

OFFICE OF ENERGY INFRASTRUCTURE SAFETY

715 P Street, 20th Floor | Sacramento, CA 95814 916.902.6000 | www.energysafety.ca.gov

Caroline Thomas Jacobs, Director

TRANSMITTED VIA ELECTRONIC MAIL

April 8, 2022

Erik Takayesu Vice President Asset Strategy and Planning Southern California Edison 2244 Walnut Grove Rosemead, CA 91770 NOV SCE ATJ 20211209-01 Revised

NOTICE OF VIOLATION

Mr. Takayesu,

With the issuance of this revised notice of violation (NOV), the Office of Energy Infrastructure Safety (Energy Safety) withdraws NOV_SCE_ATJ_20211209-01 issued on February 24, 2022. Accordingly, the deadline to respond and to request a hearing regarding this NOV has been adjusted based on the issuance of this revision, as detailed below.

Pursuant to Government Code § 15475.1, Energy Safety has completed a compliance assessment of Southern California Edison (SCE) and determined the existence of one or more violations. In accordance with Government Code § 15475.2 and the California Code of Regulations, Title 14, Division 17 § 29302(b)(2), noncompliance with an approved wildfire mitigation plan (WMP) or any law, regulation, or guideline within Energy Safety's authority is considered a violation.

Anthony Trujillo, Energy Safety staff, conducted a walking inspection in San Bernardino County on December 9, 2021, and discovered the following violation(s):

- 1. Violation 1: Per SCE's 2021-Q1 quarterly data report (QDR), covered conductor was installed on poles numbered 687838E, 1403136E, 4558869E, 1763105E, and 1414393E. All these structures reported a covered conductor initiative (2021 WMP initiative number 7.3.3.3.1) with a status of "Complete." However, upon inspection, SCE has not even begun covered conductor installation at any of these locations. Energy Safety considers this data accuracy violation to be in the Moderate risk category.
- Violation 2: Per SCE's 2021-Q1 QDR, covered conductor was installed on poles numbered 687838E, 1403136E, 4558869E, 1763105E, and 1414393E. Upon inspection, Energy Safety staff found no covered conductor installed at the above-mentioned structures. Given SCE's focus on covered conductor as one of its flagship wildfire mitigation programs and the scope of this mitigation program, Energy Safety is greatly concerned about how much



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NOV_SCE_ATJ_ 20211209-01_Revised

covered conductor work is completed and how prevalent this issue may be. Energy Safety considers this violation related to incomplete WMP work to be in the Moderate risk category.

- 3. Violation 3: Per SCE's Distribution Overhead Construction Standards (DOH), "If conductor is exposed, install bolted wedge connector cover." Pole numbered 4931111E did not have bolted wedge connector cover installed on the center phase. Energy Safety considers this a violation for failure of adhering to protocol and in the Minor risk category.
- 4. Violation 4: Per SCE's Distribution Overhead Construction Standards (DOH), Section CC 150.4, "All overhead equipment shall utilize appropriate wildlife covers." Pole numbered 4931111E had a wildlife fuse cover improperly installed. Energy Safety considers this violation for failure of adhering to protocol to be in the Minor risk category.
- 5. Violation 5: Per SCE's Distribution Overhead Construction Standards (DOH), section CC 150, jumpers that are connected to covered conductor must be covered. Energy Safety found that pole numbered 4931111E had a jumper connected to covered conductor that was bare before entering a bolted wedge connector cover. Energy Safety considers this violation for failure of adhering to protocol to be in the Minor risk category.
- 6. Violation 6: Per SCE's Distribution Overhead Construction Standards (DOH), section GR 200.5, "Vice-top insulators with nylon inserts shall only be used in covered conductor systems." Poles numbered 549418E and 4421488E did not have vice-top insulators with nylon inserts where there was covered conductor. Energy Safety considers this violation for failure of adhering to protocol to be in the Minor risk category.
- 7. Violation 7: Per SCE's 2021-Q1 quarterly data report (QDR), covered conductor was not installed at pole numbered F16868Y. Structures adjacent were reported under the covered conductor initiative (2021 WMP initiative number 7.3.3.3.1) with a status of "complete." However, upon inspection, it was found that covered conductor was installed at this pole. Energy Safety considers this data accuracy violation to be in the Minor risk category.

In accordance with the Energy Safety Compliance Process, outlined in Table 1 below are the correction timelines for identified violations relative to their risk category. Within 30 days from the issuance date of this NOV, May 9, 2022, advise Energy Safety of corrective actions taken or planned by SCE to remedy the above identified violation(s) and prevent recurrence. This response shall be filed in the Energy Safety e-Filing system under the 2021-NOV docket and the associated file name(s) must begin with the NOV identification number provided above.

¹ SCE's Distribution Overhead Construction Standards (DOH), Section CC 150.4

² SCE's Distribution Overhead Construction Standards (DOH), section GR 200.5

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NOV SCE ATJ 20211209-01 Revised

April 8, 2022

Table 1 Energy Safety Violation Correction Timeline by Risk Category

Risk Category	Violation and defect correction timeline
Severe	Immediate resolution
	2 months (in HFTD Tier 3)
Moderate	6 months (in HFTD Tier 2)
	6 months (if relevant to worker safety; not in HFTD Tier 3)
Minor	12 months or resolution scheduled in WMP update

Pursuant to Government Code § 15475.4(b), this NOV is served electronically, and SCE may request a hearing to take public comment or present additional information. Per statute, the deadline to request a hearing is within 30 days from the issuance date of this NOV – May 9, 2022. If a petition for hearing is not received by the deadline, then the determination and conditions set forth in this NOV become final.

Pursuant to Public Utilities Code § 8389(g), following receipt of SCE's response to this NOV and resolution of any disputes, this matter may be referred to the California Public Utilities Commission (CPUC) for its consideration of potential enforcement action, as the CPUC deems appropriate.

Sincerely,

Koko Tomassian

Compliance Program Manager Compliance Assurance Division

Office of Energy Infrastructure Safety

Cc:

Gary Chen, SCE

Elizabeth Leano, SCE

Diana Gallegos, SCE

Johnny Parker, SCE

Jonathan Chacon, SCE

Melissa Semcer, Energy Safety

Edward Chavez, Energy Safety

Anthony Trujillo, Energy Safety



Table of Contents

I.	BACKGROUND	
	RESULTS	
	Table 1. Risk Category and Correction Timelines	
T	Fable 2. WMP Initiative Inspections	3
T	Fable 3. General Wildfire Safety Inspections	5
III.	DISCUSSION	8
IV.	CONCLUSION	9
V.	APPENDICES	A-1

Report Name: ATJ_SCE_20211209-01_Revised

Date(s) of Inspection: December 9, 2021

Inspector: Anthony Trujillo

Utility: Southern California Edison

Attention: Erik Takayesu, Vice President Assets Strategy and Planning

I. BACKGROUND

With the issuance of this revised inspection report, the Office of Energy Infrastructure Safety (Energy Safety) withdraws inspection report ATJ_SCE_20211209-01 issued on February 24, 2022.

While wildfires are a natural part of California's ecosystem, the "fire season" in California and throughout the West is beginning and finishing earlier and later each year. Climate change and drought are believed to be a major contributor to this unsettling pattern. Utility-ignited wildfires are also a significant contributor to the wildfire risk in the Golden State, as this ignition cause category represents a disproportionate amount of the largest and most destructive fires in state history. Consequently, Energy Safety was established per the California Energy Infrastructure Safety Act (Government Code Sections 15470 – 15476) with the primary purpose of ensuring electrical corporations are reducing wildfire risk and complying with energy infrastructure safety measures. One such method for Energy Safety meeting its objective is to conduct detailed visual inspections of electrical infrastructure.

Inspections are carried out by Energy Safety's Compliance Division on a regular basis to verify the work performed by utilities, as reported in approved wildfire mitigation plans (WMPs) or subsequent filings and assess general conditions of electrical infrastructure that may adversely impact an electrical corporation's wildfire risk. Accordingly, Energy Safety inspections are distinguished into two lines of effort. Inspections related to an electrical corporation's execution of its WMP initiatives is referred to as "WMP Initiative Inspections," findings of which are detailed in Table 2. Issues discovered during these inspections are categorized as violations and are accompanied by a notice of violation (NOV). In addition to assessing compliance with WMP initiatives, Energy Safety inspectors also visually assess the electrical infrastructure and surrounding vegetation to determine whether conditions are present which increase an electrical corporation's ignition and wildfire risk. These inspections are referred to as "General Wildfire Safety Inspections" and findings are detailed in Table 3 below. Issues discovered during these inspections are categorized as defects and are accompanied by a notice of defect (NOD).

This report details the findings of a recent Energy Safety inspection.

Section 15475.1. of the Government Code states that:

(a) The office may determine that a regulated entity is not in compliance with any matter under the authority of the office. If necessary, the office may undertake an investigation into whether the



regulated entity is noncompliant with its duties and responsibilities or has otherwise committed violations of any laws, regulations, or guidelines within the authority of the office.

(b) The office's primary objective is to ensure that regulated entities are reducing wildfire risk and complying with energy infrastructure safety measures as required by law.

On December 9, 2021, I performed a walking inspection of Southern California Edison (SCE) covered conductor installations, 2021 WMP initiative number 7.3.3.3.1, at various locations within Crestline, California. Detailed findings from this field inspection are laid out in Section II below.

II. RESULTS

In accordance with Energy Safety's Wildfire Mitigation Plan Compliance Process, violations and defects discovered by Energy Safety must be corrected in a timely manner. The timeline for corrective action is dependent on the risk category, location, and potential impact to worker safety of the violation or defect discovered. Risk categories range from severe to minor, and locational risks are determined with tier levels in the California Public Utility Commission's High Fire Threat District (HFTD) map. Table 1 below outlines violation and defect risk categories and their associated correction timelines. The correction timelines identified below apply to the results of both WMP initiative inspections as well as general wildfire safety inspections.

Table 1. Risk Category and Correction Timelines

Risk Category	Violation and defect correction timeline			
Severe	Immediate resolution			
	2 months (in HFTD Tier 3)			
Moderate	6 months (in HFTD Tier 2)			
	 6 months (if relevant to worker safety; not in HFTD Tier 3) 			
Minor	12 months or resolution scheduled in WMP update			

 Table 2.
 WMP Initiative Inspections

Item	Structure ID	HFTD	Initiative Number	Violation Type	Severity	Violation Description
1	687838E	Tier 3	7.3.3.3.1	Data Accuracy	Moderate	Covered conductor reported as completed, and has not started
2	687838E	Tier 3	7.3.3.3.1	Completeness	Moderate	Failure to install covered conductor
3	4931111E	Tier 3	7.3.3.3.1	Adherence to Protocol	Minor	Improperly installed fuse cover
4	4931111E	Tier 3	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install bolted wedge connector cover on center phase
5	4931111E	Tier 3	7.3.3.3.1	Adherence to Protocol	Minor	Jumper transitioning to T intersection is bare prior to entering bolted wedge connector cover
6	F16868Y	Tier 3	7.3.3.3.1	Data Accuracy	Minor	Pole not submitted to Energy Safety as covered conductor work. Covered conductor work was installed at this pole. Data submitted to Energy Safety is inaccurate
7	549418E	Tier 3	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vice top polymer pin type insulators
8	4421488E	Tier 3	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vice top polymer pin type insulators with nylon inserts
9	1403136E	Tier 3	7.3.3.3.1	Data Accuracy	Moderate	Covered conductor reported as completed, and has not started
10	1403136E	Tier 3	7.3.3.3.1	Completeness	Moderate	Failure to install covered conductor
11	4558869E	Tier 3	7.3.3.3.1	Data Accuracy	Moderate	Covered conductor reported as completed, and has not started
12	4558869E	Tier 3	7.3.3.3.1	Completeness	Moderate	Failure to install cover conductor
13	1763105E	Tier 3	7.3.3.3.1	Data Accuracy	Moderate	Covered conductor reported as completed, and has not started
14	1763105E	Tier 3	7.3.3.3.1	Completeness	Moderate	Failure to install cover conductor

Item	Structure ID	HFTD	Initiative Number	Violation Type	Severity	Violation Description
15	1414393E	Tier 3	7.3.3.3.1	Data Accuracy	Moderate	Cover conductor reported as completed, and has not started
						and has not started
16	1414393E	Tier 3	7.3.3.3.1	Completeness	Moderate	Failure to install covered conductor

Table 3. General Wildfire Safety Inspections

Item	Structure ID	HFTD	Defect Type	Severity	Defect Description
1	GT5560	Tier 3	Vegetation contacting guy wire above insulator	Minor	Vegetation touching guy wire above insulator
2	4558869E	Tier 3	Conductor frayed or broken strands	Minor	Conductor strands are broken
3	1763105E	Tier 3	Conductor frayed or broken strands	Minor	Conductor strands are broken

III. DISCUSSION

In its 2021-Q1 and 2021-Q2 quarterly data reports (QDR) submission on May 1, 2021, and August 2, 2021, respectively, SCE provided initiative data indicating that covered conductor installation projects (WMP initiative number 7.3.3.3.1) in Crestline, CA were completed. These QDR submissions represented the reporting periods of January through March (Q1) and April through June (Q2) of 2021. Based on this information received from SCE, Energy Safety planned an inspection of select structures in these areas to assess the accuracy of SCE data, the completeness of SCE's work, and whether SCE followed its protocols for covered conductor installation. Upon arriving to the inspection location in Crestline, Energy Safety observed that covered conductor was not installed where SCE's QDR indicated covered conductor work had a status of "Complete." Similarly, Energy Safety found a pole that had covered conductor installed, but SCE's QDR did not include the pole as part of the "Complete" covered conductor project. These structures are noted in Table 2 above.

In accordance with SCE's protocols for covered conductor installation, DOH CC 180, "If conductor is exposed, install bolted wedge connector cover." During the inspection, Energy Safety found one instance where a bolted wedge connector cover was not installed on exposed conductor where covered conductor work was completed, per SCE's protocols. Structures where this protocol was not followed are noted in Table 2 above.

Per SCE's Distribution Overhead Construction Standards (DOH), section GR 200.5, "Vice-top insulators with nylon inserts shall only be used in covered conductor systems." Energy Safety found multiple instances where a covered conductor was not supported by the aforementioned type of insulator. Structures where this protocol was not followed are noted in Table 2 above.

Per SCE's Distribution Overhead Construction Standards (DOH), section CC 150, jumpers that are connected to covered conductor shall be covered. Energy Safety found one instance where a jumper connected to covered conductor was bare before entering a bolted wedge connector cover. These structures are noted in Table 2.

Regarding wildlife fuse covers, per TE connectivity BCAC-G-CUTOUT (referred to by SCE as SAP10184097) product installation instructions, to install SCE SAP 10184097, "position the keyway slot on the bottom of the cover between the 1st and 2nd insulator skirts." Energy Safety found one instance where wildlife fuse cover SAP 10184097, was not installed between the first and second insulator skirts. This structure is noted in Table 2.

In addition to the violations discovered during WMP inspections of SCE's covered conductor installations, Energy Safety discovered vegetation contacting guy wire above the insulator. Guy wires

¹ SCE Data Request Response ES-SCE-Biweekly-01-05-2022-Verbal, Question 2, p. 4.

are metallic and can become energized in some circumstances. Insulators break the current path and prevent electricity from reaching the ground where a down guy wire is anchored. However, the portion above the insulator may remain energized until the circuit is deenergized and may cause an ignition if energized while in contact with vegetation. Accordingly, Energy Safety considers vegetation in contact with down guy wires above the insulator a condition that increases an electrical corporation's ignition risk. A structure where vegetation was in contact with the guy wire above the insulator is noted in Table 3.

Energy Safety discovered multiple conductors that had broken and frayed strands. Energy Safety considers the presence of broken or frayed conductor strands a condition that increases the electrical corporation's ignition risk because the broken strands can weaken the conductor. The weakening of conductors can result in heightened risk of conductor failure or of arcing that could result in an ignition. Structures where broken conductor strands were observed are identified in Table 3.

IV. CONCLUSION

Pursuant to its objectives and statutory obligations, Energy Safety has completed the above referenced inspection and discovered violations and/or defects by Southern California Edison. Southern California Edison's required response to these non-compliances and options for hearing are detailed in the associated notice of violation and/or defect, respectively.

V. APPENDICES

APPENDIX A: Photo Log

Structure ID: 687838E

General Photo



Item1GImg1: Overall pole



Item1GImg2: Pole ID

Initiative Activity #1 Photo





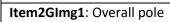
Item1IA1Img1: Top level crossing phase showing bare wire and no covered conductor installed

Item1IA1Img2: See mid-level of pole where covered conductor work was completed

Structure ID: GT5562

General Photo





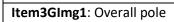


Item2GImg2: Pole ID

Structure ID: 4931111E

General Photo







Item3GImg2: Pole ID



Initiative Activity #4 Photo



Item3IA4Img1: Bare dead-end conductor with no cover

Initiative Activity #5 Photo



Item3IA5Img1: Bare jumper going into bolted wedge connector cover

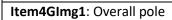


Item3IA5Img2: Overall photo bare jumper going into bolted wedge connector cover

Structure ID: F16868Y

General Photo







Item4GImg2: Pole ID

Initiative Activity #3 Photo

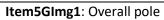


Item4IA3Img1: View of pole crossarm with covered conductor

Structure ID: 549418E

General Photo

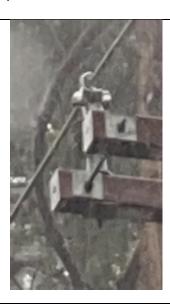






Item5Glmg2: Pole ID

Initiative Activity #1 Photo



Item5IA3Img1: Close up view of insulator. Should be vice top polymer pin type insulators.

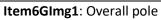


Item5IA3Img2: Overall view of insulators with wildlife covers

Structure ID: 4421488E

General Photo







Item6Glmg2: Pole ID

Initiative Activity #2 Photo



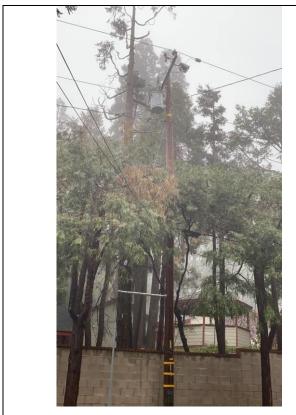
Item6IA2Img1: Overall view of insulators with cover. Insulators should be vice top polymer pin type insulators with nylon inserts



Item6IA2Img2: Close up of insulator from previous image

Structure ID: GT5560

General Photo



Item7GImg1: Overall pole



Item7GImg2: Pole ID

Guy Wire Question #2 Photo

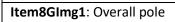


Item7GW2Img1: Vegetation touching guy wire above insulator

Structure ID: 1403136E

General Photo





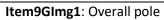


Item8GImg2: Pole ID

Structure ID: 4558869E

General Photo







Item9GImg2: Pole brand

Initiative Activity #1 Photo



Item9IA1Img1: Close up no covered conductor



Item9IA1Img2: Zoomed out view of top of pole with no covered conductor

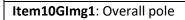
Conductor Question #4 Photo

Item9CD4Img1: Broken support strand

Structure ID: 1763105E

General Photo







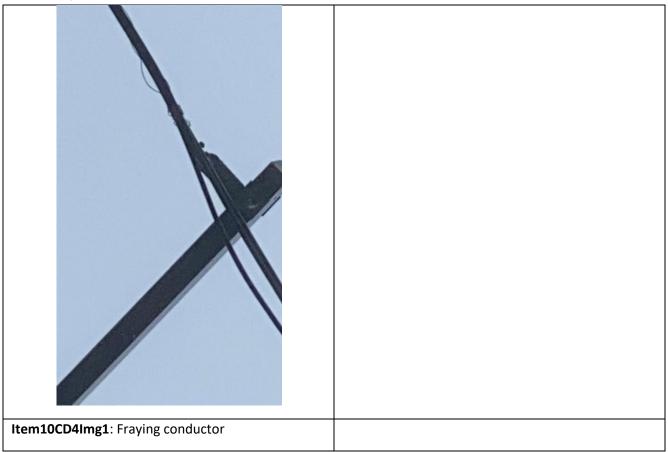
Item10GImg2: Pole ID

Initiative Activity #1 Photo



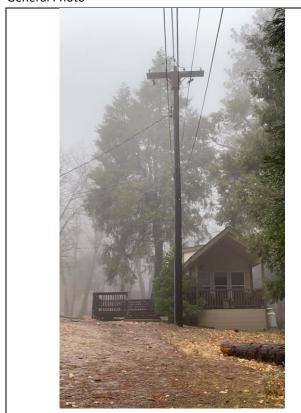
Item10IA1Img1: No covered conductor installed





Structure ID: 1414393E

General Photo





Item11GImg1: Overall pole

Item11GImg2: Pole ID

Initiative Activity #1 Photo



Item11IA1Img1: No covered conductor installed

Interim Deviation from Standards on Vibration Damper for Covered Conductor



8/18/2021 Ref. No. HL-1921

Interim Deviation from Standards on Vibration Damper for Covered Conductor

This Bulletin Supersedes HL-0821

Purpose

This Hotline Bulletin provides SCE, Contract Construction, and Quality Control Personnel guidance on the requirement for installation of vibration dampers due to the temporary shortage of vibration dampers. This deviation allows installation of covered conductor without dampers.

This deviation only applies if the work location does not have the required dampers to complete the installation and will be in effect until December 31, 2021; dampers are still required to be installed for the work locations that have inventory on hand.

Background

Installing vibration dampers on the covered conductor mitigates Aeolian vibration by protecting the covered conductor from abrasion and fatigue damage. The vibration damper standard was put into effect in October 2020 and is required for all covered conductors in light loading areas (elevation below 3,000 feet). Recently, SCE has been experiencing an acute shortage of Stockbridge Dampers (refer to Figure 1) for 336 ACSR Covered Conductor due to the high demand and supplier constraints. Additionally, the spiral vibration dampers (refer to Figure 2) for 1/0 ACSR, #2 Copper, and 2/0 Copper may be running low on stock.







Figure 2: Spiral Damper

Discussion

Apart from supply shortages, a review of the orders placed for vibration dampers indicates inconsistent ordering practices at various store locations. For example, the analysis shows that some locations are ordering up to ten times more vibration dampers than needed based on the circuit miles of covered conductors to be installed. On the other hand, the analysis shows that some locations with high covered conductor orders are not ordering enough dampers. To ensure consistent delivery of vibration dampers, the following guidance is developed by Supply Chain and Asset & Engineering Strategy team, and it will be applied towards the field requests. As more inventories become available, Supply Chain will distribute vibration dampers based on the guidance developed and the covered conductor assigned on-site at the designated location.

- 10214215 Spiral Dampers: 1 damper required per phase per span
 - 30 dampers should be allocated per 5,280 feet of covered conductor ²
- 10214216 (Spiral), 10214493, 10214494, 10214495, 10214496, 10214497, 10214498, 10214499 Stockbridge Dampers: 2 dampers required per phase per span
 - 60 dampers allocated per 5,280 feet of covered conductor ²

Action

Deviation from Distribution Overhead Construction Standards CC 190 when dampers are not available is acceptable for the duration of the damper shortage³, which is projected to last until December 31, 2021. SCE field crews and contractor personnel shall record any spans/locations on the Job Information Sheet (JIS) and <u>Damper Shortage Report</u>, which can be filled out online or in the form attached at the end of this bulletin (refer to Appendix A). The Damper Shortage Report is intended to capture pertinent information where vibration dampers were not installed due to the shortage. The Shortage Reports shall be sent to Niousha Tavakoli biweekly for damper retrofit determination⁴. Then, they will be compiled and sent to the Quality Organization to ensure that no QC corrective actions are given on these work orders. Once the material shortage has been resolved, another bulletin will be published to revoke the deviation process.

⁴ The go back will only target the high vibration susceptibility areas.



¹ This is distinguished from the standard installation requirement, and it is only for inventory purposes.

² Damper allocation assumptions are based on a system average of 180 feet span and should be utilized as guidance, not a one size fits all.

³The interim deviation from the standard only applies to construction, and planners need to plan
the projects in accordance with the standard as required.

Standards Affected

DOH CC 190

Contact Information

If you have any questions related to this bulletin, please contact:

- Niousha Tavakoli: 949-910-8819
 - o Niousha.Tavakoli@sce.com



Page 3 of 4

Internal Document

8/18/2021	HOT LINE	Ref. No. HL-1921
0/10/2021	HOI LINE	Nel. 140. IIL-1321

Appendix A- Damper Shortage Report

Data	Structure Number			Number	Chault Nama	Commend Conductor Str.		
Date	TD Number	Company Name	District	System Voltage	From	To	Circuit Name	Covered Conductor Size

34	EDISON
No.EDVSON	MTERNATIONAL* Company

Page 4 of 4

Internal Document

Data Request Set, Question 3, ES-SCE-CC Protocols:

Southern California Edison WSD Compliance – WSD Compliance

DATA REQUEST SET ES-SCE-CC-Protocols

To: Energy Safety Prepared by: Jerald Foster Job Title: Senior Manager Received Date: 10/11/2021

Response Date: 10/25/2021

7.3.3.3.1: Covered Conductor installation (SH-1)

Per SCE's 2021 WMP update, "In 2021 SCE continues its Wildfire Covered Conductor Program (WCCP), a multi-year program initiated in 2018 that replaces bare overhead conductor with covered conductor in HFRA. SCE also continues installing covered conductor in HFRAs during post-fire restoration work (outside of the WCCP). Poles that require replacement as part of WCCP are replaced with Fire Resistant Poles (FRP)." 1 Pursuant to this statement and SCE's WCCP, Energy Safety requests the following:

1 2021 WMP Update page 213

Question 03:

When installing covered conductors, do SCE's current protocols and construction standards require the simultaneous installation or upgrade of other equipment (i.e., crossarms, insulators, jumper wires, etc.)?

a. If so, list and describe all such installations or upgrades.

Response to Question 03:

Per the attached document titled "DDS_10 Surge Arresters" it is a requirement to install surge arresters on all equipment connected to covered conductor.

The attached "DOH CC section 190" provides requirements to install vibration dampers on covered conductor systems.

In HFRA installations of covered conductor it is required to upgrade wood crossarms with composite, upgrade all insulators to a polymer insulator, install wildlife protection covers, upgrade fuses where applicable, and upgrade down guy/span guy installation to include Fiberglass Guy Strain Insulators. The standards outlining these requirements are attached in the document titled "DDS Requirements Binder" as well as the attached "DOH Section CC".