

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



January 23, 2024

SA2023-1095

Jennifer Kaminsky
Manager – Electric Assets & Compliance
San Diego Gas and Electric (SDG&E)
8315 Century Park Court, Suite CP22B
San Diego, CA 92123

SUBJECT: Substation Audit of SDG&E Orange County District

Ms. Kaminsky:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission (CPUC), Eric Ujjiye of my staff conducted a substation audit of San Diego Gas and Electric Orange County District from October 9-10, 2023. The audit included a review of SDG&E's Orange County records and field inspections of SDG&E's Orange County 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 February 23, 2024, by electronic or hard copy, of all corrective measures taken by SDG&E 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 Eric Ujjiye at (213) 620-2598 or Eric.Ujjiye@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
Eric Ujjiye, Utilities Engineer, ESRB, SED, CPUC

AUDIT FINDINGS

I. Records Review

During the audit, my staff reviewed the following records:

- SDG&E GO 174 Substation Inspection Process
- SDG&E GO 174 Substation Inspection Program
- SDG&E SOP Protection System Maintenance Program
- Summary of SDG&E Substation Operators Training Records
- Summary of SDG&E Substation Inspections
- Inspection Checklists and One-Line Diagrams for eleven substations
- Pending and Completed Workorders.
- Summary of results of Infrared Testing
- Summary of results from substation Dissolved Gas Analysis.

II. Records Review – Violations List

Staff observed the following violations during the records review portion of the audit:

GO 174, Rule 31.1, Frequency, states:

Substations shall be inspected frequently as necessary. Time intervals or other bases shall be specified in the Inspection Program.

SDG&E – Substation Inspection Practice, Document Number 510.012, Rule 4.1.2, states in part:

Substation Inspection: These visual inspections are conducted monthly for Priority 1 substations, defined as having either an operating voltage above 200kV, having a total of 4 or more transmission lines, or one or more generator interconnection points at or above 69kV. All other stations are Priority 2 substations and have one visual inspection conducted every two months. Incomplete Substation Inspections during a given cycle are a top priority for the following cycle's inspections. An Acceptable Frequency for Priority 1 substations is 10 completed Substation Inspections per 12-month continuous cycle. An acceptable Frequency for Priority 2 substations is 5 completed Substation Inspections per 12-month continuous cycle.

Inspection records indicated that the San Juan Capistrano Substation (230/138/12 kV Yard), which was on a Priority 1 inspection cycle, was patrolled 9 times between July 21, 2021 to July 28, 2022, which is less than the 10 required.

III. Field Inspections

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

No.	Date Visited	Substation ID	Voltage (kV)	Location
1	10/9/2023	Rancho Mission Viejo - RMV	138 / 12	Corner of Cow Camp Rd. & Los Patrones Pkwy
2	10/9/2023	Margarita - MAR	138 / 12	East side of Antonio Pkwy, 2 mi N/of Ortega Hwy
3	10/9/2023	Trubuco - TB	138 / 12	27532 Camino Capistrano
4	10/9/2023	Laguna Niguel - LNL	138 / 12	32234 Bear Brand Rd.
5	10/9/2023	Shore Cliffs - SHC	12 / 4	2678 Via Cascadita
6	10/10/2023	San Juan Capistrano - SJC	230 / 138 / 12	31050 Camino Capistrano
7	10/10/2023	Pico - PI	138 / 12	1260 Puerta Del Sol
8	10/10/2023	Talega - TA	230 / 138 / 3.2	3300 Avenida Pico
9	10/10/2023	San Clemente - SC	12 / 4	514 N El Camino Real (back of parking lot)
10	10/10/2023	South San Clemente	12 / 4	Corner of S. El Camino Real & W. Avenida San Antonio
11	10/10/2023	San Mateo - SMO	138 / 12	404 Calle Bahia

IV. 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:

Rancho Mission Viejo Substation

- A radiator cooling fan was not functioning on Bank 41.
- Two radiator cooling fans were not functioning on Bank 42.

Margarita Substation

- Evidence of an oil seep was observed near the base of a bushing on Bank 42.

Trubuco Substation

- Overgrown vegetation was observed under multiple areas of the 138 kV facilities.
- A 6-inch area of fresh oil was observed on the ground beneath a radiator component of Bank 40.

Shore cliffs Substation

- A damaged concrete footing and missing bolts were observed on a riser access panel on the 12/4 kV SHC1 Bank.

Pico Substation

- A radiator cooling fan was not functioning on Bank 41.
- The improper storing of spare parts and discarded materials was seen underneath the in-service No. 9 Bus disconnect.
- A radiator cooling fan was not functioning on Bank 42.

San Clemente Substation

- The radiator cooling fans were not operating on Bank 10.
- The temperature gauge was not functioning on Bank 10.
- A corner of the chain link perimeter fencing was damaged.

San Mateo Substation

- A telecommunication cabinet, located outside of the control room, had a square opening on the protective cabinet, exposing the internal components to weather.
- Multiple insulators on multiple components on the 204 12 kV Transfer Disconnect were fractured and otherwise damaged.