

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



April 15, 2016

EA2016-004

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

**SUBJECT:** Audit of PG&E's De Anza, Division

Dear Mr. Babar:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission Jamie Lau of my staff conducted an electric audit of PG&E's De Anza Division from March 7, 2016, to March 10, 2016. The audit included a review of PG&E's records and field inspections of PG&E's facilities.

During the audit, my staff identified violations of one or more General Orders (GOs). Enclosed is a copy of the audit findings with itemized violations. Please advise me no later than May 16, 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 Jamie Lau at (415) 703-2233 or [jamie.lau@cpuc.ca.gov](mailto:jamie.lau@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

Enclosure: 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

My staff reviewed the following records for the period of October 1<sup>st</sup>, 2013 to February 25<sup>th</sup>, 2016:

- a. Overhead and underground patrol and detailed inspection records.
- b. Completed, pending, and cancelled corrective action work orders generated as a result of inspections and trouble calls.
- c. Pole loading calculations.
- d. Intrusive pole testing records (the latest tests were done on 2/26/2016).
- e. New Construction records.
- f. Diagnostic testing records.
- g. Inspector training records

### II. Records Review - Violations

**GO 165, Section III-B, Standards for Inspection**, states:

*Each utility subject to this General Order shall conduct inspections of its distribution facilities, as necessary, to ensure reliable, high quality, and safe operation, but in no case may the period between inspections (measured in years) exceed the time specified in Table 1.*

PG&E's records indicated that Pole #110495987 at 290 Dillion Ave, in the city of Campbell was installed in 1989. As such, Table 1 of GO 165 requires the pole to be intrusively tested no later than 2014. PG&E intrusively inspected the pole on February 18, 2016, therefore, violating the requirement of GO 165.

**GO 165, Section III-C, Record Keeping**, states in part:

*For all inspections records shall specify the circuit, area, facility or equipment inspected, the inspector, the date of the inspection, and any problems (or items requiring corrective action) identified during each inspection, as well as the scheduled date of corrective action.*

**GO 95, Rule 31.1, Design, Construction, and Maintenance**, states in part:

*Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.*

*For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.*

PG&E's records indicated that from October 1, 2013 to February 25, 2016, 151 overhead Electric Corrective (EC) work orders were either completed late or open past their due date. These work orders were generated as a result of GO 165 inspections or trouble calls.

Furthermore, PG&E's records indicated 4 overhead Critical Operating Equipment (COE) work orders were open past their maximum correction time of one year.

**GO 165, Section III-C, Record Keeping**, states in part:

*For all inspections records shall specify the circuit, area, facility or equipment inspected, the inspector, the date of the inspection, and any problems (or items requiring corrective action) identified during each inspection, as well as the scheduled date of corrective action.*

**GO 128, Rule 17.1, Design, Construction, and Maintenance**, states in part:

*Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.*

*For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.*

PG&E's records indicated that from October 1, 2013 to February 25, 2016, 36 underground Electric Corrective (EC) work orders were either completed late or open past their due date. These work orders were generated as a result of GO 165 inspections or trouble calls.

Furthermore, PG&E's records indicated 4 underground Critical Operating Equipment (COE) work orders were open past their maximum correction time of one year.

### III. Field Inspection

My staff inspected the following facilities:

Structure Number	Type of Structure	Approx. Location	Map Number
N/A	Overhead Service	1102 Steeplechase Ln, Cupertino	H1310
N/A	Pole	116 Taaffe St, Sunnyvale	F1315
N/A	Pole	150 Taaffe St, Sunnyvale	F1315
N/A	Pole	174 Taaffe St, Sunnyvale	F1315
3157	Pole	275 Beemer Ave, Sunnyvale	F1315
N/A	Pole	241 Beemer Ave, Sunnyvale	F1315
N/A	Pole	Corner of Beemer Ave and N. Frances Ave, Sunnyvale	F1315
N/A	Pole	176 N. Frances Ave, Sunnyvale	F1315
N/A	Pole	158 N. Frances Ave, Sunnyvale	F1315
N/A	Pole	116 N. Frances Ave, Sunnyvale	F1315
15312	Underground Junction Box	1312 Crossman Ave, Sunnyvale	N/A
C4576	Pad-mounted Transformer	783 N. Mary Ave, Sunnyvale	F1305
PG980155-1	Pole	1190 Evelyn Ave, Sunnyvale	F1313
PG020302-1	Pole	1190 Evelyn Ave, Sunnyvale	F1313
N/A	Pole	1188 Evelyn Ave, Sunnyvale	F1313
N/A	Pole	1186 Evelyn Ave, Sunnyvale	F1313
N/A	Pole	1140 Evelyn Ave, Sunnyvale	F1313
N/A	Pole	1136 Evelyn Ave, Sunnyvale	F1313
N/A	Pole	1128 Evelyn Ave, Sunnyvale	F1313
N/A	Pole	987 Lane Ave, Mountain View	F1214
SW31240	Underground Switch	1 Infinite Loop, Cupertino	N/A
T-9319	Pad-mounted Transformer	10101 N. De Anza Blvd, Cupertino	G1325
T-12312	Pad-mounted Transformer	833 El Camino, Sunnyvale	F1319
C3559	Underground Transformer	833 El Camino, Sunnyvale	F1319
T-10745	Pad-mounted Transformer	903 El Camino, Sunnyvale	F1319
N/A	Underground Splice Box	Olive Ave and All American Way, Sunnyvale	F1319
C4539	Underground Transformer	515 Latimer Ct, Campbell	H1514
N/A	Pole	3832 W. Campbell Ave, Campbell	N/A
T-7429	Underground Transformer	1541 Keith Dr, Campbell	H1522
T-7428	Underground Transformer	616 Park Hurst, Campbell	H1522
30	Pole	1555 Oakhurst Ave, Los Altos	G1204
N/A	Pole	1515 Oakhurst Ave, Los Altos	G1204
N/A	Pole	1495 Oakhurst Ave, Los Altos	G1204
N/A	Pole	1102 Lisa Ln, Los Altos	G1204
N/A	Pole	1110 Lisa Ln, Los Altos	G1204
N/A	Pole	1135 Lisa Ln, Los Altos	G1204
N/A	Pole	1150 Lisa Ln, Los Altos	G1204

335	Pole	1158 Lisa Ln, Los Altos	G1204
N/A	Pole	1203 Lisa Ln, Los Altos	G1204
7-1525-G	Pole	1228 Lisa Ln, Los Altos	G1204
PT18219-2	Pole	1228 Lisa Ln, Los Altos	G1204
N/A	Pole	1575 Kensington Cir, Los Altos	G1204
N/A	Pole	1545 Kensington Cir, Los Altos	G1204

#### **IV. Field Inspection – Undocumented Violations List**

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

**GO 95, Rule 31.1, Design, Construction, and Maintenance**, states in part:

*Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.*

The following poles had a loose “under-arm bus” on the secondary level:

- 1135 Lisa Ln, Los Altos
- 1150 Lisa Ln, Los Altos

**GO 95, Rule 51.6-A, High Voltage Marking**, states in part:

*Poles which support line conductors of more than 750 volts shall be marked with high voltage signs. This marking shall consist of a single sign showing the words “HIGH VOLTAGE”, or pair of signs showing the words “HIGH” and “VOLTAGE”, not more than six (6) inches in height with letters not less than 3 inches in height. A pair of signs may be stacked to a height of no more than 12 inches. Such signs shall be of weather and corrosion-resisting material, solid or with letters cut out therefrom and clearly legible.*

Poles at the following locations had “High Voltage” signs partially missing:

- 150 Taaffe St, Sunnyvale
- Pole #PG980155-1 at 1190 Evelyn Ave, Sunnyvale

**GO 95, Rule 18B, Notification of Safety Hazards**, states in part:

*If a company, while performing inspections of its facilities, discovers a safety hazard(s) on or near a communications facility or electric facility involving another company, the inspecting company shall notify the other company and/or facility owner of such safety hazard(s) no later than 10 business days after the discovery. To the extent the inspecting company cannot determine the facility owner/operator, it shall contact the pole owner(s), who shall be responsible for promptly notifying the company owning/operating the facility with the safety hazard(s), normally not to exceed five business days after being notified of the safety hazard. The notification shall be documented and such documentation must be preserved by all parties for at least ten years.*

A communication ground wire on the following pole was partially exposed. PG&E did not notify the communications company of the safety hazard:

- 116 Taaffe St, Sunnyvale
- Pole #PG020302-1 at 1190 at Evelyn Ave, Sunnyvale
- 1515 Oakhurst Ave, Los Altos

**GO 95, Rule 54.6B, Ground Wires**, states in part:

*Minor separation, warping, and/or cracking of the protective covering is allowed, provided the ground wire is not exposed.*

The ground wire on the following poles was exposed:

- 174 Taaffe St, Sunnyvale
- 116 N. Frances Ave, Sunnyvale

**GO 95, Rule 91.3A-1, Use of Steps**, states in part:

*Poles with Vertical Runs or Risers: All jointly used poles which support supply conductors shall be provided with pole steps if vertical runs or risers are attached to the surface of such poles.....*

The following jointly used poles with vertical runs did not have pole steps:

- 174 Taaffe St, Sunnyvale
- Pole #PG980155-1 at 1190 at Evelyn Ave, Sunnyvale
- Pole #PG020302-1 at 1190 at Evelyn Ave, Sunnyvale
- 1136 Evelyn Ave, Sunnyvale
- 3832 W. Campbell Ave, Campbell
- 1555 Oakhurst Ave, Los Altos
- Pole #7-1525-G at 1228 Lisa Ln, Los Altos

**GO 95, Rule 31.1, Design, Construction and Maintenance**, states in part:

*For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.*

PG&E's Overhead Inspection Job Aid (TD-2305M-JA02) requires metal visibility strips to be installed under wood moldings. PG&E's metal visibility strips were installed over a wooden ground molding on the pole located at 116 Taaffe St, Sunnyvale.

**GO 95, Rule 56.7-B, Location of Sectionalizing Insulators - Anchor Guys**, states in part:

*In order to prevent trees, buildings, messengers, metal-sheathed cables or other similar objects from grounding portions of guys above guy insulators, it is suggested that anchor guys be sectionalized, where practicable, near the highest level permitted by this Rule.*

A tree was in contact with a guy wire on Pole # PT18219-2 located at 1228 Lisa Ln, Los Altos, above its insulator.

**GO 95, Rule 93, Climbing Space.** states in part:

*Climbing space shall be provided on all jointly used poles which support conductors and the provisions of Rules [54.7](#) and [84.7](#) are directly applicable to such poles. Climbing space on jointly used poles shall be so correlated between conductor levels that its position in relation to the pole is not changed by more than 90 degrees in a vertical distance of less than 8 feet. Climbing space shall be maintained from the ground level.*

- The climbing space on Pole # PT18219-2 located at 1228 Lisa Ln, Los Altos was obstructed by a tree.
- The climbing space on the pole located at 1575 Kensington Cir, Los Altos, was obstructed by a bolt extended more than 1 inch at the secondary level.

**GO 128, Rule 17.1, Design, Construction, and Maintenance,** states in part:

*Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.*

*For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.*

PG&E's Underground Inspection Job Aid (TD-2305M-JA03) requires underground equipment's operating number to be identified. An underground transformer No. C2539 located at 515 Latimer Ct, Campbell, did not have equipment operating number identified.

**GO 128, Rule 17.8, Identification of Manholes, Handholes, Subsurface and Self-contained Surface-mounted Equipment Enclosures,** states:

*Manholes, handholes, subsurface and self-contained surface-mounted equipment enclosures shall be marked as to ownership to facilitate identification by persons authorized to work therein and by other persons performing work in their vicinity.*

An underground transformer No. C2539 located at 515 Latimer Ct, Campbell did not have ownership identification.

**GO 128, Rule 35.3 Warning Signs,** states in part:

*Warning signs indicating high voltage shall be installed on an interior surface, or barrier if present, inside the entrance of vaults, manholes, handholes, pad mounted*

*transformer compartments, and other above ground enclosures containing exposed live parts above 750 volts.*

The interior barrier of a pad-mounted transformer No. C4579 located at 783 N. Mary Ave, Sunnyvale, did not have a warning sign on the primary live-front side.

## V. Field Inspection – Documented Violations List

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

**GO 95, Rule 31.1, Design, Construction, and Maintenance**, states in part:

*Electrical supply and communication systems shall be designed, constructed, and maintained for their intended use, regard being given to the conditions under which they are to be operated, to enable the furnishing of safe, proper, and adequate service.*

*For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.*

The following poles had a loose “under-arm bus” on the secondary level:

- 1110 Lisa Ln, Los Altos
- 1575 Kensington Cir, Los Altos