

PUBLIC UTILITIES COMMISSION

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July 30, 2026

SA2026-1447

Daniel Kushner
Sr. Director – Electric Risk & Compliance
Pacific Gas & Electric Company (PG&E)
300 Lakeside Dr., Oakland, CA 94612

SUBJECT: Electric Substation Audit of PG&E Ukiah Headquarters

Mr. Kushner:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Matthew Yunge and Samuel Mandell of ESRB staff conducted an electric substation audit of PG&E's Ukiah Headquarters from May 11-14, 2026. During the audit, ESRB staff conducted field inspections of PG&E's substation facilities and equipment and reviewed pertinent documents and records.

As a result of the audit, ESRB staff identified violations of General Order 174 and General Order 95. A copy of the audit findings itemizing the violations is enclosed. Please provide a response no later than August 27, 2026, by electronic copy of all corrective actions and preventive measures taken by PG&E to correct the identified violations and prevent the recurrence of 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 provide us with a public version (a redacted version of your confidential response) to be posted on our website.

If you have any questions concerning this audit, please contact Matthew Yunge at matthew.yunge@cpuc.ca.gov or (415) 603-9828.

Sincerely,

A handwritten signature in blue ink, appearing to read "Rickey Tse".

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

Enclosure: CPUC Electric Substation Audit Report for PG&E Ukiah Headquarters

Cc:

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CPUC SUBSTATION AUDIT FINDINGS
PG&E UKIAH HEADQUARTERS
May 11-14, 2026

I. Records Review

During the substation audit, Electric Safety and Reliability Branch (ESRB) reviewed the following standards, procedures, and records for PG&E's Ukiah Headquarters (HQ):

- List of all assigned PG&E substations,
- Map showing all assigned PG&E substations in the Ukiah HQ,
- PG&E Substation Equipment Maintenance Requirements, Utility Standard: TD-3322S, Revision 10, with attachments 1 through 13,
- PG&E Substation Maintenance and Construction (SM&C) Manual, Utility Standard: TD-3322M, Revision 12, with forms 1, 2, 4, 5, 6, 7,
- PG&E Utility Standard: TD-3328P Revision 1 with forms TD-3328P-02-F01 and TD-3328P-03-F01,
- PG&E Mobile Substation Equipment – Maintenance and Operating Procedures: TD-3468P-01, Revision 3, with attachments 1 through 3 and forms 1 and 2,
- PG&E Substation Supplemental Inspection Program, Utility Standard: TD-3328S, Revision 3, with attachments 1 through 5 and job aids 1 through 19,
- PG&E Substation Asset Performance Management (APM) Process, Utility Procedure: TD-3320P-36, Revision 1,
- PG&E Substation SAP Work Management System (WMS) Process, Utility Procedure: TD-3320P-12, Revision 8, with attachments 2, 4, 5, 6, 12, and 14,
- Explanation of PG&E inspector training policies,
- List of all substation inspections conducted in the last five years,
- List of all open/pending, completed, cancelled, and late work orders and maintenance items in the previous five years,
- Equipment lists for all selected substations,
- Single-line diagrams of all selected substations,
- Last two visual inspection checklists for all selected substations,
- List of transformer banks that operated beyond nameplate capacity for the last five years for all selected substations,
- Infrared Testing records for all selected substations in the last two years,
- Most recent oil sample test results for all selected substations,
- Most recent electric test results for all selected substations,
- Training records for all substation and maintenance personnel in the past five years,
- Other relevant substation inspections for the past five years for all selected substations,
- Internal audit findings for Ukiah HQ for the past five years.

II. Records Violations

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

1. General Order (GO) 174, Rule 12, General states in part:

“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.”

PG&E Substation Equipment Maintenance Requirements, Utility Standard: TD-3322S, establishes PG&E’s required end dates and out-of-compliance dates for corrective work as follows:

Table 1. Line Corrective (LC) Due Dates Per Priority Code

Priority Code	Required End Date	Out-of-Compliance Date
A	Within 30 days	Close notifications (after removing the hazard [make safe]) with either permanent or temporary repairs within 30 days. Create a new lower priority notification immediately for any remaining work that will exceed 30 days. Reference the Priority A notification number to ensure a record of temporary repairs is linked to the new notification.
B	Within 90 days	The out-of-compliance date is the 1 st day of the 2 nd month following the month in which the required end date occurs.
E	Within 365 days	The out-of-compliance date is the 1 st day of the year following the year in which the required end date occurs.
F	Greater than 365 days	There is no out-of-compliance date. This work will be completed when it is operationally efficient to perform the work.

Based on Table 1 above, ESRB found 25 notifications that were completed after their Out-Of-Compliance dates. Therefore, PG&E did not perform maintenance in accordance with accepted good practices described in Utility Standard TD-3322S. See Table 2 below for the count of LC notifications which were closed late.

Table 2. Count of Late Notifications Per Priority Code

Priority Code	Late Notifications
B	2
E	23
Total	25

ESRB also found notifications with completion dates earlier than the notification dates. A total of 37 notifications have completion dates at least 4 days before their notification dates. Seven of those have completion dates at least 30 days before their notification dates, with one being completed as much as 280 days before its notification date. See Table 3 below for a list of notifications with completion dates at least 4 days before their notification dates. This discrepancy makes it difficult to track when issues were discovered and whether the work was completed in a timely manner.

Table 3. Notifications with Completion Dates Earlier than Notification Dates.

Notification Number	Priority Code	Notification Date	Completion Date	Days Completed Before Notification
122232245	B	10/18/2021	1/11/2021	280
129050648	E	6/10/2024	1/8/2024	154
129079156	B	6/14/2024	4/12/2024	63
129079972	B	6/14/2024	4/12/2024	63
126697383	E	7/28/2023	5/30/2023	59
128144930	B	2/8/2024	1/5/2024	34
131177160	E	4/30/2025	3/31/2025	30
121187759	B	5/11/2021	4/14/2021	27
129090469	E	6/18/2024	6/4/2024	14
129234162	E	7/17/2024	7/4/2024	13
129353593	A	8/8/2024	7/28/2024	11
129853816	E	11/22/2024	11/12/2024	10
129853863	B	11/22/2024	11/12/2024	10
129853865	B	11/22/2024	11/12/2024	10
129853867	B	11/22/2024	11/12/2024	10
129225834	B	7/16/2024	7/8/2024	8
129335720	E	8/6/2024	7/29/2024	8
129331345	B	8/5/2024	7/29/2024	7
124370468	E	8/22/2022	8/15/2022	7
129335681	E	8/6/2024	7/30/2024	7
131779752	B	9/22/2025	9/16/2025	6
129435320	B	8/26/2024	8/20/2024	6
129381744	B	8/13/2024	8/7/2024	6
125439489	B	2/6/2023	1/31/2023	6
127991758	A	1/2/2024	12/28/2023	5
125538712	B	2/22/2023	2/17/2023	5
129435279	E	8/26/2024	8/21/2024	5
128211987	E	2/26/2024	2/21/2024	5
129331344	A	8/5/2024	7/31/2024	5
131646589	B	8/25/2025	8/20/2025	5
129051144	B	6/10/2024	6/5/2024	5

127500638	E	11/20/2023	11/16/2023	4
129186047	E	7/8/2024	7/4/2024	4
125450295	E	2/8/2023	2/4/2023	4
125391253	B	1/26/2023	1/22/2023	4
129301417	B	7/29/2024	7/25/2024	4
128222153	E	2/28/2024	2/24/2024	4

2. GO 174, Rule 33, Records states:

“33.1 Electronic or hard copy records of completed inspections shall include, at a minimum:

- Inspector name or identification*
- Inspection date*
- Brief description of identified discrepancies*
- Condition rating (where applicable)*
- Scheduled date of corrective action (where applicable)”*

PG&E’s Utility Procedure: TD-3320P-36 details PG&E’s procedures for using the Asset Performance Management (APM) software as follows:

“2.7 Crew leads, electricians, and apprentice electricians have the following responsibilities:

- 1. ENTER all construction, inspection, maintenance, and SF₆ data into APM remote software at the jobsite where the work is performed.”*

PG&E’s Substation Maintenance and Construction Manual (SM&C), “Infrared Inspections”, Utility Standard: TD-3322M-09¹ details PG&E’s maintenance procedures for infrared (IR) inspections as follows:

“a. When thermal anomalies are identified through an IR inspection, document this information in the APM remote software. During tech down procedures, use Form TD-3322M-F80, ‘Substation Infrared Inspection.’ Submit the form with attached images to the substation maintenance supervisor, who schedules the necessary follow-up inspections and repairs. Verbally notify the supervisor of any items that require immediate attention.

*b. Always document the IR inspection in the APM remote software. During tech down procedures, use Form TD-3322M-F80, ‘Substation Infrared Inspection.” If abnormal conditions are not found, check the ‘**Confirm no anomalies were found**’ box at the top of Page 2 on the form.”*

ESRB’s review of PG&E’s IR inspection records found discrepancies between the inspection dates in the individual PDF-formatted IR inspection reports provided to ESRB and the inspection dates recorded in the APM software. Below is a table showing examples of IR inspections with dates that significantly differ between the PDF-formatted IR reports and the APM software.

¹ PG&E Utility Standard TD3322M-09, April 6, 2023, Revision 11

Table 4. List of IR Inspection Dates That Differ Between Platforms

Substation	PDF IR Inspection Date	APM Inspection Date
Upper Lake	7/1/2025	7/24/2025
Point Arena	4/8/2025	7/10/2025
Philo Jct	6/30/2025	8/27/2025
Lower Lake	4/27/2025	7/10/2025
Konocti	4/15/2025	7/10/2025
Redbud	4/22/2025	7/10/2025
Gualala	4/7/2025	7/10/2025
Annapolis	4/7/2025	7/10/2025
Big River	6/29/2024	8/27/2024
Big River	7/7/2025	7/24/2025
Hartley	7/1/2025	7/25/2025

According to PG&E’s response to CPUC Post-Audit Data Request #2, the data discrepancy is the result of “timing differences between field inspection execution and data entry into APM.”² This discrepancy makes it difficult to ascertain exactly when an IR inspection was performed.

Additionally, PG&E inspectors conducted an IR inspection at Hartley Substation on 7/1/2025, but did not record that inspection in the APM software until 7/25/2025 and did not create an ad hoc IR checksheet for reinspection of a hotspot until 8/6/2025. The failure to record information in a timely manner makes it difficult to determine whether an inspection took place as scheduled. PG&E’s response to CPUC Post-Audit Data Request #2 indicates that PG&E has initiated a corrective action plan to tail board Ukiah HQ electricians on the importance of timely and accurate data entry into the APM software.

Also, PG&E was unable to provide a PDF-formatted IR inspection report for an IR reinspection conducted in 2024 at Hartley Substation. PG&E stated in its response to CPUC Post-Audit Data Request #2 that the reinspection was performed on 8/14/2024. However, the only direct documentation of that reinspection was a completed LC notification. PG&E stated in its response to CPUC Post-Audit Data Request #2 that it initiated a corrective action plan to document the absence of checksheets and ensure that appropriate corrective measures are tracked.

² PG&E Response to Question 4 of CPUC Post-Audit Data Request #2

III. Field Inspection

During the field inspection, ESRB inspected the following 23 substations:

Location	Substation	City
1	Ukiah	Ukiah
2	Calpella	Calpella
3	Philo Jct	Ukiah
4	Hopland	Hopland
5	Annapolis	Annapolis
6	Gualala	Gualala
7	Point Arena	Point Arena
8	Elk	Elk
9	Big River	Mendocino
10	Fort Bragg A	Fort Bragg
11	Covelo	Covelo
12	Laytonville	Laytonville
13	Willits	Willits
14	Mendocino	Redwood Valley
15	Upper Lake	Upper Lake
16	Hartley	Lakeport
17	Lucerne	Lucerne
18	Red Bud	Clearlake Oaks
19	Lower Lake	Lower Lake
20	Highlands	Clear Lake
21	Middletown	Middletown
22	Konocti	Clear Lake
23	Clear Lake	Finley

IV. Field Inspection – Violations List

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.”

ESRB observed the following violations of GO 174, Rule 12 during the field inspection:

1. Ukiah Substation

1.1. There is a broken insulator on Transformer Bank 2.



1.2. There was an empty nitrogen tank. The empty nitrogen tank was subsequently replaced in the field.



2. Hopland Substation

- 2.1. There is a wood platform on the substation support structure. There is an existing tag for this finding.



3. Annapolis Substation

- 3.1. There is a damaged insulator on the support structure by the transformer bank. There is an existing tag 133374047.



4. Big River Substation

- 4.1. The temperature gauge on Regulator 1 is illegible. There is an existing tag 133375029.



5. Fort Bragg A Substation

- 5.1. There is corrosion on the B Phase potential transformer of the high side bus. There is also corrosion on the other phases. There is an existing tag 131099689.



5.2. There is rust on Elk-Fort Bragg line structure. There is an existing tag 133376140.



5.3. The labeling (target plate) on B Phase is illegible near Switch 86. There is an existing tag 133376148.



5.4. There are dirty insulators on 1104/1B.



5.5. There is corrosion on outdoor AC Panel 1. There is an existing tag 131099687.



- 5.6. The Mendocino-Willits-Fort Brag line structure potential transformer has corrosion. There is an existing tag 133376142.



6. Covelo Substation

- 6.1. A temporary fan is not working on the spare transformer bank. There is an existing tag 132921604.



7. Laytonville Substation

- 7.1. There is corrosion on the spare transformer bank. There is an existing tag 129859400.



8. Willits Substation

- 8.1. There was a lifted wire inside HVCB 32. This was resolved on site.



8.2. A fan for Transformer Bank 1 C is not operational. There is an existing tag 133377033.



9. Mendocino Substation

9.1.A Regulator 2 fan is not operational. There is an existing tag 133299299.



- 9.2. There is a gauge that shows a low reading and is illegible on Transformer Bank 2A. There is an existing tag 133376873.



- 9.3. There was a lifted cable at HVCB 12. This was resolved on site.



9.4. There is a light out in the cabinet of HVCB 12. There is an existing tag 133299621.



9.5. A fan for Regulator 1 is not operational. There is an existing tag 133300150.



9.6. There is corrosion on the nitrogen tanks at Transformer Bank 3.



9.7. PG&E was unable to confirm that the battery room exhaust fan is operational. The exhaust fan controls could not be found.

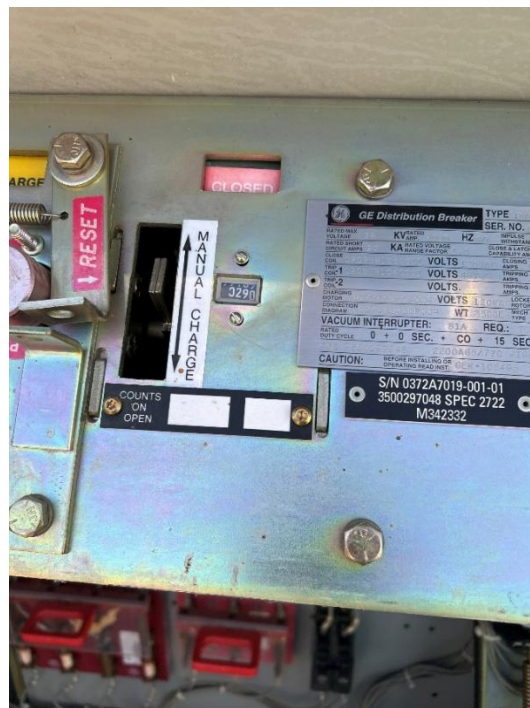


10. Hartley Substation

10.1. The CB 1101/2 counter is illegible. There is an existing tag 132979362.



10.2. The CB 1100/2 counter is illegible. There is an existing tag 132979365.



11. Lucerne Substation

11.1. A bird abatement device fell off at the station service number 2 transformer.



12. Red Bud Substation

12.1. There is a large bird nest on a 115 kV tower. There is an existing tag 132947123.



12.2. A fan for Transformer Bank 3 is not operational.



12.3. The oil level indicator is low on Regulator 3 C phase.



12.4. There are Transformer Bank 1A fans that are not operational. There is an existing tag 133377019.



13. Lower Lake Substation

13.1. The battery room exhaust fan is not functioning. There is an existing tag 133376855.



14. Highlands Substation

- 14.1. The exhaust fan is inoperable. PG&E was unable to demonstrate that the exhaust fan was functioning properly.



15. Middletown Substation

- 15.1. The exhaust fan in the battery room is not operational. There is an existing tag 133297505.



GO 95, Rule 44.3, General states in part:

“Lines or parts thereof shall be replaced or reinforced before safety factors have been reduced (due to factors such as deterioration and/or installation of additional facilities) in Grades “A” and “B” construction to less than two-thirds of the safety factors specified in Rule 44.1 and in Grade “C” construction to less than one-half of the safety factors specified in Rule 44.1. Poles in Grade “C” construction that only support communication lines shall also conform to the requirements of Rule 81.3–A.. In no case shall the application of this rule be held to permit the use of structures or any member of any structure with a safety factor less than one.”

1. Laytonville Substation

- a. A pole in the substation has several holes in it.

