2022 Wildfire Mitigation Plan Independent Evaluator Annual Report on Compliance

Prepared for:

Southern California Edison

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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 and activities Southern California Edison (SCE) implemented in 2022, an accounting of whether SCE met its performance objective targets, has underfunding any of those initiatives, and is following its QA/QC processes. The Independent Evaluator (IE) review of these elements determined that SCE is largely achieving the initiative objectives. The IE also determined that, while SCE is underfunding several initiatives, this underfunding does not appear to be significantly impacting completion of SCE's portfolio of its initiatives. Finally, SCE is applying and following its QA/QC processes.

The table below illustrates the IE findings for those initiatives that were not deemed sufficient due to a lack of, or insufficiency of, evidence to completely validate the reporting during the review period or funding below the planned 2022 targets set forth by the **SCE 2022 WMP Update.pdf, dated February 18, 2022**. In summary, 34 of the 39 WMP activities were underfunded and one small volume quantifiable initiative activity targets were not met. The small volume quantifiable activity was self-reported by SCE.

Table 1-1: SCE 2022 WMP Execution – Findings

2022 Initiative/ Activity Identifier	SCE WMP Identifier	Initiative Name	Finding	Details on Finding
7.3.3.17.2	SH-11	Legacy Facilities	Initiative Target Not Met	SCE targeted to complete three areas as part of this initiative in 2022. SCE reported to the IE that the target was met for: a. Grounding Studies/Lightning Arrestor Assessments and Remediations, and b. Low Voltage Site Hardening. SCE self-reported to the IE the full target for c. Hydro Control Circuits was not met due to a delay in environmental permits (See section 2.1.4 for additional detail).
7.1.E	7.1.E	Alternative Technology Pilot Programs	Initiative Underfunded	See Section 2.2 for additional detail
7.3.7.1	DG-1	Centralized repository for data	Initiative Underfunded	See Section 2.2 for additional detail
7.3.9.5	7.3.9.5	Preparedness and planning for service restoration	Initiative Underfunded	See Section 2.2 for additional detail
7.3.9.1	DEP-2	Adequate and trained workforce for service restoration	Initiative Underfunded	See Section 2.2 for additional detail
7.3.6.5	7.3.6.5	Protocols for PSPS re-energization	Initiative Underfunded	See Section 2.2 for additional detail

2022 Initiative/ Activity Identifier	SCE WMP Identifier	Initiative Name	Finding	Details on Finding
7.3.6.6.2.2	7.3.6.6.2.2	Customer Resiliency Equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.6.6	PSPS-2	PSPS events and mitigation of PSPS impacts	Initiative Underfunded	See Section 2.2 for additional detail
7.3.4.10	IN-1.2b	Other discretionary inspection of transmission electric lines and Remediations in HFRA	Initiative Underfunded	See Section 2.2 for additional detail
7.3.4.5	IN-4	Infrared inspections of transmission electric lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.4.9.1	IN-1.1a	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Initiative Underfunded	See Section 2.2 for additional detail
7.3.4.10	IN-1.2a	Other discretionary inspection of transmission electric lines and Remediations in HFRA	Initiative Underfunded	See Section 2.2 for additional detail

2022 Initiative/ Activity Identifier	SCE WMP Identifier	Initiative Name	Finding	Details on Finding
7.3.8.1	7.3.8.1	Allocation methodology development and application	Initiative Underfunded	See Section 2.2 for additional detail
7.3.2.2	SA-10	Continuous monitoring sensors	Initiative Underfunded	See Section 2.2 for additional detail
7.3.2.4	Multiple	Forecast of a fire risk index, fire potential index, or similar	Initiative Underfunded	See Section 2.2 for additional detail
7.3.10.1.3	DEP-4	Community engagement	Initiative Underfunded	See Section 2.2 for additional detail
7.3.10.1.1	DEP-1.2	Community engagement	Initiative Underfunded	See Section 2.2 for additional detail
7.3.10.1.2	DEP-1.3	Community engagement	Initiative Underfunded	See Section 2.2 for additional detail
7.3.3.16	SH-2	Undergrounding of electric lines and/or equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.3.7	SH-4	Expulsion fuse replacement	Initiative Underfunded	See Section 2.2 for additional detail
7.3.3.9	SH-5	Installation of system automation equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.3.17.1	SH-8	Updates to grid topology to minimize risk of ignition in HFTDs	Initiative Underfunded	See Section 2.2 for additional detail

2022 Initiative/ Activity Identifier	SCE WMP Identifier	Initiative Name	Finding	Details on Finding
7.3.3.17.2	SH-11	Updates to grid topology to minimize risk of ignition in HFTDs	Initiative Underfunded	See Section 2.2 for additional detail
7.3.3.8.1	SH-12	Grid topology improvements to mitigate or reduce PSPS events	Initiative Underfunded	See Section 2.2 for additional detail
7.3.3.15	SH-13	Transmission tower maintenance and replacement	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.12	7.3.5.12	Patrol inspections of vegetation around transmission electric lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.20	7.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.3	7.3.5.3	Detailed inspections and management practices for vegetation clearances around transmission electrical lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail

2022 Initiative/ Activity Identifier	SCE WMP Identifier	Initiative Name	Finding	Details on Finding
7.3.5.11	7.3.5.11	Patrol inspections of vegetation around distribution electric lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.7	7.3.5.7	Remote sensing inspections of vegetation around distribution electric lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.16.1	VM-1	Removal and remediation of trees with strike potential to electric lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.5.1	VM-2	Fuel management (including all wood management) and management of “slash” from vegetation management activities	Initiative Underfunded	See Section 2.2 for additional detail

2022 Initiative/ Activity Identifier	SCE WMP Identifier	Initiative Name	Finding	Details on Finding
7.3.5.5.2	VM-3	Fuel management (including all wood management) and management of “slash” from vegetation management activities	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.16.2	VM-4	Removal and remediation of trees with strike potential to electric lines and equipment	Initiative Underfunded	See Section 2.2 for additional detail
7.3.5.13	VM-5	Quality assurance / quality control of vegetation management	Initiative Underfunded	See Section 2.2 for additional detail

1. Introduction

The Introduction should state the date the IE contract was executed with the Electric Corporation (EC). It should contain upfront context and a high-level summary of the work performed by the Independent Evaluator.

The Southern California Edison service territory covers a vast stretch of Southern California and serves more than 15 million people. 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 as a result of 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 review and assessment of 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 on July 1, 2023.

This IE report aims to verify the WMP compliance activities of SCE, a regulated investor-owned utility (IOU) under the CPUC, for its 2022 performance as it corresponds to the initiatives the IOU planned to accomplish in 2022 compared to actual performance, verify whether those activities were funded appropriately, and validate and describe the EC's QA/QC programs for WMP compliance.

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

[2] NV5 and Guidehouse were designated as an eligible Qualified Independent Evaluator on March 17, 2023 by the Office of Energy Infrastructure Safety as identified in the *Revised Independent Evaluator List for 2022 Wildfire Mitigation Plans* available at: **https://efiling.energysafety.ca.gov/eFiling/Getfile.aspx?fileid=53477&shareable=true**.

[3] California Office of Energy Infrastructure Safety in partnership with California Department of Forestry and Fire Protection, Request for Qualifications: Independent Evaluators List, RFQ No.: 22-132565, December 23, 2022.

1.1 Methodology and Approach

The Report is the product of the IE's assessments of the EC's WMP, publicly available documentation submitted to the Office of Energy Infrastructure Safety, data request responses, field visits, and interviews with the EC's subject matter experts (SMEs). The Report scope includes an assessment of the successful implementation of the EC's WMP initiative activities, funding, and QA/QC efforts executed in 2022.

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.
- **Identify candidate areas for field inspections:** Using geolocational data provided 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 2022.
- **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.

Additional Evaluation Approach Information

For 2022, Energy Safety identified and assigned ten additional activities to be performed and tracked within the Vegetation Management program for SCE. During the evaluation process, it was unclear to the E and the IE as to whether these items should be included within the evaluation process. The IE, SCE and Energy Safety conducted a call to understand the purpose and expectation for inclusion of these activities during the evaluations. The IE then conducted a call with Energy Safety on Thursday, May 11, 2023, and determined seven of the ten additional activities would be evaluated. The following activities were identified for inclusion:

Table 1-1 Additional WMP Activities in Scope

Initiative/Activity	Initiative Description
Vegetation Management	Detailed inspections and management practices for vegetation clearances around Distribution electrical lines and equipment
Vegetation Management	Detailed inspections and management practices for vegetation clearances around Transmission electrical lines and equipment
Vegetation Management	Substation Inspections
Vegetation Management	Vegetation Inspections Audited Annually
Vegetation Management	Pole brushed per PRC 4292
Vegetation Management	Transmission LiDAR vegetation inspections
Vegetation Management	Substation vegetation inspections

2. 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.

2.1 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 2022 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.

2.1.1 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 the 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"

[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**

which is the US federal government's General Accounting Office's auditing guidebook) and the Institute of Internal Auditors (IIA).[5]

This handbook sets forth the statistically valid sample size for different populations as can be seen in **Table 2-1: 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 Federal Energy Regulatory Commission (FERC) as part of the Federal Power Act Sec 215.[6]

Table 2-1: Sampling Methodology Based on Overall Population

Population Description	Sample Selection
Independent Population of Elements (Examples: Facilities, Line Miles, Financial Spend, etc.)	Using Statistical or Judgmental 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 was generated, the IE developed and utilized a random sampling tool developed in Excel for desktop verifications or the IE's proprietary mapping and auditing tool, INSITE, for field verifications, 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 compared these results with documentation produced by the EC to verify accuracy in reporting.

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

[6] 16 U.S.C. § 824o.

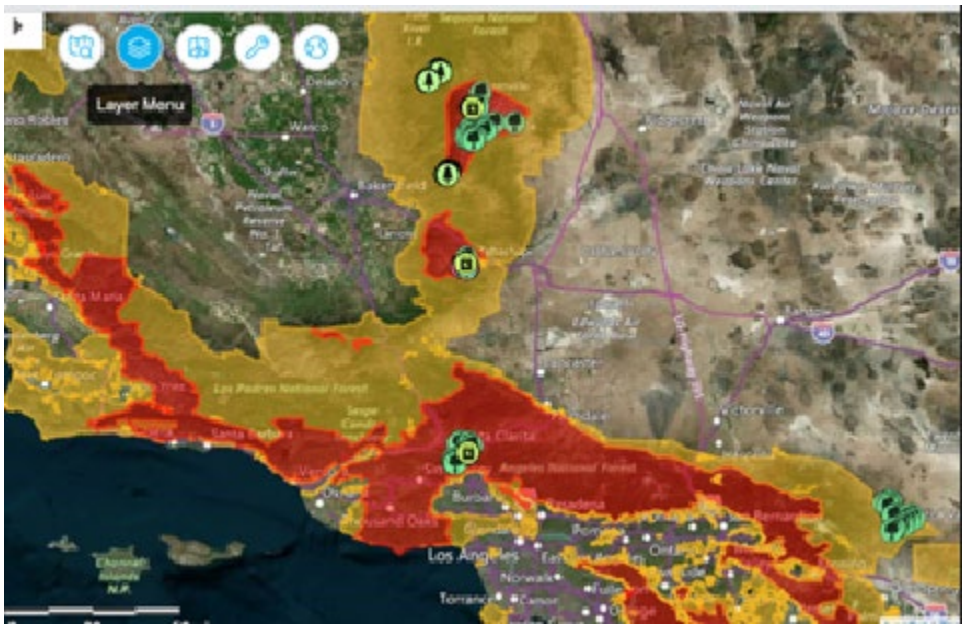
The IE identified sample areas with conditions illustrating high fire risk and ignition potential within the EC's service territory. The field inspection location boundaries were layered over the service territory of the utility, along with owned and operated assets, and other geological factors to determine 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 risk of wildfire was also a consideration in the selection of regions to conduct field verifications. Field verification activities concentrated on areas thar were within a tier 3 High Fire Risk Area (HFRA) or immediately proximate to these zones. The final regions were selected in consultation with Energy Safety and focused on areas that: (1) Energy Safety had not done its own verifications and/or previously found issues, (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 by the IE in previous evaluation years.

The IE then developed and utilized a random sampling tool developed within INSITE to randomly select assets for field verification within the chosen zones and was a separate sampling from the desktop sampling performed.

SCE field verification activities were concentrated in the areas shown below in Figure 2-1. Site selection was made using the methodology and criteria explained above and in consultation with Energy Safety.

Figure 2-1 SCE Field Verification activities



2.1.2 Large Volume Quantifiable Goal/Target – Field Verifiable

2.1.2.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of electrical corporation 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 electrical corporation 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.

Table 2-2: Large Volume Quantifiable Goal/Target – Field Verifiable

Program Categories	WMP Identifier	Initiative/ Activity	2022 Target	Target Achieved
Grid Design & System Hardening	SH-1	Covered Conductor	1,100 circuit miles in HFRA	Yes
Grid Design & System Hardening	SH-10	Tree Attachment Remediation	500 tree attachment remediations	Yes

Program Categories	WMP Identifier	Initiative/ Activity	2022 Target	Target Achieved
Grid Design & System Hardening	SH-4	Branch Line Protection Strategy	350 locations with installed / replaced fuses	Yes
Grid Design & System Hardening	SH-14	Long Span Initiative	1,400 of assessments	Yes
Vegetation Management & Inspections	VM-2	Pole Brushing	78,700 poles cleared	Yes
Vegetation Management & Inspections	VM	Poles Brushed per PRC 4292	900 poles brushed (cleared)	Yes

Covered Conductor Installation (SH-1)

Section 7.3.3.3.1 of the ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target to install 1,100 circuit miles of covered conductor in HFRA territory and a stretch goal of 1,250 circuit miles. As reported in the ARC, SCE indicated that installation of covered conductions in HFRA were installed for 1,399 circuit miles in 2022, exceeding the target.

The IE submitted Data Request 1 for initial data to develop a random sample for field verification via the GIS QDR and desktop verification based on the methodology described in section 3.1.1 above. The IE used the lists provided in response to Data Request 1 in document ***SH1 WCCP.xlsx*** to develop a random sample of 33 items for the desktop verification and the GIS QDR data to sample 40 assets for field verifications, leaving a margin of error due to potential accessibility limitations or restrictions.

To further confirm the target completion for this activity, the IE performed a desktop review. The IE developed a sample of the total installations and submitted Data Request 5 for documentation to support and demonstrate the performance of this initiative. In response, SCE provided workbook ***04_IE05-SCE-2022 Q. 04 Answer.pdf***, which included the list of completed work orders, latitude and longitude data, Functional Location (FLOC) and the date of completion. The IE compared the sampled data and verified that the work was completed in 2022 at each individual location sampled and did not identify any non-compliance during the desktop review.

During the field verifications, IE was able to access all but two sampled items, which could not be ground, or Unmanned Aerial Vehicle (UAV), inspected due to access or weather restrictions. The margin of error allowed the IE to complete a full verification if items were not accessible. The IE did not identify any non-compliance during the field verification.

Finding: Based on the evidence provided, the desktop review, and the field verification of the random sample, the IE determined with reasonable assurance SCE met and exceeded their 2022 target of installing covered conductors for a minimum of 1,100 circuit miles.

Tree Attachment Remediation (SH-10)

Section 7.3.3.3.2 of ***SCE 2022 WMP Update.pdf*** and the***SCE_2022_ARC_20230331.pdf*** included a 2022 target of completing tree attachment remediation on 500 trees. SCE also provided a stretch target of completing 700 tree attachment remediations. According to the ARC, SCE completed 964 tree attachments in HFRA.

To verify the tree attachment remediations occurred, the IE reviewed ***SH-10 Tree Attachments*** as provided in response to Data Request 1, which contained a record of 960 tree attachments completed in 2022. The IE developed a sample of 29 items from the list in the response to the data request and submitted Data Request 5 requesting detailed work order numbers, circuit, and other documentation demonstrating the remediations occurred in 2022.

In response to Data Request 5, SCE provided the following documents that were reviewed by the IE:
05_IE05-SCE-2022 Q. 05 Answer
05_(F) TD1647734_DWG_pg4
05_MAPS TD1647732_pg15
05_MAPS TD1647732_pg23
05_MAPS TD1648913_pg1
05_MAPS TD1648913_pg26

Within the above documents provided in response to Data Request 5, which included work orders including completion dates, location information and other relevant data correlating to the samples and corroborating the completed work performed, SCE included details about four items with discrepancies and stated they would provide additional documentation for four items. SCE provided an additional supplemental response to Data Request 5 after they completed further investigation. The supplemental document, ***IE05-SCE-2022 Q. 10 Supplemental Answer.pdf,*** which, in summary, described how SCE had accounted for 99 remediations that were burned trees from 2020 or 2021. After those trees were burned, they were reassigned to a different work order, which SCE then included as part of the 2022 tree attachment

remediation work. The IE reviewed the response and determined, although there were 99 remediations inadvertently included in the documentation, SCE still completed the target of remediating 500+ tree attachments. The IE has identified a gap in controls for data accuracy and tracking, and recommends SCE develop additional controls to ensure the accuracy of the information and data being used for accounting for the work completed.

To further validate, and due to the size and nature of this activity, a field verification was performed to assist the IE with gaining reasonable assurance that these remediations occurred. The initial sample of 29 items for the field inspection was determined to be unusable due to the limited location accessibility; Access to these assets was not possible due to road closures, downed trees, etc. Therefore, an additional sample of 26 assets was developed and used for the field verification. The IE performed the field verifications on the updated sampled items and did not identify areas of concerns or discrepancies.

Finding: Based on the documentation provided, desktop reviews and the results of the field inspection, the IE has reasonable assurance SCE met its 2022 target of completing a minimum of 500 tree attachment remediations.

Expulsion Fuse Replacement (SH-4)

Section 7.3.3.7 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf,*** included a 2022 target of installing or replacing fusing at 350 fuse locations that serve HFRA circuitry, and a stretch target of up to 483 locations subject to resource constraints and other execution risks. SCE reported completing 369 installations or replacements of fuse locations that serve HFRA circuitry.

The IE submitted Data Request 1 for the annual completion numbers specific to this activity. SCE provided document ***SH-4 Branch Line Fuse*.xlsx** which was a list of the total fuse locations. The IE developed a sample of 29 assets from the list provided in response to Data Request 5 requesting detailed work orders and other documentation to demonstrate the activities were completed in 2022. SCE provided document ***07_IE05-SCE-2022 Q. 07 Answer.pdf***. This response included screenshots of work orders for each sample requested. The workorder included detailed information including replacement completion date, FLOC ID, and other details that demonstrate the fuse replacement occurred and was completed in 2022.

To further validate, and due to the size and nature of this activity, a field verification was performed to assist the IE with gaining reasonable assurance that these installations/ replacements occurred. The IE performed the assessments on the sampled items, however, were unable to locate or access 16 fuse locations due to the GIS QDR data location coordinates not providing the complete location detail or being located on private third-party property. The IE had built in a margin of error, increasing the number of sampled items to 68, which allowed for the field verification needed to make a determination on the work completion.

Finding: Based on the documentation provided, desktop reviews and the results of the field inspection; The IE has reasonable assurance that SCE met its 2022 target of installing or replacing fuses for at least 350 fuse locations that serve HFRA circuitry.

Long Span Initiative (SH-14)

Section 7.3.3.12 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target of completing 1,400 long span remediations in HFRA in 2022, and a stretch target of 1,800 long spans in HFRA. SCE reported completing 1,589 long span remediations in 2022.

The IE requested a list of the long span remediations from SCE in Data Request 6. In response, SCE provided document ***02_SH-14 LSI.xlsx*** with work order details pertaining to long span remediations which took place throughout 2022. The IE conducted a desktop review of the long span remediations provided and requested detailed documentation for 33 of the remediations performed in 2022 in Data Request 7. SCE provided detailed PDFs and photos in document ***IE07-SCE-2022 Q. 02 Answer.pdf*** pertaining to the 33 sampled remediations that took place in 2022. The evidence provided correlated with the sample population requested by the IE. Upon review, the IE has reasonable assurance SCE provided detailed work orders demonstrating the remediations occurred.

To further validate, and due to the size and nature of this activity, a field verification was performed to assist the IE with gaining reasonable assurance that these remediations occurred. The IE developed a sampling of 33 records using the GIS QDR data, however, were unable to locate or access 11 sampled items due to incomplete location data or private property limitations. The IE built in a margin of error, increasing the number of sampled items to 63, understanding there would be areas that would be inaccessible due to weather conditions, the margin allowed for the field verification needed to make a determination on the work completion. Field verifications on provided additional evidence that long span initiative work was completed.

Finding: The IE was able to obtain reasonable assurance that long span remediation occurred on the total targeted remediations of 1,400. It is noted that SCE reported they exceeded the target by completing a total of 1,589, exceeding the target.

Fuel management and reduction of "slash" from vegetation management activities – Expanded Pole Brushing (VM-2)

Section 7.3.5.5 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target to inspect and clear 78,700 poles in HFRA where clearance was needed, with a stretch target of 170,000 distribution poles SCE reported clearing 105,377 poles in HFRA in 2022.

To verify the expanded pole clearances, the IE requested a total list of clearances in Data Request 1. SCE provided document ***VM-2 Expanded Pole Brushing.xlsx*** in

response to Data Request 1 listing out record and structure IDs, completion date, and latitude/longitude data.

The IE then developed a sample of 33 records from the total list received and submitted the sample in Data Request 5 for documentation demonstrating the expanded pole clearance work was completed. SCE provided the response in ***17_IE05-SCE-2022 Q. 17 Answer.pdf***, which contained screenshots corroborating the IDs, status, longitude/latitude data and time stamps verifying authorization, and completion of work.

To further verify this activity, a field verification was performed to assist the IE with gaining reasonable assurance the clearances were completed. The IE developed a sample of 33 applicable records from the GIS QDR data provided using the Sampling Methodology and determined there were multiple areas where poles were not cleared to bare dirt or vegetation not cleared that supported the non-compliance determination. The IE notes, however, that all but two instances were likely regrowth of vegetation between the time of clearing and the inspection date. One finding was that the area appeared to be mowed rather than cleared. The other instance was the planting of an ornamental shrub within three feet of the pole on private property. The IE notes that due to the clearings happening annually, and the time lapse from the clearings to this evaluation, it is reasonable that the clearing was complete and re-growth occurred, and therefore has determined SCE met the target.

Finding: Based on the evidence provided, field verifications, and desktop reviews of the provided documentation, the IE has reasonable assurance SCE met the 2022 target of clearing the brush for a minimum of 78,700 poles.

Poles Brushed per PRC 4292

Section 7.3.5.5.2 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target to inspect and clear 55,100 poles in the applicable area with the PRC 4292 identified equipment. According to the ARC, SCE reported inspecting and clearing 72,328 poles in 2022.

To verify the inspections and clearings were performed, the IE submitted Data Request 6 for a total list of poles cleared per PRC 4292. SCE provided the list in document ***01_PRC4292 Poles Brushed.xlsx***. Upon review of the list, the IE developed a sampling of 33 applicable records and submitted Data Request 7 for additional documentation demonstrating the work was completed. SCE provided document ***IE07-SCE-2022 Q. 01Answer.pdf***, which included screen shots of the Fulcrum tracking system and detailed information of the project workorders, the counted/completion dates, and the identification ID which the IE compared to the sampled items and confirmed the response was completed and the sampled items were performed in 2022.

To further verify this activity, a field verification was performed to assist the IE with gaining reasonable assurance the clearances were completed. The IE developed a

sample of 32 applicable records[7] from the GIS QDR data provided using the Sampling Methodology and determined there was one record that was not accessible due to a locked gate, however, the IE has reasonable assurance SCE met the 2022 target.

Finding: Based on the evidence provided; the IE has reasonable assurance SCE met its target of completing at minimum 55,100 poles brushed with PRC 4292 equipment in 2022, despite the sampling error.

2.1.2.2 Trends and Themes

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

SCE demonstrated a substantial commitment to completing its large volume initiatives. With few exceptions noted in the writeups above, specific to the field verifications of the evaluation, SCE did meet the target from a desktop/documentation perspective. The IE did identify concerns with the location data for some of the activities, as referenced in the findings above, where applicable, and thus caused delays and issues with the verifications.

2.1.3 Large Volume Quantifiable – Not Field Verifiable

2.1.3.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of electrical corporation 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.

Table 2-3: Large Volume Quantifiable – Not Field Verifiable

Program Category	WMP Identifier	Initiative / Activity	Utility Initiative Name	2022 Target	Target Achieved
Situation Awareness & Forecasting	SA-1	Advanced weather monitoring and weather stations	Weather Stations	150 weather stations installed	Yes

[7] This was an error by the IE. The IE should have requested 33 samples according to the Sampling Methodology. This was further impacted by the fact that one item that was not accessible, which only allowed for 31 sample verifications, thus falling somewhat short of a statistically valid sample.

Program Category	WMP Identifier	Initiative / Activity	Utility Initiative Name	2022 Target	Target Achieved
Situation Awareness & Forecasting	SA-3	Weather forecasting and estimating impacts on electric lines and equipment	Weather and Fuels Modeling	400 weather Stations equipped with machine learning capabilities	Yes
Asset Management & Inspections	IN-3	Infrared inspections of distribution electric lines and equipment	Infrared Inspection of Energized Overhead Distribution Facilities and Equipment	4,408 distribution circuit miles in HFRA	Yes
Asset Management & Inspections	IN-4	Infrared inspections of transmission electric lines and equipment	Infrared Inspection, Corona Scanning, and High-Definition Imagery of Energized Overhead Transmission facilities and Equipment	1,000 transmission circuit miles in HFRA	Yes
Asset Management & Inspections	IN-9	Infrared inspections of transmission electric lines and equipment	Transmission Conductor and Splice Assessment	A) 75 Spans B) 50 splices Inspections C) 5 Conductor Samples	Yes
Asset Management & Inspections	IN-1.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	Distribution High Fire Risk-Informed Inspections in HFRA	150,000 structures in HFRA	Yes

Program Category	WMP Identifier	Initiative / Activity	Utility Initiative Name	2022 Target	Target Achieved
Asset Management & Inspections	IN-1.2	Other discretionary inspection of transmission electric lines and equipment, beyond inspections mandated by rules and regulations	Transmission High Fire Risk-Informed Inspections in HFRA	16,100 structures in HFRA	Yes
Asset Management & Inspections	IN-5	Generation High Fire Risk-Informed inspections and remediations in HFRA	Generation High Fire Risk-Informed Inspections in HFRA	190 structures in HFRA	Yes
Vegetation Management & Inspections	VM	Detailed inspections of vegetation around distribution electric lines and equipment	Detailed inspections and management practices for vegetation clearances around distribution electrical lines, and equipment	78,700 trees inspected	Yes
Vegetation Management & Inspections	VM (10)	LiDAR inspections of vegetation around transmission electric lines and equipment	LiDAR Vegetation Inspections – Transmission	1,600 Circuit Miles	Yes
Vegetation Management & Inspections	VM-1	Removal and remediation of trees with strike potential to electric lines and equipment	Hazard Tree Management Program	330 circuits	Yes

Program Category	WMP Identifier	Initiative / Activity	Utility Initiative Name	2022 Target	Target Achieved
Vegetation Management & Inspections	VM-4	Removal and remediation of trees with strike potential to electric lines and equipment	Dead and Dying Tree Removal	900 circuits	Yes
Vegetation Management & Inspections	VM	Substation Inspections	Substation Inspections	169 inspections	Yes
Vegetation Management & Inspections	VM	Substation vegetation inspections	Substation vegetation inspections	169 inspections	Yes
Power Safety	PSPS-2	PSPS events and mitigation of PSPS impacts	Customer Care Programs	2,750 enrollments 3,000 of rebates	Yes
Grid Design & System Hardening	SH-16	Covered conductor installation	Vibration Damper Retrofit	100 structures	Yes
Grid Design & System Hardening	SH-6	Circuit breaker maintenance and installation to de-energize lines upon detecting a fault	Circuit Breaker Relay Hardware for Fast Curve	104 installations and placed into service	Yes

Program Category	WMP Identifier	Initiative / Activity	Utility Initiative Name	2022 Target	Target Achieved
Vegetation Management & Inspections	VM	Detailed inspections and management practices for vegetation clearances around transmission infrastructure lines, and equipment	Detailed inspections and management for vegetation clearances around transmission assets	32 trees inspected	Yes

Advanced Weather Monitoring and Weather Stations (SA-1)

Section 7.3.2.1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC.pdf*** included a 2022 target to install 150weather stations in SCE HFRA and a stretch target of 175 weather stations in SCE HFRA. SCE reported they met the 2022 target in Q4, by completing 160 weather station installations***.***

To verify the installations the IE submitted Data Request 1 for supporting documentation of the installation of the weather stations to further verify that the installation was complete. SCE responded to the request with workbook ***SA-1 Weather Stations.xlsx***, which was a list of all 160 weather station installations during 2022. The IE created a sample and submitted Data Request 2 requesting 29 samples of supporting documentation that demonstrated the weather station installation completions for 2022. SCE provided documents ***01_Data Request for SCE - Daily Observations 3-16-22 to 11-2-22.xlsx*** and ***01_Data Request for SCE - Metadata Install date.xlsx***, which demonstrated the installation for 27 of the 29 installations occurred in 2022. Due to the missing information, the IE submitted Data Request 3 for the documentation for the two missing sample responses. SCE provided document ***01_IE03-SCE-2022 Q. 01 Answer.pdf***, which included evidentiary support that the other weather stations were also installed in 2022 on the dates provided. Information for both responses included structure number, date installed, and station/terminal ID.

Finding: Based on the evidence provided, the IE has reasonable assurance that SCE has met its target by installing a minimum of 150 in 2022.

Weather Forecasting and Estimating Impacts on Electric Lines and Equipment (SA-3)

Section 7.3.2.6.1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC.pdf*** included a 2022 target for refining its Next Generation Weather Modeling System and continuing to

add machine learning capabilities to its weather station locations to reduce bias in its weather models. SCE targeted a qualitative goal based on the initiative from 2021, however, SCE's 2022 ARC listed a quantitative target of equipping 400 weather station locations with machine learning capabilities in Q3 of 2022, and a stretch target of equipping 500 weather stations with machine learning capabilities. SCE reported they met the target by equipping 564 weather stations with machine learning capabilities in 2022.

To verify the weather station locations were equipped with machine learning capabilities, the IE submitted Data Request 2 requesting a list of all 564 weather stations equipped with machine learning capabilities in 2022. SCE provided the list in document ***02_Machine Learning Weather Stations.xlsx*** which was a list of all 564 weather installations during 2022 according to document ***02_IE02-SCE-2022 Q. 02 Answer.pdf***. The IE requested 29 samples of supporting documentation that demonstrated the weather station received machine learning capabilities in 2022. SCE provided documents ***03_Machine Learning Weather Stations – sampled.xlsx*** and ***03_station_ML_20220622_sampled.csv***, included Station ID, Station Name, and date/time which demonstrated the sampled weather stations were equipped with machine learning capabilities in 2022.

Finding: Based on the WMP goal and supporting documentation, the IE has reasonable assurance SCE added machine learning capabilities to 564 weather stations.

Infrared Inspections of Electric Lines and Equipment (IN-3, IN-4, IN-9)

The following three sections detail SCE's 2022 progress on infrared inspections as they related to targets set for initiatives IN-3, IN-4, and IN-9, respectively.

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

Section 7.3.4.4 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target to inspect 4,408 distribution overhead circuit miles in HFRA via ground and aerial inspection. SCE reported the 4,408 inspections were completed in 2022.

To verify the inspections were performed, the IE submitted Data Request 1 for supporting documentation of the inspections for the targeted number of distribution overhead circuit miles in HFRA. In response, SCE provided the total list of inspection in document ***IN-3 Dist IR Insp.xlsx***. The IE reviewed the documentation and created a sample, submitting Data Request 3 requesting 33 samples of line miles to demonstrate, through work orders or other documentation, that the inspection work was completed in 2022. SCE provided a response in documents ***10_IE02-SCE-2022 Q. 10 Answer*** that this work is tracked through ArcGIS which tracks inspection progress along the patrol route via GPS and logs the information as it is completed. To confirm this, the IE requested a live demonstration in Data Request 9 to review the miles, tracking methodology, and outputs of the inspections. The SCE SME provided an overview of

the technology and the dates of completion for each sampled territory were reviewed against the tracking data in the ArcGIS system.

Finding: Based on a review of the sample evidence, the documentation of line miles, and the live demonstration provided by SCE in their ArcGIS system, the IE has reasonable assurance that SCE completed 4,408 line-miles of infrared inspections on distribution electric lines and equipment in 2022.

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

Section 7.3.4.5 and section 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target to complete inspections on 1,000 transmission circuit miles in 2022. SCE reported that this target was met by completing 1,075 and is listed as 108% complete; however, as part of the sampling for this initiative, it was noted that 13.1 miles were erroneously counted among the completed work. These miles had initially been scheduled, but last-minute changes to flight plans resulted in a different circuit being flown that day. It is further noted, even without these 13.1 miles, SCE still exceeded the goal of 1,000 circuit miles inspected. SCE provided an attestation that a re-check of the miles inspected ensured that the remaining inspections and associated data were correct.

To verify the inspections were performed, the IE submitted Data Request 1 for documentation of the total inspections for the 2022 targeted number of transmission overhead circuit miles in HFRA. In response, SCE provided the total list of inspection in document IN-4 Trans IR Corona Insp.xlsx. The IE reviewed the documentation and created a sample, submitting Data Request 2 requesting 33 samples of line miles to demonstrate, through work orders or other documentation, that the inspection work was completed in 2022. SCE provided a response in document ***11_IE02-SCE-2022 Q. 11 Answer.pdf***, which included screenshots of the inspections showing the “normal” view of the equipment being inspected and the infrared or corona view for the miles inspected. These screenshots were compared against the sample set to verify the timing and other data correlated to the sample population sent, which they did.

Finding: Based on the evidence reviewed and attestation provided by SCE personnel, the IE has reasonable assurance that a minimum of 1,000 transmission circuit miles were inspected using IR or corona technology in 2022.

Transmission Conductor and Splice Assessment (IN-9)

Section 7.3.4.5.1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target that was split into three targets, and the IE determined it was best to sample each individually to ensure each inspection type was appropriately reviewed. The targets and samples are below:

1. Line span inspections with LineVue technology
    a. Target: minimum of 75

   b. Completed: 79
   c. IE Sample: 23
2. Splice inspections with X-Ray technology
   a. Target: minimum of 50
   b. Completed: 63
   c. IE Sample: 23
3. Conductor Samples
   a. Target: minimum of 5
   b. Completed: 6
   c. IE Sample: 6

To verify the inspections were performed, the IE submitted Data Request 1 for documentation of the total inspections for the 2022 targeted number for each inspection type. SCE provided documents ***IN 9.A Trans LineVue Isnp.xlsx***, and ***IN 9.B Trans XRay Splices Insp.xlsx***. The IE reviewed the documentation and created a sample (as listed in items 1-3 above) and submitted Data Request 2 requesting documentation demonstrating SCE performed the inspections as target. SCE provided the IE with a PDF document ***12_IE02-SCE-2022 Q. 12 Answer.pdf*** with screenshots and other data for each of these samples. The provided evidence included inspection dates, location information, and lengths/configuration/span/sample as appropriate to demonstrate the work completed. For the conductor samples, SCE also provided a description of the work performed by the third party who performed the review. The IE reviewed these pieces of evidence and found them to be satisfactory.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE met their targets for each review type and completed the work as reported.

Other Discretionary Inspection of Distribution Electric Lines and Equipment, Beyond Inspections Mandated by Rules and Regulations (IN-1.1)

Section 7.3.4.9.1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target for inspecting 150,000 and a stretch target of180,000 for ground and arial inspections of Distribution High Fire Risk-Informed Inspections (HFRI) in HFRA. SCE reported inspecting 159,679 structures via ground and 157,144 via aerial inspection.

To verify the inspections were performed, the IE submitted Data Requests 1 and 2 SCE provided files ***IN 1.1A Dist Ground Insp.xlsx*** and ***IN1.1B Dist Aerial Insp.xlsx*** which included evidence of the full list of inspections stated in the ARC. As part of Data Request 3 the IE requested evidence of the inspection from a sample of 33 structures for ground inspection and 33 for aerial inspections. SCE provided file ***04 a. _IN-1.1a Sampled Inspections Data.xlsx*** that showed inspection for the sampled structured work orders were completed in 2022. The IE also conducted interviews with SCE SMEs that corroborated the evidence provided.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE met their targets for ground and ariel inspections beyond inspection mandated by rules and regulation in 2022.

Other Discretionary Inspection of Transmission Electric Lines and Equipment, Beyond Inspections Mandated by Rules and Regulations (IN-1.2a & IN-1.2b)

Section 7.3.4.11.1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target with two activities for its transmission inspections: Transmission Risk- Informed Inspections and Transmission Aerial Inspections. SCE committed to inspecting 16,000 structures in HFRA via ground and aerial inspections in 2022. SCE met the target by completing 17,225 ground and 17,133 aerial inspections in HFRA as stated.

To verify the inspections were performed, the IE requested documentation in Data Request 1 for a list of the total inspections of 16,000 structures via aerial and ground inspections in 2022 for IN-1.2a and IN-1.2b, respectively. SCE provided the list in response to Data Request in documents ***IN 1.2A Trans Ground Insp.xlsx*** and ***IN 1.2B Trans Aerial Insp.xlsx***. The IE reviewed the initial response, developed, and requested a sample set of 33 out of the total inspections for each inspection type in Data Requests 2 and 3 for additional documentation, including workorders, invoices, etc., that demonstrate the SCE completed the inspections.

SCE provided an excel spreadsheet of all data necessary to demonstrate the inspections were completed in response to Data Requests 2 & 3, (***05 a._IN-1.2a Trans Ground Inspection Sample.xlsx*** and ***05 b._IN-1.2b Sampled Inspections Data.xlsx***). These documents included the output of the inspection workorder tracking system and included the completion dates, and inspections details for the ground and aerial inspections, demonstrating the completion of the inspection in 2022.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE completed a minimum of 16,000 ground inspections and 16,000 aerial inspections in 2022.

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

Section 7.3.4.10 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a 2022 target to complete 190 inspections of structures in HFRA. SCE reported that 222 inspections of structures in HFRA were completed in 2022.

To verify the inspections were performed, the IE requested documentation in Data Request 1 for a list of the total inspections of 190 structures via aerial and ground inspections, respectively. SCE provided the list in the Data Request 1 response in document ***IN-5 Gen HF Insp.xlsx***. The IE reviewed the initial response, developed a sample of 29 records of the total inspections, and submitted Data Request 2 requesting additional documentation, including work orders, invoices, etc., that demonstrate the SCE completed the Inspections.

SCE provided document ***14_IN-5 Inspection Survey Information.xlsx*** which included all data necessary to demonstrate the inspections were completed. This document included the date, the inspection questions/checklist and responses, facility name, and longitude and latitude details, however, the documentation was missing information in some of the inspection fields. The IE requested an interview in Data Request 4 for further discussions with SCE to address missing information and determined it was due to under voltage details also being included that should not have been considered. SCE submitted a supplemental document ***IN-5 Inspection Survey Information_Inspection Type.xls,*** which addressed the missing information by providing the voltage column to be filtered to only list what was applicable to this evaluation.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE met their target by completing a minimum of 190 Generation high risk inspections in HFRA, by completing 222 inspections.

Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment (VM)

Section 7.3.5.2 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included SCE's 2022 target to inspect ~600,000 trees adjacent to distribution lines. SCE reported completed detailed inspections of 656,691 trees adjacent to distribution lines.

To verify the inspections were performed, the IE requested a total list of data of trees adjacent to distribution lines in Data Request 3 and SCE provided a response in document ***Q.10_IE03-SCE-2022 Distrib Inspections.xlsx***. The IE randomly sampled 33 records in this document and requested work orders and other documentation demonstrating the inspections occurred. In response, SCE provided ***IE05-SCE-2022_Q.15.xlsx*** which included the completion date, inspection method, inspection types, and the recommended work. The IE reviewed the documentation provided by SCE and had no additional questions or clarification needs.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE completed all 656,691 detailed inspections of vegetation around distribution electric lines and equipment in 2022, as targeted.

Lidar Inspections of Vegetation Around Transmission Electric Lines and Equipment (VM-10)

Section 7.3.5.8 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included SCE's 2022 target for performing LiDAR inspecting of vegetation around transmission electric lines and equipment for at least 1600 HFRA circuit miles. SCE reported completing LiDAR inspections of vegetation around transmission electric lines and equipment for 1,696 HFRA circuit miles.

To verify the inspections were performed, the IE, as part of Data Request 3, requested the total list of inspections of all 1,696 circuit miles inspected. SCE provided document ***07_Q.07_IE03-SCE-2022 Transmission HFRA LiDAR Inspections.pdf*** showing a list

of circuits equating to 1696 HFRA circuit miles. Of these, the IE sampled 33 records and submitted Data Request 3 requesting additional documentation, such as work orders and other documentation demonstrating the LiDAR inspections were performed. SCE provided multiple documents and as part of DR5. The IE was unable to verify the LiDAR inspections were performed, and a callwas made to gain additional clarification on the documentation provided. During this discussion, SCE SMEs were able to provide the IE with a clearer understanding of the documentation provided.

SCE identified a supplemental document that demonstrated the circuit miles inspected during the call and provided a supplemental document ***IE05-SCE-2022 Q. 10 Supplemental Answer.pdf***, which demonstrated SCE performed the LiDAR inspections of vegetation around transmission electric lines and equipment. This document was an export from SCE's ArcGIS system, which demonstrated the HFRA Miles for each circuit.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE completed the LiDAR inspections of vegetation around transmission electric lines and equipment for at least 1600 HFRA circuit miles, as targeted in 2022.

Hazard Tree Management Program (VM-1)

Section 7.3.5.16.1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included SCE's 2022 target for inspecting 330 circuits and performing an assessment of any trees with strike potential. SCE reported completing the inspections and assessments for 467 circuits.

To verify the inspections were performed on the circuits, the IE submitted Data Request 1 for the total list of circuits. SCE provided document ***VM-1 HTMP_ASSESSMENTS_ COMPLETED.xlsx***. The IE reviewed this document and had a call with SCE to get clarification on the total number provided as it was significantly higher than SCE had stated was completed. Based on the discussion, the IE submitted Data Request 2 for a circuit tracker document that SCE mentioned during the call and was to include a mapping of the circuits that were provided in the document in response to Data Request 1. SCE provided document ***17_VM-1_Circuit Tracker.xlsx,*** which contained a record of 467 circuits including circuit ID, name, and completion date.

Using both documents provided in response to Data Requests 1 and 2, the IE created a sample of 29 records and submitted Data Request 5 for documentation demonstrating the inspections and assessments were performed on the identified circuits. SCE provided document ***16_IE05-SCE-2022 Q. 16 Answer.pdf,*** which contained screenshot images documenting tree remediations. Screenshots contained tree crew information, inspection and assessment dates, work type, and work suggested to be completed.

Finding: Based on the evidence; the IE has reasonable assurance SCE met the target for inspecting a minimum of 330 circuits and assessing any trees with strike potential.

Dead and Dying Tree Removal (VM-4)

Section 7.3.5.16.2 and table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to inspect 900 unique circuits and prescribe mitigation for dead and dying trees with strike potential. SCE reported that inspections occurred on 926 circuits.

To verify the inspections were performed on the circuits, the IE submitted Data Request 1 for the total list of circuits. SCE provided document ***VM-4 Dead-Dying Tree_ASSESSMENTS_COMPLETED.xlsx.*** The IE noted that they conducted a clarification call with SCE regarding a separate, yet similar activity (Hazard Tree Management Program (VM-1)) that also was specific to circuits. During the call it was determined there was an additional document needed for mapping the circuits to the work. Upon this realization, SCE also informed the IE that a similar document was available for the Dead and Dying Tree Removal (VM-4) initiative. Based on the discussion, the IE submitted Data Request 2 for a circuit tracker document that SCE mentioned during the call to obtain the mapping document to use in conjunction with the document provided in response to Data Request 1. SCE provided document ***18_VM-4_Circuit Tracker.xlsx****,* which contained a record of 926 circuits and included circuit ID, name, and inspection date.

The IE reviewed ***18_VM-4_Circuit Tracker.xlsx*** as provided in response to Data Request and used it in conjunction with the document ***VM-4 Dead-Dying Tree_ASSESSMENTS_COMPLETED.xlsx*** to identify a sample of 29 records and submitted Data Request 4 for the additional documentation demonstrating the work was completed. Upon further discussion with SCE, the IE determined that updates to the sample needed to occur due to discrepancies in the sampling and the sample record details being sourced from the incorrect document. The IE submitted an update sample of 29 records in Data Request 5. SCE provided document ***19_IE05-SCE-2022 Q. 19 Answer.pdf*** containing screenshots documenting dead and dying tree removal activity, which demonstrated SCE performed this initiative to meet the documented target.

Finding: Based on the documentation provided, the IE has reasonable assurance SCE met the target of inspecting 900 unique circuits and prescribe mitigation for dead and dying trees with strike potential in 2022.

VM Substation Inspections

Section 7.3.5.17.1 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf,*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to inspect 169 substations five times a year.

To verify the inspections were performed, the IE requested the total population of all substation inspections for this activity in Data Request 3. SCE provided document ***11_Q.11_IE03-SCE-2022 Substation Inspections_2022.xlsx***. Upon receipt of the list,

The IE verified the data was applicable and developed a sample of 29 Substation Inspections and sent Data Request 5 requesting workorders or other documentation demonstrating the inspections were performed.

SCE provided document ***13_IE05-SCE-2022 Q. 13 Answer.pdf*** to demonstrate the 169 substations were each inspected five times in response to Data Request 5. This document included screenshots of the work tracking information generated from the system of record for the substation inspections, along with the required details including the date of the inspections to demonstrate SCE performed the inspections.

Finding: Based on the documentation provided, the IE has reasonable assurance SCE met its 2022 target of completing 169x5 substation inspections.

VM Substation Vegetation Inspections

Section 7.3.5.18 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ ARC_20230331.pdf*** included the 2022 target to perform Vegetation Management substation inspections in Tier 2 & Tier 3, totaling 169 substations. SCE reported completing 175 applicable substation inspections.

To verify the inspections were performed, the IE submitted Data Request 3, requesting a list of all applicable substation inspections. SCE provided document ***08_Q.08_IE03-SCE-2022 VM Substation Inspections_2022.xlsx*** which was a list of 175 substations. The IE conducted a sampling of 29 records and submitted Data Request 5 requesting documentation demonstrating the applicable substation inspections were performed. SCE provided document ***11_IE05-SCE-2022_Q11_VegSubstations.xslsx***, which included Record IDs, statuses, station names and inspections dates for the sampled records.

Finding: Based on the documentation provided, the IE has reasonable assurance SCE met 2022 target of completing a minimum of 169 Vegetation Management substation inspections in Tier 2 & Tier 3.

PSPS Customer Care Programs (PSPS-2)

Section 7.3.6.6.2 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ ARC_20230331.pdf*** included the 2022 target to address the Customer Care Programs in 2022 as follows:

- 2a: Critical Care Backup Battery (CCBB): Enroll 2,750 customers in the CCBB program (35% of forecasted eligible population) as well as continuing to identify new eligible customers each month to offer program.
- 2b: Portable Power Station Rebates and Portable Generator Rebates: SCE to issue 3,000 rebates and striving to issue 4,000 rebates.

To verify the Customer Care Programs were addressed as target, the IE submitted Data Request 2 requesting a list of all enrollments performed as part of the Customer Care

Programs in 2022. As part of the response, SCE provided ***PSPS-2a 2022 CCBBP Enrollments.xlsx***, which demonstrated 3,733 customer enrollments for SCE's Critical Care Backup Battery Program in 2022. SCE also provided ***PSPS-2b 2022 Portable Power Station & Generator Rebates.xlsx***, which demonstrated SCE issued 3,129 rebates for Portable Power Station Rebates and Portable Generator Rebates in 2022.

To further verify the performance, the IE requested 33 samples for each target activity (a. CCBBP and b. Rebates) as part of Data Request 5. In response, for activity "2a" SCE provided document ***01. a_PSPS-2a - CCBBP Sample Evidence.xlsx***, which included system generated screenshots of the sampled enrollment records dated in 2022. For activity "2b" SCE provided document ***01. b_IE05-SCE-2022 Q. 01. b Answer.pdf***, which also included system generated screen shots validating the customer rebates, including dates and each rebate amount.

Finding: Based on the documentation provided; the IE has reasonable assurance SCE met its 2022 target to enroll a minimum of 2,750 customers in the CCBB program. SCE also met the 2022 target for issuing a minimum of 3,000 Portable Power Station Rebates or Portable Generator Rebates in 2022.

Vibration Damper Retrofit (SH-16)

Section 7.3.3.3.3 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target of retrofitting vibration dampers on 100 structures where covered conductors were already installed in HFRA.

To verify the retrofitting occurred on the structures, the IE requested documentation of the total annual completion in Data Request 1. In response, SCE provided document ***SH-16 Vibration Dampeners.xlsx*** showing a list of 125 workorders with details including circuit, location, and completion date for vibration dampeners installations performed in SCE's service territory during 2022. As part of Data Request 5, the IE requested SCE to provide associated work orders or other documentation from 29 samples from the list. The IE conducted a desktop review of the information provided in ***IE05.1-SCE-2022 Q. 02 Answer.pdf*** The documentation provided correlated with the sample population requested by the IE.

Finding: The IE has reasonable assurance SCE met its target of retrofitting vibration dampers on 100 structures where covered conductors were already installed in HFRA throughout its service territory in 2022.

Circuit Breaker Maintenance and Installation to De-Energize Lines Upon Detecting a Fault (SH-6)

Section 7.3.3.2 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target of replacing/upgrading 104 relay units in SCE's HFRA. Additionally, they updated that in Q4 they had replaced/upgraded 119 relay units.

To verify the hardware updates were complete, the IE submitted an initial request for a list of all hardware updates completed in 2022 as part of Data Request 1. In response to the Request, SCE provided a list of 119 hardware updates, as shown in document ***SH-6 Circuit Breaker Relay.xlsx.*** The IE created a sample of 23 records and submitted it to SCE in Data Request 5.1 for documentation that demonstrated the hardware updates were completed in 2022 and as stated. SCE provided document ***IE05.1-SCE-2022 Q. 01 Answer.pdf***, which detailed the work completed, date of completion, and location information. The IE did not identify any discrepancies in the documentation provided, and no further requests were made.

Finding: The IE has reasonable assurance SCE exceeded its target of a minimum of 104 by replacing or updating relay units in SCE's HFRA in 2022.

Detailed Inspections and Management Practices for Vegetation Clearances Around Transmission Infrastructure Lines and Equipment (VM)

Section **7.3.5.3** and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** included the 2022 target to inspect ~100,000 trees adjacent to Transmission lines, based on current unique tree inventory count. In the third quarter of 2022, per document ***SCE_2022_ ARC_20230331.pdf***, SCE updated the year-end target to inspect 71,286 unique trees in inventory from a reduction in applicable unique tree inventory due to the Creek wildfire. The target was reduced from ~100,000 to 71,286. SCE reported completing 74,025 applicable inspections.

To verify the detailed inspections were performed, the IE submitted Data Request 3 for list of the applicable detailed inspections for 2022. SCE provided the list in document ***Q.09_IE03-SCE-2022 Tran Inspections.xlsx***. The IE then randomly sampled 16[1] records from the document and submitted Data Request 5 for additional information, such as work orders or other documentation demonstrating the inspections were performed. In response, SCE provided ***IE05-SCE-2022_Q.12.xlsx*** which were detailed inspection records from ArcGIS survey data information gathering platform Survey123 and internal work management system and included. The IE performed the evaluation and noted there was an under sampling of records. The IE submitted Data Request 10 with an I list that included 17 additional randomly sampled records to meet the sampling methodology requirement of randomly sampling 33 records. SCE responded by providing document ***DR10 Additional Sampled Detailed Inspections Transmission.xlsx,*** which included the additional detailed inspection records and demonstrated the detailed inspections were performed for all sampled records.

[1] While performing the random sampling, the IE made a sampling error. For the population number provided of 74,025, the Sampling Methodology established requires 33 records to be sampled.

Finding: Based on the documentation provided, the IE has reasonable assurance SCE completed a minimum of 71, 286 detailed inspections of vegetation around distribution electric lines and equipment in 2022.

2.1.3.2 Trends and Themes

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

SCE demonstrated strong performance across the large volume quantifiable goal/target – not field verifiable initiatives. The IE assessment demonstrated that SCE met or exceeded each target.

2.1.4 Small (less than 100 times) Volume Quantifiable Goal/Target

2.1.4.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of electrical corporation 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 2-4: Small Volume Quantifiable Goal/Target

Program Category	WMP Identifier	Initiative Name	2022 Target	Target Achieved
Situation Awareness & Forecasting	SA-10	High-Definition (HD) Cameras	10 HD cameras installed	Yes
Grid Design & System Hardening	SH-7	PSPS-Driven Grid Hardening Work	70 highly impacted circuits evaluated	Yes
Grid Design & System Hardening	SH-5	Installation of System Automation Equipment - RAR / RCS	15 RARs / RCSs installed and operationalized	Yes
Grid Design & System Hardening	SH-13	C-Hooks	10 C-hooks	Yes

Program Category	WMP Identifier	Initiative Name	2022 Target	Target Achieved
Grid Design & System Hardening	SH-2	Undergrounding Overhead Conductor	11 circuit miles in HFRA	Yes
Grid Design & System Hardening	SH-8	Transmission Open Phase Detection	11 installations	Yes
Grid Design & System Hardening	SH-11	Legacy Facilities	13 sites	No
Grid Design & System Hardening	SH-15	Vertical Switches	15 switches	Yes
Vegetation Management & Inspections	VM-3	Expanded Clearances for Legacy Facilities	32 sites treated	Yes
Emergency Planning & Preparedness	DEP-2	SCE Emergency Response Training	50 trained	Yes
Emergency Planning & Preparedness	DEP-1.2	Customer Education and Engagement - Community Meetings	9 meetings	Yes
Emergency Planning & Preparedness	DEP-4	Customer Research and Education	6 surveys	Yes
Emergency Planning & Preparedness	DEP-5	Aerial Suppression (DEP-5)	1+ MOU	Yes

High-Definition (HD) Cameras (SA-10)

In Section 7.3.2.2.2 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to install 10 HD cameras, with a stretch target of installing 20 HD cameras.

To verify the installations were performed, the IE submitted Data Request 1 for annual reporting information specific to the applicable initiatives. SCE provided document ***SA-10_HD Cameras***. SCE also provided a list of the total HD camera installations that occurred in 2022, which was 16. The IE selected a random sample of nine from the list

of installations and submitted it to SCE in Data Request 3 requesting additional documentation, including work orders, invoices, etc., demonstrating SCE completed the installations.

SCE provided response to Data Request 3 in document ***02_IE03-SCE-2022 Q. 02 Answer.pdf***. This document included the workorders used for the installation, which included links to the University of California, San Diego (UCSD) website, whom SCE partners with to SCE partners with to install non-SCE infrastructure. Per SCE, UCSD does not track installation work by time and date stamp, as they are an academic institution and operates differently. The links provided do include the stream detection day/time and are within approximately five days of the installation date. The document also included screen shots of the installed cameras.

Finding: Based on the documentation provided; the IE has reasonable assurance SCE met its target by installing 10 HD cameras in 2022.

PSPS-Driven Grid Hardening Work (SH-7)

Section 7.3.3.8 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to evaluate approximately 70 highly impacted circuits. SCE reported completing applicable evaluations on 104 circuits.

To verify the evaluations were performed, the IE submitted Data Request 2 for annual reporting information specific to the applicable initiatives. ***03_IE02-SCE-2022-03_Response.xlsx***, which contained a record of 104 circuits evaluated including circuit name, community, region, district and the criteria developed and used by SCE to evaluate highly impacted circuits. During an interview with SCE on June 12, 2022 @ 4:00pm PT, SCE SMEs described the methodology to determine highly impacted circuits involved reviewing and scoring switching installations to include remote control switches both over and underground, installation of weather stations to improve situational awareness and potential undergrounding.

The IE randomly sampled 29 records and sent Data Request 5 for documentation demonstrating the hardening work was performed. SCE provided the response in document ***08_IE05-SCE-2022-08-Attachment.xlsx*** with explanation given in document ***08_IE05-SCE-2022 Q. 08 Answer.pdf.*** The documents provided corroborated the statements made during the interview and demonstrated SCE performed the evaluations per the defined methodology.

Finding: Based on the documentation provided, the IE has reasonable assurance SCE met its target by evaluating a minimum of 70 highly impacted circuits in 2022.

Installation of System Automation Equipment - RAR / RCS (SH-5)

Section 7.3.3.9 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to install 15 sectionalized devices such as RARs/RCSs. SCE provided a strive target to install up to 31 sectionalized devices such as RARs/RCSs. SCE reported completing installations of 15 of the applicable devices.

To verify the installations were performed, the IE sent Data Request 1 for annual reporting information specific to the applicable activities for nine work orders or other documentation demonstrating the validating the dates of completion and found that the evidence showed completion of all requested workorders in 2022 as seen in document ***04_IE02-SCE-2022 Q. 04 Answer.pdf***. Additionally, the IE conducted interviews with SCE SMEs which corroborated the evidence provided.

Finding: Based on the documentation provided, the IE has reasonable assurance SCE met its 2022 target of installing 15 sectionalizing devices as part of installation of system automation goals.

C-Hooks (SH-13)

Section 7.3.3.15 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to replace C-Hooks on 20 structures in SCE's HFRA, with a strive target of 21 installations.

To verify the installations were performed, the IE submitted Data Request 2 requesting documentation demonstrating the C-Hooks were replaced on 10 applicable structures. In response, SCE provided document ***06_IE02-SCE-2022 Q. 06 Answer.pdf*** with screen shots of the C-Hook replacements. Each screen shot provided the reported structure number and completion date shown in the top left above the picture. Within each embedded picture to the right is the "Info" or metadata of the image including the photo's dimensions, information about the camera, source location of the picture, its respective file path for these pictures, and that date of installation.

Finding: Based on the documentation provided, the IE has reasonable assurance SCE met its target of replacing C-Hooks on 20 structures in SCE service territory in 2022.

Undergrounding Overhead Conductor (SH-2)

Section 7.3.3.16.1 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to install 11 circuit miles of targeted undergrounding in HFRA, and a strive goal of completing 13 circuit miles. SCE Reported installing ~15 miles in HFRA areas, indicating 136% completion of the goal.

To verify the installations were performed, the IE randomly sampled 11 records and submitted Data Request 2 for workorders or other documentation showing the work stated was completed in 2022. SCE provided document ***07_IE02-SCE-2022 Q. 07 Answer.pdf*** the documentation provided demonstrated a total of 12.33 miles completed.

Finding: The IE has reasonable assurance SCE met its target for undergrounding overhead conductor for 11 circuit miles

Transmission Open Phase Detection (SH-8)

In section 7.3.3.17 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to deploy open phase logic on five transmission lines and a strive target to deploy on 11 transmissions lines. SCE reported completing 11 transmission lines with open phase logic.

To verify the open phase logic was deployed, the IE submitted Data Request 1 for the list of all applicable deployments. In response, SCE provide document ***SH-8 Trans Open Phase Det.xlsx,*** which included ID, region, substation, device name, line, work orders for deploying the open phase logic on transmission lines, longitude/latitude, and work completion dates. The IE developed a sampling of nine items to be reviewed and submitted Data Request 5 for additional documentation demonstrating the activity was completed in 2022, as targeted and referenced in the response to Data Request 1. In response, SCE provided document ***09_SH-8 TOPD Sampled Evidence.pdf,*** which included system screen shots of SAP work orders with information including work order numbers and date of install for open phase detection logic.

Finding: Based on the documents provided, the IE has reasonable assurance SCE met its 2022 target of completing 11 transmission lines with open phase logic.

Legacy Facilities (SH-11)

Section 7.3.3.17.2 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target as follows:

- **Grounding Studies/Lightning Arrestor Assessments and Remediations**
  - Perform four remediations at legacy facility sites and complete 13 assessments
- **Low Voltage Site Hardening**
  - Perform one grid hardening project at a legacy facility site
- **Hydro Control Circuits**
  - Perform grid hardening on three control circuits at legacy facility sites

SCE reported they completed all targeted items, however SCE self-reported that the Hydro Control Circuit hardening was not performed on all three legacy facility sites, rather only two were completed.

To verify the hardening activities were performed, the IE submitted Data Request 1 requesting a list of all the hardening activities performed for this specific activity. SCE provided the following documentation in response:

- Grounding Studies/Lightning Arrestor Assessments and Remediations – ***SH-11a Grounding Asses-Remediation.xlsx*****,** which included the information for four remediation projects and 13 assessments.
- Low Voltage Site Hardening – ***SH-11b Low Voltage SH.xlsx***, which included one grid hardening project at a legacy facility.
- Hydro Control Circuits – ***SH-11c Hydro Control Circuits.xlsx,*** which included information for two control circuits including their location, completion date and HFRA tier. For the third item that was not completed, SCE submitted a water permitting request to California Department of Fish and Wildlife. As of Jan 2023, the review was still under review for approval.

To further verify the hardening was performed, the IE requested a live demonstration in Data Request 9 participated in the demonstration on June 14, 2023 @ 2:00pm PT. During the demonstration SCE presented multiple documents, including work orders, assessments, maps, and other documentation that demonstrated SCE completed all activities, except for the work to be completed at the third Hydro Control Circuit.

Finding: Based on the documentation provided and the live demonstration, the IE has reasonable assurance that SCE performed and met the target for Grounding Studies/Lightning Arrestor Assessments and Remediations and Low Voltage Site Hardening; however, SCE did not meet their target in 2022 for Hydro Control Circuits due to a delay in environmental permits. It is noted the final Hydro Circuit Line is planned to be completed in Q3 of 2023.

Vertical Switches (SH-15)

Section 7.3.3.17.3 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target of installing 15 vertical switches on SCE assets in 2022 and a strive target of installing 25 applicable vertical switches, SCE reported that 16 vertical switch upgrades took place in 2022.

To verify the vertical switches were installed, the IE submitted Data Request 1 requesting a list of all the upgrades performed for this specific activity. SCE provided document SH-15 Vertical Switches.xlsx. The IE created a random sample of 9 records and submitted it to SCE in Data Request 2 requesting workorders or other documentation that demonstrate the updates were installed. In response to Data Request 2, SCE provided document ***09_IE-SCE-2022 Q.09 Answer.pdf***, which included PDFs and screenshots of upgrade/installation work orders pertaining to nine vertical switch upgrades which took place in 2022. Specifically, work order number, order type, materials, location, and purchased quantities for vertical switch upgrades in SCE's service territory.

Finding Based on the documentation provided, the IE has reasonable assurance SCE met its target of installing 15 vertical switches in 2022.

Expanded Clearances for Legacy Facilities (VM-3)

Section 7.3.5.5.3 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to perform expanded clearances on 32 legacy facilities. SCE reported completing expanded clearances on 32 applicable facilities.

To verify the clearances were performed, the IE submitted Data Request 1 for the list of all 32 facilities. In response, SCE provided document ***VM-3 Gen Expanded Clearances.xlsx*** containing facility type, latitude/longitude information, HFTD tier, remediation notes and work completed date. The IE created a random sample of 16 records and submitted it to SCE in Data Request 5 requesting workorders or other documentation that demonstrate the updates were installed. In response, SCE provided document ***18_IE05-SCE-2022 Q. 18 Answer.pdf,*** which included screen captures from ArcGIS data with IDs, Facility information, remediation notes, work status, date stamps, authorizing personnel, monitoring schedules and inspector review information.

Finding: Based on the evidence provided, the IE has reasonable assurance SCE met its target of completing expanded clearances at 32 legacy facilities in 2022.

SCE Emergency Response Training [Adequate and Trained Workforce for Service Restoration] (DEP-2)

Section 7.3.9.1 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to fully train and qualify or requalify all PSPS Incident Management Team (IMT) and Task Force members, by July 1, 2022. SCE also targeted to expand the Unmanned Aircraft System (UAS) program by technically qualifying 50 UAS operators that had passed the applicable FAA exam.

SCE reported that in Q2 they had fully trained and qualified/requalified 346 PSPS IMT and Task Force members, as well as in Q3 they had technically qualified 56 UAS Operators.

To verify the training and qualifications/re-qualifications were completed in the required timeframe, the IE submitted Data Request 2 for the list of all SCE emergency response training and qualification records. In response, SCE provided two detailed training log files, ***20a._DEP-2a PSPS Requalification_06.29.22_Final Report.xlsx*** and ***20b._DEP-2b 2022_Technical_Qualified_Emps.xlsx***. The logs provided allowed the IE to generate random samples (29 samples of PSPS Incident Management Team (IMT) and Task Force members training and qualifications/re-qualifications and 23 samples of technically qualified UAS operators) to verify completion of training and qualifications/qualifications via Data Request 4. In response, SCE provided PSPS IMT and Task Force training records (***20a._DEP-2a PSPS Requalification_06.29.22_Final Report.xlsx***) which allowed the IE to verify that the 29 sampled PSPS IMT and Task Force members had been trained and qualified / requalified by July 1, 2022. SCE also provided UAS Operator training records in document ***02 b._DEP-2b Training Records***

Sampled_CONFIDENTIAL.xlsx which allowed the IE to verify that the 23 sampled UAS operators had been technically qualified in 2022.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE achieved its targets of having all PSPS IMT and Task Force members fully trained and qualified/requalified and technically qualifying 50 UAS Operators and in 2022.

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

In section 7.3.9.2 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ ARC_20230331.pdf*** included a 2022 target to conduct nine community meetings in 2022. SCE reported that 10 meetings were conducted.

To verify the meetings were conducted, the IE submitted Data Request 2 for meeting invites, minutes, and/or other documentation that demonstrated the meetings were conducted in 2022. In response, SCE provided ***document 21_IE02-SCE-2022 Q. 21 Answer.pdf***, which pointed the IE to the SCE website.[8]

The IE reviewed ***SCE Website*** as provided in response to Data Request 2 which contained meeting recordings and the presentations used, along with the dates the meetings occurred.

Customer Research and Education (DEP-4)

Section 7.3.10.1.4 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ ARC_20230331.pdf*** included the 2022 target to conduct at least six PSPS or wildfire mitigation-related surveys in 2022. The list of surveys included were PSPS Tracker, wildfire safety community meeting feedback survey, CRC/CCV feedback survey, In-Language Wildfire Mitigation Communications Effectiveness surveys, PSPS Working Group/Advisory Board surveys, and the Voice of Customer Surveys.

To verify the surveys were performed, the IE submitted Data Request 2 for documentation demonstrating the six surveys were performed and completed. In response, SCE provided the following documentation: ***RES 2022 PSPS Pre Post Report.pptx, PSPS VOC_Export.xlsx, CRC CCV Survey Summary Report_YE 2022.xlsx, R1812005 -SCE Quarterly Report on PSPS Advisory Board and Working Groups.pdf, PSPS Tracker - Residential Report ZF.pdf,*** and ***2022 Wildfire Meetings Survey.pdf.*** Each document included the following information.

The ***RES 2022 PSPS Pre Post Report.pptx*** PowerPoint analyzed the effectiveness of the In-Language Wildfire Mitigation/PSPS Communications and Outreach Effectiveness Survey for both Residential and Business customers.

[8] SCE hosts a community safety events webpage that provides links to video recordings and meeting presentations of past meetings as well as a schedule of upcoming community safety event meetings. Available at **https://www.sce.com/wildfire/community-safety-events**.

The ***PSPS VOC_Export.xlsx*** tracked responses for the Voice of the Customer (VoC) PSPS Satisfaction survey.

The ***CRC CCV Survey Summary Report_YE 2022.xlsx*** spreadsheet showed total responses to the survey and main information gathered in the Community Resource Center (CRC)/Community Crew Vehicles (CCV) Visitation survey.

The ***R1812005 -SCE Quarterly Report on PSPS Advisory Board and Working Groups.pdf*** provided meeting minutes, background information, and more. During these meetings, SCE asked attendees to submit recommendations on "how it can better support customers with access and functional needs at the front lines" (Appendix A). However, SCE provided an explanation that SCE made efforts to get the survey distributed ensured the survey was described, SCE also invited feedback, and encouraged participation in the survey, however, no responses were submitted by meeting attendees.

The ***PSPS Tracker - Residential Report ZF.pdf*** demonstrates that "a 15-minute survey was conducted from 3/21/22 - 5/21/22" (pg. 4). Specifically, the 2021 PSPS Tracking Study was completed.

The ***2022 Wildfire Meetings Survey.pdf*** analyzed responses to the LPA survey conducted during Community Meetings. 151 responses were complete and analyzed.

Finding: Based on the documentation provided, the IE has reasonable assurance that six surveys were conducted, while only five surveys were completed. Although they did not receive feedback for all six surveys, it is confirmed they did conduct all six surveys.

Aerial Suppression (DEP-5)

Section 7.3.10.3 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 target to "enter into a Memorandum of Understanding (MOU) with local county fire departments to provide standby cost funding for up to five aerial suppression resources strategically placed around the SCE service area" (WMP, Table 5.3-1, pg. 148). SCE reported that the target was met by entering into three Memorandum of Understanding (MOUs) signed by SCE and each respective county.

To verify the MOUs were completed, the IE requested the three MOUs addressing Aerial Suppression in Data Request 2. In response, SCE provided documents ***Signed Funding Agreement LAC + SCE 6-30-22.pdf***, ***Signed Funding Agreement ORC + SCE 6-30-22.pdf***, and ***Signed Funding Agreement VNC + SCE 6-21-22.pdf***. Each MOU shows a signed contract for aerial resources and is signed by both SCE and the respective required parties.

Finding: Based upon evidence reviewed, the IE has reasonable assurance that SCE met its target for entering into three applicable MOUs with the local county fire departments in 2022.

2.1.4.2 Trends and Themes

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

The IE did not note any significant trends or themes with respect to SCE's qualitative initiatives. The IE did note one item under target, but SCE had already identified this and, accordingly, reported it in the ARC and noted above in the finding for SH-11.

2.1.5 Qualitative Goal/Target

2.1.5.1 Review of Initiatives

This section should include the Independent Evaluator's findings and assessment of electrical corporation compliance with activities that fall into the Qualitative 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 Qualitative, including respective goals/targets for each, in the Appendix or within the body of this subsection.

Table 2-5: Qualitative Goal/Target

Program Category	WMP Identifier	Initiative / Activity	2022 Target	Target Achieved
Situation Awareness & Forecasting	SA-9	Distribution Fault Anticipation (DFA)	SCE will evaluate the performance of installed fault anticipation technology and develop recommendations for future use by year-end 2022.	Yes
Situation Awareness & Forecasting	SA-8	Fire Science Enhancements	Calibrate FPI 2.0 and evaluate its performance over the 2022 fire season. Improve fire spread modeling applications (i.e., FireSim and FireCast) to include: 1) fire suppression and 2) buildings destroyed by fire	Yes

Program Category	WMP Identifier	Initiative / Activity	2022 Target	Target Achieved
Grid Design & System Hardening	SH-12	Microgrid Assessment	SCE will actively attempt to obtain approval of easement with the landowner of the microgrid site, and if approval is received, SCE will move forward with microgrid project. If an approval is not received by June 30, 2022, or rejected, SCE will start to pursue other microgrid opportunities.	Yes
Grid Design & System Hardening	SH-17	Rapid Earth Fault Current Limiter	SCE will produce a report summarizing performance and lessons learned from previous REFCL installations. SCE will also initiate engineering and material purchase for the ground fault neutralizers (GFNs) to be constructed in 2023 at Acton and Phelan Substations.	Yes
Asset Management & Inspections	IN-8	Inspection Work Management Tools	Design capability for the legacy Distribution Ground inspection application in 2022 to transition to a single digital inspection platform in a future year. In support of remediation efforts, conduct assessment to identify enhancements for Field Crew application, and evaluate applicability of enhancements by year-end 2022.	Yes

Program Category	WMP Identifier	Initiative / Activity	2022 Target	Target Achieved
Vegetation Management & Inspections	VM-6	Vegetation inventory system	SCE will implement the following programs within the VM Work Management Tool, Arbora: (1) Hazardous Tree Program (HTP) (including Dead & Dying Tree Removal and Hazard Tree Mitigation and (2) Routine Line Clearing	Yes
Data Governance	DG-1	Wildfire Safety Data Mart and Data Management (WiSDM / Ezy)	Ezy Data: 1) Expand cloud Artificial Intelligence (AI) platform 2) Enable LiDAR data storage capability WiSDM: 1) Complete wildfire data repository design 2) Consolidate wildfire data storage onto wildfire data repository platform	Yes
Stakeholder Cooperation and Community Engagement	DEP-1.3	Community Engagement	Maintain 50% customer awareness of the SCE PSPS Program	Yes

Distribution Fault Anticipation (DFA) (SA-9)

Section 7.3.2.1 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 qualitative target to evaluate the performance of installed fault anticipation technology and develop recommendations for future use by year-end 2022 in the Annual Review of Compliance ***SCE_2022_ARC_20230331.pdf***.

To verify the monitoring occurred, the IE submitted Data Request 5 for the completed evaluation of the installed fault anticipation technology and associated recommendations for future use. SCE provided document ***03_SA-9 Distribution Fault Anticipation Assessment.pdf***, which provided evidentiary support that the monitoring occurred and recommendations for future use were documented for 2022.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE has demonstrated it met its planned target to evaluate the performance of installed fault anticipation technology and develop recommendations for future use by year-end 2022.

Fire Science Enhancements (SA-8)

Section 7.3.2.4 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included the 2022 qualitative target to run "FPI 2.0 in parallel with the current FPI to demonstrate the difference and improvements over the current index, and will make refinements to FPI 2.0 as needed, based on its evaluation of the outputs. If FPI 2.0 demonstrates a significant improvement over the current FPI, SCE expects that FPI 2.0 will replace the current FPI before the start of the 2023 fire season and the 2023 WMP. SCE's activities will also include back casting of FPI along virtual segments for a select number of weather events to show the levels of improvement in this approach compared with previous methods." (ARC, Progress Update, pg.4).

The IE submitted Data Request 5 for documentation that SCE updated the FPI 2.0 methodology to include calibration and verification statistics, as well as the Building Loss Factor and a metric measuring suppression effectiveness that have been integrated into FireCast. In response, SCE provided document ***02_FPI 2.0 doc updates_2022.docx***, which demonstrated the comparison of the output for the new index to that of the current version of which was completed. It was determined the new index was acting as designed but needed additional verification and validation. It also offered steps for calibration of FPI 2.0. SCE also provided document ***02_BLF_RCx Analysis.pptx***, which presented the Building Loss Factor and response complexity analysis.

Finding: Based on the documentation provided, the IE has reasonable assurance that SCE has met its planned qualitative target to calibrate FPI 2.0 and evaluate its performance over the 2022 fire season, and improve fire spread modeling applications (i.e., FireSim and FireCast).

Microgrid Assessment (SH-12)

Section 7.3.3.8.2 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** includes a qualitative target to "… actively attempt to obtain approval of easement with the landowner of the microgrid site, and if approval is received, SCE will move forward with microgrid project. If an approval is not received by June 30, 2022, or rejected, SCE will start to pursue other microgrid opportunities" (WMP, Table 5.3-1, pg.133). SCE pursued completing assessments on other potential microgrid sites after unsuccessfully obtaining an easement agreement with the landowner of the proposed microgrid site. No new sites were identified in the subsequent assessment.

To verify work towards obtaining approval for the Microgrid site, the IE requested and reviewed ***04 _SH-12 PSPS MICROGRID SITE REVIEW_Redacted.pdf*** as provided in response to Data Request 4. The document contains a territory-wide network screening using SCE's network databases to look for viable locations to site a microgrid system to mitigate impacts of PSPS events. However, no viable sites were identified. SCE planned to re-evaluate its approach and re-run its assessment to explore opportunities for microgrids into 2023.

Finding: IE has reasonable assurance that SCE did perform work related to this initiative and has concluded that no viable sites could be used for microgrid as of the end of 2022, based on the sites assessed.

Rapid Earth Fault Current Limiter (SH-17)

Section 7.3.3.12.2 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ ARC_20230331.pdf*** include a qualitative target of conducting a rapid earth fault current limiter report in 2022. SCE reported the initiative status as complete, per the ***SCE_2022_ARC_20230331.pdf***.

The IE requested SCE provide evidence of conducting the rapid earth fault current limiter evaluation in the form of a written report in Data Request 2. In response, SCE provided ***05_2022 REFCL at SCE.pdf***, a written report detailing the methodology utilized during the evaluation and the associated findings of the evaluation. Upon review, the IE has reasonable assurance the 93-page report demonstrates a rapid earth fault current limiter evaluation was conducted on SCE during 2022.

Finding: The IE has reasonable assurance SCE conducted the evaluation, produced a rapid earth fault current limiter report detailing the findings of the evaluation and met its goal of conducting a rapid earth fault current limiter evaluation in 2022.

Inspection Work Management Tools (IN-8)

Section 7.3.4.3.1 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** include a qualitative target to do the following:

- **IN-8.a:** Design capability for the legacy Distribution Ground inspection application in 2022 to transition to a single digital inspection platform in a future year.
- **IN-8.b:** In support of remediation efforts, conduct assessment to identify enhancements for Field Crew application, and evaluate applicability of enhancements by year-end 2022.

To further verify the IN-8.a and IN-8.b were completed, the IE Submitted Data Request 9 requesting a live demonstration to perform a visual verification review the design and feasibility assessments performed to determine if the upgrades were sufficient and feasible and determined SCE had met the stated target for this activity. The live demonstration and verification was conducted on June 15, 2023 @ 1:00pm PT.

Finding: The IE has reasonable assurance that SCE met the qualitative targets by transitioning to a single digital inspection platform (IN-8.a) and conducting an assessment to identify enhancements for Field Crew applications and evaluating applicability of the identified enhancements (IN-8.b) in 2022.

Vegetation Inventory System (VM-6)

Section 7.3.5.19 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** included a qualitative target to implement the following programs Hazardous Tree Program (HTP) (including: Dead & Dying Tree Removal and Hazard Tree Mitigation) and Routine Line Clearing within the VM Work Management Tool.

To verify the implementation of the programs, the IE reviewed ***07_IE04-SCE-2022 Q. 07 Answer.pdf*** as provided in response to Data Request 4. The document shows screenshots of SCE's Work Management System (Arbora) in operation demonstrating implementation of HTMP, Dead and Dying Tree Removal and Routine Line Clearing work done in 2022. The program (Arbora) is a continued effort from 2021 in which OEIS identified SCE's incomplete identification of vegetation species and record keeping as a Key Area of Improvement.

Finding: IE has reasonable assurance that SCE implemented the Hazardous Tree Program (HTP) and Routine Line Clearing programs within the VM Work Management Tool in 2022.

Centralized Repository for Data (DG-1)

Section 7.3.7.1 and Table 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_20230331.pdf*** include a qualitative target to do the following:

WiSDM:

- Complete wildfire data repository design
- Consolidate wildfire data storage onto wildfire data repository platform

Ezy Data:

- Expand cloud AI platform
- Enable LiDAR data storage capability

To verify the activities were completed, the IE requested a live demonstration in Data Request 9. The IE conducted a live demonstration on June 14, 2023 @ 11:00am PT to review the documentation needed to demonstrate completion. During the demonstration, the IE reviewed the following:

WiSDM:

- Complete wildfire data repository design – SCE displayed the WiSDM Enterprise Analytical Platform document. This document contained the wildfire data repository design, which was approved in June of 2022.
- Consolidate wildfire data storage onto wildfire data repository platform -.SCE displayed the WMP Performance Management screenshots for Foundry. This document contained screenshots demonstrating SCE successfully completed data mapping, ingestions, and verification of datasets in 2022.

Ezy Data:

- Expand cloud AI platform – SCE displayed screenshots of the Transformer and insulator Defect detection AI models. These screenshots included the design and models for distribution defect detection.
- Enable LiDAR data storage capability - SCE displayed the Architecture Vision definition along with an email that included the design document with dated approval in October of 2022.

Finding: IE has reasonable assurance that SCE met the qualitative target of completing the wildfire data repository design, consolidating wildfire data storage, expanding cloud AI platform, and enabling LiDAR data capabilities in 2022.

Community Engagement (DEP-1.3)

Section 7.3.10.1.3 and 5.3-1 of ***SCE 2022 WMP Update.pdf*** and ***SCE_2022_ARC_ 20230331.pdf*** includes a qualitative target for addressing 50% PSPS awareness. SCE reported that the target was met in Q4 by achieving 57% PSPS awareness.

To verify the activities were completed, The IE submitted Data Request 4, requesting documentation of the Customer Tracking survey results that show SCE achieved 57% customer awareness. In response to Data Request 4, SCE provided ***01_DEP-1.3 SCE Residential PSPS 2022 Survey Results.xlsx***. The spreadsheet provided the IE with the methodology for sampling and determining customer awareness, the raw data, as well as the year-to-date tracking results in graphic format. This evidence showed that SCE averaged 57% of customer awareness.

Findings: Based on the documentation provided, the IE has reasonable assurance that SCE met its target of maintaining 50% customer awareness by achieving 57% customer awareness in 2022.

2.1.5.2 Trends and Themes

Include any trends or recurring themes that the Independent Evaluator found while assessing electrical corporation compliance to Qualitative initiatives.

The IE has reasonable assurance that it met qualitative initiative targets and did not note any significant trends or themes with respect to SCE's qualitative initiatives.

2.2 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 electrical corporation explanation. The IE shall determine if targets have been met for underfunded initiatives. For all such instances, where the targets were unmet, the IE shall determine if the electrical corporation met the risk reduction intent for the initiative. Fill out the table below containing initiatives which the Independent Evaluator found to be funded less than 100 percent.

The following table includes all WMP activities that were funded less than 100%. The IE collected evidence as part of data requests and obtained explanations for each instance that was underfunded.

Table 2-6: Verification of Funding

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Alternative Technolo-gies	7.1.E	Alternative Technology Pilot Programs	236	$ (4,681.00)	Capital: Distribution Open Phase Detection (DOPD) and High-Impedance (Hi-Z) Relays were deployed at a lower cost than what was forecasted because SCE later determined that some work--such as voltage sensor and pole replacements, or extensive infrastructure upgrades--would not be needed. For Early Fault Detection (EFD), SCE reduced the installation forecast from 150 to 50 units in 2022 due to material procurement delays, with the expectation to complete the remaining installation of 100 units in 2023. SCE completed installation of 44 units on distribution and two units on transmission in 2022.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Data Govern-ance	7.3.7.1	Centralized repository for data	462	$ (5,184.00)	While spend was less than originally forecasted, SCE met its 2022 target for this activity. The cost underrun in 2022 is mostly related to the following: (1) PSPS Line Patrols Tech Support Tools (CAP): The dashboard for the Grid Management System (GMS) project was cancelled due to scope changes in the dependent projects. (2) Wildfire Safety Data Mgmt. (WiSDM) (CAP): SCE saved on costs through contract negotiation with the third party vendor for the application and revisions of the application design. (3) Ezy (O&M): Delays for InspectForce and InspectApp programs resulted in lower costs than anticipated for use of the cloud platform, and lower utilization of resources and staff to support the required operations.
Emergency Prepared-ness	7.3.9.5	Preparedness and planning for service restoration	486	$ (5,958.00)	This activity is related to distribution and transmission line patrols. Since SCE experienced fewer PSPS events during the year, this translated to fewer circuits in-scope for PSPS de-energization, which also meant fewer field patrols, live-field operations, and restoration patrols.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Emergency Prepared-ness	7.3.9.1	Adequate and trained workforce for service restoration	477	$ (1,478.00)	SCE was able to meet the 2022 target for this activity. Cost underrun is related to employee charging practices for recording PSPS training time and expenses for skilled path and training programs. SCE is reviewing the work order charging practices to help ensure that going forward, all field workers who receive training will charge their time and expenses to the correct accounting structure.
Grid Operations and Protocols	7.3.6.5	Protocols for PSPS re-energization	444	$ (323.00)	This activity is related to weather visualization tools. The forecast was based on historical attrition rates and an estimate to continue tool enhancements. Although there was an underrun related to this activity, SCE was able to continue enhancements of the tool and development efforts will continue into 2023.
Grid Operations and Protocols	7.3.6.6.2.2	Customer Resiliency Equipment	450	$ (1,669.00)	The cost underrun in 2022 is due to reduced need/usage of customer side generators due to lower frequency of PSPS events during the year.

Grid Operations and Protocols	7.3.6.6	PSPS events and mitigation of PSPS impacts	446	$ (13,173.00)	While SCE spent less than originally forecast, SCE was able to meet 2022 targets for this activity which were based on customer participation in backup battery and portable power/generator rebate programs. The cost underrun in 2022 is related to the following sub-activities which experienced lower costs than originally forecast: (1) PSPS Website Improvements (CAP): SCE achieved its planned website improvements and portal enhancements in 2022 at a lower cost due to contract refinements, including vendor negotiation and lower project support costs. (2) Resiliency Zones (O&M): SCE did not deploy as many generators as expected because of a lower number of PSPS events. (3) Community Resource Centers (CRC)(O&M): SCE experienced less PSPS activations which meant lower third party space rent and fewer customer resiliency kits distributed. (4) PSPS 211 Service (O&M): SCE received a carryover credit from the prior year for startup costs. (5) AFN Enhancements (O&M): SCE experienced delays due to vendor negotiations with ramp up and implementation of the AFN Self-ID Pilot and Accessible PSPS Notifications and Statewide Education and Outreach. (6) PSPS Website Improvement (O&M): SCE was able to implement website improvements while gaining cost savings from lower than anticipated data access fees for Verizon and Azure.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Inspection & Maintenance	7.3.4.10	Other discretionary inspection of transmission electric lines and Remediations in HFRA	373	$ (6,527.00)	O&M underrun is related to transmission aerial inspections. SCE performed ~17,133 aerial inspections on transmission structures in HFRA, meeting the WMP targets for inspecting between 16,000 and 19,000 structures in HFRA, via aerial inspections. The spend below forecast was driven by favorable pricing with vendors during contract re-negotiations and a reduction in AOC scope. Capital underrun is because costs were captured under the HFRI Repairs/ Replacements (IN-1.2a) during the second week of January 2023 but have since been corrected. For 2023 and beyond, SCE is revising its procedures so that AOC capital work order costs will be tracked and recorded to the correct activity.
Inspection & Maintenance	7.3.4.5	Infrared inspections of transmission electric lines and equipment	354	$ (133.00)	SCE improved efficiencies in the inspection planning process, which resulted in lower costs than originally forecasted.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Inspection & Maintenance	7.3.4.9.1	Other discretionary inspection of distribution electric lines and equipment, beyond inspections mandated by rules and regulations	362	$ (3,904.00)	SCE performed ~159,700 ground inspections and ~157,200 aerial inspections on structures in HFRA, exceeding the WMP targets for inspecting between 150,000 and 180,000 structures in HFRA, via both ground and aerial inspections. The spend below forecast was driven by implementing a consolidated ground and aerial inspection (referred to as 360 Degree Inspection) for ~17,000 poles at a lower cost, deferring Secondary Conductor Inspections/Remediation Pilots to a future date, and a reduction in Areas of Concern scope.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Inspection & Maintenance	7.3.4.10	Other discretionary inspection of transmission electric lines and Remediations in HFRA	373	$ (3,354.00)	Capital: The underrun is related to HFRI Repairs/Replacements for Transmission in which SCE had a lower number of completed remediations due to external constraints (e.g., permitting and environmental holds that caused delays with work). O&M: Although SCE spent less than originally forecast, SCE met its WMP targets for ground inspections of transmission structures in 2022. The cost underrun was primarily due to a lower cost per HFRI inspection than forecasted, which was a result of process efficiencies that had been developed as the work matured over time. With regard to AOC Inspections, SCE conducted ongoing assessment and risk modeling to determine the proper frequency and number of inspections required in HFRA. Based on this assessment, SCE determined that a lower number of transmission related AOC inspections were required. Lastly, with respect to AOC and HFRI repairs/replacements, a smaller amount of completed remediations was driven by a lower find rate and execution limitations due to external constraints (e.g., environmental and/or permitting holds).

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Resource Allocation Methodology	7.3.8.1	Allocation methodology development and application	474	$ (392.00)	The cost underrun in 2022 is related to the following: (1) Organization Change Management (OCM): The cost underrun in 2022 is primarily due to a lower than anticipated level of OCM support required for the initiatives deployed in 2022. (2) Environmental Remediation Liability Management: SCE pays an Environmental Remediation fee to the State Water Resources Control Board (SWRCB) for each mile of overhead conductor identified as high risk or high threat. The forecast for 2022 was estimated based on $43/mile. The cost underrun for 2022 was because SWRCB reduced the cost to $40/mile of overhead conductor.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Situational Awareness	7.3.2.2	Continuous monitoring sensors	269	$ (1,968.00)	Capital: Although SCE was able to exceed its WMP target of installing 10 HD cameras in 2022 by installing 16 HD cameras, it was not able to achieve its strive-for target of 20 HD cameras. SCE also experienced lower cost of installation and materials required for the HD cameras installation. O&M: With regard to HD Camera leases, the cost underrun in 2022 is because: (a) Vendor support costs for the devices were lower than originally forecasted and (b) Software charges and monthly/recurring data services charges were lower than expected.
Situational Awareness	7.3.2.4	Forecast of a fire risk index, fire potential index, or similar	275	$ (739.00)	SCE met its WMP target for this activity, but experienced cost underruns in 2022 related to contractual delays for Remote Sensing (satellite) and discounted subscription pricing related to fire spread modeling.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Stakeholder Cooperation and Community Engagement	7.3.10.1.3	Community engagement	502	$ (4,158.00)	This activity is related to customer research and education. SCE met the goal of completing 6 surveys in 2022 at a cost which was lower than originally anticipated. In addition, there was no spend on the Investor-Owned Utility (IOU) Community Engagement program, as SCE determined local campaigns were more effective to increase customer awareness of wildfire mitigation efforts.
Stakeholder Cooperation and Community Engagement	7.3.10.1.1	Community engagement	491	$ (104.00)	SCE met its target for this initiative by hosting ten community meetings in 2022. The cost underrun in 2022 is primarily due to SCE's ability to use virtual meetings for community townhall meetings which resulted in lower costs than holding in-person meetings (i.e., avoided facility rental, employee lodging and expenses, refreshment, etc.).
Stakeholder Cooperation and Community Engagement	7.3.10.1.2	Community engagement	498	$ (1,838.00)	SCE met its target for this initiative. The cost underrun in 2022 was because SCE managed to print its annual customer PSPS newsletters at a lower cost than originally anticipated.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
System Hardening	7.3.3.16	Undergrounding of electric lines and/or equipment	334	$ (22,256.00)	Although SCE met its targets for undergrounding in 2022, the cost underrun in 2022 was a result of SCE's deployment of undergrounding in areas with low difficulty to design, install, and complete undergrounding.
System Hardening	7.3.3.7	Expulsion fuse replacement	308	$ (1,344.00)	SCE met its WMP target for this initiative. The 2022 forecast was a placeholder to address standalone proactive replacement of CLFs for branch line protection. The cost to replace fuses are not recorded as a wildfire expense, as SCE is pursuing reimbursement from the vendor related to this work effort. CLF replacement costs will continue to be tracked through 2023.
System Hardening	7.3.3.9	Installation of system automation equipment	313	$ (1,321.00)	SCE met its WMP target for this initiative. The cost underrun in 2022 for installation of Remote Controlled Automatic Reclosures was primarily because SCE managed to use in-house resources for the work instead of 3rd party vendors/contractors.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
System Hardening	7.3.3.17.1	Updates to grid topology to minimize risk of ignition in HFTDs	337	$ (191.00)	SCE met its WMP target for this initiative. The cost underrun in 2022 was because the forecast anticipated using premium time (higher hourly rates) labor to complete the work; however, SCE was able to complete the field work using normal time labor only which resulted in lower spend for the year.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
System Hardening	7.3.3.17.2	Updates to grid topology to minimize risk of ignition in HFTDs	340	$ (2,149.00)	The cost underrun in 2022 is related to the following: (1) Legacy Facilities (Capital): SCE completed two out of the three reconductor projects in 2022. The two reconductor projects were completed at a lower unit cost than originally planned and recorded to a non-wildfire accounting. The third reconductor project experienced delays in 2022 which was largely driven by additional time needed for environmental reviews as well as resource availability (both T&D in-house and 3rd party vendors). The third reconductor project is anticipated to complete in 2023. (2) Legacy Facilities (O&M): The cost underrun in 2022 was primarily because SCE managed to use in-house resources for the work instead of 3rd party vendors/contractors. In addition, SCE was able to use existing materials and inventory, which resulted in SCE not having to purchase new materials and equipment to remediate the sites.
System Hardening	7.3.3.8.1	Grid topology improvements to mitigate or reduce PSPS events	310	$ (5,393.00)	While SCE meets its WMP target for this initiative, it was not able to acquire access to the land for the installation of one out of three microgrid sites. SCE re-ran the screening tool with updated circuit and PSPS information to evaluate any changes in site assessment, but no viable candidates were found.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
System Hardening	7.3.3.15	Transmission tower maintenance and replacement	331	$ (250.00)	SCE met its 2022 target to proactively remove 10 C-Hooks in HFRA and finished SH-13. The cost underrun in 2022 was because the level of difficulty to maintain C-Hooks was lower than originally anticipated. SCE was able to complete this maintenance activity at a cost of approximately $59K for the year, however, these costs were recorded under HFRI Repairs/Replacements -T which is addressed as 7.3.4.10 (IN-1.2a). SCE maintains a question in its transmission inspection form regarding the identification of C-Hooks, just to ensure all C-Hooks in HFRA have been removed from SCE's system.
Vegetation Management	7.3.5.12	Patrol inspections of vegetation around transmission electric lines and equipment	416	$ (952.00)	O&M: SCE met its target for SH-14. Lower costs for O&M occurred as costs for some units were bundled or addressed through other remediation programs. LSI activity was carried out as planned but 332 units were recovered to other remediation programs such as HFRI and HFRA compliance because of bundling and treatment.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Vegetation Management	7.3.5.20	Vegetation management to achieve clearances around electric lines and equipment	433	$ (11,898.00)	SCE conducted vegetation mitigation activities in the service territory and achieved compliance. The underrun is due to inventory which required less maintenance while still meeting clearing standards. The work was performed while adhering to maintained schedules and met all quality control expectations (i.e., SCE was on schedule and addressed all QC standards in the field).
Vegetation Management	7.3.5.3	Detailed inspections and management practices for vegetation clearances around transmission electrical lines and equipment	400	$ (2,573.00)	SCE views the vegetation inspection for Distribution and Transmission as similar activities. Depending on the area of inspections, contractors can inspect both Transmission and Distribution assets during the same site visit. For this reason, from a reporting perspective, SCE tends to view the detailed inspection costs for Transmission and Distribution as one. The ARC shows that the combined forecast for both initiatives is $17.8M where the actual spend is $23.2M. While there was an underrun for Transmission the overall inspection program was an overrun of $5.4M.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Vegetation Management	7.3.5.11	Patrol inspections of vegetation around distribution electric lines and equipment	415	$ (7,604.00)	Seasonal Patrols are an inspection and mitigation program, where SCE performs a "find and fix" exercise. Cost underrun in 2022 is because SCE found less work in 2022 than what was originally forecasted.
Vegetation Management	7.3.5.7	Remote sensing inspections of vegetation around distribution electric lines and equipment	410	$ (2,190.00)	The cost underrun in 2022 was because SCE prioritized the most important/critical AOC circuits for LiDAR due to vendor capacity limitations, reducing the scope of work performed in 2022.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Vegetation Management	7.3.5.16.1	Removal and remediation of trees with strike potential to electric lines and equipment	425	$ (21,268.00)	SCE met its WMP target for this initiative. The cost underrun in 2022 was primarily related to the following: (1) HTMP Tree Removal: SCE found fewer than expected hazard tree conditions on the HFRA circuits. (2) HTMP Property Owner Incentives: The program allows property owners to receive utility-friendly trees as an incentive to support the mitigation of hazardous trees identified by SCE. The cost underrun in 2022 is due to lower than expected customer utilization of this program.
Vegetation Management	7.3.5.5.1	Fuel management (including all wood management) and management of “slash” from vegetation management activities	402	$ (6,763.00)	SCE met its WMP target for this initiative. The cost underrun in 2022 was primarily related to the following: (1) HTMP Tree Removal: SCE found fewer than expected hazard tree conditions on the HFRA circuits. (2) HTMP Property Owner Incentives: The program allows property owners to receive utility-friendly trees as an incentive to support the mitigation of hazardous trees identified by SCE. The cost underrun in 2022 is due to lower than expected customer utilization of this program.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Vegetation Management	7.3.5.5.2	Fuel management (including all wood management) and management of “slash” from vegetation management activities	404	$ (665.00)	SCE met its WMP target for this initiative. The cost underrun in 2022 was driven by the following factors: (a) For the clearance maintenance work for Kaweah, Kern, East End, and Bishop areas, the treatment was rescheduled for completion in 2023 to allow for additional time between the last treatment which was performed in 2021; (b) Efficiencies gained in the processes to complete the expanded clearance work in Catalina Island; SCE had originally forecasted for two months of work in Catalina which required a series of trips from mainland to the island (e.g., travel cost, lodging, meals, logistical transportation of equipment, etc.); however, SCE was able to complete the work within 1 month, resulting in lower costs.
Vegetation Management	7.3.5.16.2	Removal and remediation of trees with strike potential to electric lines and equipment	427	$ (2,255.00)	This activity is related to Dead & Dying Tree Removals. The cost underrun in 2022 is due to a lower number of dead and dying trees that needed to be removed than originally forecasted.

Initiative Category	2022 Initiative Number	Initiative Name	2022 WMP Page Number	Funding Discrepancy Amount	Detail on Funding Discrepancy
Vegetation Management	7.3.5.13	Quality assurance / quality control of vegetation management	416	$ (636.00)	SCE met its WMP target for this initiative. Cost underrun was due to fewer than anticipated QC inspections performed for Transmission.

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

The IE used SCE's ARC (***SCE_2022_ARC_20230331.pdf)*** as its baseline for financial evaluation. Given the updated format of the ARC provided by Energy Safety and the requirement to include detail pertaining to under or overspend, the IE felt that the ARC was a sufficient source of evidence in evaluating SCE's underspend initiatives. From the ARC the IE was able to determine that 34 initiatives from SCE's 2022 WMP received less funding than was projected. For the 34 initiatives SCE provided a funding breakdown of both CAPEX and OPEX, but for the purpose of the financial evaluation the IE combined those expenditure as can be seen in the table above. SCE provided a high level of detail where applicable as to why the spending target was not met, as well as if the initiative target was met even though the initiative was underfunded.

Based off the financial data provided by SCE, and the discussions conducted on the weekly status calls as well as on SME interviews, the IE verified that the funding presented in the table above is being tracked appropriately. The IE also believes that the above table is reflective of the underspend initiatives in SCE's 2022 initiative portfolio.

2.3 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 review. Independent Evaluators shall review all documentation and perform interviews to validate an electrical corporation's QA and QC programs for WMP compliance.

The IE evaluated SCE's Quality Assurance/Quality Control (QA/QC) Programs based off the documentation included in its WMP, supporting documentation, 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 7.3.4.15 and 7.3.5.13 of the WMP, apply to their vegetation management and asset inspection programs. SCE also develops Annual QC Plans which provides information on internal SCE targets related to QC.

Additionally, SCE's Audit Services Department (ASD) assesses WMP implementation independently of each responsible operating unit. Audits are determined through a risk assessment informed by SCE's Board of Directors, senior management, and regulatory requirements. QA/QC findings are reported via the Performance Management team to executive leadership of SCE. 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 and IN-5 and the Quality Control Program documentation. Asset inspections and secondary QC inspections reduce the probability of equipment failure and ignitions by identifying and remediating hazardous equipment conditions.

Per the 2022 WMP, SCE performs the following QA/QC inspection activities:

- The Compliance and Quality (C&Q) group 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.
- C&Q plans to perform QC inspections of completed inspections for approximately 5,000 transmission, distribution, and generation structures in HFRA.

- 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.

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

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.
- 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).
- QC will transition to the TRI model, which is informed by Technosylva WRRM data in 2022 to inform its QC inspection scope.
- QC inspected 100% of all Class A HFRA Circuit Miles (unless there are constraints), and a sample population of non-HFRA Class A circuit miles, with an overall Confidence Interval/Confidence Level (CL/CI) of 99/1% for Class A circuit miles, and 99/2% for Class B, C, and D combined.
- In 2022, QC intended to inspect approximately 8,000 total circuit miles, of which approximately half of the miles will be selected from HFRA. Given the mix of tracking methodologies (circuit miles, spans, poles, and trees were all used as units), it is unclear if this was met.
- 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.
- 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 are complete as expected.
- 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.
- Dead and Dying Tree Mitigation targets 100% inspection of all completed remediations.

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, it may be beneficial for the EC to organize their QA/QC documents and programs into a mapping document that includes the applicable teams, roles, program documents, and evidence.

3. Conclusions

The Conclusion section shall summarize all findings that the Independent Evaluator detailed in the sections above. All findings must be supported by documented evidence which could be in the body of the report or in the Appendix section.

The IE reviewed and assessed all of SCE's listed initiative activities and conducted a thorough review of evidence through documentary desktop reviews and field verification assessments. Many of these detailed reviews and assessments were supported 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 2.3 above. Findings associated with verification of funding are presented within Section 2.2. Table 2-6 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 detailed program mapping to provide a more comprehensive layout of the programs and their associated documentation.

Reviewed initiative findings are presented in Table 1-1: SCE 2022 WMP Execution – Findings.

Appendix: A

Table 3-1: List of Data Requests

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
1	2	2022 **Quarterly Data Reports Spatial Data** (the non-public version, if applicable)	N/A
1	3	2022 **Annual Report on Compliance** (the non-public version applicable)	N/A
1	NA	2022 **SCE Year-end Compliance Reports**, as applicable - (non-Energy Safety documentation as discussed on kickoff call)	N/A
1	4	2022 **Quarterly Initiative Updates (QIU) or equivalent** (the non-public version, if applicable)	N/A
1	5	2022 **Quarterly Advice Letters/Notification Letters** (the non-public version, if applicable)	N/A
1	6	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: 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 WMP, and associated quarterly reports (Quarterly Data Reports).	N/A
1	7	Vegetation Management clearance specification (i.e. GO 95)	N/A
1	8	Vegetation Management Plan/Program	N/A
1	9	Vegetation Management Plan supporting documentation (e.g., supporting procedures, processes, guidance, etc.)	N/A
1	10	Asset Management & Inspection Plan/Program	N/A
1	11	Asset Management & Inspection Plan supporting documentation (e.g., supporting procedures, processes, guidance, etc.)	N/A

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
1	12	Provide all vegetation management QA/QC program documentation that sets forth the parameters for QA/QC activities for vegetation management (e.g. policy, plan, programs, procedures, guidance documents, etc.).	N/A
1	13	Provide all asset inspection QA/QC program documentation that sets forth the parameters for QA/QC activities for vegetation management (e.g. policy, plan, programs, procedures, guidance documents, etc.).	N/A
2	1	For each of the selected samples, provide the documentation associated with each installation (e.g., Completed Field installation Work Orders, other evidence demonstrating its operational) for subsequent desktop verification. Documentation should include the date of installation completion.	SA-1
2	2	For the sampled weather stations, provide documentation demonstrating that the machine learning capabilities were implemented. Include the date for the implementations.	SA-3
2	3	Provide the list of total evaluations for highly impacted circuits, specific to the PSPS - Driven Grid Hardening Work.	SH-7
2	4	For each of the selected RAR/RCS samples, provide the documentation associated with each installation (e.g., Completed Field installation Work Orders, other evidence demonstrating its operational) Documentation should include the date of installation completion.	SH-5
2	5	Provide Rapid Earther Fault Current Limiter report.	SH-17
2	6	Provide records/documentation demonstrating that the 10 sampled C-hooks were replaced in 2022	SH-13
2	7	Provide the sampled workorders or other documentation that demonstrate the number of line miles completed for undergrounding overhead conductors.	SH-2
2	8	Provide documentation (workorders, screenshots, etc.) that demonstrates the sampled Transmission Open Phase Detection systems were installed. Documentation should include the date of installation completion.	SH-8
2	9	Provide the sampled workorders or other documentation that demonstrate the updates to the grid topology, specific to vertical switches.	SH-15

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
2	10	Provide documentation (workorders, screenshots, etc.) demonstrating that the sampled distribution circuit miles in HFRA were inspected.	IN-3
2	11	Provide documentation (workorders, screenshots, etc.) demonstrating that the sampled Transmission circuit miles were inspected.	IN-4
2	12	Provide documentation (workorders, screenshots, etc.) demonstrating that the sampled Transmission spans/splices were inspected. For 9.A and 9.B, the sample set in the sampling workbook, for 9.C, please provide evidence for all 6 inspections.	IN-9
2	13	Provide the total inspection list for the 157, 144 structures in HFRA inspected.	IN-1.1
2	14	Provide the supporting documentation (workorders, screenshots, etc.) demonstrating the inspections were performed for the sampled list provided, and ensure they include the date of inspection.	IN-5
2	15	Provide the supporting documentation (workorders, screenshots, etc.) demonstrating the inspections were performed for the sampled list provided, and ensure they include the date of inspection.	IN-1.2
2	16	Provide a list of the total sites (926) treated for this initiative.	VM-2
2	17	Please provide document "VM-1 Circuit Tracker" as discussed on the call held on May 5, 2023.	VM-1
2	18	Please provide document "VM-4 Circuit Tracker" as discussed on the call held on May 5, 2023.	VM-4
2	19	Provide a list of all enrollments performed as part of the Customer Care Programs in 2022.	PSPS-2
2	20	Please provide a list of all SCE Emergency Response Records.	DEP-2

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
2	21	Provide meeting invites, minutes and/or other documentation demonstrating that the 10 Customer Education and Engagement - Community Meetings took place, as per the 2022 ARC.	DEP-1.2
2	22	Please provide documentation demonstrating that the 6 surveys, as identified in the 2022 ARC, were performed and completed. Documentation should include dates demonstrating that they were done in 2022.	DEP-4
2	23	Provide the three MOU's addressing aerial suppression, as stated in the 2022 ARC. Information can be redacted, and information shared should follow any state, local, federal, or other guidelines.	DEP-5
3	1	The IE received SCE's response to DR2 question 1 and determined there is additional information or clarification needed for two of the sampled items that were missing from documents **01_Data Request for SCE - Metadata Install date** and **Data Request for SCE - Daily Observations 3-16-22 to 11-2-22**. See items 3515 and 3592 in the sample, however not included in the above reference documents. Please provide the requested documentation, or an explanation as to why the documentation wasn't provided.	SA-1
3	2	For each of the selected HD camera install samples, provide documentation associated with each installation (e.g. Completed Field installation Work Orders, other evidence demonstrating its operational) that demonstrates the sampled HD cameras were installed. Documentation should include the date of installation completion.	SA-10
3	3	For the sampled weather stations, provide documentation demonstrating that the machine learning capabilities were implemented. Include the date for the implementations.	SA-3
3	4	1.1a & 1.1b - Provide documentation (workorders, screenshots, etc.) demonstrating that the sampled structures in HFRA were inspected.	IN-1.1
3	5	1.2a & 1.2b - Provide documentation (workorders, screenshots, etc.) demonstrating that the sampled structures in HFRA were inspected.	IN-1.2
3	6	Provide a list of the total sites (32) treated for this initiative.	VM-3

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
3	7	Provide the total line mile details (1,696), for LiDAR transmission vegetation inspections in 2022. (Note: The IE will provide a sample of the total line miles once received).	VM
3	8	Provide the total number of substation vegetation inspections for 2022.	VM
3	9	Provide the total list of detailed inspections and management practices for vegetation clearances around transmission infrastructure lines, and equipment in 2022.	VM
3	10	Provide the total list of detailed inspections and management practices for vegetation clearances around distribution infrastructure lines, and equipment in 2022.	VM
3	11	Provide the total list of Substation Inspections for 2022.	VM
4	1	Please provide the Customer Attitude Tracking (CAT) survey(s) results that show SCE achieved a 57% customer awareness in 2022.	DEP-1.3
4	2	In SCE's WMP the following statement is made "SCE is aiming to have all PSPS IMT and Task Force members fully trained and qualified or requalified by mid-year (July 1, 2022) and to continue the de-energization exercises to provide realistic training for IMT members." Please provide proof that 346 trained individuals are representative of 100% staff training. Please provide the training records for the randomly selected items in DEP-2a and DEP-2b of the SCE DR4 Initiatives Requiring Sampling 2022.xlsx file.	DEP-2
4	3	Guidehouse would like an interview with SCE to discuss the documentation provided, 14_IN-5 Inspection Survey Information. Specifically, an explanation of the blanks in columns G-K, as provided in response to DR2 Q14.	IN-5

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
4	4	Provide any documentation, including the assessments from other potential sites, emails communications, etc. That can demonstrate the actions that took place for this initiative in 2022.	SH-12
4	5	Please provide documentation of tree remediation activity for the sample set of circuits identified in the sampling workbook.	VM-1
4	6	Please provide dead and dying tree removal activity documentation for the sample set of circuits identified in the sampling workbook.	VM-4
4	7	Provide documentation that demonstrates implementation of the Vegetation Management Work Management Tool for the Hazard Tree Program (HTP), which includes HTMP and Dead and Dying Tree removal, and for Routine Line Clearing.	VM-6
5	1	Please see SCE Initiatives Requiring Sampling 2022.xlsx for tabs PSP-2a and PSPS-2b. For PSPS-2a please provide proof of enrollment for the following entries for the Customer Care Program (Critical Care Backup Battery Program) For PSP-2b please provide proof of rebate for the following entries for the Portable Power Station & Generator Rebates Program.	PSPS-2
5	2	Provide documentation demonstrating SCE updated the FPI 2.0 methodology to include calibration and verification statistics. As well as the Building Loss Factor and a metric measuring suppression effectiveness that have been integrated into FireCast.	SA-8
5	3	Provide the completed evaluation of the performance of installed fault anticipation technology and associated recommendations for future use.	SA-9
5	4	Provide the associated work orders, or other documentation for the listed samples within the document "SCE - Field Verification - Work Orders Request".	SH-1
5	5	Provide the associated work orders, or other documentation for the listed samples within the document "SCE - Field Verification - Work Orders Request".	SH-10

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
5	6	Provide the associated work orders, or other documentation for the listed samples within the document "SCE - Field Verification - Work Orders Request".	SH-14
5	7	Provide the associated work orders, or other documentation for the listed samples within the document "SCE - Field Verification - Work Orders Request".	SH-4
5	8	Please provide the inspection work orders/reports, or other documentation for the samples containing the list of total evaluations for highly impacted circuits, specific to the PSPS - Driven Grid Hardening Work.	SH-7
5	9	Provide documentation (work orders, screenshots, etc.) that demonstrates the sampled Transmission Open Phase Detection systems were installed. Documentation should include the date of installation completion.	SH-8
5	10	Provide documentation, such as work orders, of the 33 provided samples that the LiDAR inspections of vegetation around transmission electric lines and equipment were completed in 2022.	VM
5	11	Provide the supporting documentation (workorders, screenshots, etc.) demonstrating the inspections were performed for the sampled list provided, and ensure they include the date of inspection.	VM
5	12	Provide documentation, such as work orders, of the 16 provided samples that the detailed inspections and management practices for vegetation clearances around transmission infrastructure lines, and equipment were completed in 2022.	VM
5	13	Provide the supporting documentation (workorders, screenshots, etc.) demonstrating the inspections were performed for the sampled list provided, and ensure they include the date of inspection.	VM
5	14	Provide the associated work orders, or other documentation for the listed samples within the document "SCE - Field Verification - Work Orders Request".	VM
5	15	Provide documentation, such as work orders, that the 33 provided samples of detailed inspections and management practices for vegetation clearances around distribution infrastructure lines, and equipment were completed in 2022.	VM

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
5	16	Please provide documentation of tree remediation activity for the sample set of circuits.	VM-1
5	17	Provide the associated work orders, or other documentation for the listed samples within the document "SCE - Field Verification - Work Orders Request".	VM-2
5	18	Please provide the clearance documentation (workorders, or other) for the sampled list of sites treated.	VM-3
5	19	Please provide dead and dying tree removal activity documentation (work orders, reports etc.) for the sampled circuits provided.	VM-4
6	1	Please provide a total list of all VM - PRC 4292 Poles Brushed work that was completed in 2022 that demonstrates SCE met their target.	VM PRC 4292
6	2	Please provide a total list of all SH-14 Long Span Initiative work that was completed in 2022 that demonstrates SCE met their target.	SH-14
7	1	Please provide documentation that demonstrates SCE performed the pole clearing activities for the sampled items in the attached document DR 7 Initiatives Requiring Sampling.	VM PRC 4292
7	2	Please provide documentation that demonstrates SCE performed the long span initiative activities for the sampled items in attached document DR 7 Initiatives Requiring Sampling.	SH-14
7	3	Guidehouse would like to request and interview/Live demonstration that will consist of SCE having the total number of QA inspections completed in 2022, where Guidehouse can walk through the randomization sampling process and identify the random sample to verify this initiative as complete, then a follow-up interview/live demonstration to review the 33 sampled item for verification.	VM - Inspections Audit
7	4	Guidehouse would like to request an interview with SCE SMEs to discuss the work orders provided.	SH-5

DR	Item No.	Item Requested	Initiative Identifier or "N/A"
7	5	Guidehouse requests an interview with SCE SMEs to discuss the work orders provided.	SH-2
7	6	Guidehouse requests an interview with Gary Samuelson to demo the IR data in ArcGIS. Alternatively, please provide screenshots of the data in the document **DR_IE02-SCE-2022_Q10 (DIRS_IN-3)**, in DR2, item 10.	IN-3
8	1	With respect to the interview/live demonstration as requested in DR7, and conducted with SCE SMEs on June 8, 2023 @ 11:00am PT. Please provide the list of sampled items, as identified during the interview, along with the supporting documentation demonstrating the auditing/QC occurred.	VM QA/QC
8	2	Guidehouse would like to have an interview with the SCE SMEs to review DR5 submitted documentation, as previously discussed - Note - This interview has been completed as of 6/8/2023.	VM LiDAR
8	3	Guidehouse would like to have an interview with the SCE SMEs to review DR5 submitted documentation, as previously discussed.	SH-7
9	1	The IE requests an interview with SCE personnel to discuss IN-1.1b. Note - this interview has been completed as of 6/9/2023.	IN-1.1b
9	2	The IE requests an interview with SCE personnel to discuss DG-1. Note - this interview has been completed as of 6/14/2023.	DG-1
9	3	The IE requests an interview with SCE personnel to discuss SH-11. Note - this interview has been completed as of 6/14/2023.	SH-11
9	4	The IE requests an interview with SCE personnel to discuss IN-8. Note - this interview has been completed as of 6/15/2023.	IN-8
9	5	The IE requests an interview with SCE personnel to discuss QA/QC Program. Note - this interview has been completed as of 6/9/2023.	QA/QC Program
10	1	Please provide documentation that demonstrates SCE performed detailed inspections for the 17 sampled records provided in document ***DR10 Sampled Detailed Inspections – Transmission*** within this request package.	VM – Detailed Inspections - Transmission