

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 27, 2016

SA2016-002

Mo Derbas
Project Manager II
San Diego Gas and Electric (SDG&E)
5488 Overland Avenue
San Diego, CA 92123

Subject: Audit of SDG&E's Eastern District

Mr. Derbas:

On behalf of the Electric Safety and Reliability Branch of the California Public Utilities Commission (CPUC), Richard Kyo of my staff conducted a Substation Audit of SDG&E's Eastern District from April 11, 2016 to April 15, 2016. The audit included a review of SDG&E's records and field inspections of SDG&E'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 August 29, 2016, by electronic or hard copy, of all corrective measures taken by SDG&E to remedy and prevent such violations.

If you have any questions concerning this audit, you can contact Richard Kyo at (213) 576-7081 or richard.kyo@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: CPUC Audit Findings

Cc: Elizaveta Malashenko, Director, Safety and Enforcement Division, CPUC
Charlotte TerKeurst, Program Manager, Electric Safety and Reliability Branch, CPUC

AUDIT FINDINGS

I. Records Review

During the audit, my staff reviewed the following records:

- Substation security inspection records.
- Substation patrol inspection records.
- Infrared inspection records
- Corrective maintenance records.
- Circuit breaker maintenance records

II. Field Inspection

My staff inspected the following substations during the audit:

Substation Name	Voltage (kV)	Location
Ash	69/12	Escondido
Barrett	69/12	Jamul
Borrego	69/12	Borrego Springs
Chicarita	138/12	San Diego
Felicita	69/12	Escondido
Loveland	69/12	Alpine
Pomerado	69/12	Poway
Rancho Carmel	69/12	San Diego
Santee	138/12	Santee
Warren Canyon	69/12/4	Poway

III. Field Inspection – Undocumented Violations List

My staff observed the following violations during the field inspection. None of these violations were documented and/or addressed by SDG&E during its last inspections.

GO 174, Rule 12, 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.

Ash Substation

- The cable termination of Circuit 456 was contaminated and leaking.
- The cable termination of Circuit 451 was contaminated and leaking.

Boulevard Substation

- The Bank 40 transformer sample valve was exhibiting slight oil leakage.

Rancho Carmel Substation

- The Bank 37 transformer radiator was exhibiting slight oil leakage.
- The insulating tape at the Bank 31 transformer was coming apart.

Felicita Substation

- The Bank 32 transformer sample valve was exhibiting slight oil leakage.
- There was a slight oil leakage on the side of OCB 473.

IV. Field Inspection – Documented Violations List

My staff observed the following violations during the field inspection that were documented and/or addressed by SDG&E during its last inspections:

GO 174, Rule 12, 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.

Ash Substation

- The lightning arrestor on the Bank 30 transformer exhibited heavy contamination.
- The bushing on the Bank 30 transformer exhibited heavy contamination.
- The lightning arrestor on the Bank 31 transformer exhibited heavy contamination.
- The bushing on the Bank 31 transformer exhibited heavy contamination.
- The lightning arrestor on the Bank 32 transformer exhibited heavy contamination.
- The bushing on the Bank 32 transformer exhibited heavy contamination.
- The main tank on the Bank 32 transformer was leaking oil.
- The bushing oil level on the Circuit 454 oil circuit breaker was unreadable.
- The bushing oil level on the Circuit 455 oil circuit breaker was unreadable.
- The counter on the Circuit 489 circuit breaker was unreadable.

Barrett Substation

- A battery exhibits wicking at its post.
- The main tank on the Bank 31 transformer was leaking oil.
- The petro pipe on the Bank 31 transformer needs cleaning.
- The bushing oil level on the Circuit 67 oil circuit breaker was unreadable.
- The bushing oil level on the Circuit 157 oil circuit breaker was unreadable.

Borrogo Substation

- The lightning arrestor on the Bank 31 transformer exhibited heavy contamination.
- The bushing on the Bank 30 transformer exhibited rust.

Felicita Substation

- The control cabinet on the Circuit 472 circuit breaker exhibited rust.

Loveland Substation

- The lightning arrestor on the Bank 30 transformer exhibited heavy contamination.
- The bushing on the Bank 30 transformer exhibited heavy contamination.

Pomerado Substation

- A battery post was contaminated.
- A battery exhibited wicking at its post.

- The main tank on the Bank 32 transformer was leaking oil.
- The load tap changer on the Bank 33 transformer was leaking oil.
- The petro pipe on the Bank 33 transformer needs cleaning.

Rancho Carmel Substation

- The lightning arrestor on the Bank 31 transformer exhibited heavy contamination.
- The bushing on the Bank 31 transformer exhibited heavy contamination.
- The lightning arrestor on the Bank 32 transformer exhibited heavy contamination.
- The bushing on the Bank 32 transformer exhibited heavy contamination.
- The lightning arrestor on the Bank 33 transformer exhibited heavy contamination.
- The bushing on the Bank 33 transformer exhibited heavy contamination.
- Capacitor Bank B exhibited rust.
- Capacitor Bank C exhibited rust.

Santee Substation

- The lightning arrestor on the Bank 43 transformer exhibited heavy contamination.
- The bushing on the Bank 43 transformer exhibited heavy contamination.
- The counter on the Capacitor Bank A was unreadable.
- Capacitor Bank A exhibited rust.
- Capacitor Bank B exhibited rust.
- The cable termination of Circuit 392 was leaking oil.

Warren Canyon Substation

- The lightning arrestor on the Bank 30 transformer exhibited heavy contamination.
- The bushing on the Bank 30 transformer exhibited heavy contamination.
- The main tank on the Bank 30 transformer was leaking oil.
- The lightning arrestor on the Bank 20 transformer exhibited heavy contamination.
- The bushing on the Bank 20 transformer exhibited heavy contamination.