

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
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May 24, 2023

SA2023-1050

Melvin Stark
Principal Manager, Maintenance & Inspections/Asset Management
Southern California Edison (SCE)
3 Innovation Way
Pomona, CA 91768

SUBJECT: Substation Audit of SCE's Orange County and Lighthipe Switching Centers

Mr. Stark:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission (CPUC), Kyle King of my staff conducted a substation audit of SCE's Orange County and Lighthipe Switching Centers from March 13, 2023 to March 17, 2023. The audit included a review of SCE's records and field inspections of SCE's Orange County and Lighthipe Switching Centers substation facilities.

During the audit, my staff identified violations of one or more General Orders (GOs). A copy of the audit findings itemizing the violations is enclosed. Please advise me no later than June 26, 2023, by electronic or hard copy, of all corrective measures taken by SCE to remedy and prevent such violations.

If you have any questions concerning this audit, you can contact Kyle King at (213) 222-3260 or Kyle.King@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Fadi Daye".

Fadi Daye, P.E.
Program and Project Supervisor
Electric Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission

Enclosures: Audit Findings

Cc: Leslie Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Kyle King, Utilities Engineer, ESRB, SED, CPUC

AUDIT FINDINGS

I. Records Review

During the audit, my staff reviewed the following records:

- SCE GO 174 Substation Inspection Process
- SCE GO 174 Substation Inspection Program
- SCE SOP Protection System Maintenance Program.
- Substation Operators Training Records
- Summary of Substation Inspections
- Inspection Checklists and One-Line Diagrams for ten substations
- Recent open and completed work orders
- Summary of results of Infrared Testing in 2022
- Oil sample testing results
- Infrared inspection records

II. Field Inspections

My staff inspected the following substation facilities during the field inspection:

No.	Substation ID	Location
1	Lucas	5704 Arbor Rd., Lakewood, CA
2	Cornuta	Flora Vista Ave., W/O Cornuta, Bellflower, CA
3	Hedda	6155 Woodruff Ave., Bellflower, CA
4	Woodruff	10120 E. Lindale St., Bellflower, CA
5	Signal Hill	1900 E. Spring St., Signal Hill, CA
6	Astro	E/O Cherry and Wardlow, Long Beach, CA
7	Injection	W/O Temple St. and Willow St., Long Beach, CA
8	Hathaway	1850 Lakewood Blvd., Long Beach, CA
9	Belmont	1126 Loma Ave., Long Beach, CA
10	Broadway	259 Newport Ave., Long Beach, CA
11	Bixby	1719 E. Fourth St., Long Beach, CA
12	Team	Bolsa Ave., E/O Chestnut St., Westminster, CA
13	Trask	8602 Trask Ave., Garden Grove, CA
14	Vera	13622 Newhope St., Garden Grove, CA
15	Sullivan	2440 W. First St., Santa Ana, CA
16	Camden	1125 Central Ave., Santa Ana, CA
17	Fairview	4111 S. Main St., Santa Ana, CA
18	Gisler	1300 Gisler Ave, Costa Mesa, CA
19	Brookhurst	9862 McFadden St., Westminster, CA
20	Cabrillo	18432 Jamboree Blvd., Irvine, CA

III. Field Inspection - Violations List

My staff observed the following violations during the field inspections portion of the audit:

GO 174, Rule 12, General, states in part:

Substations shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to promote the safety of workers and the public and enable adequacy of service.

Design, construction, and maintenance should be performed in accordance with accepted good practices for the given local conditions known at the time by those responsible.

Facilities at the following substations were not maintained for their intended use:

Cornuta Substation

- Missing a “High Voltage” sign around perimeter fencing.
- Missing a “Keep Out” sign around perimeter fencing.

Hedda Substation

- Missing a “Keep Out” sign.
- A “Keep Out” sign was illegible.

Signal Hill Substation

- A “Keep Out” sign was damaged.
- A “Keep Out” sign was missing.
- A “High Voltage” sign was missing.
- Trash and debris were littered throughout the interior perimeter fencing.
- Damaged collar riser and damaged Citizen Circuit 12 KV CBA.
- The No. 1 Bank 66/12 kV East Unit was damaged.
- Part of the Fan Control was damaged.

Astro Substation

- Damaged perimeter fencing.
- A “Keep Out” sign was damaged.
- A “Keep Out” sign was missing.

Injection Substation

- Perimeter fencing was damaged.
- A “Keep Out” sign was damaged.

Team Substation

- Needs more perimeter fencing (there were gaps in the fence)
- Trash and debris around perimeter fencing.

- Cover and box cover needs to be replaced.
- The perimeter wall was damaged.
- 66/12 kV Bank 2 was leaking oil.
- Perimeter fencing signage was missing.

Trask Substation

- Damaged signage.
- No. 2 Bank North Unit was damaged.
- Barre 66 kV CB Phase C cabinet glass was cloudy.
- Perimeter fencing was damaged.
- Additionally, the perimeter fencing had large gaps.
- A “Keep Out” sign was missing.
- A “High Voltage” sign was missing.

Vera Substation

- Perimeter fencing tarp needs to be removed.
- A “High Voltage” sign was missing.
- A “Keep Out” sign was missing.
- Remove debris from perimeter fencing.
- Repair damaged perimeter fencing.
- Remove rope on the ground. It is a tripping hazard.

Sullivan Substation

- A “High Voltage” sign was missing.
- A “Keep Out” sign was missing.

Camden Substation

- No. 2 Bank East Unit 66/12 kV was leaking oil.
- No. 2 Bank East Unit 66/12 kV had one fan that was not working.
- Perimeter fencing was missing “High Voltage” signage and “Keep Out” signage.
- Need to clean debris around perimeter fencing.

Fairview Substation

- A “Keep Out” sign was missing.
- A “High Voltage” sign was missing.
- No. 2 Bank 66/12 kV North Unit was leaking oil.
- Perimeter fencing had vegetation and other debris.

Gisler Substation

- Replace “High Voltage” signage on 66 kV Operating Bus fence.
- Debris inside perimeter fencing needs to be removed.
- Need to seal the gap near perimeter fencing.
- 66 kV Transfer Bus needs new “High Voltage” signage.
- Need to remove debris on one fan on the No. 1 Bank 66/12 kV West Unit.

- Oil leak on No. 1 Bank 66/12 kV East Unit.
- Oil leak on No. 3 Bank 66/12 kV East Unit.
- No. 3 Bank 66/12 kV West Unit had a cloudy glass on the spot indicator.
- No. 4 Bank North 66/12 kV had 6 fans that were not working.
- No. 4 Bank South 66/12 kV had leaking oil fluid.
- No. 2 Bank South 66/12 kV had leaking oil fluid.
- There was a gap in a trench cover.
- No. 1 Bank South 66/12 kV had leaking oil fluid.
- No. 1 Bank South 66/12 kV had a qualitrol glass that was cloudy.
- No. 1 Bank South 66/12 kV had a liquid temperature glass that was cloudy.
- No. 1 Bank North 66/12 kV had a qualitrol glass that was cloudy.
- No. 2 Bank North 66/12 kV had a qualitrol glass that was cloudy.

Cabrillo Substation

- Teller 12 kV Circuit Breaker Cabinet Door was left open.
- No. 2 caps 12 kV sign was damaged.
- No. 4 Bank 66 kV circuit breaker signage was damaged.
- There were debris on the 66 kV operating bus.
- There were debris on the 66 kV transfer bus.
- The 66 kV transfer bus needs new “High Voltage” signage.
- 66 kV transfer bus signage was damaged.
- No. 1 Bank North 66/12 kV was leaking oil fluid.
- No. 2 Bank North 66/12 kV was leaking oil fluid.