delay that caused them to be trained in 2022?	IN-8
7	11	In response to Data Request 5 03_IE05-SCE-2021 Q. 03 Answer additional evidence is required to support inspections are completed. Evidence needs to support actual inspections were completed as identified in the WMP. Examples of evidence could match what was provided in Data Request 5 response 06_IE05-SCE-2021 Q. 06 Answer, screenshots of the actual system used to generate the spreadsheet provided 03_IE05-SCE-2021 Q. 03 Answer, or other system generated evidence.	IN-3
7	12	Interview request to discuss the removal of the QA/QC Inspections from the 2021 WMP activities.	
7	13	Please provide the annual QC targets and/or goals for the following: Compliance QCI for High Fire Risk Areas (HFRA) and non-HFRA, Hazard Tree Mitigation and Assessment QCI, Dead and Dying Tree Mitigation, formerly Drought Resolution Initiative (DRI) and SB-247 Threshold reporting to the Wildfire Safety Division for SCE's 2021 WMP VM Goals Compliance.	
7	14	Provide the lists of all Quality Control Inspections (QCI) completed for each of the identified QC Targets.	
7	15	Provide la list of all QC reviews of vegetation management activities conducted in 2021. (Monthly, quarterly, or annual summary report, as available).	
7	16	Please provide the Asset Management & Inspections annual QC targets and/or goals for all initiatives under category.	
7	17	Provide the lists of the Quality Control Inspections (QCI) completed for each of the identified QC Targets.	
8	1	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	SA-1
8	2	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	SA-9
8	3	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	SH-2
8	4	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	SH-5

8	5	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	VM-2
8	6	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	SH-8
8	7	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	SH-13
8	8	Provide work orders or other evidence for the sample set identified in the "Field Verifiable Initiatives Requiring Sampling" workbook.	SH-15
9	1	In response to IE07- Question 2, SCE provided 02_DFA 2021 - In-Service Emails, containing emails from the vendor or the Construction Project Manager confirming the DFA devices became available and were communicating to the Master Station. Please provide additional detailed information demonstrating that the sampled DFAs were in service and communicating with the Master Station. (e.g., Master Station screen captures of the DFA in service, data received or other evidence).	SA-9
9	2	Location Data for applicable work performed under System Hardening activities. Excel sheet with Latitude, longitude, activity description, structure numbers, and activity identifiers will be accepted. The data must also include circuit miles in order to verify the number of miles of covered conductor installed.	SH-1
9	3	Please provide SCE's procedures QCP-006 and QCP-014 associated with the QCQA program for Asset Management and Inspections.	
10	1	In the 2021 Annual Quality Control Plan is states that Quality Control Inspections (QCI) will be performed by QC contractor California Forestry Vegetation Management (CFVM) and are scheduled by the Quality Control Scheduler (QCS). Please provide the schedule developed by the QCS for the QCI inspections in 2021 as well as job descriptions for both positions and lists of inspection results (if not previously provided).	
10	2	Please provided documentation on SCE’s Audit Services Department (ASD) assessment of the WMP implementation, documentation may include: policies / procedures defining ASD's responsibility for performing audits of the WMP, and risk-informed audits of SCE’s electrical line and equipment inspection program, etc. (if not previously provided).	
10	3	Please provide evidence demonstrating implementation and use of SCE's performance dashboard to understand the progress on its wildfire mitigation activity goals (e.g., Screen capture, user	

		guide, meeting minutes with senior leadership, example of initiative off track and stops taken, etc.)
10	4	Please provided documentation on T&D organization's Compliance and Quality (C&Q) group that develops QC and QA processes, documentation make include: policies / procedures defining C&Q's responsibilities, QA/QC processes, QC Inspection scope, etc. (if not previously provided)
10	5	Please explain SCE QC's process for using the Reax risk-stratification model to determine the volume and location where to perform its sample inspections and provide supporting documentation.
10	6	Please provide the status of the updating the 2021 program risk rankings to be used in risk-stratified sampling process.

APPENDIX B: INSUFFICIENT FIELD INSPECTION FINDINGS REPORTS

VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	4de81fa-7854-49ba-9f94-e3802f98fbd6
Inspection Date	5/18/2022		
Pole/Tower ID	1843594e		
Structure Type			
Voltage			
Address *(if available)*	8344 Soledad Canyon		
Location	Latitude	34.438981	
	Longitude	-118.281022	

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Not Compliant

Describe Not Compliant Findings

Not cleared to bare dirt around pole, green and desicated vegetation within 6’ of pole and up to 8' of horizontal plane

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10’ radial clearing of vegetation
Photo 2 – 10’ radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary


59619

VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	ab2c840d-afcf-4203-b919-65263d7c3485
Inspection Date	5/18/2022		
Pole/Tower ID	1661091E		
Structure Type			
Voltage			
Address *(if available)*	6201 Soledad Canyon Road		
Location	Latitude	34.439558	
	Longitude	-118.238196	

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Compliant

Describe Not Compliant Findings

Not cleared to bare dirt, however, unlikely to allow fire to spread

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary

VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	c1eb77d9-b907-4a2f-b2ea-b811351756ee
Inspection Date	5/18/2022		
Pole/Tower ID	441449E		
Structure Type			
Voltage			
Address *(if available)*			
Location	Latitude 34.514483		
	Longitude -118.237738		

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Not Compliant

Describe Not Compliant Findings

Not cleared to bare dirt. Sparse vegetation but has potential to carry fire. No structure matching point given. Pole number doesn't match point.

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary

VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	7d84cda5-ac3c-4a49-8bef-8412e5fc103a
Inspection Date	5/18/2022		
Pole/Tower ID	1661731E		
Structure Type			
Voltage			
Address *(if available)*	5309 La Canada Blvd		
Location	Latitude 34.22291		
	Longitude -118.204943		

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

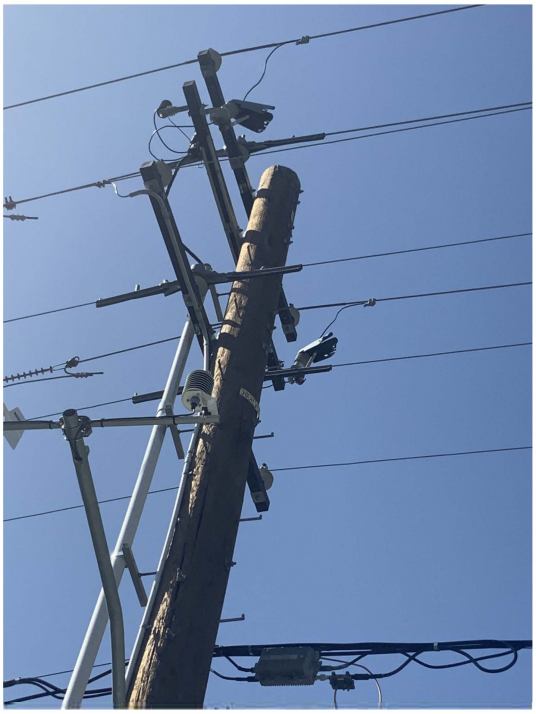
Not Compliant

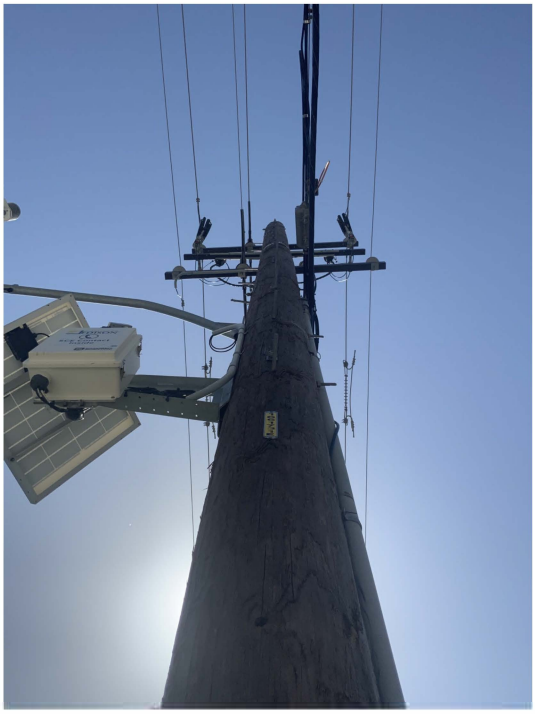
Describe Not Compliant Findings

Landscaping around pole densely planted and higher than 12"

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary





VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	e1025854-58fb-426f-8f54-a55ed63850de
Inspection Date	5/18/2022		
Pole/Tower ID	13124A		
Structure Type			
Voltage			
Address *(if available)*	330 Whiting Woods Road		
Location	Latitude 34.213891		
	Longitude -118.252355		

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

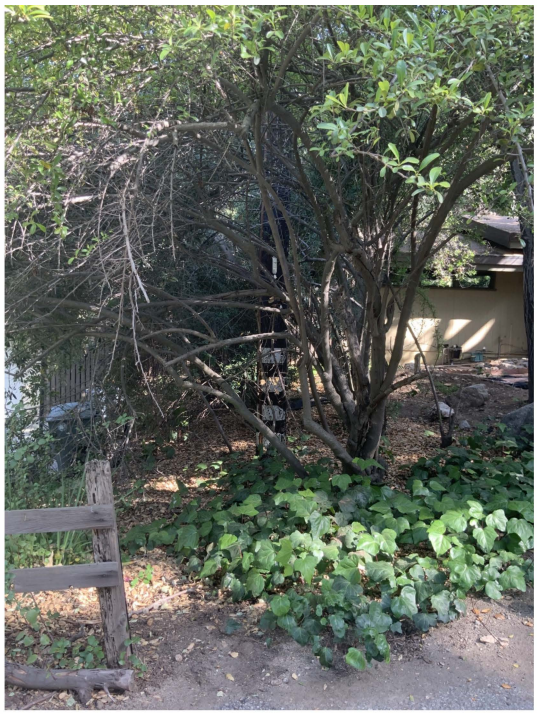
Not Compliant

Describe Not Compliant Findings

Pole number does not match data point, point listed as unknown but appears as non exempt based on equipment

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary



VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	bedcfbfc-0fdf-4b0d-b527-ac0cc6b12d54
Inspection Date	5/19/2022		
Pole/Tower ID	4709347E		
Structure Type			
Voltage			
Address *(if available)*			
Location	Latitude 33.519123		
	Longitude -117.17709		

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Not Compliant

Describe Not Compliant Findings

Green vegetation within 6 feet of pole at 14 feet above grade. Majority bare ground cleared but some vegetation has resprouted

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary

VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	8b514661-b247-4ae1-bf4a-f2e0ee4f7c5c
Inspection Date	5/19/2022		
Pole/Tower ID	215084E		
Structure Type			
Voltage			
Address *(if available)*			
Location	Latitude 33.488382		
	Longitude -117.24108		

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Not Compliant

Describe Not Compliant Findings

Trees planted within 10' of pole

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary

VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	1f442365-f30c-4c5a-ac40-e21236f74748
Inspection Date	5/19/2022		
Pole/Tower ID	4465636E		
Structure Type			
Voltage			
Address *(if available)*	28950 Via Santa Rosa		
Location	Latitude 33.472944		
	Longitude -117.159122		

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Not Compliant

Describe Not Compliant Findings

Green vegetation within 4-6 feet of pole

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary

VEGETATION MANAGEMENT INSPECTION REPORT – POLE CLEARING

Utility	Southern California Edison		
Inspector	Lexi Caselli	**Object ID**	863a3886-4a45-4876-8ced-c28f4d10b947
Inspection Date	5/19/2022		
Pole/Tower ID	4441818E		
Structure Type			
Voltage			
Address *(if available)*	44760 Via Gordon		
Location	Latitude	33.478567	
	Longitude	-117.154686	

CONDITIONS

1. PRC 4292 – Clearing of not less than 10 feet in each direction from the outer circumference of pole or tower

2. CCR 1254 – Minimum Clearance Provisions

(a) At ground level - remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will allow fire to spread, and;

(b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 8 feet.

(c) From 8 feet to horizontal plane of highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

Not Compliant

Describe Not Compliant Findings

Green vegetation touching pole; ground not cleared to 10'

Inspection Photos and Descriptions

Photo 1 – Base of pole or tower depicting 10' radial clearing of vegetation
Photo 2 – 10' radial cylinder from ground to horizontal plane of highest point of conductor
Other photos as necessary