

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



May 30, 2018

EA2018-811

Dean McFarren  
Manager – EAM Distribution Compliance  
Pacific Gas and Electric Company (PG&E)  
1850 Gateway Blvd., 5<sup>th</sup> Floor, Room 5053C  
Concord, CA 94520

**SUBJECT:** Audit of PG&E's North Bay Division

Mr. McFarren:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Wilson Tsai of ESRB staff conducted an electric distribution audit of PG&E's North Bay Division from March 5, 2018 to March 9, 2018. During the audit, ESRB staff conducted field inspections of PG&E's facilities and equipment, and reviewed pertinent documents and records.

During the audit, ESRB staff identified violations of one or more General Orders (GOs). A copy of the audit findings itemizing the violations is enclosed. Please provide a response within 30 days of your receipt of this letter indicating all corrective actions and preventive measures, taken or planned, to address the violations to ensure compliance with GO requirements. The response should indicate the date of each remedial action and preventive measure completed within 30 days. For any outstanding items not addressed within 30 days, please provide the projected completion dates of all actions for the violations outlined in Sections II & IV of the enclosed Audit Findings.

If you have any questions concerning this audit, please contact Wilson Tsai at (415) 703-1359 or [wilson.tsai@cpuc.ca.gov](mailto:wilson.tsai@cpuc.ca.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Banu Acimis".

Banu Acimis, P.E.  
Program and Project Supervisor  
Electric Safety and Reliability Branch  
Safety and Enforcement Division  
California Public Utilities Commission

Enclosure: CPUC Audit Findings

Cc: Elizaveta Malashenko, Director, Safety and Enforcement Division, CPUC  
Lee Palmer, Deputy Director, Office of Utility Safety, SED, CPUC  
Charlotte TerKeurst, Program Manager, ESRB, CPUC  
Ryan Yamamoto, Senior Utilities Engineer- Supervisor, ESRB, CPUC  
Wilson Tsai, Utilities Engineer, ESRB, CPUC

## AUDIT FINDINGS

### I. Records Review

During the audit, ESRB staff reviewed the following records:

- Completed and cancelled work orders in the last 12 months
- Completed, cancelled, and pending late work orders in the last 60 months
- Patrol and detailed inspection records from March 1, 2013 to February 28, 2018
- Pole loading calculations in the last 12 months
- Third party notifications received and sent out in the last 12 months
- Reliability metrics (SAIDI, SAIFI, CAIDI) and outage report for each feeder in the division from 2013 to 2018
- Sustained outages in the division from 2013 to 2018
- New Construction projects in the last 12 months

### II. Records Violations

ESRB staff observed the following violations during the record review portion of the audit:

**1. GO 95, Rule 18-A2a**, states in part:

*“All companies shall establish an auditable maintenance program for their facilities and lines. All companies must include a timeline for corrective actions to be taken following the identification of a Safety Hazard or nonconformances with General Order 95 on the company’s facilities.”*

**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.”*

**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 [the] communication or supply lines and equipment.”*

ESRB staff reviewed late work orders and determined that PG&E did not address a total of 1,397 work orders by their assigned due dates.

**2. GO 95, Rule 31.2, Inspection of Lines,** states in part:

*“Lines shall be inspected frequently and thoroughly for the purpose of insuring that they are in good condition so as to conform with these rules. Lines temporarily out of service shall be inspected and maintained in such condition as not to create a hazard.”*

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

*“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.”*

ESRB noted that PG&E completed overhead patrols or inspections for the following maps past their assigned due date:

1. Map SS3312 – Patrol was due on December 31, 2013. PG&E completed the patrol on June 4, 2014.
2. Map UU3301 – Inspection was due on May 28, 2014. PG&E completed the inspection on November 10, 2014.
3. Map UU3323 – Inspection was due on June 11, 2014. PG&E completed the inspection on November 5, 2014.
4. Map SS3015 – Patrol was due on December 22, 2015. PG&E completed the patrol on March 14, 2016.

**3. GO 128, Rule 17.2, Inspection,** states in part:

*“Systems shall be inspected by the operator frequently and thoroughly for the purpose of insuring that they are in good condition and in conformance with all applicable requirements these rules.”*

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

*“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.”*

ESRB noted that PG&E completed underground inspections for the following maps past their assigned due date:

1. Map QQ3205 – Inspection was due on November 14, 2014. PG&E completed the inspection on December 18, 2014.
2. Map QQ3211 – Inspection was due on November 24, 2014. PG&E completed the inspection on December 19, 2014.
3. Map QQ3303 – Inspection was due on December 31, 2014. PG&E completed the inspection on March 13, 2015.
4. Map EE31 – Inspection was due on January 24, 2016. PG&E completed the inspection on May 22, 2017.
5. Map OO36 – Inspection was due on December 31, 2016. PG&E completed the inspection on May 25, 2017.
6. Map QQ3913 – Inspection was due on July 20, 2017. PG&E completed the inspection on September 22, 2017.
7. Map QQ3914 – Inspection was due on July 21, 2017. PG&E completed the inspection on September 28, 2017.
8. Map TT3209 – Inspection was due on June 21, 2017. PG&E completed the inspection on September 26, 2017.
9. Map TT3210 – Inspection was due on June 19, 2017. PG&E completed the inspection on September 26, 2017.
10. Map TT3210C – Inspection was due on June 21, 2017. PG&E completed the inspection on September 25, 2017.
11. Map TT3210D – Inspection was due on June 21, 2017. PG&E completed the inspection on September 30, 2017.
12. Map TT3306C – Inspection was due on May 18, 2017. PG&E completed the inspection on September 25, 2017.
13. Map UU3324 – Inspection was due on June 30, 2017. PG&E completed the inspection on September 27, 2017.
14. Map UU3417 – Inspection was due on August 14, 2017. PG&E completed the inspection on September 29, 2017.
15. Map VV3421 – Inspection was due on June 17, 2017. PG&E completed the inspection on September 28, 2017.

### III. Field Inspection

During the field inspection, ESRB staff inspected the following facilities:

Structure Type	Structure Number	Address	City
Pole		1071 Dellbrook Dr.	Napa
Pole		3636 Dartmouth Dr.	Napa
Pole		3644 Dartmouth Dr.	Napa
Pole	102270506	3656 Dartmouth Ln.	Napa
Pole	102270504	3670 Dartmouth Ln.	Napa
Pole	102270501	3696 Dartmouth Ln.	Napa
Pole	102270501	3696 Dartmouth Ln.	Napa
Pole	102270491	1119 Broadmoor Dr.	Napa
Pole	102270488	1109 Broadmoor Dr.	Napa
Pole		1101 Broadmoor Dr.	Napa
Pole		1085 Broadmoor Dr.	Napa
Pole		Across from 1077 Broadmoor Dr.	Napa
Pole		3690 Columbia Dr.	Napa
Pole		3682 Columbia Dr.	Napa
Pole	102270525	3662 Columbia Dr.	Napa
Pole	102270518	3653 Columbia Dr.	Napa
Pole	110007112	1104 Princeton Ln.	Napa
Pole	102270513	1130 Princeton Ln.	Napa
Pole	102270549	1035 Vassar Dr.	Napa
Pole		3155 Redwood Rd.	Napa
Pole		2808 Redwood Rd.	Napa
Pole		2806 Redwood Rd.	Napa
Pole		2829 Redwood Rd.	Napa
Pole		3642 Diablo St.	Napa
Pole	102285833	3643 Diablo St.	Napa
Pole	102285834	3655 Diablo St.	Napa
Pole	102285805	1701 Tallac St.	Napa
Pole	102285806	1700 Tallac St.	Napa
Pole	102285808	1724 Tallac St.	Napa
Pole		1732 Tallac St.	Napa
Pole		1748 Tallac St.	Napa
Pole		1772 Tallac St.	Napa
Pole		1788 Tallac St.	Napa
Pole		1800 Tallac St.	Napa
Pole		3691 Beckworth St.	Napa
Pole		3679 Beckworth St.	Napa
Pole		3672 Seneca Way	Napa
Pole		3656 Seneca Way	Napa
Pole		3642 Seneca Way	Napa
Pole		3636 Seneca Way	Napa

Structure Type	Structure Number	Address	City
Pole		Across from 3618 Seneca Way	Napa
Pole		Across from 3609 Beckworth Dr.	Napa
Pole		500 Davidson St.	Novato
Pole		500 Davidson St. (Frontier Yard)	Novato
Pole		500 Davidson St. (Frontier Yard)	Novato
Pole		500 Davidson St. (Sanitation Plant)	Novato
Pole		500 Davidson St. (Sanitation Plant)	Novato
Pole		500 Davidson St. (Sanitation Plant)	Novato
Pole	JP 2044J	500 Davidson St.	Novato
Pole		1 Span from 500 Davidson St.	Novato
Pole		570 Davidson St.	Novato
Pole	102224958	6 Harkle Rd.	Novato
Pole		Across from 6090 Redwood Blvd.	Novato
Pole		6965 Redwood Blvd.	Novato
Pole		1 Span from 6965 Redwood Blvd.	Novato
Pole		Across from 6100 Redwood Blvd.	Novato
Pole		1225 Lynwood Dr.	Novato
Pole		30 Kavon Ct.	Novato
Pole		1217 Lynwood Dr.	Novato
Pole		1213 Lynwood Dr.	Novato
Pole		1205 Lynwood Dr.	Novato
Pole		377 Midway Blvd.	Novato
Pole		366 Midway Blvd.	Novato
Pole		In front of Lynwood Dr. & Midway Blvd.	Novato
Pole		397 Midway Blvd.	Novato
Pole		1 Span East of 390 Midway Blvd.	Novato
Pole		Intersection of Center St. & K St.	Novato
Pole		111 Center St.	San Rafael
Pole	120050914	123 Center St.	San Rafael
Pole	120050913	131 Center St.	San Rafael
Pole		142 Center St.	San Rafael
Pole		166 Center St.	San Rafael

Structure Type	Structure Number	Address	City
Pole		178 Center St.	San Rafael
Pole	120050885	Intersection of Humboldt St. & California Ave.	San Rafael
Pole	120050886	Intersection of California Ave. & Solano St.	San Rafael
Pole		169 Solano St.	San Rafael
Pole	120050903	170 Solano St.	San Rafael
Pole	120050904	157 Solano St.	San Rafael
Pole	120050905	149 Solano St.	San Rafael
Pole	120050906	Across from 149 Solano St.	San Rafael
Pole	120050907	132 Center St.	San Rafael
Pole	102250908	120 Center St.	San Rafael
Pole	120050909	Across from 106 Center St.	San Rafael
Pole	120050878	Across from 115 K St.	San Rafael
Pole		1351 Grand Ave.	San Rafael
Padmounted Transformer	T-69807	Across from 1410 Third Ave.	San Rafael
Subsurface Switch	SW-1722	901 E St.	San Rafael
Subsurface Junction Box	J-206	901 E St.	San Rafael
Pole	120051492	901 E St.	San Rafael
Subsurface Transformer	T-4802	Across from 901 E St.	San Rafael
Subsurface Transformer	T-5392	Across from 1306 Third St.	San Rafael
Subsurface Junction Box	J-390	Intersection of C St. & Third St.	San Rafael
Subsurface Transformer	T-4498	2061 Red Hill Ave.	San Rafael
Pole		29 Medway Rd.	San Anselmo
Pole	120063214	49 Cedar St.	San Anselmo
Pole	102238704	11 Miraflores Ave	San Rafael

#### **IV. Field Inspection Violations**

ESRB staff observed the following violations during the field inspection:

**1. 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 open-wire secondary span off the pole located at 6 Harkle Rd., Novato had visible fraying.

The pole located at 3696 Dartmouth Ln., Napa had vegetation contact above the anchor guy insulator.

**2. GO 95, Rule 38, Table 2, Case 3, Column A** requires a minimum clearance of 24 inches between span wires, guys, and messengers and communication conductors.

The pole located at 6 Harkle Rd., Novato had CIP conductors tied to the primary anchor guy.

The pole located at 1701 Tallac St., Napa had a CIP conductor contacting the secondary anchor guy insulator.

**3. GO 95, Rule 51.6-A, Marking and Guarding, High Voltage Marking of Poles**, 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...”*

The pole located at 1772 Tallac St., Napa had a missing High Voltage sign.

The pole located at 1225 Lynwood Dr., Novato had a damaged High Voltage sign.

**4. GO 95, Rule 54.6-B, Vertical and Lateral Conductors, Ground Wires**, states in part:



*“...That portion of the ground wire attached on the face or back of wood cross arms or on the surface of wood poles and structures shall be covered by a suitable protective covering (see Rule 22.8)...”*

The following poles located at the below addresses had exposed and/or damaged ground moulding:

- 1101 Broadmoor Dr., Napa
- 3662 Columbia Dr., Napa
- 2829 Redwood Rd., Napa
- 1 span from 500 Davidson St., Novato
- 1217 Lynwood Dr., Novato
- 901 E St., San Rafael

**5. GO 95, Rule 56.2, Use,** states in part:

*“Where mechanical loads imposed on poles, towers, or structures are greater than can be supported with safety factors as specified in Rule 44 , additional strength shall be provided by the use of guys or other suitable construction.*

*Where guys are used with poles or similar structures capable of considerable deflection before failure, the guys shall be able to support the entire load, the pole below the point of guy attachment acting merely as a strut.*

*Guys shall be attached to structures, as nearly as practicable, at the center of load. They shall be maintained taut and of such strength as to meet the safety factors of Rule 44.”*

The pole located at 500 Davidson St., Novato in Frontier Communications’ yard had slack on the secondary down guy.

**6. GO 95, Rule 91.3-B, Location of Steps,** states in part:

*“The lowest step shall be not less than 8 feet from the ground line, or any easily climbable foreign structure from which one could reach or step. Above this point steps shall be placed, with spacing between steps on the same side of the pole not exceeding 36 inches, at least to that conductor level above which only circuits operated and maintained by one party remain.”*

The pole located at 3636 Dartmouth Dr., Napa lowest pole step was measured at 7 feet 1.5 inches from the ground line.

The pole located across from 6100 Redwood Blvd., Napa had a low pole step.

**7. GO 128, Rule 12.2, Maintenance,** states in part:

*“Systems shall be maintained in such condition as to secure safety to workmen and the public in general. Systems and portions thereof constructed,*

*reconstructed, or replaced on or after the effective date of these rules shall be kept in conformity with the requirement of these rules.”*

Subsurface transformer T-5392 located across from 1306 Third St., San Rafael had damaged signage.