

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
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September 21, 2016

SA2016-006

Adeel Babar
Supervisor – Regulatory Compliance
Pacific Gas and Electric Company (PG&E)
3401 Crow Canyon Road, #221E
San Ramon, CA 94583

SUBJECT: Substation Audit of PG&E Bakersfield Division

Mr. Babar:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Ivan Garcia and Wilson Tsai of my staff conducted a Substation audit of PG&E Bakersfield Division on August 15-August 19, 2016. The audit included a review of PG&E's records and field inspections of its substation facilities.

During the audit, my staff identified violations of General Order 174. A copy of the audit findings itemizing the violations is enclosed. Please advise me no later than October 21, 2016, by electronic or hard copy, of all corrective measures taken by PG&E to remedy and prevent such violations.

If you have any questions concerning this audit, please contact Ivan Garcia at (916) 928-5875 or ivan.garcia@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Fadi Day".

Fadi Day, 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
Ivan Garcia, Utilities Engineer, CPUC

AUDIT FINDINGS

I. Records Review

During the audit, my staff reviewed the following records:

- PG&E Substation Equipment Maintenance Requirements, Utility Standard: TD-3322S with Attachments 1 through 13
- PG&E Substation Maintenance and Construction (SM&C) Manual, Substation Inspections Booklet
- PG&E Condition Based Management (CBM) Transition Process, TD-3322B-012
- PG&E Substation Inspections, TD-3322B-024
- PG&E Insulating Oil Testing Manual
- Monthly and bi-monthly substation inspection records from January 2015 to August 2016
- Maintenance records for the substations; Line Corrective (LC) Notifications
- Infrared Testing records for the substations
- PG&E Oil Test Samples for Transformers at the substations
- Substation equipment testing results

II. Field Inspection

The following are the facilities we inspected during the field inspection:

Name of Substation	Operating Voltage	Approximate Location
Panama	21 kV	6501 H St., Bakersfield
Norco	12 kV	Southwest of Bakersfield NR Plant and north of Coles Levee, Tupman
McFarland	12 kV	Elmo Highway and Melcher Ave., McFarland
Smyrna	12 kV	Pond Rd. and west of Wildwood Ave.
Lakeview	12 kV	Copus Rd. and Schallock Rd., Bakersfield
Wellfield	12 kV	Sunset Blvd. and Rockpile Rd., Arvin
Lamont	12 kV	Panama Lane and Malaga Rd., Arvin
Tejon	12 kV	Highway 99 and Wheller Ridge Rd., Arvin
7 th Standard	21 kV	33815 7 th Standard Rd., Bakersfield
Westpark	12 kV	3330 Truxton Ave., Bakersfield

III. Field Inspection – Undocumented Violations List

We observed the following violations during the field inspection. None of the violations were documented and/or addressed by PG&E during its last inspections:

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.

Norco Substation

- A bird's nest was on the high side disconnect (Switch 175) on Transformer Bank #1

McFarland Substation

- A bird's nest was inside the radiator fins on Transformer Bank #1

Smyrna Substation

- Bird's nests were inside the radiator fins on each of the 3 single phase transformer radiator fins.
- Wasps nests were between the A and C phase connections on the current transformer in Bank #1
- The B phase winding temperature gauge was not working at Transformer Bank #1

Wellfield Substation

- A bird's nest was between two insulators on switch 25, B phase

7th Standard Substation

- A bird's nest was inside the radiator fins on Transformer Bank #1

Westpark Substation

- The nitrogen tank reading for Transformer Bank #3 was low at 200 psi
- The nitrogen tank reading for Transformer Bank #1 was at 0 psi

Stockdale Substation

- The nitrogen tank reading for Transformer Bank #2 was at 0 psi

VI. Field Inspection – Documented Violations List

We observed the following violations during the field inspection. The violations were documented and/or addressed by PG&E during its last inspections:

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.

McFarland Substation

- The oil filter for Transformer Bank #1 LTC was out of service, LC Notification #111881431

Tejon Substation

- The winding temperature gauge on Transformer Bank #1, B phase is out of service, LC Notification #110688103
- Battery Cell #5 has corrosion on the positive terminal, LC Notification #111886014