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

OFFICE OF ENERGY INFRASTRUCTURE SAFETY
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Caroline Thomas Jacobs, Director

TRANSMITTED VIA ELECTRONIC MAIL

April 20, 2022

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

NOV_SCE_EDC_ 20211207-01_Revised

NOTICE OF VIOLATION

Mr. Takayesu,

Pursuant to Government Code § 15475.1, the Office of Energy Infrastructure Safety (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.

Edward Chavez, Energy Safety staff, conducted a walking inspection of covered conductor installations, 2021 WMP initiative 7.3.3.3.1, on SCE assets in Calimesa, in Riverside County on December 7, 2021, and discovered the following violation(s):

1. Violation 1: At poles numbered 4941453, 4941452, and 4941454 the pole identification tag did not match the identification number provided by SCE in its Quarterly Data Report (QDR). Energy Safety considers this data accuracy violation to be in the Minor risk category.

2. Violation 2: Per SCE's Distribution Overhead Construction (DOH), Section CC 150, page 3 of 5, covered conductor double dead-end construction, "if conductor is exposed, install bolted wedge connector cover." Also, DDS, Section 10, 5.7.C.1.f. states, “Covered conductor systems shall be an all-covered system.” Per SCE’s DOH, Section CC 150.4, page 5 of 5, “All overhead equipment shall utilize appropriate wildlife covers.” Pole numbered 4415240E did not have bolted wedge connector cover installed at a double dead end

construction. Energy Safety considers this a violation for failure of adhering to protocol and in the Minor risk category.

3. Violation 3: Per SCE's Distribution Design Standards (DDS), section DDS-10, page 10-82, "for the 336 (30/7) ACSR covered conductor, vibration dampers shall be installed on every span in both light loading and heavy loading areas." SCE's DOH, Section CC 190, page 1 of 11, states that installation of vibration dampers is required when installing covered conductor. Poles numbered 4556900E, 4554800, 4554797E, 4554795, 4554793E, 4554792E, 4554791E, 4554789E, 4554786E, 276507E, 4494709E, 4415240E, 4775180E, 4775179E, 4775178E, and 4775176E had covered conductor installed but failed to install vibration dampers. Energy Safety considers this violation for failure of adhering to protocol to be in the Minor risk category.

4. Violation 4: Per SCE's protocols for DOH, PO 300 page 9 of 9, "when an anchor location is abandoned, the rod and plate shall be removed if in a hazardous or potentially dangerous location. Otherwise, cut the rods off at least 12 inches below the ground line and abandon the remaining anchor. Screw anchor rods may be either unscrewed or cut off. Under no conditions should the rod be bent over or left exposed." Energy Safety identified pole numbered 4415240E in violation of this protocol. The pole was replaced and the guy anchors were left in the ground unused. Energy Safety considers this 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 notice of violation (NOV), May 20, 2022, advise Energy Safety of corrective actions taken or planned by SCE to remedy the above-identified violation(s) and prevent a recurrence. This response shall be filed in the Energy Safety e-Filing system under the 2021-NOV docket[1] and the associated file name(s) must begin with the NOV identification number provided above.

Table 1 Energy Safety Violation Correction Timeline by Risk Category

Risk Category	Violation and defect correction timeline
Severe	• Immediate resolution
Moderate	• 2 months (in HFTD Tier 3) • 6 months (in HFTD Tier 2) • 6 months (if relevant to worker safety; not in HFTD Tier 3)

[1] https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2021-NOV

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Risk Category	Violation and defect correction timeline
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 20, 2022. If a petition for a 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:

Elizabeth Leano, SCE
Diana Gallegos, SCE
Gary Chen, SCE
Jonathon Chacon, SCE
Johny Parker, SCE
Melissa Semcer, Energy Safety
Edward Chavez, Energy Safety

Energy Safety Inspection Report

CALIFORNIA
OFFICE OF ENERGY
INFRASTRUCTURE
SAFETY

Table of Contents

Report Name: SCE_EDC_20211207-01_Revised
Inspection Date(s): December 7, 2021
Inspector: Edward Chavez
Utility: Southern California Edison
Attention: Erik Takayesu, Vice President Asset Strategy and Planning

I. BACKGROUND

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, the Office of Energy Infrastructure Safety (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 7th, 2021, I performed a walking inspection of covered conductor installations, 2021 WMP initiative number 7.3.3.3.1, in the cities of Beaumont and Calimesa. I was accompanied by Energy Safety Utilities Engineer Anthony Trujillo. 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
Moderate	• 2 months (in HFTD Tier 3) • 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

Line Item	Structure ID	HFTD	Initiative Number	Violation Type	Severity	Violation Description
1	4941453	Tier 2	7.3.3.3.1	Data Accuracy	Minor	Support structure ID provided by SCE is incorrect. Support structure provided by SCE is: 1289683E-MA. Structure ID on the pole is: 4941453
2	4941452	Tier 2	7.3.3.3.1	Data Accuracy	Minor	Support structure ID provided by SCE is incorrect. Support structure provided by SCE is: 1289684E. Structure ID on the pole is: 4941452
3	4941454E	Tier 3	7.3.3.3.1	Data Accuracy	Minor	Support structure ID provided by SCE is incorrect. Support structure provided by SCE is: 1289686E. Structure ID on the pole is: 4941454E
4	4556900E	Tier 2	7.3.3.3.1	Completeness	Minor	Failure to install vibration dampers on a span
5	4554800	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
6	4554797E	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
7	4554795	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
8	4554793E	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
9	4554792E	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
10	4554791E	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
Line Item	**Structure ID**	**HFTD**	**Initiative Number**	**Violation Type**	**Severity**	**Violation Description**

11	4554789E	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
12	4554786E	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
13	276507E	Non-HFTD	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
14	4494709E	Non-HFTD	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
15	4415240E	Non-HFTD	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
16	4415240E	Non-HFTD	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install bolted wedge connector covers at double dead end
17	4415240E	Non-HFTD	7.3.3.3.1	Completeness	Minor	Failure to remove guy anchor
18	4775180E	Tier 2	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
19	4775179E	Non-HFTD	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
20	4775178E	Non-HFTD	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span
21	4775176E	Non-HFTD	7.3.3.3.1	Adherence to Protocol	Minor	Failure to install vibration dampers on a span

III. DISCUSSION

In its 2021-Q1 and 2021-Q2 quarterly data report (QDR) submission on May 1, 2021, and August 1, 2021, respectively, SCE provided initiative data indicating that a covered conductor installation project (WMP initiative number 7.3.3.3.1) in Calimesa and Beaumont was 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 this area to assess the accuracy of SCE data, the completeness of SCE's work, and whether SCE followed its protocols for covered conductor installation.

During inspections, Energy Safety found three structures where the structure identification number provided by SCE did not match the identification numbers on structure observed in the field. Structures where Energy Safety observed this data accuracy violation are noted in Table 2 above.

Per SCE's Distribution Overhead Construction Standards (DOH), in circumstances of double dead end construction on 4-wire covered conductor installations, if conductor is exposed, bolted wedge connector covers must be installed.[1] Also, SCE's Distribution Design Standards (DDS), Section 10, 5.7.C.1.f. states, "Covered conductor systems shall be an all-covered system." Per SCE's DOH, Section CC 150.4, page 5 of 5, "All overhead equipment shall utilize appropriate wildlife covers." This means that wildlife covers shall be installed on dead-ends, terminations, connectors, equipment bushings, and any partially covered exposed conductor. Energy Safety observed structures that did not have a wildlife cover on bolted wedge connectors. The structures where Energy Safety observed this violation of adherence to protocol are noted in Table 2 above.

Per SCE's DDS and DOH, when installing covered conductor, vibration dampers must also be installed.[2] Energy Safety staff found that vibration dampers were not installed at multiple structures where covered conductor installation was completed. The structures missing vibration dampers where covered conductor was installed are identified in Table 2 above. On November 19, 2021, SCE submitted a memo to Energy Safety titled, "Interim Deviation from Standards on Vibration Damper for Covered Conductor" (hereafter, "Memo"). This Memo was dated August 18, 2021, and indicates that due to supply chain issues, SCE will suspend the installation of vibration dampers until December 31, 2021. In accordance with SCE's Q2 QDR submission, the covered conductor installations inspected by Energy Safety were completed prior to the issuance of the Memo. Also, SCE informed Energy Safety of this supply chain issue only after inspections commenced. Consequently, Energy Safety finds

[1] **DOH Section CC 150, page 3 of 5**
[2] **DOH CC section 190, DDS section DDS-10, page 10-82**

that SCE is still in violation of its protocols requiring the installation of vibration dampers as part of covered conductor installations.

Per SCE's DOH, PO 300 page 9 of 9, when a guy anchor location is abandoned, the rod and plate shall be removed if in a hazardous or potentially dangerous location. Otherwise, cut the rods off at least 12 inches below the ground line and abandon the remaining anchor. Screw anchor rods may be either unscrewed or cut off. Under no conditions should the rod be bent over or left exposed. Structures where this protocol was not followed are noted in Table 2 above. The pole was replaced, and there were two guy anchors left in the ground not being used. The potential for someone to trip and fall is due to the guy anchor being left in place and not used.

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: 4941453
General Photo

	
Item1GImg1: Pole ID	**Item1GImg2**: Overall pole

Structure ID: 4941452

General Photo

	
Item2GImg1: Pole ID	**Item2GImg2**: Overall pole

Structure ID: 4941454E

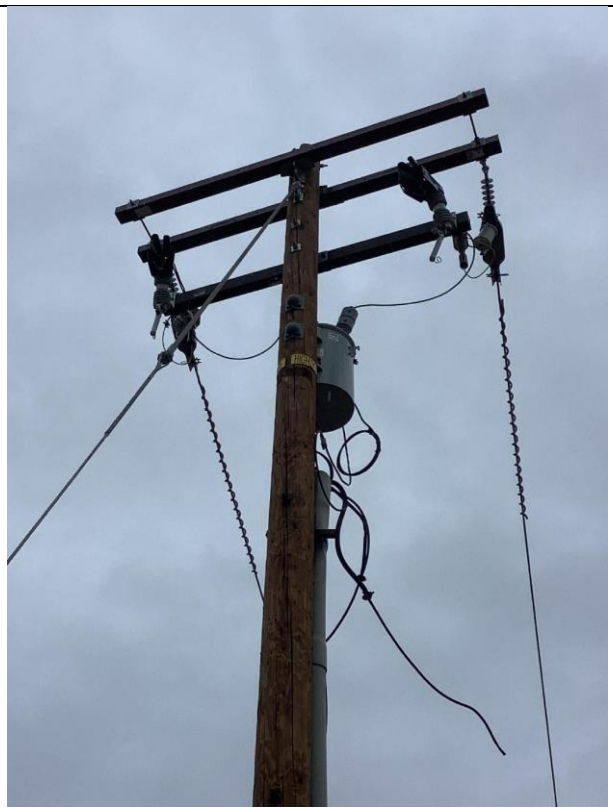
General Photo

	
Item3GImg1: Pole ID	**Item3GImg2**: Overall pole

Structure ID: 1289688E

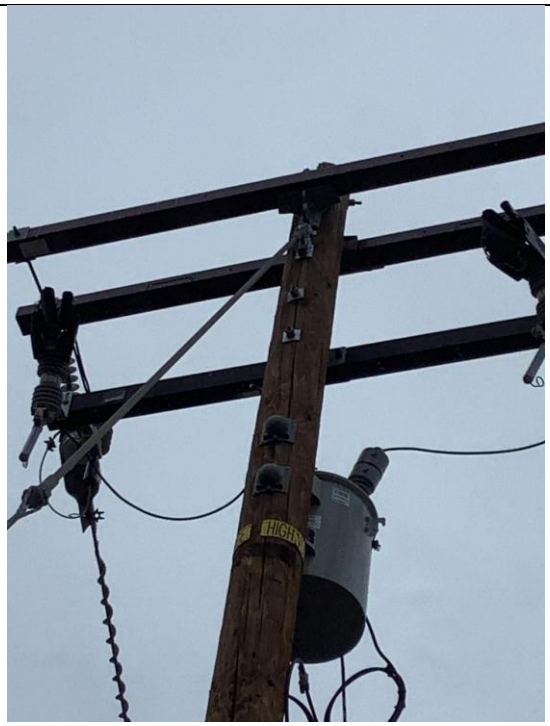
General Photo

Item4GImg1: Pole ID



Item4GImg2: Overall pole

Initiative Activity #1 Photo



Item4IA1Img1: Surge arrester clamp not covered

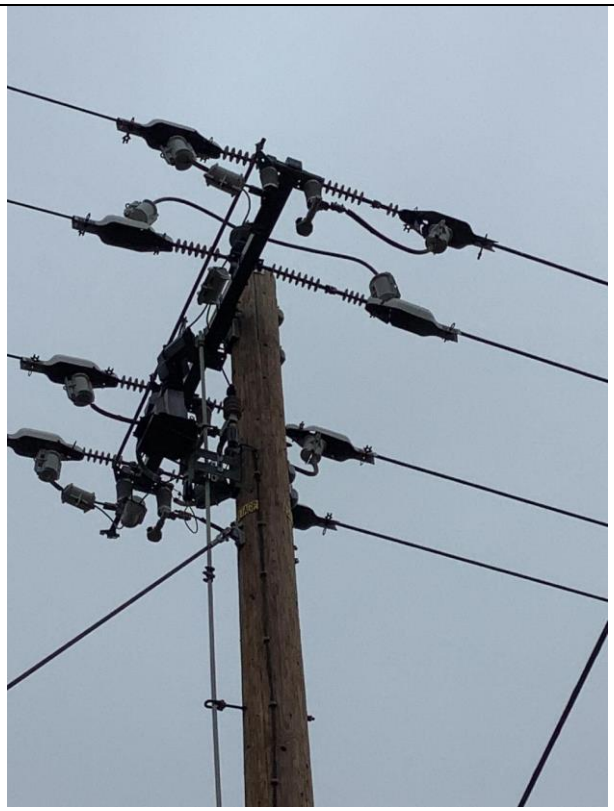
Structure ID: 4556900E

General Photo

Item5GImg1: Pole ID

Item5GImg2: Overall pole

Initiative Activity #1 Photo

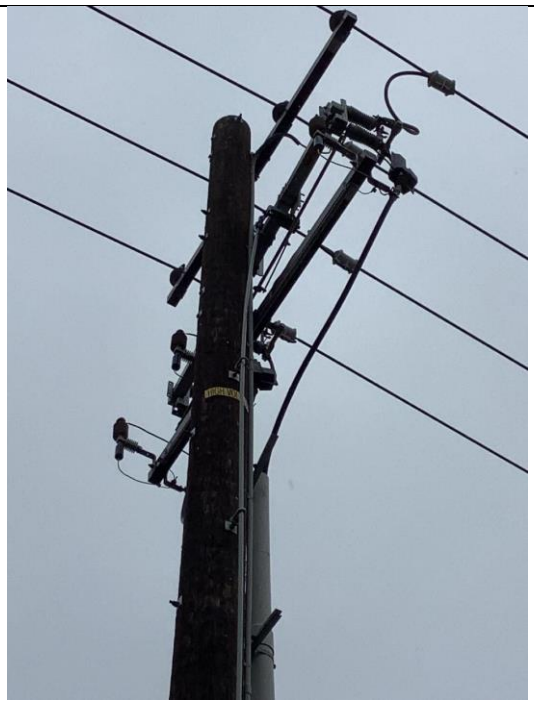


Item5IA1Img1: No vibration dampers installed

Structure ID: 4554800

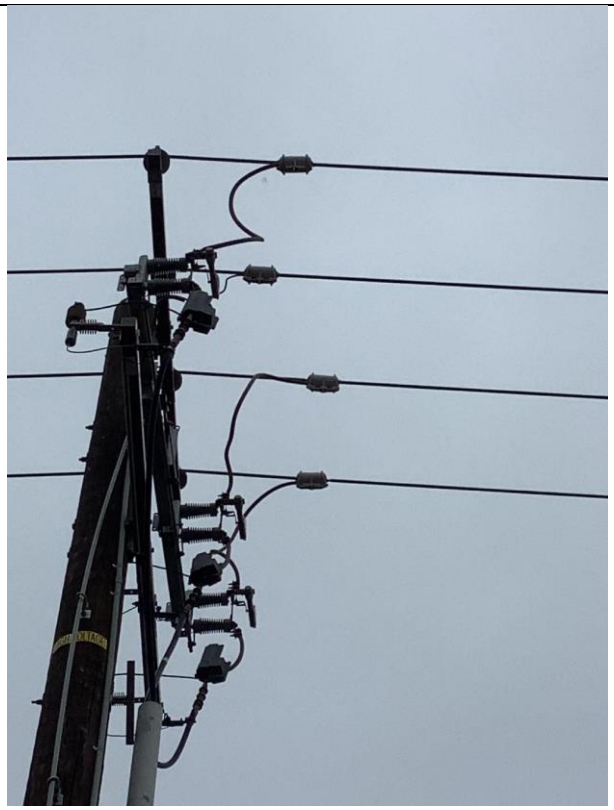
General Photo

Item6GImg1: Pole ID



Item6GImg2: Overall pole

Initiative Activity #1 Photo



Item6IA1Img1: No vibration dampers installed

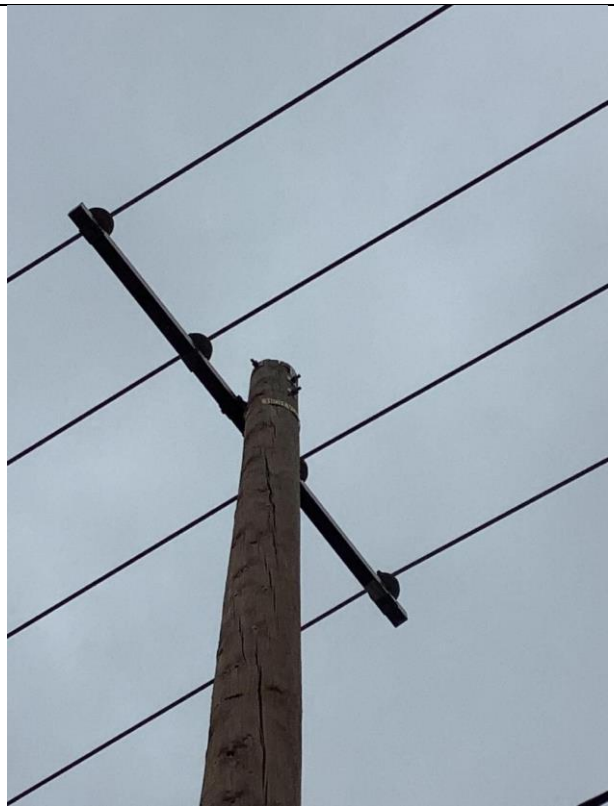
Structure ID: 4554797E

General Photo

Item7GImg1: Pole ID

Item7GImg2: Overall pole

Initiative Activity #1 Photo

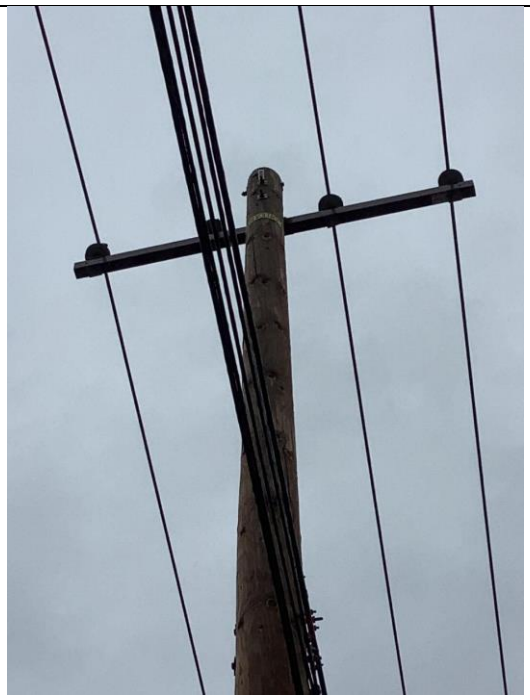


Item7IA1Img1: No vibration dampers installed

Structure ID: 4554795

General Photo

Item8GImg1: Pole ID



Item8GImg2: Overall pole

Initiative Activity #1 Photo

Item8IA1Img1: No vibration dampers installed

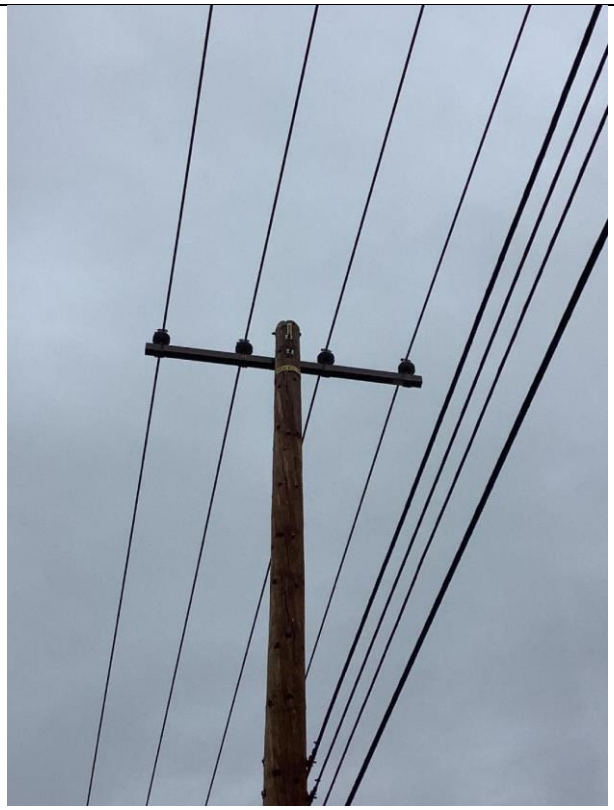
Structure ID: 4554793E

General Photo

Item9GImg1: Pole ID

Item9GImg2: Overall pole

Initiative Activity #1 Photo

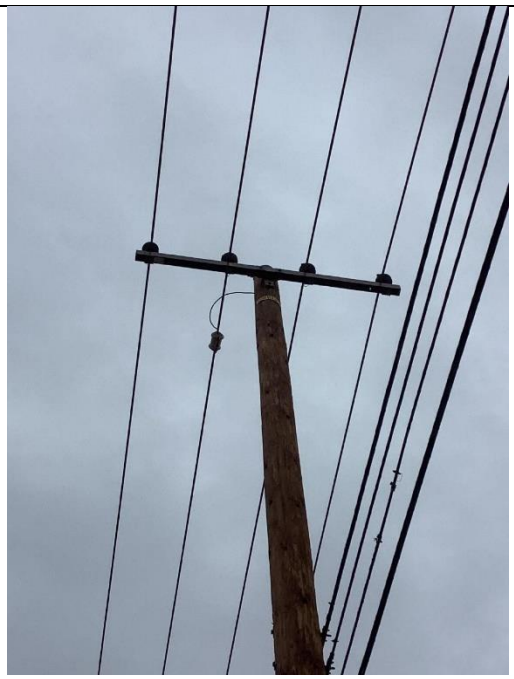


Item9IA1Img1: No vibration dampers installed

Structure ID: 4554792E

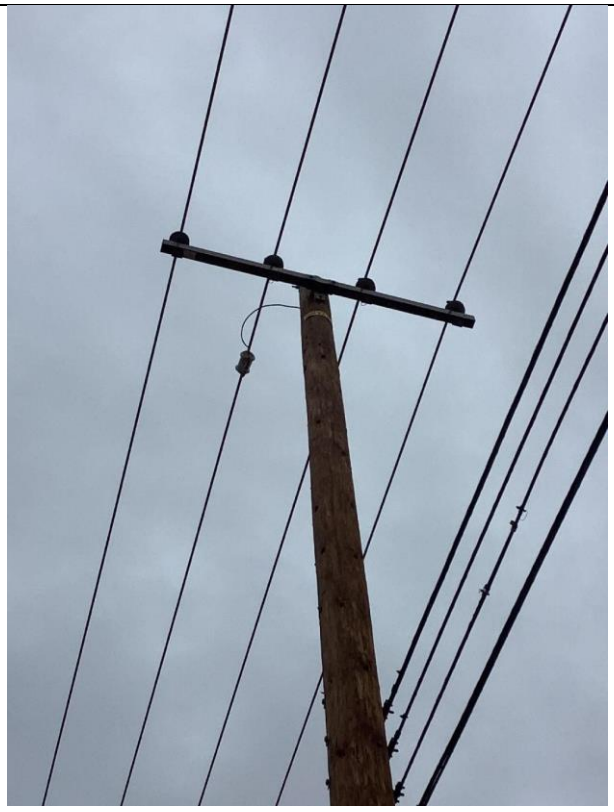
General Photo

Item10GImg1: Pole ID



Item10GImg2: Overall pole

Initiative Activity #1 Photo

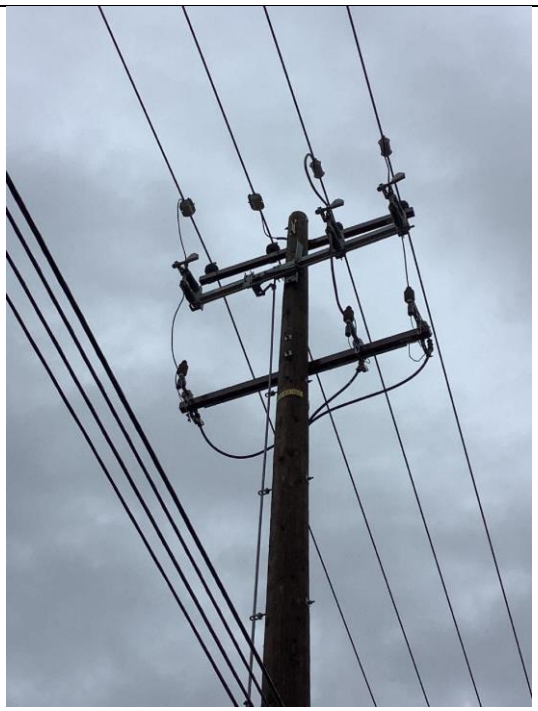


Item10IA1Img1: No vibration dampers installed

Structure ID: 4554791E

General Photo

Item11GImg1: Pole ID



Item11GImg2: Overall pole

Initiative Activity #1 Photo

Item11IA1Img1: No vibration dampers installed

Structure ID: 4554789E

General Photo

Item12GImg1: Pole ID

Item12GImg2: Overall pole

Initiative Activity #1 Photo

Item12IA1Img1: No vibration dampers installed

Structure ID: 4554786E

General Photo

Item13GImg1: Pole ID

Item13GImg2: Overall pole

initiative Activity #1 Photo

Item13IA1Img1: No vibration dampers installed

Structure ID: 276507E

General Photo

Item14GImg1: Pole ID

Item14GImg2: Overall pole

Initiative Activity #1 Photo

Item14IA1Img1: No vibration dampers installed

Structure ID: 4494709E

General Photo

Item15GImg1: Pole ID

Item15GImg2: Overall photo

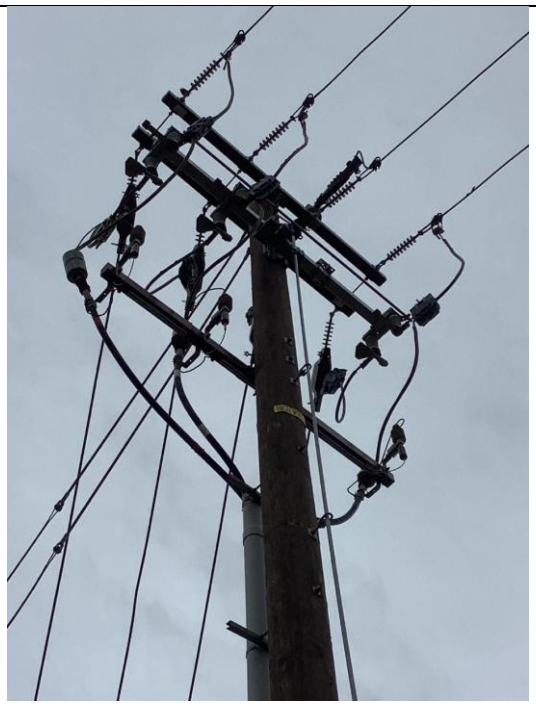
Initiative Activity #1 Photo

Item15IA1Img1: No vibration dampers installed

Structure ID: 4415240E

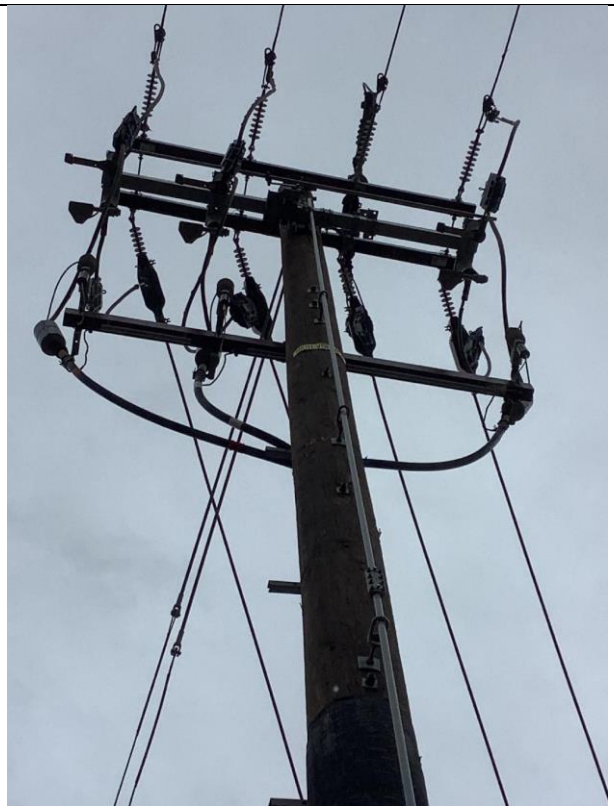
General Photo

Item16GImg1: Pole ID



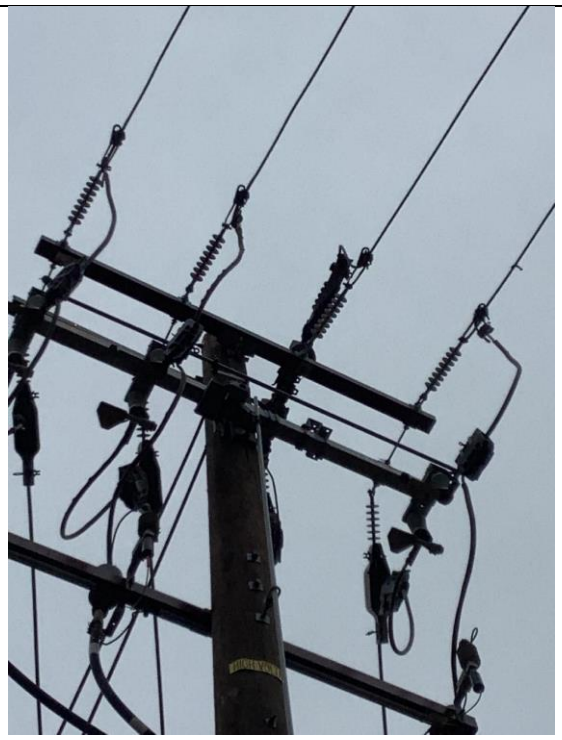
Item16GImg2: Overall photo

Initiative Activity #1 Photo



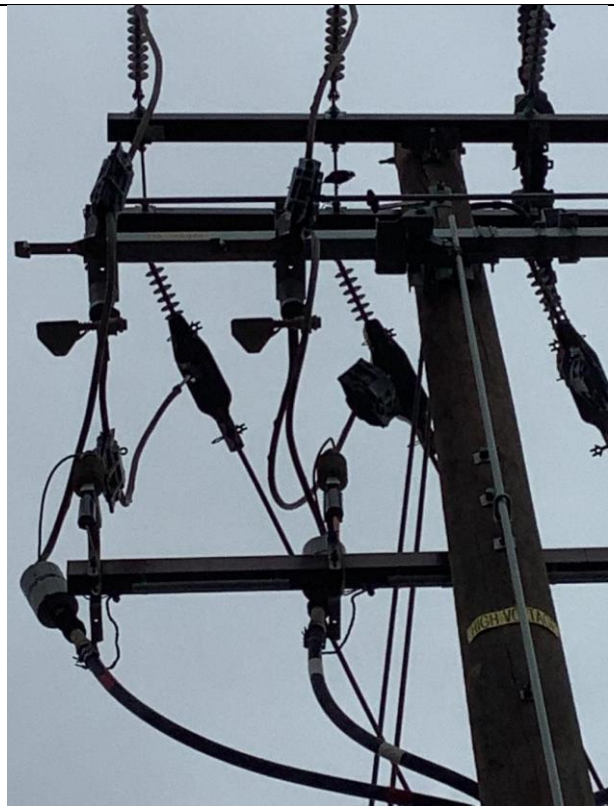
Item16IA1Img1: No vibration dampers installed

Initiative Activity #2 Photo



Item16IA2Img1: Bolted wedge connector cover not installed

Initiative Activity #3 Photo



Item16IA3Img1: No cover on jumper wire

Initiative Activity #4 Photo

Item16IA4Img1: Guy anchors left in in the ground

Structure ID: 4775180E

General Photo

Item17GImg1: Pole ID

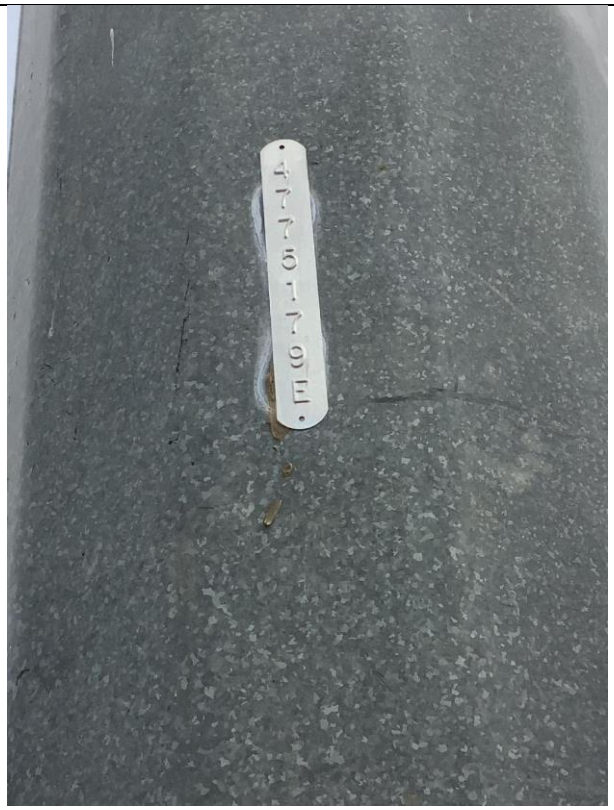
Item17GImg2: Overall pole

Initiative Activity #1 Photo

Item17IA1Img1: No vibration dampers installed

Structure ID: 4775179E

General Photo



Item18GImg1: Pole ID

Item18GImg2: Overall pole

Initiative Activity #1 Photo

Item18IA1Img1: No vibration dampers installed

Structure ID: 4775178E

General Photo

Item19GImg1: Pole ID

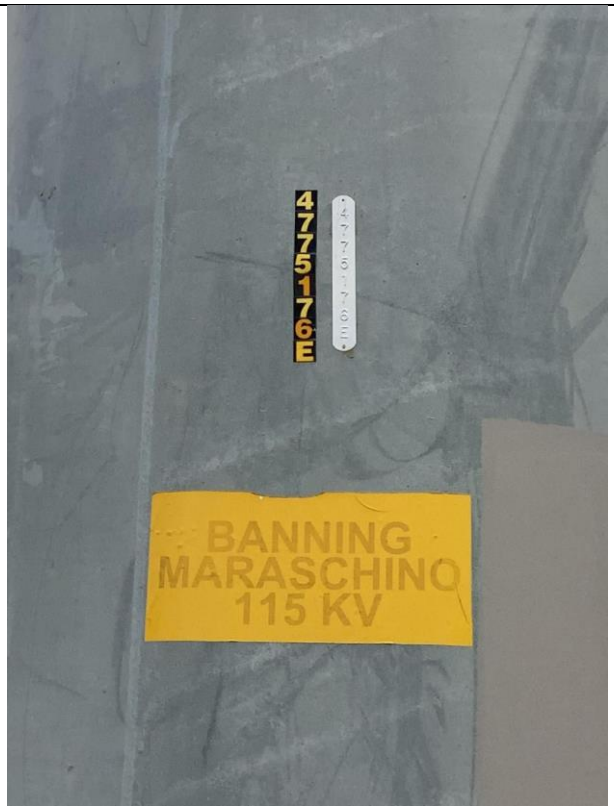
Item19GImg2: Overall pole

Initiative Activity #1 Photo

Item19IA1Img1: No vibration dampers installed

Structure ID: 4775176E

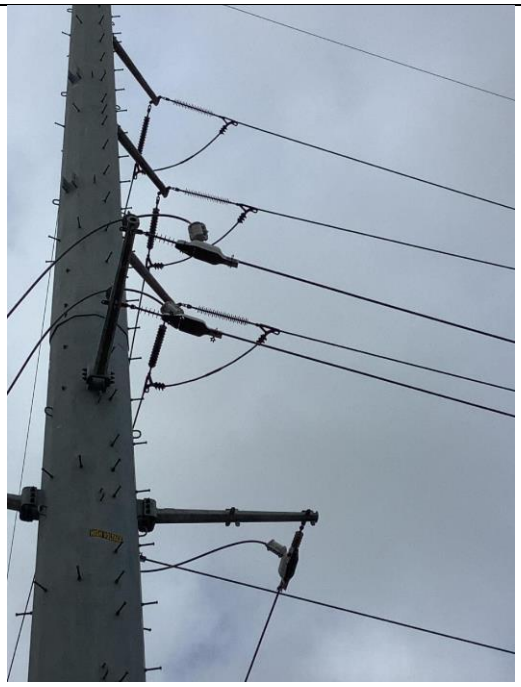
General Photo



Item20GImg1: Pole ID

Item20GImg2: Overall pole

Initiative Activity #1 Photo



Item20IA1Img1: No vibration dampers installed

APPENDIX B: Other Documentation

Interim Deviation from Standards on Vibration Damper for Covered Conductor

Edit page number

TRANSMISSION & DISTRIBUTION HOTLINE

PUBLISHED BY T&D CONSTRUCTION METHODS, CHINO

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 1: Stockbridge Damper

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.[1]
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 shortage[3], 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 Damper Shortage Report, 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 determination[4]. 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.

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[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.
[3] The interim deviation from the standard only applies to construction, and planners need to plan the projects in accordance with the standard as required.
[4] The go back will only target the high vibration susceptibility areas.

Standards Affected

DOH CC 190

Contact Information

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

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

Appendix A- Damper Shortage Report

Date	TD Number	Company Name	District	System Voltage	Structure Number		Circuit Name	Covered Conductor Size
					From	To		

- When the work requires additional guy or replacing an existing guy, anch may be used provided existing anchor is properly installed.
- Where entire eye is below ground, anchor extension may be used provided existing anchor is properly installed.

4.2 For new installations, the following applies:

- The bottom of the eye shall be 4 inches minimum to 18 inches maximum above grade.

Table PO 300–6: Anchor Rod Extensions

Size	SAP	Remark
1-1/4" × 2'	10212770	
1-1/4" × 3'	10067266	
1-1/4" × 6'	10067298	
1" × 3-1/2' (for use with PISA rods only)	10067299	

5.0 Joint Anchors

Anchor and rod installations for joint use with other utilities shall be made as specified under "Anchors for Guys," and as may be agreed upon under joint pole routine.

6.0 Anchors, Removal or Abandonment

When an anchor location is abandoned, the rod and plate shall be removed if in a hazardous or potentially dangerous location.

Otherwise, cut the rods off at least 12 inches below the ground line and abandon the remaining anchor. Screw anchor rods may be either unscrewed or cut off. Under no conditions should the rod be bent over or left exposed.

To avoid risk of liability, it is important that all personnel be instructed to follow these requirements.