



Melvin Stark
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June 26, 2023

Fadi Daye, P.E.
Program & Project Supervisor
Electric and Safety Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
320 West 4th St., Ste. 500
Los Angeles, California 90013

SA2023-1050

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

Dear Mr. Daye:

Your letter, dated May 24, 2023, requested that we advise you of actions taken by Southern California Edison Company (SCE) to address conditions identified during the Safety and Enforcement Division's (SED's) substation audit of Orange County and Lighthipe Switching Centers from March 13, 2023, to March 17, 2023.

Your letter requested a response by June 26, 2023. Attached are the conditions mentioned in your letter, and our responses and corresponding actions.

A handwritten signature in black ink, appearing to read "Mel Stark", is positioned above the typed name.

Mel Stark
Principal Manager, T&D Compliance & Quality
1 Innovation Way
Pomona, CA 91768

Enclosures: SED Audit Findings and SCE's Responses

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.

SCE Response:

The conditions listed above have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *Missing a “High Voltage” sign around perimeter fencing. SCE Response: Due Date 6/18/2029.*
- *Missing a “Keep Out” sign around perimeter fencing. SCE Response: Due Date 6/18/2029.*

Hedda Substation

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

SCE Response:

The conditions listed above have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *Missing “Keep Out” sign. SCE Response: Due Date 6/18/2029.*
- *Illegible “Keep Out” sign. SCE Response: Due Date 6/18/2029.*

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.

SCE Response:

Two of the conditions listed above have been addressed, and the remaining five conditions have been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *Damaged "Keep Out" sign. **SCE Response:** Due Date 6/18/2029.*
- *Missing "Keep Out" sign. **SCE Response:** Due Date 6/18/2029.*
- *Missing "High Voltage" sign. **SCE Response:** Due Date 6/18/2029.*
- *Trash and debris were littered throughout the interior perimeter fencing. **SCE Response:** Due Date 6/18/2029.*
- *Damaged collar riser and damaged Citizen Circuit 12 KV CBA. **SCE Response:** Due Date 6/18/2029.*
- *The No. 1 Bank 66/12 kV East Unit was damaged. **SCE Response:** SCE field personnel visited the site on 6/20/2023 and did not observe any damage. No further action is required.*
- *Part of the Fan Control was damaged. **SCE Response:** SCE field personnel visited the site on 6/20/2023 and did not observe any damage. No further action is required.*

Astro Substation

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

SCE Response:

The conditions listed above have been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *Damaged perimeter fencing. **SCE Response:** Due Date 6/14/2029.*
- *Damaged "Keep Out" sign. **SCE Response:** Due Date 6/18/2029.*
- *Missing "Keep Out" sign. **SCE Response:** Due Date 6/18/2029.*

Injection Substation

- Perimeter fencing was damaged.
- A "Keep Out" sign was damaged.

SCE Response:

The conditions listed above have been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *Damaged perimeter fencing. **SCE Response:** Due Date 6/15/2029.*
- *Damaged "Keep Out" sign. **SCE Response:** Due Date 6/18/2029.*

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.

SCE Response:

One of the conditions listed above was previously recorded in SCE's Work Management System at the time of the audit, and will be addressed in accordance with SCE's maintenance program. One of the remaining conditions has been addressed, and the remaining four conditions have been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *Needs more perimeter fencing (there were gaps in the fence). **SCE Response:** SCE field personnel visited the site on 6/20/2023 and confirmed the perimeter fencing provides an adequate barrier and meets all SCE design standards. No further action is required.*
- *Trash and debris around perimeter fencing. **SCE Response:** Due Date 9/1/2023.*
- *Cover and box cover needs to be replaced. **SCE Response:** Due Date 6/12/2029.*
- *Damaged perimeter wall. **SCE Response:** Due Date 6/13/2029.*
- *66/12 kV Bank 2 was leaking oil. **SCE Response:** Due Date 8/13/2024.*
- *Missing perimeter fencing signage. **SCE Response:** Due Date 6/13/2029.*

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.

SCE Response:

One of the conditions listed above has been addressed, and the remaining six conditions have been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *Damaged signage. **SCE Response:** Due Date 6/15/2029.*
- *Damaged No. 2 Bank North Unit. **SCE Response:** Due Date 6/13/2029.*
- *Barre 66 kV CB Phase C cabinet glass was cloudy. **SCE Response:** Due Date 6/13/2029.*
- *Damaged Perimeter fencing. **SCE Response:** Due Date 6/13/2029.*
- *Perimeter fencing had large gaps. **SCE Response:** SCE field personnel visited the site on 6/20/2023 and confirmed the perimeter fencing provides an adequate barrier and meets all SCE design standards. No further action is required.*
- *Missing "Keep Out" sign. **SCE Response:** Due Date 6/13/2029.*
- *Missing "High Voltage" sign. **SCE Response:** Due Date 6/13/2029.*

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.

SCE Response:

The conditions listed above have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *Perimeter fencing tarp needs to be removed. **SCE Response:** Due Date 6/13/2029.*
- *Missing “High Voltage” sign. **SCE Response:** Due Date 6/13/2029.*
- *Missing “Keep Out” sign. **SCE Response:** Due Date 6/13/2029.*
- *Trash and debris around perimeter fencing. **SCE Response:** Due Date 9/1/2023.*
- *Damaged Perimeter fencing. **SCE Response:** Due Date 6/13/2029.*
- *Rope on the ground causing tripping hazard. **SCE Response:** Completed on 3/16/2023.*

Sullivan Substation

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

SCE Response:

The conditions listed above have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *Missing “High Voltage” sign. **SCE Response:** Due Date 6/13/2029.*
- *Missing “Keep Out” sign. **SCE Response:** Due Date 6/13/2029.*

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.

SCE Response:

Two of the conditions listed above was previously recorded in SCE’s Work Management System at the time of the audit, and they will be addressed in accordance with SCE’s maintenance program. The remaining two conditions have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *No. 2 Bank East Unit 66/12 kV was leaking oil. **SCE Response:** Due Date 3/6/2029.*
- *No. 2 Bank East Unit 66/12 kV had one fan that was not working. **SCE Response:** Due Date 2/13/2029.*
- *Perimeter fencing was missing “High Voltage” signage and “Keep Out” signage. **SCE Response:** Due Date 6/13/2029.*
- *Trash and debris around perimeter fencing. **SCE Response:** Due Date 3/2/2029.*

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.

SCE Response:

One of the conditions listed above was previously recorded in SCE’s Work Management System at the time of the audit, and will be addressed in accordance with SCE’s maintenance program. The remaining three conditions have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *Missing “Keep Out” sign. **SCE Response:** Due Date 6/13/2029.*
- *Missing “High Voltage” sign. **SCE Response:** Due Date 6/13/2029.*
- *No. 2 Bank East Unit 66/12 kV was leaking oil. **SCE Response:** Due Date 5/15/2028.*
- *Vegetation and debris around perimeter fencing. **SCE Response:** Due Date 9/1/2023.*

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 qualitol 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 qualitol glass that was cloudy.
- No. 2 Bank North 66/12 kV had a qualitol glass that was cloudy.

SCE Response:

Two of the conditions listed above were previously recorded in SCE’s Work Management System at the time of the audit, and they will be addressed in accordance with SCE’s maintenance program. One of the conditions listed above have been addressed, and the remaining fourteen conditions have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *Replace “High Voltage” signage on 66 kV Operating Bus fence. **SCE Response:** Due Date 6/13/2029.*
- *Debris inside perimeter fencing. **SCE Response:** Due Date 9/1/2023.*
- *Seal gap near perimeter fencing. **SCE Response:** SCE field personnel visited the site on 6/20/2023 and confirmed the perimeter fencing provides an adequate barrier and meets all SCE design standards. No further action is required.*
- *66 kV Transfer Bus needs new “High Voltage” sign. **SCE Response:** Due Date 6/13/2029.*

- *Debris on one fan on the No. 1 Bank 66/12 kV West Unit. **SCE Response:** Completed on 3/16/2023.*
- *Oil leak on No. 1 Bank 66/12 kV East Unit. **SCE Response:** Due Date 5/20/2023.*
- *Oil leak on No. 3 Bank 66/12 kV East Unit. **SCE Response:** Due Date 5/20/2023.*
- *No. 3 Bank 66/12 kV West Unit had a cloudy glass on the spot indicator. **SCE Response:** Due Date 6/13/2029.*
- *No. 4 Bank North 66/12 kV had 6 fans that were not working. **SCE Response:** Due Date 6/13/2029.*
- *No. 4 Bank South 66/12 kV had leaking oil fluid. **SCE Response:** Due Date 6/13/2029.*
- *No. 2 Bank South 66/12 kV had leaking oil fluid. **SCE Response:** Due Date 6/13/2029.*
- *Gap in a trench cover. **SCE Response:** Due Date 6/13/2029.*
- *No. 1 Bank South 66/12 kV had leaking oil fluid. **SCE Response:** Due Date 6/13/2029.*
- *No. 1 Bank South 66/12 kV had a qualitrol glass that was cloudy. **SCE Response:** Due Date 6/13/2029.*
- *No. 1 Bank South 66/12 kV had a liquid temperature glass that was cloudy. **SCE Response:** Due Date 6/13/2029.*
- *No. 1 Bank North 66/12 kV had a qualitrol glass that was cloudy. **SCE Response:** Due Date 6/13/2029.*
- *No. 2 Bank North 66/12 kV had a qualitrol glass that was cloudy. **SCE Response:** Due Date 6/13/2029.*

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.

SCE Response:

One of the conditions listed above has been addressed, and the remaining eight conditions have been recorded in SCE’s Work Management System and will be addressed in accordance with SCE’s maintenance program.

- *Teller 12 kV Circuit Breaker Cabinet Door was left open. **SCE Response:** Completed on 3/16/2023.*
- *No. 2 caps 12 kV sign was damaged. **SCE Response:** Due date 6/13/2029.*
- *Damaged signage on No. 4 Bank 66 kV circuit breaker. **SCE Response:** Due date 6/13/2029.*
- *Debris on the 66 kV operating bus. **SCE Response:** Due date 6/13/2029.*
- *Debris on the 66 kV transfer bus. **SCE Response:** Due date 6/13/2029.*
- *The 66 kV transfer bus needs new “High Voltage” signage. **SCE Response:** Due*

date 6/13/2029.

- *Damaged signage on 66 kV transfer bus. **SCE Response:** Due date 6/13/2029.*
- *No. 1 Bank North 66/12 kV was leaking oil fluid. **SCE Response:** Due date 6/13/2029.*
- *No. 2 Bank North 66/12 kV was leaking oil fluid. **SCE Response:** Due date 6/13/2029.*