

Electrical Infrastructure Audit Report

Date: October 11, 2025

Location: District 7, Northern California

EXECUTIVE SUMMARY

This audit identified multiple non-compliance issues with electrical infrastructure standards. The following go-back infractions were documented:

FINDINGS AND INFRACTIONS

Go-back Infraction: Crossarm mounted at 20 inches from pole top violating GO 95 minimum clearance requirements of 25 feet from ground level. This poses safety risks and must be corrected within 30 days.

Go-back Infraction: Underground conduit installed at 36 inches depth in primary voltage area. Standards require 48 inches minimum depth per Document 093412 and CPUC regulations for primary installations.

Go-back Infraction: 4/0 ACSR conductor used in area requiring 336.4 MCM AAC per GO 95 Rule 31.2 for the measured span length and loading conditions.

Go-back Infraction: Insulator creepage distance measured at 7 inches, below the required 10 inches minimum per ANSI C29.1 for 12kV systems in contamination zone III.

Go-back Infraction: Ground resistance measured at 45 ohms, exceeding the 25 ohm maximum requirement. This violates NEC Article 250 and creates dangerous step potential conditions.

Go-back Infraction: Missing bird guard protection on 15kV equipment. ANSI C37.60 requires wildlife protectors on all exposed energized parts above 15kV in designated avian areas.

COMPLIANT ITEMS

The following items were found to be compliant:

- Transformer installations meet IEEE C57.12.00 requirements
- Warning tape properly installed at 12 inches below grade
- Phase-to-phase spacing adequate at 12 inches for 12kV

RECOMMENDATIONS

1. Immediate correction of crossarm height violation (Priority: High)
2. Re-trench primary conduit to proper 48-inch depth (Priority: High)
3. Replace undersized conductors with proper 336.4 MCM AAC (Priority: Medium)
4. Replace non-compliant insulators (Priority: Medium)
5. Install additional grounding rods to reduce resistance (Priority: High)

6. Install bird guards on all high-voltage equipment (Priority: Low)

CONCLUSION

Six critical infractions require immediate attention. All violations reference specific standards (GO 95, CPUC, ANSI) that can be cross-referenced with the current specification manual for compliance verification.