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Gavin Newsom, Governor
Caroline Thomas Jacobs, Director

April 13, 2022

To: Southern California Edison
Erik Takayesu
Vice President Asset Strategy and Planning
2244 Walnut Grove
Rosemead, CA 91770

SUBJECT: Office of Energy Infrastructure Safety's Audit Report on SCE's Substantial Vegetation Management Work in 2020

Pursuant to the requirements of California Public Utilities Code Section 8386.3(c)(5)(A), the Office of Energy Infrastructure Safety (Energy Safety) under the California Natural Resource Agency (CNRA) has completed and enclosed its audit report of Southern California Edison (SCE) substantial vegetation management work in 2020.

During the audit, Energy Safety reviewed data provided by SCE, which Energy Safety compared to the representations SCE made in its 2020 Wildfire Mitigation Plan (WMP). A copy of the audit report findings is enclosed. Should SCE determine that a response to the enclosed audit report is necessary, please submit such response to the 2020-SVM docket in Energy Safety's e-filing system.

Thank you for your courtesy and cooperation throughout the audit process. If you have any questions concerning this audit, please contact Edward Chavez at Edward.Chavez@energysafety.ca.gov, with a copy to compliance@energysafety.ca.gov.

Sincerely,

Koko Tomassian
Program Manager, Compliance Assurance Division
Office of Energy Infrastructure Safety
California Natural Resource Agency

Cc:
Gary Chen, SCE
Elizabeth Leano, SCE
Diana Gallegos, SCE
Johnny Parker, SCE
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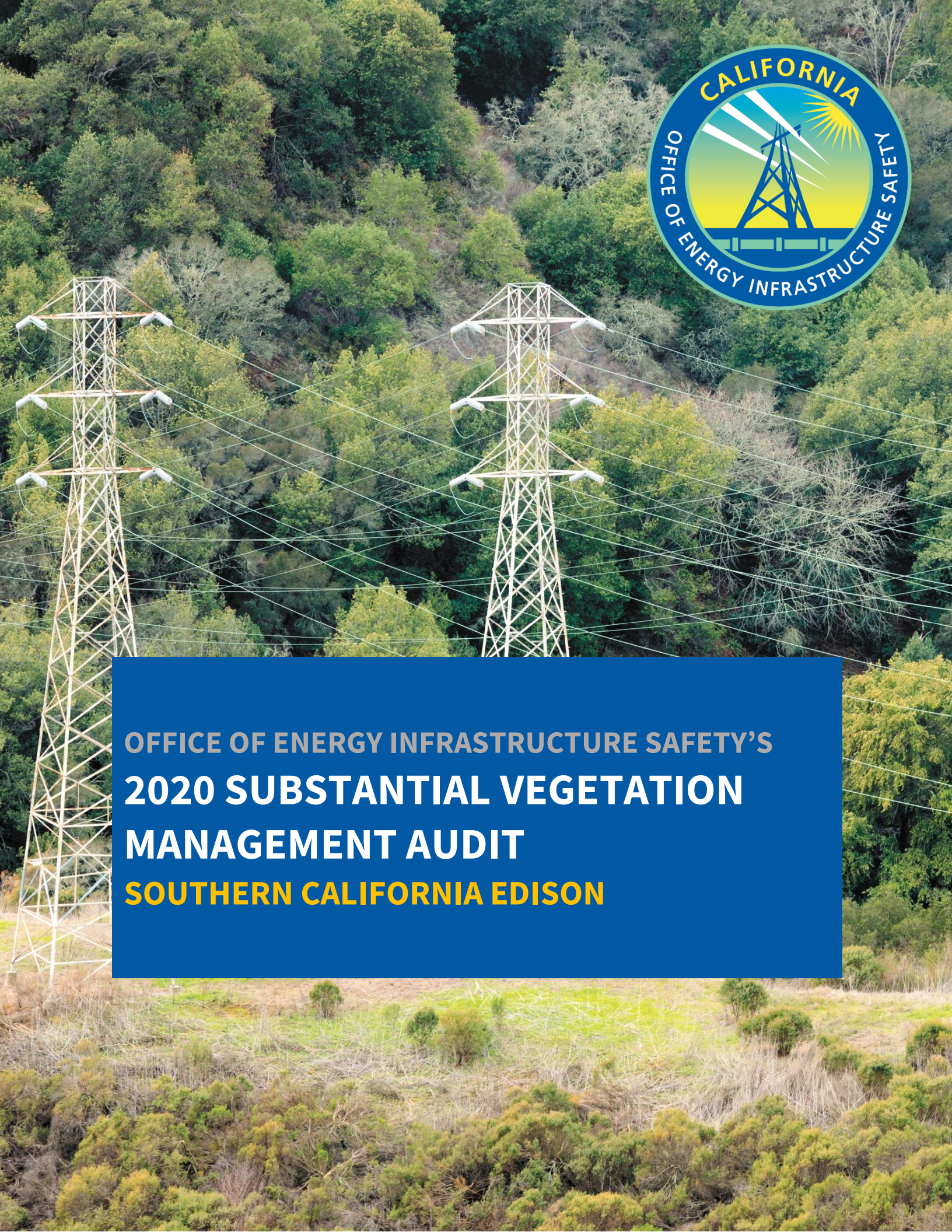
Edward Chavez, Program and Project Supervisor
Gary Candelas, Environmental Scientist
Attachment: Audit Report



OFFICE OF ENERGY INFRASTRUCTURE SAFETY'S

2020 SUBSTANTIAL VEGETATION MANAGEMENT AUDIT

SOUTHERN CALIFORNIA EDISON

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1.0 EXECUTIVE SUMMARY

The statute requires electrical corporations (utilities) to notify Energy Safety after completing substantial portions of vegetation management requirements in their approved Wildfire Mitigation Plans (WMPs) and requires Energy Safety to audit compliance with these requirements.[1] Energy Safety refers to this audit as the "Substantial Vegetation Management" (SVM) audit.

To conduct this audit, Energy Safety evaluated the vegetation management section of Southern California Edison's (SCE) 2020 WMP.[2] The 2020 WMP Guidelines contained 20 initiatives in the vegetation management section. In reviewing the vegetation management section and initiatives in utility 2020 WMPs, Energy Safety identified both quantitative commitments (e.g., miles of lines to inspect, minimum work quality thresholds, etc.) and verifiable statements (e.g., the utility will hold public meetings with communities regarding future vegetation management activities, the utilities will train personnel on utility protocols, etc.) made by SCE. Energy Safety then reviewed available information and requested additional documentation to support the assessment of whether utilities met their quantitative commitments and executed their verifiable statements.

Based on the scope above and subsequent analysis, Energy Safety found SCE compliant with 20 out of the 20 vegetation initiatives audited in its 2020 WMP, as detailed in Table 1 below.

Table 1: Energy Safety's Analysis of SCE's 2020 WMP Vegetation Management Initiatives

2020 WMP Initiative Number	**2020 WMP Initiative Name**	**Determination[3]**
5.3.5.1	Additional Efforts to Manage Community and Environmental Impacts	Compliant
5.3.5.2	Detailed Inspections of Vegetation Around Distribution Electric Lines and Equipment	Compliant
5.3.5.3	Detailed Inspections of Vegetation Around Transmission Electric Lines and Equipment	Compliant
5.3.5.4	Emergency Response Vegetation Management Due to Red Flag Warning or Other Urgent Conditions	Compliant

[1] Cal. Pub. Util. Code § 8386.3, subd. (c)(5)(A)

[2] 2020 WMP guidelines, R.18-10-007 p.78, the 2020 WMP had 10 categories such as asset management and inspections, vegetation management and inspections, data governance, etc.

[3] As used in this context, "Compliant" means the utility was able to provide Energy Safety document(s) to support statements made in its 2020 WMP. "Noncompliant" means the utility was not able to provide Energy Safety document(s) to support commitments and statements made in its 2020 WMP. Energy Safety's analysis did not assess the quality of how said WMP statement was executed.

2020 WMP Initiative Number	2020 WMP Initiative Name	Determination[3]
5.3.5.5	Fuel management and reduction of "slash" from vegetation management activities	Compliant
5.3.5.5.1	Expanded Pole Brushing (VM-2)	Compliant
5.3.5.5.2	Expanded Clearance for Legacy Facilities (VM-3)	Compliant
5.3.5.6	Improvement of Inspections	Compliant
5.3.5.7	LiDAR Inspection of Vegetation Around Distribution Electric Lines and Equipment	Compliant
5.3.5.8	LiDAR Inspection of Vegetation Around Transmission Electric Lines and Equipment	Compliant
5.3.5.9	Other Discretionary Inspections of Vegetation Around Distribution Electric Lines and Equipment Beyond Inspections Mandate by Rules and Regulations	Compliant
5.3.5.10	Other Discretionary Inspections of Vegetation Around Transmission Electric Lines and Equipment Beyond Inspections Mandate by Rules and Regulations	Compliant
5.3.5.11	Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment	Compliant
5.3.5.12	Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment	Compliant
5.3.5.13	Quality Assurance/ Quality Control of Inspections (VM-5)	Compliant
5.3.5.14	Recruiting and Training of Vegetation Management Personnel	Compliant
5.3.5.15	Remediation of At-Risk Species	Compliant
5.3.5.16.1	Hazard Tree (VM-1)	
5.3.5.16.2	Drought Relief Initiative (DRI) (VM-4)	Compliant
5.3.5.17	Substation Inspections	Compliant
5.3.5.18	Substation Vegetation Management	Compliant
5.3.5.19	Vegetation Inventory System	Compliant
5.3.5.20	Vegetation Management to Achieve Clearance Around Electric Lines and Equipment	Compliant

2020 was the first year for which these SVM audit requirements were in effect. Energy Safety looks forward to further refining and developing SVM audits as the program matures.

2.0 PURPOSE

A utility must notify Energy Safety when it completes a substantial portion of the vegetation management requirements in its WMP on an annual basis.[4] Energy Safety is then required to audit the utility's vegetation management work and specify any failure of the utility to comply with the vegetation management requirements in its WMP.[5]

Energy Safety conducted this audit based on the statutory language as described below.

Pursuant to the California Public Utilities Code (PUC), section (§)8386.3(c)(5)(A):

> An electrical corporation shall notify the Wildfire Safety Division[6], within one month after it completes a substantial portion of the vegetation management requirements in its wildfire mitigation plan of completion. Upon receiving the notice from the electrical corporation, the division shall, consistent with its authority pursuant to paragraph (1) of subdivision (a) of section 326, promptly audit the work performed by, or on behalf of, the electrical corporation. The audit shall specify any failure of the electrical corporation to fully comply with the vegetation management requirements in the wildfire mitigation plan. The division shall provide the audit to the electrical corporation. The electrical corporation shall have a reasonable time, as determined by the division, to correct and eliminate any deficiency specified in the audit.

3.0 SCOPE

To conduct this audit, Energy Safety evaluated the vegetation management section of SCE's 2020 WMP.[7] The 2020 WMP guidelines contained 20 initiatives in the vegetation management section. In reviewing the vegetation management section and initiatives in SCE's 2020 WMP, Energy Safety identified both quantitative commitments (e.g., miles of lines to inspect, minimum work quality thresholds, etc.) and verifiable statements (e.g., the utility will hold public meetings with communities regarding future vegetation management activities, the utilities will train personnel on utility protocols, etc.) made by SCE. Energy Safety then reviewed available information and requested additional documentation to support the assessment of whether SCE met their quantitative commitments and executed their verifiable statements.

[4] Cal. Pub. Util. Code § 8386.3, subd. (c)(5)(A)
[5] Cal. Pub. Util. Code § 8386.3, subd. 8386.3(c)(5)(A)
[6] Wildfire Safety shall be referred to as Office of Energy Infrastructure Safety
[7] 2020 WMP guidelines, R.18-10-007 p.78, the 2020 WMP had 10 categories such as asset management and inspections, vegetation management and inspections, data governance, etc.

SCE notified Energy Safety upon completing a substantial portion of its 2020 WMP vegetation management requirements. In support of its audit, Energy Safety requested documentation to verify SCE compliance with verifiable statements and quantifiable commitments in the vegetation management sections of its 2020 WMP. This audit did not assess the quality of how SCE vegetation management programs were executed beyond SCE's own self-assessments of work quality.

4.0 BACKGROUND

Energy Safety conducted an audit of the work performed by Southern California Edison (SCE), as reported in SCE's notifications dated August 14, 2020, and November 20, 2020,[8] indicating that a substantial portion of vegetation management requirements in its 2020 WMP had been completed. SCE provided notices of substantial work completion related to five of its 2020 WMP vegetation management (VM) programs (VM-1 through VM-5). SCE's VM programs (i.e., VM-1 through VM-5) are tied to various WMP initiatives. The 2020 WMP Guidelines identify a total of 20 vegetation management initiatives for utilities to describe in their WMPs.

4.1 Vegetation Management Programs

SCE ties each VM program to a WMP initiative that best fits the program description (see Table 2 below). The following is an explanation of SCE's VM programs and a list to which they correlate to the 2020 WMP initiatives.

SCE implements the following programs to perform vegetation management work along distribution and transmission lines: Hazard tree (VM-1), Expanded Pole Brushing (VM-2), Expanded Clearance for Legacy Facilities (VM-3), Drought Relief Initiative (VM-4), and Quality Assurance/Quality Control (VM-5), Distribution Mitigation Vegetation Management Plan (DVMP) and Transmission Mitigation Vegetation Management Plan (TVMP). These programs, except for DVMP and TVMP, go beyond SCE's routine inspection and remediation. The programs above are specifically mentioned in SCE's 2020 WMP. Each of these programs is described in more detail below for reference throughout the report.

- **Hazard Tree program (VM-1):** A risk assessment of trees in SCE's High Fire Risk Area (HFRA) that have the potential to strike SCE facilities. Identification for removal of a tree is based on the tree attributes, the site conditions, impact on the infrastructure, and the likelihood of failure.[9]
- **Expanded Pole Brushing (VM-2):** Expanded pole brushing (pole brush clearance around poles) that goes beyond those required in Public Resources Code (PRC) section 4292. This

[8] Letters of Notification of Substantial Compliance (SB-247) from Carla Peterman, Senior Vice President of Regulatory Affairs, to the Director of WSD dated August 14, 2020, and November 20, 2020

[9] 2020 WMP page, 156-157

program inspects and clears brush to a 10-foot radial clearance on distribution poles in HFRA.[10]

- **Expanded Clearances for Legacy Facilities (VM-3):** Mitigation of historic hydroelectric generation facilities in proximity to densely forested areas. Addressing clearances pursuant to PRC 4291 and PRC 4293.[11]
- **Drought Relief Initiative (VM-4):** conducting periodic inspections in SCE's HFRA territory to identify and remove dead, dying, or diseased trees brought on by climate change and years of drought.[12]
- **Quality Assurance/Quality Control of Inspections (VM-5):** An oversight strategy to assess program effectiveness, contractor, and subcontractor performance, and to drive continuous improvement on both the program and individual performance levels.[13]
- **Distribution Vegetation Management Plan (DVMP) and Transmission Vegetation Management Plan (TVMP):** SCE annually inspects for clearance around distribution and transmission conductors. These inspections are performed in accordance with SCE's DVMP and TVMP, which conforms to regulatory requirements.[14] DVMP and TVMP are commonly referred to as "routine" vegetation management.

4.2 WMP 2020 Vegetation Management Initiatives

In its 2020 WMP, SCE identified 20 vegetation management initiatives, as listed below.

1. Additional efforts to manage community and environmental impacts
2. Detailed inspections of vegetation around distribution electric lines and equipment
3. Detailed inspections of vegetation around transmission electric lines and equipment
4. Emergency response vegetation management due to red flag warning or other urgent conditions
5. Fuel management and reduction of "slash" from vegetation management activities
6. Improvement of inspections
7. LiDAR inspections of vegetation around distribution electric lines and equipment
8. LiDAR inspections of vegetation around transmission electric lines and equipment
9. Other discretionary inspection of vegetation around distribution electric lines and equipment, beyond inspections mandated by rules and regulations
10. Other discretionary inspection of vegetation around transmission electric lines and equipment, beyond inspections mandated by rules and regulations
11. Patrol inspections of vegetation around distribution electric lines and equipment
12. Patrol inspections of vegetation around transmission electric lines and equipment
13. Quality assurance / quality control of inspections

[10] 2020 WMP page, 153
[11] 2020 WMP, page 154
[12] SCE response to DR-007, question 8(a)
[13] 2020 WMP, page 155
[14] 2020 WMP, page 152

14. Recruiting and training of vegetation management personnel
15. Remediation of at-risk species
16. Removal and remediation of trees with strike potential to electric lines and equipment
17. Substation inspections
18. Substation vegetation management
19. Vegetation inventory system
20. Vegetation management to achieve clearances around electric lines and equipment

4.3 SCE's Vegetation Management Programs and the 2020 WMP Initiatives

Through a review of SCE's 2020 WMP, Energy Safety correlated SCE's vegetation management programs listed in the section above to the following initiatives listed in its 2020 WMP:

Table 2: SCE Vegetation Management Program and Corresponding 2020 WMP Vegetation Management initiative

SCE VM Program	2020 WMP Initiative Number
Distribution Vegetation Management Plan (DVMP)	5.3.5.2
Transmission Vegetation Management Plan (TVMP)	5.3.5.3
Hazard Tree (VM-1)	5.3.5.9, 5.3.5.10, 5.3.5.16, 5.3.5.16.1
Expanded Pole Brushing (VM-2)	5.3.5.5.1
Expanded Clearance for Legacy Facilities (VM-3)	5.3.5.5.2
Canyon Patrols, At-Risk Circuit Patrols, and Operation Santa Ana	5.3.5.11, 5.3.5.12
Drought Relief Initiative (VM-4)	5.3.5.9, 5.3.5.10, 5.3.5.16, 5.3.5.16.2
Quality Assurance/Quality Control (VM-5)	5.3.5.3.13

4.4 Documents Reviewed

In performing this audit, Energy Safety reviewed the following records and documents:

1. SCE's 2020 Wildfire Mitigation Plan
2. SCE response to WSD's data request DR-007

3. SCE response to WSD's data request DR-018
4. SCE response to Energy Safety's data request DR-035
5. SCE response to Energy Safety data request DR-049
6. SCE response to Energy Safety data request DR-061
7. SCE's Distribution Vegetation Management Plan (DVMP)
8. SCE's Transmission Vegetation Management Plan (TVMP)
9. Job Aid Documents for TVMP and DVMP Mitigation Services
10. Hazard Tree Management Plan (HTMP) Job Aid
11. Utility Vegetation Management Post Work Verification and UVM program Oversight

Below is timeline of events that outline Energy Safety's communication with SCE pertaining to this SVM audit. Communication below includes data requests, as listed above, and SCE's subsequent responses.

Table 3: Timeline of Events SCE's Communication with Energy Safety Regarding SVM Audit

Number	Date(s)	Event
1	August 14,2020	SCE submitted to WSD Notification of Substantial Compliance pertaining to two of SCE's programs: Hazard Tree Assessments (VM-1) and Quality Control Inspections (VM-5).
2	November 20, 2020	SCE submitted to WSD Notification of Substantial Compliance pertaining to two of SCE's programs: Expanded Pole Brushing (VM-2) and Drought Relief Initiative (DRI) Inspections and Mitigations (VM-4).
3	April 2, 2021	WSD submitted data request DR-007 asking for data supporting the claims made in both notifications along with initiatives 5.3.5.2,5.3.5.5.2,5.3.5.11,5.3.5.12, and 5.3.5.15.
4	April 15, 2021	SCE submitted its response to DR-007 to WSD.
5	May 19, 2021	WSD submitted data request DR-018 asking for further details pertaining to initiatives 5.3.5.11, 5.3.5.12, and 5.3.5.15.
6	June 2, 2021	SCE submitted its response to DR-018 to WSD.
8	July 1, 2021	WSD transitioned to Energy Safety.
9	October 12, 2021	Energy Safety submitted data request DR-035 asking for details pertaining to initiatives 5.3.5.2, 5.3.5.3, 5.3.5.13, 5.3.5.16.1, 5.3.5.18.
10	October 26, 2021	SCE submitted its response to DR-035 to Energy Safety.
11	November 3, 2021	Energy Safety submitted data request DR-049 asking for details pertaining to 5.3.5.1 and 5.3.5.18.
12	November 18, 2021	SCE submitted its response to DR-049 to Energy Safety.
13	January 14, 2022	Energy Safety and SCE meet to review a data request to be submitted: DR-061. Energy Safety submitted the data request the same day.
14	February 7, 2022	SCE submitted its response to DR-61 to Energy Safety.
15	February 23, 2022	Energy Safety submitted data request DR-069 to SCE.
16	March 8, 2022	SCE ask for an extension in responding to DR-069.
17	March 10, 2022	SCE submitted its response to DR-069 to Energy Safety.

5.0 ANALYSIS OF SCE VEGETATION MANAGEMENT INITIATIVES

This section contains an initiative-by-initiative analysis of all vegetation management initiatives in SCE's 2020 WMP. Within each subsection verifiable statements, supporting information, and

Energy Safety analysis are provided for each initiative followed by a summary of Energy Safety's disposition on utility compliance.

5.1 Initiative 5.3.5.1 Additional Efforts to Manage Community and Environmental Impacts

The purpose of this initiative is to describe the utility's "strategy to mitigate negative impacts from utility vegetation management to local communities and the environment."[15]

5.1.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "Additional efforts to manage community and environmental impacts include meeting with the city and/or the homeowner associations, scheduling and staffing public meetings, and preparing and distributing educational material."[16] Also, SCE states, "SCE manages impacts to the community by adjusting the pace of vegetation work to limit the number of pruning crews or the hours worked; however, these localized demands increasingly inhibit SCE's ability to keep pace with its schedule. Beginning in 2020, SCE will work with individual communities to identify how to reduce or eliminate these barriers in a way that satisfies both parties."[17]

Energy Safety reviewed an SCE document containing agenda items for a meeting with Santa Monica Mountains National Recreation Area from 10:00am to 2:00pm conducted on March 11, 2020. The agenda outlines discussion of SCE updates, administrative items: staffing changes, annual cost recovery, opportunities for improvement, project items, and workplan for 2020.[18] Furthermore, Energy Safety reviewed SCE documentation, which provided an excerpt from a permit indicating SCE adjusted its vegetation management work to accommodate a community request and minimize community impact of its vegetation management work. The encroachment permit No. 0620-6LT-0004, issued on January 2, 2020, required traffic control to be conducted between 9:00am and 3:00pm Monday through Friday, as opposed to SCE's original schedule 7:00am to 5:30pm.[19] Following the evaluation of SCE's response showing an alternative work schedule to accommodate a community request, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

[15] 2020 WMP guidelines, R.18-10-007, page 78
[16] 2020 WMP, page 152
[17] 2020 WMP, page 152
[18] 01_ES61-SCE-2020 SVM Q01
[19] 02_ES61-SCE-2020 SVM Q2 Answer

5.1.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.1

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.1: Additional efforts to Manage Community and Environmental Impacts.

5.2 Initiative 5.3.5.2 Detailed Inspection of Vegetation Around Distribution Electric Lines and Equipment

The purpose of this initiative is to describe the utility's visual inspections of tree conditions within the utility's distribution right-of-way (ROW).[20]

5.2.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE annually inspects for clearance around distribution conductors. These inspections are performed in accordance with SCE's DVMP, which conforms to regulatory requirements of the CPUC's GO 95 Rule, 35 Appendix E, PRC 4292 and PRC 4293."[21] Energy Safety reviewed SCE's internal document, Distribution Vegetation Management Plan (DVMP), which outlines vegetation management maintenance and inspection procedures for distribution lines. The DVMP outlines regulatory requirements for vegetation near powerlines as established by the California Public Utilities Commission (CPUC) General Order (GO) 95, California Public Resource Codes (PRC).[22] Furthermore, Energy Safety reviewed documents obtained in response to DR-007. In this response, SCE produced an Excel file named, "*WSD_007_Q2_Trees_Inspected.xlsx,*" which provided inspection records of 766,404 trees[23] adjacent to distribution and transmission lines. The inspection records included tree identifications, location of trees in SCE's grids, and tree species. Following the evaluation of SCE's DVMP showing that inspections are done in accordance with regulatory requirements and its internal protocols and reviewing the Excel file showing trees that were inspected in accordance with the DVMP, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

SCE continues by stating, "Independent quality assurance reviews and quality control inspections are performed to validate work quality and program effectiveness and to drive continuous improvements."[24] Energy Safety reviewed SCE's response to DR-35 pertaining to SCE's Quality Assurance/ Quality Control (VM-5) program. SCE indicated that QA/QC is only completed on routine line clearing and no other WMP vegetation management activities.[25] To

[20] 2020 WMP guidelines, R.18-10-007, page78
[21] 2020 WMP, page 152
[22] UVM-03 Utility Vegetation Management Distribution Vegetation Management Plan (DVMP), version 5
[23] WSD_007_Q2_Trees_Inspected.xlsx; sum of column "D"
[24] 2020 WMP, page 152
[25] SCE response to DR-035, question 3(b)

support its response, SCE produced an Excel file named, "*VM-5 HFRA 2020 QC Mileage.xlsx*", which provided unique grid identifications for both distribution and transmission grids along with HFRA circuit miles associated with each grid ID, and location of each circuit (i.e., Tier 3, Tier 2, SRA). Analysis of the data validated that quality control (QC) inspections were completed on 6,307[26] HFRA circuit miles by end of 2020 in the execution of VM-5. SCE does not track the pass or fail rate of each circuit that is QC inspected. Instead, SCE tracks the number of trees that do not pass the QC inspection.[27] SCE provided a table to show results from QC inspections performed for this initiative in 2020. Analysis of this table demonstrated that a total of 294,657 trees were inspected, with an overall "regulation clearance distance" (RCD) QC inspection pass rate of 98.62%. In addition to QC inspecting for RCD, SCE also QC inspects to an internal standard of "compliance clearance distance" (CCD), which is a clearance of 1.5 times the RCD. The QC inspection pass rate for CCD compliance was 94.42%.[28] Following the evaluation of SCE's response and documents provided showing quality control of work was performed, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

SCE concludes by stating, "for certain fast-growing species, SCE conducts additional inspections as needed to verify that there is no encroachment into the required clearance distance."[29] To obtain additional information to validate this statement by SCE, Energy Safety sent data request DR-007. In response to this request, SCE provided an Excel file named, "*WSD_007_Q2_Trees_Inspected.xlsx,*" which provided inspection records of 766,404 trees[30] adjacent to distribution and transmission lines. The inspection records included tree identifications, location of trees in SCE's grids, and tree species. In addition, the DVMP contained a list of fast-growing species in SCE territory. Energy Safety compared the list of fast-growing species from the DVMP to column E from the Excel file named, "*WSD_007_Q2_Trees_Inspected.xlsx,*" which indicated the tree species of inspected trees. Through this analysis Energy Safety found that SCE inspected fast-growing species in its territory. In response to DR-061, SCE also submitted a specific example of when a fast-growing species was inspected multiple times in 2020. In an Excel file named, "*ES61-SCE-2020 SVM Q3.xlsx*" SCE provided two tree inspection records including details on inspection date, type of inspection, district, work type, species, and tree identification. Following the evaluation of SCE's documentation showing that it conducts additional inspections for fast-growing species, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

5.2.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.2

[26] VM-5 HFRA 2020 QC Mileage.xlsx; sum of column "B"
[27] SCE response to DR-035, question 3(a)
[28] SCE response to DR-035, question 3(a)
[29] 2020 WMP, page 152
[30] WSD_007_Q2_Trees_Inspected.xlsx; sum of column "D"

Based on Energy Safety's analysis, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.2: Detailed inspections of vegetation around distribution electric lines and equipment.

5.3 Initiative 5.3.5.3 Detailed Inspection of Vegetation Around Transmission Electric Lines and Equipment

The purpose of this initiative is to describe the utility's visual inspections of tree conditions within the utility's transmission ROW.[31]

5.3.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE annually inspects for clearance around transmission conductors. These inspections are performed in accordance with SCE's TVMP, which conforms to regulatory requirements of the CPUC's GO 95, Rule 35, Appendix E, PRC 4292 and PRC 4293 and FAC-003-4."[32] Energy Safety reviewed SCE's Transmission Vegetation Management Plan (TVMP), which outlines vegetation management maintenance and inspection procedures for transmission lines. The TVMP outlines vegetation regulatory requirements for vegetation in transmission rights-of-way established by North American Electric Reliability Corporation (NERC) Reliability Standard FAC-003-4, CPUC GO 95, PRC, and CCR.[33] Furthermore, Energy Safety reviewed documents obtained in response to DR-007. In this response, SCE produced an Excel file named, "*WSD_007_Q2_Trees_Inspected.xlsx,*" which provided inspection records of 766,404 trees[34] adjacent to distribution and transmission lines. The inspection records included tree identifications, location of trees in SCE's grids, and tree species. Following the evaluation of SCE's TVMP showing that inspections are done in accordance with regulatory requirements and reviewing the Excel file showing trees that were inspected in accordance with the TVMP, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE also states, "Independent quality assurance reviews and quality control inspections are performed to validate work quality and program effectiveness and to drive continuous improvements."[35] Energy Safety reviewed SCE's response to DR-35 pertaining to SCE's Quality Assurance/ Quality Control (VM-5) program. SCE indicated that VM-5 is completed on routine line clearing and no other WMP vegetation management activities.[36] To support its response, SCE produced an Excel file named, "*VM-5 HFRA 2020 QC Mileage.xlsx*", which provided unique

[31] 2020 WMP guidelines, R.18-10-007, page 78
[32] 2020 WMP, page 152
[33] UVM-02 Utility Vegetation Management Transmission Vegetation Management Plan (TVMP), version 5
[34] WSD_007_Q2_Trees_Inspected.xlsx; sum of column "D"
[35] 2020 WMP, page 152
[36] SCE response to DR-035, question 3(b)

grid identifications for both distribution and transmission grids along with HFRA circuit miles associated with each grid ID, and location of each circuit (i.e., Tier 3, Tier 2, SRA). Analysis of the data validated that quality control (QC) inspections were completed on 6,307[37] HFRA circuit miles by end of 2020 in the execution of VM-5. SCE does not track the pass or fail rate of each circuit that is QC inspected. Instead, SCE tracks the number of trees that do not pass the QC inspection.[38] SCE provided a table to show results from QC inspections performed for this initiative in 2020. Analysis of this table demonstrated that a total of 294,657 trees were inspected, with an overall "regulation clearance distance" (RCD) QC inspection pass rate 98.62%. In addition to QC inspecting for RCD, SCE also QC inspects to an internal standard of "compliance clearance distance" (CCD), which is a clearance of 1.5 times the RCD. The QC inspection pass rate for CCD compliance was 94.42%.[39] Following the evaluation of SCE's response and documents provided showing quality control of work was performed, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

5.3.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.3

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.3: Detailed inspections of vegetation around transmission electric lines and equipment.

5.4 Initiative 5.3.5.4 Emergency Response Vegetation Management Due to Red Flag Warning or Other Urgent Conditions

The purpose of this initiative is to describe the utility's vegetation management efforts in advance of weather conditions that increase ignition probability and wildfire consequences.[40]

5.4.1 2020 WMP initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "PSPS monitoring triggers general inspections of SCE facilities or assets."[41] To assess SCE's compliance with this statement, Energy Safety sent DR-061. In response to DR-061, SCE produced documentation of a line that was damaged by tree contact and was identified during a Public Safety Power Shutoff (PSPS) post-event inspection on December 7, 2020. The tree damage was identified during a routine post-event inspection of SCE facilities before reenergizing its lines following the PSPS event. Tree crews were called out

[37] VM-5 HFRA 2020 QC Mileage.xlsx; sum of column "B"
[38] SCE response to DR-035, question 3(a)
[39] SCE response to DR-035, question 3(a)
[40] 2020 WMP guidelines, R.18-10-007, page 78
[41] 2020 WMP, page 153

to perform tree mitigation and a line crew to reconductor the damaged line. SCE provided a distribution repair order directing a line crew to reconductor the line.[42] Following the evaluation of SCE's response showing results of a general inspection conducted following a PSPS event, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE also states, "for scheduled work, a red flag warning may trigger additional steps or limitations beyond the use of fire suppression materials that are always required in HFRA. For example, during a PSPS 'period of concerns,' all non-emergency work that may cause sparks, such as pruning, is ceased until the period is over."[43] To validate this statement, Energy Safety reviewed a document provided in response to DR-061. The file contained an email sent by SCE to its contractors on December 17, 2020 informing them of circuits and districts that are listed under "periods of concerns" where no maintenance activity work, including vegetation mitigation, could be performed due to current weather conditions. Following the evaluation of SCE's response showing a correspondence email stating no maintenance activity work could be conducted during a "period of concerns," Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

5.4.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.4

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.4: Emergency response vegetation management due to red flag warning or other urgent conditions.

5.5 Initiative 5.3.5.5 Fuels Management and Reduction of "Slash" from Vegetation Management Activities

The purpose of this initiative is to describe the utility's efforts to reduce "the availability of fuel in proximity to potential sources of ignition, including 'slash' from vegetation."[44]

5.5.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE reduces slash (e.g., cut limbs and other woody debris) from vegetation management activities by chipping and then hauling the material away to be disposed or recycled by pruning/removal contractors."[45] Energy Safety reviewed SCE's Utility

[42] ES61-SCE-2020 SVM Q4.docx
[43] 2020 WMP, page 153
[44] 2020 WMP guidelines, R.18-10-007, page 78
[45] 2020 WMP, page 153

Vegetation Management Job Aid Document for TVMP and DVMP Mitigation Services, which indicates in the "Cleanup and Disposal" section, "that contractors shall remove and dispose of all debris generated during SCE vegetation management activity, except as requested by the customer."[46] Following the evaluation of SCE's internal document stipulating the remediation of slash from vegetation activities, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE also states, "Some of SCE's vegetation programs, such as DRI, send its debris to a biomass plant."[47] Energy Safety reviewed SCE's response to DR-061 to assess its compliance with this statement. SCE produced an invoice provided by an SCE vegetation trimming vendor showing a biomass plant, Rio Bravo, accepting a total of eight units of biomass waste from SCE's vendor in 2020 as part of timber sales agreements.[48] Following the evaluation of SCE's response showing documentation of an invoice for biomass waste received by a biomass plant, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE continues to state, "SCE's weed abatement program focuses on SCE-owned property and transmission ROW, keeping them clear of brush and other live fuel plants."[49] To validate this statement, SCE provided an Excel file named, "*ES61-SCE-2020 SVM Q7.xlsx*." The Excel file contained the SCE site name, site type (which indicated whether it was SCE-owned), HFTD area location, date of assessment and completion of weed abatement.[50] Following the evaluation of SCE's response demonstrating that its property is being kept clear of brush and other live fuels plants, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.5.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.5

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.5: Fuels management and reduction of "slash" from vegetation management activities.

5.6 Initiative 5.3.5.5.1 Expanded Pole Brushing (VM-2)

This initiative is not defined in the WMP Guidelines but is an SCE-specific vegetation management program. The purpose of this program is to inspect and clear brush to a 10-foot radial clearance on all distribution poles in HFRA, going beyond minimum regulatory requirements.[51]

[46] Job Aid Documents for TVMP and DVMP Mitigation Services, dated February 1, 2020. Page 2
[47] 2020 WMP, page 153
[48] SCE response to DR-061, question 6
[49] 2020 WMP, page 153
[50] 07_ES61-SCE-2020 SVM Q7.xlsx
[51] 2020 WMP, page 153

5.6.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE continues to expand its pole brushing (pole brush clearance around poles) activities to inspect and clear brush to a 10-foot radial clearance on distribution poles in HFRA, beyond those requiring brushing per PRC section 4292."[52] SCE continues to state that, "SCE estimates that the quantity of distribution poles that will be brushed in 2020 and subsequent years will be between 200,000 and 300,000 each year."[53] To validate these statements, Energy Safety reviewed SCE's responses to DR-007. In response to DR-007, SCE produced an Excel file named, "*WSD_007_Q3_2020_Poles_Brushed.xlsx,*" which contained pole brushing records. These pole brushing records included record ID, Pole ID, Latitude and Longitude of each pole, and the date of completion of pole brushing. Analysis of the data showed that 231,326 poles[54] were pole brushed under SCE's VM-2 program. Following the evaluation of SCE's response showing it conducted pole brushing activities on 231,326 poles, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

5.6.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.5.1

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.5.1: Expanded pole brushing (VM-2).

5.7 Initiative 5.3.5.5.2 Expanded Clearance for Legacy Facilities (VM-3)

This initiative is not defined in the WMP Guidelines but is an SCE-specific vegetation management program. The purpose of this initiative is to manage vegetation around historic hydroelectric generation facilities in proximity to densely forested areas.[55]

5.7.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "In 2020, SCE plans to perform assessments of all identified facilities in HFRA and establish enhanced buffers at 30% of identified facilities."[56] To assess compliance with this statement, Energy Safety reviewed documents provided by SCE in response to DR-007. SCE identifies "legacy facilities" as powerhouses, switchyards and wells in

[52] 2020 WMP, page 153
[53] 2020 WMP, page 153
[54] WSD_007_Q3_2020_Poles_Brushed.xlsx; sum of column "E"
[55] 2020 WMP, page 154
[56] 2020 WMP, page 154

or near heavily forested areas.[57] SCE provided data showing that 156 facilities were assessed with 61 of the highest-risk facilities being treated in 2020.[58] Energy Safety calculated that approximately 39% of SCE's legacy facilities received enhance buffering treatment. Energy Safety also reviewed SCE's response to DR-061, which provided an explanation for how SCE establishes enhanced buffers. SCE utilizes a table to determine what classifies as an "enhanced buffer" for legacy facility sites.[59] The table displays three clearance zones depending on asset type and spacing of vegetation depending on the slope grade. Following the evaluation of SCE's response showing assessments were done in all identified facilities and an enhanced buffer was established for 39% of those facilities, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.7.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.5.2

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.5.2: Expanded clearance for legacy facilities (VM-3).

5.8 Initiative 5.3.5.6 Improvement of Inspections

The purpose of this initiative is to describe the utility's efforts to improve "inspection protocols and implementation of training and the evaluation of inspectors."[60]

5.8.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE's TVMP and DVMP are developed to meet and often exceed the regulation requirements."[61] Energy Safety reviewed documents for both DVMP and TVMP detailing clearance requirements for vegetation near power lines, which provide prescriptive clearances that minimally meet and sometimes exceed regulatory requirements. Following the evaluation of SCE's internal documents detailing clearance requirements, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE continues by stating, "SCE's QC program performs inspection sampling to determine the overall effectiveness of the vegetation management program and the effectiveness and performance of SCE's vegetation contract workforce."[62] Energy Safety reviewed SCE's response to DR-035, which illustrated the results of SCE vegetation management QC efforts. SCE had an

[57] 2021 WMP update, page 262
[58] Confidential Expanded Clearances VM-3 data response to WSD of SCE Completion of Veg Mgmt Initiatives.xlsx; Tab "treatment Completed 61 Sites"; sum of column "D"
[59] 08-ES61-SCE-2020 SVM Q 08 Answer
[60] 2020 WMP guidelines, R.18-10-007, page 79
[61] 2020 WMP, page 154
[62] 2020 WMP, page 154

RCD conformance rate of 98.62% based on the inspection of 294,657 total trees. The conformance rate in HFRA was 98.52% and non-HFRA was 99.14%. Additionally, the 2020 conformance rate for SCE's internal CCD standard was at 94.42%with 93.81% in HFRA and 97.42% in non-HFRA.[63] Following the evaluation of SCE's response showing an RCD conformance rate of 98.62% based on the inspection 294,657 total trees, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE also states that, "SCE provides timely feedback to contractors in order to drive continuous improvement."[64] To assess compliance with this statement, Energy Safety reviewed SCE's response to DR-061. In the response, SCE states, "SCE's vegetation management and supply management personnel meet monthly with all of our vegetation contractors in separate meetings…[to] [discuss] including, but not limited to, quality control and adherence to schedule."[65] SCE also provided a May 2020 scorecard which was reviewed with a vegetation contractor. The scorecard provided a list of areas as "needing improvement." One such area was quality of work pertaining to SCE's vegetation RCD.[66] Following the evaluation of SCE's response showing a scorecard provided to a vegetation contractor detailing the quality of vegetation work, Energy Safety 's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE concludes by stating, "SCE delivers annual training to SCE vegetation operations personnel and contractors (typically the lead personnel)."[67] To assess SCE's compliance with this statement, Energy Safety reviewed SCE's response to DR-061. In the response, SCE stated, "annual training program for SCE Vegetation Operations personnel and contractors consists of four types of training: (1) Annual Environmental training, (2) UVM Core Plans training, (3) Minimum Approach Distance (MAD) training, and (4) Sag and Sway training."[68] In the response, SCE also provided PowerPoint presentations used to conduct each of the four training types mentioned above. In addition, SCE's response included the dates when each presentation was delivered in 2020 and the personnel in attendance. The training attendees consisted of tree trimmers and inspection contractors for three of the four types of training, with UVM Core Plans training attendees consisting of new internal SCE employees, specialists, advisors, and certified arborists. Most of the training dates were conducted throughout the year 2020. Following the evaluation of SCE's response showing training material provided to its vegetation operations personnel, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.8.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.6

[63] 03_ES-SCE-Completion of VM Initiatives Validation2 Q. 03 Answer
[64] 2020 WMP, page 154
[65] 09_ES61-SCE-2020 SVM Q 09 Answer
[66] 09_ES61-SCE-2020 SVM Q9
[67] 2020 WMP, page 154
[68] 10_ES61-SCE-2020 SVM Q. 10 Answer

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.6: Improvement of inspections.

5.9 Initiative 5.3.5.7: LiDAR Inspections of Vegetation Around Distribution Electric Lines and Equipment

The purpose of this initiative is to describe the utility's Light Detection and Ranging (LiDAR) inspection program for distribution ROW.[69]

5.9.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE is evaluating whether this [LiDAR] data can be incorporated into its routine vegetation management inspection process."[70] To assess compliance with this statement, Energy Safety reviewed SCE's response to DR-061. "SCE piloted LiDAR in 2020 to determine the use of LiDAR for future use related to vegetation-to-conductor clearance. Data reviewed from the pilot flight identified challenges with distinguishing conductors with varying voltage levels. Fourteen percent of LiDAR points were identified on communication lines, secondaries, guy wires, and aerial cable, for which SCE is not required to maintain radial clearance distances. The results did successfully identify encroachment conditions requiring mitigation when the flight timing correlated with the annual inspection and trim cycle. In 2021, LiDAR flights showed positive results that when used at times well-coordinated with inspection cycles, LiDAR can identify additional points with a high degree of accuracy. While further developing the LiDAR process, SCE is planning to use LiDAR around SCE's Area of Concerns in 2022."[71] Following the evaluation of SCE's response showing the evaluation of incorporating LiDAR into routine vegetation management inspection process, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.9.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.7

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.7: LiDAR inspections of vegetation around distribution electric lines and equipment.

5.10 Initiative 5.3.5.8 LiDAR Inspections of Vegetation Around Transmission Electric Lines and Equipment

[69] 2020 WMP guidelines, R.18-10-007, page 79
[70] 2020 WMP, page 154
[71] 11_ES61-SCE-2020 SVM Q. 11 Answer

The purpose of this initiative is to describe the utility's Light Detection and Ranging (LiDAR) inspection program on transmission ROW.[72]

5.10.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE utilizes LiDAR technology to inspect select transmission and sub-transmission lines with respect to FAC 003-4, GO 95-Rule 35 and PRC section 4293, to maintain appropriate clearances between SCE's lines and vegetation."[73] To assess compliance with this statement, Energy Safety reviewed SCE's response to DR-061. In that response, SCE stated that 45 transmission circuits comprising 1,700 miles were inspected for vegetation clearance with the use of LiDAR. SCE provided an example of a specific flight for a transmission circuit in Springville, California. On May 20, 2020, the Big Creek 4 circuit was LiDAR inspected for vegetation clearance by GIS Surveyors, an SCE contractor. The circuit was 82.4 miles in total length, with 81.4 of those miles in HFRA areas.[74] Following the evaluation of SCE's response showing LiDAR utilized to inspect selected transmission and sub-transmission lines, Energy Safety's audit found that SCE was able to produce information consistent with the above statement in its 2020 WMP for this initiative.

5.10.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.8

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.8: LiDAR inspections of vegetation around transmission electric lines and equipment.

5.11 Initiative 5.3.5.9 Other Discretionary Inspections of Vegetation Around Distribution Electric Lines and Equipment, Beyond Inspections Mandate by Rules and Regulations

The purpose of this initiative is to describe the utility's discretionary vegetation inspection program(s) of distribution ROW and the adjacent vegetation that may be hazardous, which goes beyond the minimum requirements in rules and regulations.[75]

[72] 2020 WMP guidelines, R.18-10-007, page 79
[73] 2020 WMP, page 154
[74] 12_ES61-SCE-2020 SVM Q. 12
[75] 2020 WMP guidelines, R.18-10-007, page 79

5.11.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

SCE's 2020 WMP, initiative 5.3.5.9: Other discretionary inspections of vegetation around distribution electric lines and equipment, beyond inspections mandated by rules and regulations, directs readers to initiatives 5.3.5.16.1 and 5.3.5.16.2 for inspections related to Hazard Tree Mitigation Program (HTMP) and Drought Relief Initiative (DRI).[76] Therefore, Energy Safety did not conduct a separate analysis for compliance with this initiative. Energy Safety's assessment of this initiative is subsumed within its assessment of 2020 WMP initiatives 5.3.5.16.1 and 5.3.5.16.2.

5.11.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.9

See Energy Safety's determination for initiatives 5.3.5.16.1 and 5.3.5.16.2.

5.12 Initiative 5.3.5.10 Other Discretionary Inspections of Vegetation Around Transmission Electric Lines and Equipment, Beyond Inspections Mandate by Rules and Regulations

The purpose of this initiative is to describe the utility's discretionary vegetation inspection program(s) of transmission ROW and the adjacent vegetation that may be hazardous, which goes beyond the minimum standards in rules and regulations.[77]

5.12.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

SCE's 2020 WMP, initiative 5.3.5.10: Other discretionary inspections of vegetation around transmission electric lines and equipment, beyond inspections mandate by rules and regulations, directs readers to initiatives 5.3.5.16.1 and 5.3.5.16.2 for other discretionary vegetation inspections.[78] Therefore, Energy Safety did not conduct a separate analysis for compliance with this initiative. Energy Safety's assessment of this initiative is subsumed within its assessment of 2020 WMP initiatives 5.3.5.16.1 and 5.3.5.16.2.

5.12.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.9

[76] 2020 WMP, page 154
[77] 2020 WMP guidelines, R.18-10-007, page 79
[78] 2020 WMP, page 154

See Energy Safety's determination for initiatives 5.3.5.16.1 and 5.3.5.16.2.

5.13 Initiative 5.3.5.11 Patrol Inspections of Vegetation Around Distribution Electric Lines and Equipment

The purpose of this initiative is to describe the utility's distribution right-of-way inspection program to identify "obvious [vegetation] hazards."[79]

5.13.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE performs supplemental vegetation inspections in HFRA, such as Canyon Patrols, At-Risk Circuit Patrols, and Operation Santa Ana."[80] The Canyon Patrols, At-Risk Circuit Patrols, and Operation Santa Ana comprise a vegetation inspection program SCE refers to as its Summer Readiness Verification Patrols.[81] To assess compliance with the above statement, Energy Safety reviewed documents provided in response to DR-007. In that response, SCE indicated that a total of 1,516 tree mitigations were required from the Summer Readiness Verification Patrols.[82] To support its response, SCE provided an Excel file named, "*WSD_007_Q5_Canyon Patrols and SRVP inspection Completion.xlsx*" containing vegetation patrol inspection records. These records included data identifying district, circuit/gird identifications, circuit length in miles, work location, and completion date of remediation work resulting from both Canyon Patrols and Summer Readiness Verification Patrols. Following the evaluation of SCE's response showing inspection records of supplemental vegetation inspections completed in HFRA, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.13.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.11

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.11: Patrol inspections of vegetation around distribution electric lines and equipment.

5.14 Initiative 5.3.5.12 Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment

[79] 2020 WMP guidelines, R.18-10-007, page 79
[80] 2020 WMP, page 155
[81] 2021 WMP update, page 268
[82] SCE response to WSD-007, question 5

The purpose of this initiative is to describe the utility's transmission right-of-way inspection program to identify "obvious [vegetation] hazards."[83]

5.14.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

SCE's 2020 WMP, initiative 5.3.5.12: Patrol Inspections of Vegetation Around Transmission Electric Lines and Equipment, directs the reader to see initiative 5.3.5.11.[84] Therefore, Energy Safety did not conduct a separate analysis for compliance with this initiative. Energy Safety's assessment of this initiative is subsumed within its assessment of 2020 WMP initiative 5.3.5.11.

5.14.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.12

See Energy Safety's determination for initiative 5.3.5.11.

5.15 Initiative 5.3.5.13 Quality Assurance/Quality Control of Inspections (VM-5)

The purpose of this initiative is to describe the utility's program to audit completed vegetation work "to manage and confirm work completed by employee or subcontractors, including packaging QA/QC information for input to decision-making and related integrated workforce management process."[85]

5.15.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE has a three-tiered, in-depth, oversight strategy to assess program effectiveness, contractor and subcontractor performance, and to drive continuous improvement on both the program and individual performance levels. The approach includes activities such as comprehensive internal work verification, independent QC, and several QA assessments."[86] To validate this statement, Energy Safety reviewed SCE's document titled Utility Vegetation Management Post Work Verification and UVM Program Oversight, which outlines "reasonable assurance that SCE is meeting the applicable Federal and State requirements pertaining to utility vegetation management."[87] This document provides details on SCE's sampling methodology and sampling strategy. SCE calculates a Confidence Level (CL) and Confidence Interval (CI) based on the volume of SCE circuit mileage for a given inspection

[83] 2020 WMP guidelines, R.18-10-007, page 79
[84] 2020 WMP, page 155
[85] 2020 WMP guidelines, R.18-10-007, page79
[86] 2020 WMP, page 155
[87] Utility Vegetation Management Post Work Verification and UVM program Oversight, version 4, page 1

priority. The minimum levels of QC inspection implemented for routine compliance vegetation management for HFRA is 99/1.5% CL/CI. An example provided is "when HFRA total circuit miles (~16,200) are entered into the sample size calculator, 6,125 miles are required to be inspected to achieve a CL/CI of 99/1.3%.".[88] The document provides an in-depth step-by-step process of SCE's QA/QC program, which details how SCE calculates program performance in HFRA and non-HFRA. Following the evaluation of SCE's internal documentation of its strategic QC program, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE continues by stating, "SCE plans to perform QC of 3,000 risk-informed HFRA circuit mile inspections per year in years 2020 to 2022."[89] To assess compliance with this statement, and like assessing similar statements made in previous initiatives, Energy Safety reviewed SCE's response to DR-035. In this response, SCE provided an Excel file named, "*VM-5 HFRA 2020 QC Mileage.xlsx,*" which provided QC inspection records. These QC inspection records included data on grid identifications for both distribution and transmission along with HFRA circuit miles associated with each grid ID and distinguishing between the locations of each circuit (i.e., Tier3, Tier 2, SRA). Analysis of the data validated that 6,307 HFRA circuit miles were completed in 2020.[90] Following the evaluation of SCE's response showing QC of 6,307 HFRA circuit miles were completed in 2020, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.15.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.13

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.13: Quality Assurance/Quality Control of Inspection (VM-5).

5.16 Initiative 5.3.5.14 Recruiting and Training of Vegetation Management Personnel

The purpose of this initiative is to describe the utility's program to "identify and hire qualified vegetation management personnel" and to ensure they are "adequately trained to perform vegetation management work, according to the utility's wildfire mitigation plan, in addition to rules and regulations for safety."[91]

5.16.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

[88] Utility Vegetation Management Post Work Verification and UVM program Oversight, version 4, page 5-6
[89] 2020 WMP, page 155
[90] VM-5HFRA 2020 QC Mileage.xlsx; sum of column "B"
[91] 2020 WMP guidelines, R.18-10-007, page 79

In its 2020 WMP, SCE states, "SCE provides annual training to all Vegetation Management operations personnel and contractors, where participants acquire a better understanding of the regulations, how to implement any SCE-specific requirements, and additional efforts and commitments made by SCE for vegetation management through programs such as the WMP."[92] To assess compliance with this statement, Energy Safety reviewed SCE's response to DR-061. In that response, SCE indicated that it provided Utility Vegetation Management Core Plans Training to vegetation management personnel. The training was held on August 24 and August 31 of 2020.[93] SCE provides this training to ensure applicable regulations and SCE specific requirements are implemented. SCE provided a copy of the training materials, which details each of SCE's vegetation management programs (i.e., DVMP, TVMP, Hazard Tree Mitigation Program and QA/QC).[94] Following the evaluation of SCE's response showing training material provided to SCE personnel and contractors providing details of each SCE vegetation management program, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.16.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.14

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.14: Recruiting and Training of Vegetation Management Personnel.

5.17 Initiative 5.3.5.15 Remediation of At-Risk Species

The purpose of this initiative is to describe the utility's "action to reduce ignition probability and wildfire consequences attributable to at-risk vegetation species…."[95]

5.17.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE's HTMP has a separate set of criteria for mitigating palms that have the potential to strike SCE's facilities."[96] Energy Safety reviewed SCE's Hazard Tree Management Plan (HTMP) Job Aid, which describes hazards associated with palms. The main criterion the job aid addresses is the likelihood of dislodged palm fronds striking a primary conductor. Palm crowns are evaluated based on having a crown greater or equal to a 45-degree angle from SCE's lines. This crown angle will determine if the palms require mitigation or not.[97] Following the evaluation of SCE's internal documentation, which provides the evaluation

[92] 2020 WMP, page 155
[93] 13_ES61-SCE-2020 SVM Q. 13 Answer
[94] 13_ES61-SCE-2020 SVM Q13
[95] 2020 WMP guidelines, R.18-10-007, page 79
[96] 2020 WMP, page 155
[97] Hazard Tree Management Plan Job Aid version 5, page 4

criteria for palm mitigation, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE continues, "SCE's vegetation management program manages work based on regulatory clearance requirements and growth-rates (fast, medium and slow) where additional measures are needed for fast-growing species, as applicable."[98] Similar to evaluating an earlier statement made in initiative 5.3.5.2, Energy Safety reviewed documents obtained through DR-007 to assess SCE's compliance with this statement. In response to DR-007, SCE provided an Excel file named, "*WSD_007_Q2_Trees_Inspected.xlsx,*" which provided vegetation inspection records. These vegetation inspection records consist of data on 766,404 trees[99] adjacent to distribution and transmission lines along with tree ID, location of trees in SCE's grids, and tree species. In addition, SCE's DVMP contained a list of fast-growing species in its territory. Energy Safety compared the list from the DVMP and column "E" (indicating tree species) from Excel file named, "*WSD_007_Q2_Trees_Inspected.xlsx*" and found that SCE inspected fast-growing species in its territory. In response to DR-061, SCE also submitted an Excel file named, "*ES61-SCE-2020 SVM Q3*.xlsx," which provided an example of additional measures SCE took for a fast-growing species. The additional measures included multiple inspections performed of the same tree and the Excel file provided data on two dates of inspection, type of inspection, district, work type, and tree identification. Following the evaluation of SCE's response showing work is based on regulatory clearance requirements and growth-rates, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE also states, "All fast-growing species in grow-in zones (area directly beneath the line) are removed, if possible, if the species has the capacity to encroach into the clearance distance at the time of tree maturity."[100] SCE concludes by stating, "Where practical and achievable, SCE removes vegetation in the drop-in zone (e.g., overhangs) within HFRA and removes or makes safe palms that have the potential to dislodge fronds; however, SCE is still in the process of implementing these activities."[101] To assess compliance with these statements, Energy Safety reviewed SCE's response to DR-061. SCE updated an Excel file from a previous data request response[102] to include data on tree location relative to the primary conductors (i.e., grow-in, drop-in, or blow-in zones), so that Energy Safety could verify the above statements. The updated Excel file named, "*ES61-SCE-2020 SVM Q15.xlsx,*" provided tree location relative to the primary conductors. The updated Excel file stated whether a tree location was in the "grow-in zone," "drop-in zone," "blow-in zone."[103] Following the evaluation of SCE's response showing that the location of vegetation relative to conductors is taken into account, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

[98] 2020 WMP, page 155-156
[99] WSD_007_Q2_Trees_Inspected.xlsx; sum of column "D"
[100] 2020 WMP, page 156
[101] 2020 WMP, page 156
[102] 002_WSD_007_Q2_trees_inspected with mitigation type.xlsx
[103] 15_ES61-SCE-2020 SVM Q.15; column T

5.17.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.15

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.15: Remediation of at-risk species.

5.18 Initiative 5.3.5.16 Removal and Remediation of Trees with Strike Potential to Electric Lines and Equipment

The purpose of this initiative is to describe the utility's "actions to remediate trees that could potentially strike electrical equipment if failure at the ground-level of the tree or branch breakout within the canopy."[104]

5.18.1 Initiative 5.3.5.16.1 Hazard Tree (VM-1)

This initiative is not defined in the WMP Guidelines but is a specific SCE defined program. The purpose of this initiative is to perform a risk assessment of trees in SCE's HFRA that have the potential to strike SCE facilities. Identification for removal of a tree is based on the tree attributes, the site conditions, impact on the infrastructure, and the likelihood of failure.[105]

5.18.1.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "The decision to recommend removal of trees that are not dead or dying is based on the professional opinion of a certified arborist."[106] To illustrate, SCE performs a tree risk assessment that requires a 360 walk around the entire tree looking at tree attributes that could pose a risk to SCE's facilities. Energy Safety reviewed a tree risk assessment document completed in 2020 that was completed by a certified arborist.[107] The document provided multiple pictures of a pine tree, the location of the tree, customer contact information, tree risk assessment results, and environmental review results (i.e., sensitive species on site), and suggested treatment.[108] Following the evaluation of SCE's response showing a certified arborist's assessment of a tree that was recommended for removal, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

[104] 2020 WMP guidelines, R.18-10-007, page 79
[105] 2020 WMP page, 156-157
[106] 2020 WMP, page 156
[107] 16_ES61-SCE-2020 SVM Q16 Answer
[108] 16_ES61-SCE-2020 SVM Q16

SCE also states, "SCE's assessment methodology considers the tree attributes, the site conditions, impact to the infrastructure, and the likelihood of failure."[109] SCE continues by stating, "SCE utilizes a HTMP Tree Risk Calculator developed using industry methodology to determine a risk score for each tree assessed (variables included in risk score discussed below). SCE then prioritizes the appropriate management based on the risk score of each individual tree. Tree management may include heavy topping, removal of limbs, or the removal of the entire tree."[110] SCE concludes by stating, "SCE's HTMP tree-risk calculator includes criteria for leaning trees and the same tree defects contained in the CAL FIRE Field Guide, yet contains a more comprehensive list of tree defects that includes, but is not limited to: codominant tops (small, moderate, large); insect or mistletoe infestation (nuisance, moderate, severe); rot (minor, moderate, prevalent, major); and, exposed or girdling roots (minor, moderate, serious)."[111] To assess compliance with the above statements, Energy Safety reviewed SCE's HTMP Job Aid and SCE's risk tree scoring matrix. The HTMP job aid explains SCE's HTMP tree-risk calculator, which is used to calculate a tree-risk score. The score designated by the tree-risk calculator is used to help an arborist determine whether tree abatement is recommended. Following the evaluation of SCE's response detailing its tree assessment methodology and using the HTMP Tree Risk Calculator in assessing a potential hazard tree, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

SCE also states, "HTMP assessments are performed by trained and knowledgeable individuals."[112] To validate this statement Energy Safety reviewed SCE's response to DR-061, which stated, "only certified arborists perform [HTMP] assessments. Assessments are completed by the International Society of Arboriculture (ISA) Certified Arborists with active credential status."[113] In reviewing SCE's Hazard Tree Management Plan Job Aid, Energy Safety also found the following statement: "[a]ssessments shall be completed by International Society of Arboriculture certified Arborists with active credential status."[114] Following the evaluation of SCE's response and the HTMP job aid indicating HTMP assessments are to be done by a certified arborist, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

SCE also states, "[t]he 2020-2022 target of 75,000 assessments per year was set based on the average number of assessors with established availability and achievable assessment productivity."[115] To validate this statement, Energy Safety reviewed an Excel file named, *"WSD_007_Q7_2020_Hazard_Tree_Assessments.xlsx"* provided in response to DR-007. Analysis of the data provided shows that 100,350 trees were assessed under SCE's VM-1, and work was

[109] 2020 WMP, page 156
[110] 2020 WMP, page 156
[111] 2020 WMP, page 156
[112] 2020 WMP, page 156
[113] 17_ES61-SCE-2020 SVM Q. 17 Answer
[114] Hazard Tree Management Plan Job Aid, page 3
[115] 2020 WMP, page 156

identified for 3,539 of the trees assessed.[116] Following the evaluation of SCE's response showing SCE exceeded its 75,000 target of assessment of trees, Energy Safety's audit found that SCE was able to provide information consistent with the above statement made in its 2020 WMP for this initiative.

SCE continues, "[a]n independent QC contractor performs post-inspection of all ***work prescribed*** by a tree assessment inspector."[117] (Emphasis added) Later in the WMP SCE reiterates that, "post-inspection of all ***work prescribed*** by a tree assessment inspector is performed by an independent quality control contractor."[118] (Emphasis added) Also, SCE's HMTP program stipulates that, "SCE requires complete remediation of identified hazard tree conditions. The preferred mitigation method is removal…"[119] Considering that SCE's stated preferred mitigation method for the HTMP program is to remove trees, logic follows that the primary value of a QC inspection is to confirm and validate, with a second independent source, the tree assessment inspector's subjective determination of tree hazards necessitating removal before the tree is removed. Based on this reasoning and the above statements from SCE, Energy Safety deduced that once a tree assessment inspector has completed their inspection and prescribed work resulting from said inspection, a QC inspector follows up to conduct a post-inspection QC review of the work prescribed by the tree assessment inspector prior to work execution. However, in response to DR-069, SCE clarified that, "[it] performs quality control inspections of the work that is prescribed… after the mitigation work has occurred, and the purpose of the QC review is to confirm that the work that was prescribed was actually performed. SCE performs these QC inspections for all mitigation work prescribed."[120]

Energy Safety generally disagrees with this interpretation, as SCE's explanation of how QC inspections are executed is more accurately represented as inspection of work "performed" and not necessarily work "prescribed." Using the term "prescribed" instead of "performed" implies that the inspection for quality control occurs on the work the tree assessment inspector prescribes to be performed (i.e., prior to tree removal). Performing a QC inspection after a tree is removed would be solely focused on whether the tree was removed, or other prescribed work was performed and would not provide any insight as to the quality of the tree assessment inspection itself. Energy Safety recommends that SCE consider expanding its QC inspections to also occur prior to performing prescribed mitigation work to ensure that the prescription was appropriate.

While Energy Safety disagrees with SCE's interpretation of its 2020 WMP statements regarding QC of all work "prescribed" from the HTMP program, given that SCE is the author of its 2020 WMP, Energy Safety will defer to SCE's interpretation of this language relative to the scope of this audit. However, in the context of future compliance assessments, Energy Safety may inquire as to why SCE does not perform QC inspections of work prescribed by tree assessment

[116] WSD_007_Q7_2020_Hazard_Tree_Assessments.xlsx; sum of column G
[117] 2020 WMP, page 156
[118] 2020 WMP, page 156
[119] Hazard Tree Management Plan (HTMP) Job Aid, page 5
[120] ES69-SCE-2020 SVM, response to question 1

inspectors as the above statement indicates. Nevertheless, Energy Safety's assessment of SCE compliance with its statements regarding QC inspections of HTMP program work is detailed below in the manner assessed throughout this report.

Energy Safety reviewed SCE's response to both DR-061 and DR-069. In response to DR-061, SCE provided a pdf file named, "18_ES61-SCE-2020 SVM Q18," which included a sample completed tree risk assessment inspection. The sample tree assessment inspection was completed on April 27, 2020, by a certified arborist, and recommended the removal of a sycamore tree. The tree risk assessment inspection also included the inspector's assessment, photos of the tree, the risk rank score, and the recommended mitigation.[121] The tree risk assessment inspection also included information identifying the tree crew that performed the work and results from a subsequent QC inspection. The tree crew information detailed that the work was completed in the month of September 2020, the name of the tree contractor, the crew's comments indicating that the tree was removed close to ground level, tree material was removed, and a biologist was present. In addition, the QC inspection information detailed the inspection date (carried out in October for this sample), data inaccuracy issues, deviation from prescribed mitigation, and any other comments.[122]

In response to DR-069, SCE provided Excel file "*ES69-SCE-2020 SVM Q01 Hazard Tree 2020.xlsx,*" which contained the risk assessment date, work completed date, QC inspection date, and the Fulcrum identification number for traceability of the tree record. The Excel file contained the exact number of trees mitigated as detailed in the previously provided Excel file named, "*WSD_007_Q7_2020_Hazard_Tree_Assessments.xlsx*." Following the evaluation of SCE's response showing that QC work is performed on all tree assessment after mitigation, Energy Safety's audit found that SCE was able to provide information consistent with the above statements made in its 2020 WMP for this initiative.

5.18.1.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.16.1

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.16.1: Hazard tree.

5.18.2 Initiative 5.3.5.16.2 Drought Relief Initiative (DRI) (VM-4)

This initiative is based off SCE's own program. The purpose of this initiative is to conduct periodic inspections in SCE's HFRA territory to identify and remove dead, dying, or diseased trees brought on by climate change and years of drought.[123]

[121] ES61-SCE-2020 SVM Q18
[122] ES61-SCE-2020 SVM Q18.pdf
[123] SCE response to DR-007, question 8(a)

5.18.2.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE conducts periodic inspections in Tier 2 and Tier 3 HFRA for tree mortality to identify and remove dead, dying, or diseased trees affected by drought conditions."[124] SCE continues by stating, "As part of SCE's ongoing DRI program, SCE performs all annual inspections in accordance with program requirements and removes 94% of active inventory within six months."[125] In response to data request DR-007, SCE provided that for 2020, it completed its planned dead and dying tree removal assessments in accordance with the schedule and at year-end had mitigated 95% of active inventory within six months.[126] To validate this statement, SCE provided Excel files titled, "*VM-4_2020_DRI Schedule.xlsx,*" and "*WSD_007_Q8_Dead_Dying_Trees.xlsx*". Analysis of the data provided in "*VM-4_2020_DRI Schedule.xlsx*" showed that 24[127] districts were inspected, which contained 786 circuits in HFRA.[128] SCE's internal guideline for the Drought Relief initiative is to perform the mitigation within 180 days (contingent upon having appropriate access and authorization to complete the work).[129] Excel file, "*WSD_007_Q8_Dead_Dying_Trees.xlsx*" provided a list of 888 active records (trees identified for removals) at year-end 2020. Energy Safety calculated that SCE mitigated 848 active records within six months, representing 95%[130] of the activity inventory in 2020. Following the evaluation of SCE's response detailing inspection results from the VM-4 program, which showed that 95% of activity inventory was mitigated within six months, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.18.2.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.16.2

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.16.2: Drought relief initiative.

5.19 Initiative 5.3.5.17 Substation Inspections

The purpose of this initiative is to describe the utility's "inspection of vegetation surrounding substations."[131]

[124] 2020 WMP, page 158
[125] 2020 WMP, page 158
[126] SCE response to DR-007, question 8(a)
[127] VM-4_2020_DRI Schedule.xlsx; sum of column "district"
[128] VM-4_2020_DRI Schedule.xlsx; sum of column "circuit name"
[129] SCE response to DR-007, question 8(a)
[130] WSD_007_Q8_Dead_Dying_Trees.xlsx; tab summary, 848 ÷ 888 × 100= 95%
[131] 2020 WMP guidelines, R.18-10-007, page 79

5.19.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE performs substation inspections in accordance with CPUC GO 174 requirements."[132] To assess compliance with this statement, Energy Safety reviewed an Excel file named, "*05_2020_Substation Inspecitons.xlsx,*"[133] which provided substation vegetation inspection records. The substation vegetation inspection records included data on the substation name, inspection start and finish date, HFTD Tier designation, circuit type, and district designation. This data appears to comport with the requirements of GO 174, which require active record-keeping for substations. Following the evaluation of SCE's response showing substations inspections are conducted in accordance with CPUC's GO 174 requirements, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

5.19.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.17

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.17: Substation Inspections.

5.20 Initiative 5.3.5.18 Substation Vegetation Management

The purpose of this initiative is to describe the utility's "actions taken to reduce the ignition probability and wildfire consequences attributable to contact from vegetation to substation equipment."[134]

5.20.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE manages vegetation in proximity to substation equipment, as well as outside the fence line for encroachment or fall in risk by performing pruning, removal, and weed abatement."[135] To assess compliance with this statement, Energy Safety reviewed an Excel file named, "*2020_Substation Inspections with Mitigations.xlsx,*" which provided records of all vegetation management done at each substation in 2020. The inspection records also contained information on tree identification, tree contractor, and date of completion.[136] Following the evaluation of SCE's response showing records of all vegetation management

[132] 2020 WMP, page 158
[133] SCE response to DR-035, question 5
[134] 2020 WMP guidelines, R.18-10-007, page 80
[135] 2020 WMP, page 158
[136] SCE response to DR-049, question 3

around substations, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.20.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.17

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.18: Substation vegetation management.

5.21 Initiative 5.3.5.19 Vegetation Inventory System

The purpose of this initiative is to describe the utility's efforts toward having a "centralized inventory of vegetation clearances" that includes species, growth forecast, and grow-in, blow-in, or fall-in risk.[137]

5.21.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "SCE maintains several digital tools for Vegetation Management, including Collector/Survery123 for compliance inspections and FULCRUM for HTMP."[138] SCE continues by stating, "The digital tools for compliance, at a minimum, keeps inventory of the species, GPS location, species growth rates (slow, medium, fast), and inspection/trim history. The digital tools for HTMP keeps inventory of the species, GPS location, tree identification (i.e., subject, hazard, reliability tree) and applicable documentation on the assessment performed by the qualified tree-risk assessor."[139] Energy Safety reviewed an example from SCE's FULCRUM system that includes data on tree ID, inspection date, last trim date, species, growth rate, tier location, and latitude and longitude.[140] Energy Safety also reviewed a digital tool from SCE's HTMP system which utilities FULCRUM. The digital tool provided the following information about the tree: risk assessment, observation notes, location, photographs of the tree, and customer information.[141] Following the evaluation of SCE's response showing several digital tools that are used for vegetation management programs and keep inventory records for individual trees, Energy Safety's audit found that SCE was able to produce information consistent with the above statements made in its 2020 WMP for this initiative.

5.21.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.19

[137] 2020 WMP guidelines, R.18-10-007, page 80
[138] 2020 WMP, page 158
[139] 2020 WMP, page 158
[140] ES61-SCE-2020 SVM Q20.xlsx
[141] 21_ES61-SCE-2020 SVM Q21

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.19: Vegetation inventory systems.

5.22 Initiative 5.3.5.20 Vegetation Management to Achieve Clearances around Electric Lines and Equipment

The purpose of this initiative is to describe the utility's "actions taken to ensure that vegetation does not encroach upon the minimum clearances in GO 95."[142]

5.22.1 2020 WMP Initiative Statements, Supporting Information, and Analysis

In its 2020 WMP, SCE states, "Vegetation management activities to maintain clearance distances from transmission and distribution lines and equipment are conducted in HFRA and non-HFRA. In HFRA, this work includes three distinct activities:

1. Expanding clearances, where achievable, to 12 feet for lines under 72kV, 20 feet for lines under 110kV, and 30 feet for lines over 110 kV (initial deeper trim for any particular tree). SCE has adopted this standard in HFRA based on recommended clearances in D.17-12-024. This activity not only increases the amount of trimming on trees that were previously trimmed but increase the number of trees that need to be trimmed or removed.
2. Maintaining 12, 20, or 30 [foot] clearances from SCE's lines for trees that have previously been trimmed to these distances, and
3. Maintaining 4 feet clearances per D.17-12-024 minimum requirements where SCE cannot achieve deeper trims due to operational constraints."[143]

To validate these statements, Energy Safety reviewed SCE's DVMP and TVMP, which are designed to comply with regulatory vegetation clearance requirements. Both documents provide tables on clearance requirements based on the nominal voltage of the lines along with specific zones depending on transmission and distribution (i.e., grow-in zone, drop-in zone, Wire zone, Border zone).[144, 145] Following the evaluation of SCE's documentation showing compliance with regulatory clearance based on nominal voltage of lines, Energy Safety's audit found that SCE was able to produce information consistent with the above statement made in its 2020 WMP for this initiative.

5.22.2 Energy Safety's Determination for 2020 WMP Initiative 5.3.5.20

[142] 2020 WMP guidelines, R.18-10-007, page 80
[143] 2020 WMP, page 158-159
[144] Distribution Vegetation Management Plan, page 9
[145] Transmission Vegetation Management Plan, page 15

Based on the analysis above, Energy Safety finds SCE compliant with its 2020 WMP initiative 5.3.5.20: Vegetation management to achieve clearances around electric lines and equipment.

6.0 CONCLUSION

Energy Safety received documentation from SCE consistent with its commitments and statements made for each of the 20 vegetation management initiatives in its 2020 WMP. Upon review of documentation, Energy Safety found that SCE provided sufficient evidence showing compliance with all the vegetation management initiatives detailed in its 2020 WMP. This audit is not an assessment of the quality of SCE's execution of its vegetation management programs. Because this audit found no compliance failures, Energy Safety has no corrective action requirements or timeline for SCE.

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