Melvin Stark
Principal Manager
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April 4, 2024

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

SA2023-1103
Subject: Audit of Southern California Edison's Mesa Switching Center

Dear Mr. Daye:

Your letter, dated March 4, 2024, 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 Mesa Switching Center from November 27, 2023 to December 1, 2023.

Your letter requested a response by April 4, 2024. Attached are the conditions mentioned in your letter, and our responses and corresponding actions.

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

Enclosures: SED Audit Findings and SCE's Responses

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.

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The light switch in the battery room was not operational.* ***SCE Response:*** *Due Date 3/26/2030.*

Bicknell Substation

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

SCE Response:
The condition listed above was previously recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The Burger 4 kV Circuit Breaker was leaking oil, and its oil gauge indicated that the oil level was low.* ***SCE Response:*** *Due Date 2/20/2029.*

Wabash Substation

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

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The nitrogen blanket pressure gauge on the No. 2 Bank 66/16 kV Transformer displayed a pressure of 0 PSIG.* ***SCE Response:*** *Due Date 3/26/2030.*

Terrace Substation

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

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *Three insulators on the 16 kV Transformer Bus were damaged.* ***SCE Response:*** *Due Date 3/26/2030.*

Alhambra Substation

5. An insulator above the Cresta North 16 kV Circuit Breaker was damaged.

SCE Response:
The condition listed above was previously recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *An insulator above the Cresta North 16kV Circuit Breaker was damaged.* ***SCE Response:*** *Due Date 09/24/2029.*

6. The nitrogen blanket pressure gauge on the No. 3 Bank 66/4 kV Transformer displayed a pressure of less than 0 PSIG.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

7. The nitrogen blanket pressure gauge on the No. 4 Bank 66/4 kV Transformer displayed a pressure of less than 0 PSIG.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

Ramona Substation

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

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The No. 2 Bank 66/4 kV Transformer was leaking oil from its load tap changer.* ***SCE Response:*** *Due Date 03/26/2030.*

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.

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *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.* ***SCE Response:*** *Due Date 03/26/2030.*

San Gabriel Substation

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

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *Circuit Breaker 77, B-phase was leaking oil.* ***SCE Response:*** *Due Date 03/26/2030.*

Rush Substation

11. The Opportunity 16 kV Circuit Breaker was leaking oil.

SCE Response:
The condition listed above was previously recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The Opportunity 16 kV Circuit Breaker was leaking oil.* ***SCE Response:*** *Due Date 12/09/2027.*

12. The Bus Tie 66 kV Circuit Breaker door gasket was damaged.

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The Bus Tie 66 kV Circuit Breaker door gasket was damaged.* ***SCE Response:*** *Due Date 03/26/2030.*

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.

    SCE Response:
    SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

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

    SCE Response:
    SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

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.

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The oil level gauge on the Piedmont 4 kV B-phase regulator could not be read because its sight glass had become opaque.* ***SCE Response:*** *Due Date 03/26/2030.*

16. A window was broken on the No. 2 Bank 16 kV Circuit Breaker.

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *A window was broken on the No. 2 Bank 16 kV Circuit Breaker.* ***SCE Response:*** *Due Date 03/26/2030.*

17. The nitrogen blanket pressure gauge on the No. 1 Bank 16/4 kV Transformer displayed a pressure of less than 0 PSIG.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

18. The nitrogen blanket pressure gauge on the No. 2 Bank 16/4 kV Transformer displayed a pressure of less than 0 PSIG.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

La Cañada Substation

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

SCE Response:
The condition listed above was previously recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The Gould 66 kV Potential Transformer was leaking oil and its flex tube was separated from its base.* ***SCE Response:*** *Due Date 06/04/2024*

Garfield Substation

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

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The No. 2 Bank 66/4 kV B-phase Transformer was leaking oil.* ***SCE Response:*** *Due Date 03/26/2030.*

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.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

22. The No. 4 Bank 66/4 kV Transformer's winding temperature gauge was malfunctioning, displaying a winding temperature of -50°C.

SCE Response:
The condition listed above was previously recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The No. 4 Bank 66/4 kV Transformer's winding temperature gauge was malfunctioning, displaying a winding temperature of -50°C.* ***SCE Response:*** *Due Date 01/30/2029.*

Bradbury Substation

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

SCE Response:
The condition listed above was previously recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The No. 1 Bank 66/16 kV North Unit was leaking oil.* ***SCE Response:*** *Due Date 10/21/2024*

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.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

25. An insulator above and southwest of the Sprinks 4 kV Regulators was damaged.

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *An insulator above and southwest of the Sprinks 4 kV Regulators was damaged.* ***SCE Response:*** *Due Date 03/26/2030.*

Dalton Substation

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

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The Concrete 12kV Circuit Breaker was leaking oil.* ***SCE Response:*** *Due Date 03/26/2030.*

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.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.

Citrus Substation

28. The No. 1 Bank 66/12 kV Transformer was leaking oil and its fan controller was not operational.

SCE Response:
The condition listed above has been recorded in SCE's Work Management System and will be addressed in accordance with SCE's maintenance program.

- *The No. 1 Bank 66/12 kV Transformer was leaking oil and its fan controller was not operational.*
  SCE Response: *Due Date 03/26/2030.*

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.

SCE Response:
SCE field personnel visited the site and evaluated the pressure gauge to be operating normally. No further action is required.