

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
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March 4, 2024

SA2023-1103

Melvin Stark
Principle Manager, T&D Compliance Integration
Southern California Edison Company
1 Innovation Way
Pomona, CA 91786

Subject: Audit of Southern California Edison's Mesa Switching Center

Mr. Stark:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission (CPUC), James Miller and Norvik Ohanian of my staff conducted a substation audit of Southern California Edison's (SCE) Mesa Switching Center from November 27, 2023 to December 1, 2023. The audit included a review of SCE's records and field inspections of SCE's 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 April 4, 2024, by electronic or hard copy, of all corrective measures taken by SCE to remedy and prevent such violations. Please note that ESRB will be posting the audit report and your response to our audit on the CPUC website. If there is any information in your response that you would like us to consider as confidential, we request that in addition to your confidential response, you also provide us with a public or redacted version of your response that can be posted publicly on our website.

If you have any questions concerning this audit, you can contact James Miller at (213) 660-8898 or James.Miller@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: Lee Palmer, Director, Safety and Enforcement Division, CPUC
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Majed Ibrahim, Senior Utilities Engineer (Supervisor), ESRB, SED, CPUC
James Miller, Utilities Engineer, ESRB, SED, CPUC
Norvik Ohanian, Utilities Engineer, ESRB, SED, CPUC

AUDIT FINDINGS

I. Records Review

During the audit, my staff reviewed the following records and documents:

- Current Substation Inspection Procedures
- Current Substation Equipment Testing Procedures
- Substation Inspection Records
- Oil Sample Testing Results
- Infrared Inspection Records
- Recent Open and Completed Work Orders Generated from Inspections

II. Field Inspections

My staff inspected the following substations during the field portion of the audit:

No.	Substation Name	City
1	Aerojet	Azusa
2	Alhambra	Alhambra
3	Amalia	East Los Angeles
4	Azusa	Azusa
5	Bicknell	East Los Angeles
6	Bradbury	Monrovia
7	Citrus	Glendora
8	Dalton	Irwindale
9	Duarte	Duarte
10	Eaton	Pasadena
11	Fair Oaks	Altadena
12	Garfield	Pasadena
13	Garvey	Rosemead
14	Granada	Alhambra
15	Kirkwall	Azusa
16	La Cañada	La Cañada
17	Monrovia	Monrovia
18	Ramona	Alhambra
19	Ravendale	Temple City
20	Rush	Rosemead
21	San Gabriel	San Gabriel
22	Sierra Madre	Sierra Madre
23	Terrace	Los Angeles
24	Wabash	East Los Angeles

III. Field Inspections – Violations List

My staff observed the following violations during the field inspection:

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:

Amalia Substation

1. The light switch in the battery room was not operational.

Bicknell Substation

2. The Burger 4 kV Circuit Breaker was leaking oil, and its oil gauge indicated that the oil level was low.

Wabash Substation

3. The nitrogen blanket pressure gauge on the No. 2 Bank 66/16 kV Transformer displayed a pressure of 0 PSIG.

Terrace Substation

4. Three insulators on the 16 kV Transformer Bus were damaged.

Alhambra Substation

5. An insulator above the Cresta North 16 kV Circuit Breaker was damaged.
6. The nitrogen blanket pressure gauge on the No. 3 Bank 66/4 kV Transformer displayed a pressure of less than 0 PSIG.
7. The nitrogen blanket pressure gauge on the No. 4 Bank 66/4 kV Transformer displayed a pressure of less than 0 PSIG.

Ramona Substation

8. The No. 2 Bank 66/4 kV Transformer was leaking oil from its load tap changer.

Granada Substation

9. The winding thermostat in the No. 1 Bank 16/4 kV Transformer appeared to be malfunctioning. The winding temperature indicator displayed a temperature of 19°C, and the oil temperature

indicator displayed a temperature of 32°C. A similar transformer nearby displayed winding and oil temperatures of 35°C and 31°C, respectively.

San Gabriel Substation

10. Circuit Breaker 77, B-phase was leaking oil.

Rush Substation

- 11. The Opportunity 16 kV Circuit Breaker was leaking oil.
- 12. The Bus Tie 66 kV Circuit Breaker door gasket was damaged.

Eaton Substation

- 13. The nitrogen blanket pressure gauge on the No. 1 Bank 66/16 kV Transformer displayed a pressure of less than 0 PSIG.
- 14. The nitrogen blanket pressure gauge on the No. 2 Bank 66/16 kV Transformer displayed a pressure of less than 0 PSIG.

Fair Oaks Substation

- 15. The oil level gauge on the Piedmont 4 kV B-phase regulator could not be read because its sight glass had become opaque.
- 16. A window was broken on the No. 2 Bank 16 kV Circuit Breaker.
- 17. The nitrogen blanket pressure gauge on the No. 1 Bank 16/4 kV Transformer displayed a pressure of less than 0 PSIG.
- 18. The nitrogen blanket pressure gauge on the No. 2 Bank 16/4 kV Transformer displayed a pressure of less than 0 PSIG.

La Cañada Substation

19. The Gould 66 kV Potential Transformer was leaking oil and its flex tube was separated from its base.

Garfield Substation

20. The No. 2 Bank 66/4 kV B-phase Transformer was leaking oil.

Ravendale Substation

- 21. The nitrogen blanket pressure gauge on the No. 1 Bank 66/16 kV Transformer displayed a pressure of less than 0 PSIG.
- 22. The No. 4 Bank 66/4 kV Transformer's winding temperature gauge was malfunctioning, displaying a winding temperature of -50°C.

Bradbury Substation

23. The No. 1 Bank 66/16 kV North Unit was leaking oil.

Duarte Substation

24. The nitrogen blanket pressure gauge on the No. 1 Bank 16/4 kV Transformer displayed a pressure of less than 0 PSIG.
25. An insulator above and southwest of the Sprinks 4 kV Regulators was damaged.

Dalton Substation

26. The Concrete 12 kV Circuit Breaker was leaking oil.

Azusa Substation

27. The nitrogen blanket pressure gauge on the No. 1 Bank 66/12 kV Transformer displayed a pressure of less than 0 PSIG.

Citrus Substation

28. The No. 1 Bank 66/12 kV Transformer was leaking oil and its fan controller was not operational.
29. The nitrogen blanket pressure gauge on the No. 2 Bank 66/12 kV West Unit Transformer displayed a pressure of less than 0 PSIG.