

**Report on Southern California Edison Company's
Compliance with the Malibu Area Safety Enhancements
Protocol and Remediation Requirements in Decision 13-
09-028**

**Safety and Enforcement Division
California Public Utilities Commission**

December 2022

I. BACKGROUND

On October 21, 2007, three Southern California Edison Company (SCE) poles fell and ignited a fire that burned 3,836 acres. The fire destroyed 14 structures and 36 vehicles and damaged 19 other structures. According to the Los Angeles County Fire Department, the fire resulted in \$14,528,300 estimated dollar loss. There were no injuries or fatalities caused by the incident.

The poles that caused the fire were jointly used by SCE, AT&T, NextG, Sprint and Verizon. The poles supported both electric supply and communication facilities.

II. SED INVESTIGATION

The Safety and Enforcement Division (SED) investigated the incident and found multiple violations of the Commission's safety requirements.

SED found that at least one of the poles was overloaded and did not comply with the General Order 95 (GO95) safety factor requirements and California Public Utilities Code safety standards. SED further found that that replacement poles were installed in the Malibu Canyon without regard for the known local conditions, namely the Santa Ana winds. SED also found that at least one replacement pole that did not meet the safety factor

standard for new construction was installed in the area. Finally, SED found that SCE and the joint occupiers of the poles violated Rule 1.1 of the Commission Rules of Practice and Procedure by providing incomplete and/or misleading accident reports, data responses and testimony.

SED provided its findings to the Commission on October 21, 2008, and the Commission released the SED report on December 18, 2008.

III. OII AND DECISION 13-09-028

On January 29, 2009, the Commission opened an Order Instituting Investigation (OIR) to determine if the pole owners and tenants violated the Commission's safety requirements including the California Public Utilities Code and General Order 95. The respondents in the proceeding were SCE, AT&T, NextG, Sprint and Verizon.

On May 20, 2013, SED and SCE filed a settlement agreement with the Commission. In the settlement agreement, SCE admitted a pole was overloaded and violated GO95. Furthermore, SCE admitted that it violated Rule 1.1 of the Commission's Rules of Practice and Procedure by withholding pertinent information from SCE and the Commission. SCE also agreed to pay a fine of \$20 million and to provide an additional \$17 million to assess pole compliance with GO95 in the Malibu area, referred to as the Malibu Area Safety Enhancements Protocol, and remediate any substandard poles found.

On September 13, 2012, CPUC Decision 12-09-019 approving a settlement agreement (CIP Settlement) with: AT&T, Sprint, and Verizon Wireless (“the Settling Respondents”) regarding their involvement with the Malibu Canyon Fire in October of 2007.

The CIP Settlement required, among other things, that the Settling Respondents upgrade the safety factor for all utility poles along 3.38 miles of Malibu Canyon Road.

Decision 13-09-028, issued on September 19, 2013, approved the settlement agreement reached between SED and SCE. The decision specified conditions that approval of the settlement is subject to. These conditions include:

- SCE must complete a pole assessment per the settlement agreement
- SCE must provide bi-monthly reports to SED on the status of the pole assessment and remedial measures
- SED must prepare a report summarizing the results of the pole assessment
- SCE must verify that the poles in Malibu Canyon meet its internal standard for high wind areas
- SCE may not recover from its ratepayers any costs associated with complying with the decision

IV. SCE COMPLIANCE WITH DECISION 13-09-028

SCE completed its assessments of utility poles pursuant to the Malibu Area Safety Enhancements Protocol. As part of its assessment, it verified that the poles meet specified design criteria based upon calculated loads resulting primarily from wind and the presence of attached facilities. This involved a field assessment as well as a desktop analysis to estimate each pole's safety factor. The field assessment measured and/or validated the pole's attributes as well as the size and type of equipment it supports. The desktop analysis integrates data from the field assessment, design standards, and other data associated with the pole to calculate the pole loading safety factor.

Poles that were not compliant with GO95 safety factors or SCE internal standards were identified and the appropriate remediation was designed and implemented. Depending on the nature and extent of the noncompliant safety factor, the remediation required either repair (the installation or modification of guy wires) or complete replacement of the pole, including removal and reinstallation of all attachments.

In total, 8,728 poles were assessed. 6,505 poles (75%) were found to be compliant and 2,223 poles (25%) were found to be noncompliant with the safety factor standards. The noncompliance was caused by bending (1,978 poles or 89%), guy wire deficiencies (182 poles or 8%) and buckling (63 poles or 3%). The assessments resulted in 182 pole repairs and 2,035 pole replacements.

In June 2022, SCE submitted its final bimonthly report and indicated that a total of \$77,804.25 for work associated with the Malibu Settlement was recorded. This brings the total shareholder spend to \$17 million

V. CONCLUSION

SED has determined that SCE is in compliance with Decision 13-09-028. SED monitored SCE's ongoing compliance by:

- Reviewing SCE's bi-monthly reports
- Discussing SCE's finding and remedial measures with its staff
- Conducting audits of SCE's facilities
- Meeting with SCE staff

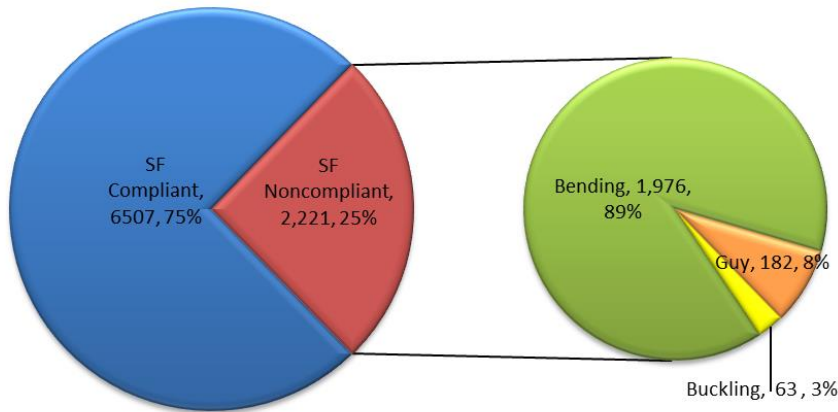
SED did not find any significant issues with SCE's Malibu Area Safety Enhancements Protocol compliance and does not have further recommendations at this time.

SED Report
April 2022 – June 2022 Report

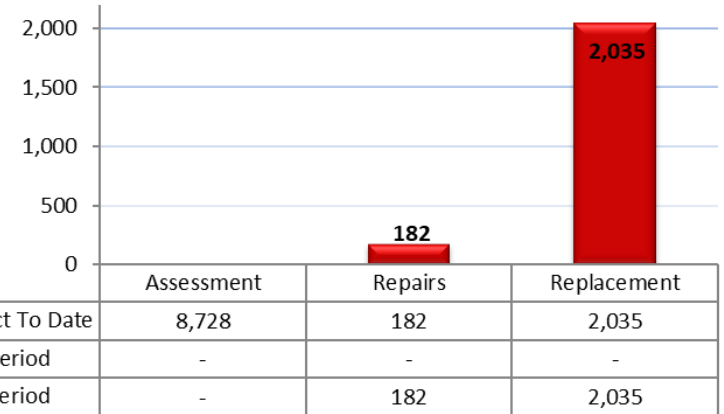
June, 2022

Malibu Status Report for April 1, 2021 – June 30, 2022

Overall Safety Factor Noncompliance Rate



Completed Poles



*Assessments not graphed due to scale.

Comments

- In June, \$77,804.25 for work associated with the Malibu Settlement was recorded. This brings the total shareholder spend to \$17 million. Accordingly, this will be the last status report.

Project Spending (000s)

Description	This Period	Project To Date	Forecast Project Spend
Assessment	\$0	\$811	\$700
Repair	\$0	\$272	\$500
Replace	\$78	\$15,917	\$15,800
Total	\$78	\$17,000	\$17,000

The Overall Safety Factor Noncompliance Rate chart has been updated to reflect the most recent analysis.

Pole replacement counts are now based on SCE's Pole Tracker database system, which provides a more real time accounting of completed poles.

Glossary of Terms

- **Pole Load Assessment:** General Order (G.O.) 95 requires that utility poles meet specified design criteria based upon calculated loads resulting primarily from wind and the presence of attached facilities. These criteria are called safety factors. The calculation of safety factors is referred to as pole loading. Pole loading assessments require a field assessment as well as a desktop analysis to estimate each pole's safety factor. The field assessment measures or validates the pole's attributes as well as the size and type of equipment it supports. The desktop analysis integrates data from the field assessment, design standards, and other data associated with the pole to calculate the pole loading safety factor.
- **Repairs & Replacements:** Poles that are not compliant with G.O. 95 safety factors or SCE internal standards will be identified and the appropriate remediation will be designed and implemented. Depending on the nature and extent of the noncompliant safety factor, the remediation will require either repair (i.e. the installation or modification of guy wires) or complete replacement of the pole, including removal and reinstallation of all attachments.
- **Safety Factor:** Safety factor is the margin of reserve strength against failure in a structure loaded to its design loads. It is expressed as a ratio of Load or Stress at Failure divided by Load or Strength at Design loading. Safety factors are margins to account for:
 - Any uncertainty in the design loads
 - Any uncertainty in the pole strength
 - The relative importance of the structure
- **Guy Wires:** Guy wires are high strength steel cables that are attached to poles and to a ground anchor in a direction opposite to the angle load to resist that load. In cases of guy wire or wires can't be installed to resist angle loads, then a specially engineered pole will be designed to resist the load and will be engineered and installed so that under normal conditions, the pole will be nearly plumb.
- **Bending Safety Factor & Bending Failure:** In the context of an SCE pole loading calculation report, the bending safety factor is actually an overall safety factor for the pole loaded with all horizontal and vertical loads which occur under the design loading. For an unguyed pole, the stresses under these loads are mostly bending stresses which occur as the cantilevered pole bends with a transverse wind loading the wires. The pole will bend away from the wind load while it's being loaded. A bending failure is a pole loaded such that its calculated safety factor falls below the acceptable safety factor. It hasn't actually failed as in bending until it breaks, but the margin against failure is lower than the required margin.
- **Buckling Safety Factor and Buckling Failure:** The buckling safety factor pertains to the bow and arrow effect that occurs on guyed poles or other circumstances where similar results may occur due to wire configuration. Because poles are long and slender, the loading capacity of the pole when loaded with large vertical loads can be less than the crushing strength of the wood. In terms of an SCE pole loading report, a buckling failure is not a pole loaded to the point of the actual buckling failure but the calculated vertical load is high enough so that the margin against failure is below the required margin.