STATE OF CALIFORNIA
PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

GAVIN C. NEWSOM, *Governor*

August 19, 2024 TA2024-1173

Vincent Tanguay, Senior Director
Electric Compliance, Electric Engineering
Pacific Gas & Electric Company (PG&E)
300 Lakeside Drive
Oakland, CA 94612

SUBJECT: Electric Transmission Audit of PG&E Willits Headquarters (HQ)

Mr. Tanguay:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Mathew Yunge, Thomas Roberts, and Gordon Szeto of ESRB staff conducted an electric transmission audit of PG&E Willits HQ from April 8, 2024 through April 12, 2024. During the audit, ESRB staff conducted field inspections of PG&E's transmission facilities and equipment and reviewed pertinent documents and records.

As a result of 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 no later than September 17, 2024, 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 (415) 603-9828 or Matthew.Yunge@cpuc.ca.gov.

Sincerely,

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

Enclosure: CPUC Electric Transmission Audit Report for PG&E Willits HQ

Cc: Lee Palmer, Director, Safety and Enforcement Division (SED), CPUC

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CPUC AUDIT OF PG&E WILLITS HEADQUARTERS
ELECTRIC TRANSMISSION AUDIT FINDINGS
APRIL 8-12, 2024

I. Records Review

During the audit, ESRB staff reviewed the following records:

- PG&E's Electric Transmission Preventive Maintenance (ETPM) Manual, TD-1001M, Revisions 4-5.
- PG&E's utility procedures, standards, guidelines, and job aids for electric transmission facility inspections.
- Overhead transmission facilities statistics.
- PG&E Willits HQ Service Territory Map and list of all transmission facilities owned or jointly owned by PG&E.
- Patrol, detailed, aerial, climbing, infrared, drone, and helicopter inspection records from January 2019 to March 2024.
- Third Party Safety Hazard notifications sent and received from July 2020 to June 2023.
- PG&E's utility procedures, standards, guidelines, and job aids for electric transmission vegetation management.
- A list of vegetation management inspection records and tree work orders for transmission circuits from February 2018 to February 2024.
- PG&E's policies and procedures related to transmission right-of-way maintenance, and associated performance records from April 2020 to February 2024.
- PG&E's policies and procedures for insulator washing, and associated performance records from May 2020 to March 2024.
- PG&E's policies and procedures for pole intrusive tests, foundation tests, and all other tests related to transmissions structure safety, and associated performance records from March 2021 to December 2023.
- A list of non-routine patrols for electric transmission facilities from January 2019 to March 2024.
- PG&E's policies and procedures for assigning priority levels to transmission deficiencies from March 2020 to March 2024.
- A list of all open, closed, and canceled notifications from February 2020 to March 2024.
- Pole loading and safety factor calculations completed from February 2023 to March 2024.
- New construction projects completed from March 2023 to March 2024.
- PG&E's utility standard and procedures for transmission work verification and vegetation management quality control (QC) and quality assurance (QA).
- The results of all internal quality management audits from September 2022 to January 2024.
- A list of PG&E inspector training courses from March 2019 to March 2024.

II. Records Violations

ESRB staff found the following violations during the records review portion of the audit:

PG&E's ETPM establishes when corrective actions for problems must be completed. For the time periods reviewed in this audit two versions of the ETPM are relevant. PG&E's last two versions of its ETPM, Revision 4, effective November 20, 2018, and Revision 5, effective August 31, 2020, define the priority codes and associated due dates for the corrective actions shown in **Table 1** and **Table 2** below:

Table 1. PG&E ETPM Rev 4, Published on 11/20/2018, Priority Codes [1,2]

Priority Code	Priority Code Priority Description
A	The condition is urgent and requires immediate response and continued action until the condition is repaired or no longer presents a potential hazard. SAP due date will be 30 days to allow time for post-construction processes and notification close-out.
B	Corrective action is required within 3 months from the date the condition is identified. The condition must be reported to the transmission line supervisor as soon as practical.
E	Corrective action is required within 12 months from the date the condition is identified.
F	Corrective action is recommended within 24 months from the date the condition is identified, (due beyond 12 months, not to exceed 24 months). Requires Director approval.

Table 2.PG&E ETPM Rev 5, Published on 8/31/2020, Priority Codes

Priority Code[3]	Priority Description
A[4]	The condition is urgent and requires **immediate** response and continued action until the condition is repaired or no longer presents a potential hazard. SAP due date will be 30 days to allow time for post-construction processes and notification close-out.

[1] QCRs must report immediately any "Priority Code A" abnormal condition to the transmission line supervisor and GCC.

[2] In addition, QCRs must report any "Priority Code B" condition to the transmission line supervisor as soon as practical, to ensure that correction occurs within the appropriate time.

[3] Refer to 2.3.5.2, "Priority Code Due Dates for High Fire Risk Conditions within HFTDs" and 2.3.5.3, "Priority Code Due Dates for Non-Fire Risk Conditions within HFTDs."

[4] QCRs must report immediately any "Priority Code A" abnormal condition to the transmission line supervisor, and the transmission supervisor or QCR contacts GCC.

B[5]	Corrective action is required within **3 months** from the date the condition is identified. The condition must be reported to the transmission line supervisor as soon as practical.
E	Corrective action is required within **12 months** from the date the condition is identified. ***EXCEPT FOR ITEMS WITHIN HFTD TIER 3 ARE REQUIRED WITHIN 6 MONTHS.***[6]
F	Corrective action is recommended within **24 months** from the date the condition is identified, (due beyond 12 months, not to exceed 24 months). ***EXCEPT FOR ITEMS WITHIN HFTD TIER 3 ARE REQUIRED WITHIN 6 MONTHS AND WITHIN HFTD TIER 2 ARE REQUIRED WITHIN 12 MONTHS.***[7]

a. ESRB's review of PG&E's Line Corrective (LC) notifications from "DRU13112_Q16_Atch01_Willits Master List of Notifications" found a total of 1,547 late LC notifications. **Table 3** below breaks down the late notifications by priority and type (late-closed, late-open, and late-canceled). Late-closed notifications are notifications that were completed past their assigned due date based on their priority code. Late-open notifications are incomplete notifications that were not completed by their assigned due date based on their priority code. Late-canceled notifications are notifications that were canceled after their assigned due date based on their priority code.

Table 3. Number of Late Notifications by Priority and Type[8]

Priority Code	Late Closed Notifications	Late Open Notifications	Late Canceled Notifications	Total Late Notifications
A	2	-	1	**3**
B	17	-	3	**20**
E	965	139	216	**1,320**
F	18	94	92	**204**
Total	**1,002**	**233**	**312**	**1,547**

b. **Table 4** below shows the most overdue notifications for each Priority Code.

[5] In addition, QCRs must report any "Priority Code B" condition to the transmission linesupervisor as soon as practical, to ensure that correction occurs within the appropriate time.
[6] If the condition in the HFTD Tier 3 does NOT create a fire risk (non-threatening) the corrective action is required within 12 months.
[7] If the condition in the HFTD Tier 3 OR Tier 2 does NOT create a fire risk (non-threatening) the corrective action is required within 24 months.
[8] Due dates are assumed to be the Required End Date unless a Funded Repair Date is available.

Table 4. Most Overdue Notifications

Priority Code[9]	Notification Number	Status	Completion Date	Due Date	Days Late[10]
A	127524564	Closed	February 6, 2024	November 20, 2023	78
B	119609486	Closed	November 4, 2020	June 30, 2020	127
E	121585823	Open	-	June 23, 2022	617
F	119016954	Open	-	April 24, 2022	677

c. ESRB found in its review of "DRU13112_Q12_Atch06_Insulator Wash" that the following eleven notifications for washing insulators were performed late per PG&E's assigned required end date.

Table 5. Late Insulator Wash Notifications

Notification Number	Original Priority Code	Notification Date	Completion Date	Required End Date
119088825	E	5/15/2020	5/23/2021	5/15/2021
119088712	E	5/15/2020	5/24/2021	5/15/2021
119331074	E	7/8/2020	8/30/2021	1/8/2021
120948950	E	5/7/2021	5/9/2022	5/7/2022
120931391	E	5/4/2021	5/19/2022	5/4/2022
120931396	E	5/4/2021	5/19/2022	5/4/2022
120931398	E	5/4/2021	5/20/2022	5/4/2022
120931401	E	5/4/2021	5/20/2022	5/4/2022
121573314	E	6/17/2021	8/18/2022	6/17/2022
123380963	E	4/15/2022	1/19/2023	10/15/2022
123855437	E	6/16/2022	9/21/2023	6/16/2023

d. ESRB found 218 work orders that had Reassessment Dates that were later than PG&E's Required End Date for those work orders. Examples are shown below in **Table 6**.

[9] Current Priority Code provided by PG&E.
[10] Days late are determined to be the difference between the Completion Date (or March 1, 2024 if the notification was open) and the Required End Date (or Funded Repair Date if one was provided).

Table 6. Notifications Reassessed After Required End Date

Notification Number	Original Priority Code	Reassessment Date	Required End Date
123759339	B	9/12/2022	9/2/2022
123455181	B	10/14/2022	7/28/2022
123260582	B	9/6/2022	6/25/2022
123209809	B	8/23/2022	6/23/2022
123208541	B	9/7/2022	6/23/2022
121809826	B	11/8/2021	10/26/2021
121374743	B	10/6/2022	5/5/2022
119419428	B	5/18/2021	10/16/2020
119152843	B	6/13/2021	6/9/2021

III. Field Inspection

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

Table 7. Audit Locations

Location Number	Structure Type	ID	Circuit	Approximate Longitude, Latitude
1	Wood Pole	012/009	PotterValley-Willits	(-123.31721694, 39.40586884)
2	Wood Pole	012/010	PotterValley-Willits	(-123.31824175, 39.40585375)
3	Wood Pole	012/011	PotterValley-Willits	(-123.31923255, 39.40586235)
4	Wood Pole	010/006	Mendocino-Willits-Fort Bragg	(-123.31094482, 39.35680504)
5	Steel Pole	010/007	Mendocino-Willits	(-123.31103217, 39.35677841)
6	Wood Pole	010/006	Mendocino-Willits	(-123.31050366, 39.35538109)
7	Wood Pole	010/005	Mendocino-Willits	(-123.31002851, 39.35452989)
8	Wood Pole	010/005	Mendocino-Willits-Fort Bragg	(-123.31013961, 39.35461018)
9	Steel Pole	016/007	Laytonville-Willits	(-123.4572322, 39.60106536)

Location Number	Structure Type	ID	Circuit	Approximate Longitude, Latitude
10	Steel Pole	016/008	Laytonville-Willits	(-123.45814577, 39.6019066)
11	Steel Pole	016/009	Laytonville-Willits	(-123.45860636, 39.60313701)
12	Wood Pole	023/004	Garberville-Laytonville	(-123.47913003, 39.69202622)
13	Steel Pole	023/003	Garberville-Laytonville	(-123.47933337, 39.69070541)
14	Wood Pole	023/005	Garberville-Laytonville	(-123.47890836, 39.69308154)
15	Steel Pole	025/002	Garberville-Laytonville	(-123.48990683, 39.71574843)
16	Steel Pole	025/001	Garberville-Laytonville	(-123.48943627, 39.71459916)
17	Steel Pole	056/16	Garberville-Laytonville	(-123.68711458, 40.10026958)
18	Steel Pole	056/013	Garberville-Laytonville	(-123.68553822, 40.09908945)
19	Wood Pole	056/017	Garberville-Laytonville	(-123.68779935, 40.10085937)
20	Steel Pole	056/018	Garberville-Laytonville	(-123.68894797, 40.10138765)
21	Steel Pole	047/004	Garberville-Laytonville	(-123.61788698, 39.98822232)
22	Steel Pole	041/004	Garberville-Laytonville	(-123.57669248, 39.91576748)
23	Wood Pole	053/002	Elk-Gualala	(-123.67954613, 38.91207272)
24	Steel Pole	053/003	Elk-Gualala	(-123.678127, 38.91143154)
25	Steel Pole	053/004	Elk-Gualala	(-123.67680216, 38.91088101)
26	Steel Pole	049/006	Elk-Gualala	(-123.67943899, 38.96213229)
27	Wood Pole	049/007	Elk-Gualala	(-123.67927395, 38.96125403)
28	Wood Pole	049/005	Elk-Gualala	(-123.67963797, 38.96292496)

Location Number	Structure Type	ID	Circuit	Approximate Longitude, Latitude
29	Wood Pole	004/009	Fort Bragg-Elk	(-123.74607465, 39.18839465)
30	Wood Pole	004/008	Fort Bragg-Elk	(-123.74623881, 39.18748963)
31	Wood Pole	008/000	Fort Bragg-Elk	(-123.765441, 39.22906622)
32	Wood Pole	008/001	Fort Bragg-Elk	(-123.76626109, 39.22929862)
33	Wood Pole	014/004	Fort Bragg-Elk	(-123.78952194, 39.31013219)
34	Wood Pole	014/003	Fort Bragg-Elk	(-123.78919626, 39.30938052)
35	Wood Pole	014/002	Fort Bragg-Elk	(-123.78898357, 39.3087186)
36	Steel Pole	014/001	Fort Bragg-Elk	(-123.78877575, 39.30751055)
37	Wood Pole	042/004	Mendocino-Willits-Fort Bragg	(-123.79626735, 39.43429156)
38	Wood Pole	004/000	Mendocino-Ukiah	(-123.19272814, 39.19628307)
39	Wood Pole	003/012	Mendocino-Ukiah	(-123.19304682, 39.19680081)
40	Wood Pole	003/011	Mendocino-Ukiah	(-123.19317614, 39.19713784)
41	Wood Pole	003/010	Mendocino-Ukiah	(-123.19379425, 39.19786189)
42	Wood Pole	003/009	Mendocino-Ukiah	(-123.19403725, 39.1982973)
43	Wood Pole	003/008	Mendocino-Ukiah	(-123.19326771, 39.19925815)
44	Steel Tower	058/284	Mendocino-Redbud	(-123.14790969, 39.23673967)
45	Wood Pole	003/000	Mendocino-Hartley	(-123.14777494, 39.23699598)
46	Steel Tower	023/108	Cortina-Mendocino #1	(-122.61189976, 39.01206358)
47	Wood Pole	023/108A	Eagle Rock-Redbud	(-122.61200254, 39.01193165)
48	Wood Pole	020/005	Eagle Rock-Redbud	(-122.61200502, 39.01181242)

Location Number	Structure Type	ID	Circuit	Approximate Longitude, Latitude
49	Wood Pole	020/003	Eagle Rock-Cortina	(-122.61218752, 39.01173174)
50	Wood Pole	012/008	Lower Lake-Homestake	(-122.42684424, 38.87490459)
51	Wood Pole	012/007	Lower Lake-Homestake	(-122.42781196, 38.87483884)
52	Wood Pole	012/010	Konocti-Middletown	(-122.60351285, 38.75940969)
53	Wood Pole	012/011	Konocti-Middletown	(-122.60258207, 38.76024083)
54	Steel Pole	012/012	Konocti-Middletown	(-122.60167896, 38.76103028)
55	Wood Pole	010/007	Ukiah-Hopland-Cloverdale	(-122.98826611, 38.80205583)
56	Wood Pole	000/001B	Ukiah-Hopland-Cloverdale	(-122.98838127, 38.80199772)
57	Wood Pole	000/002B	Ukiah-Hopland-Cloverdale	(-122.98925225, 38.80184612)
58	Steel Tower	010/120	Ukiah-Hopland-Cloverdale	(-122.98807238, 38.80158158)

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.*
>
> *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."*

Table 8. GO 95, Rule 31.1 Violations

Location	Violation Description
4	Middle phase insulator not plumb. This should be corrected per TD-1001M-JA06.
8	Woodpecker hole by transmission hardware. There is an existing notification.
22	Anchor is buried. Anchor was uncovered on site.
29	Moss growth on transmission insulators.
36	Abandoned conductor located on the ground.
37	No fiberglass strain insulators on transmission down guys.
38	Deteriorated pole top at hardware level. Existing notification to replace pole.
38	Vegetation growing around the down guy and there's a branch stuck on the down guys.
39	The conductors have a bend where they attach to the insulators. There is an existing notification.
42	No fiberglass strain insulators on down guy. Included in existing notification per CERT team review.
45	A bolt appears to have been installed in the wrong location.
48	Missing damper based on Figure 4 of PG&E Standard 015073. There is an existing notification.
48	Broken bond wire. There is an existing notification.
55	Transmission down guy with underbuilt distribution line lacks ceramic insulator.

2. **GO 95, Rule 56.2, Overhead Guys, Anchor Guys and Span Wires, Use** states in part:

> *"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."

Table 9.GO 95, Rule 56.2 Violations

Location	Violation Description
9	Slack transmission down guy.
19	Slack distribution down guy.
21	Slack transmission guy. There was an existing notification. PG&E staff tightened the guy wire on site.
29	Slack distribution down guy.
38	Slack distribution down guy.

3. **GO 95, Rule 51.6-B, Guarding** states in part:

"Where the pole or structure is of latticed metal or of similar construction and supports supply conductors in excess of 750 volts and is located in urban districts, or in rural areas adjacent to schools, dwellings, permanent or seasonal camps, or in orchards, or near roads, or trails which are frequently traveled, a barrier shall be so located on the pole or structure as to prevent easy climbing. If the bottom of the barrier is within 12 feet of the ground line, the top shall not be less than 15 feet above the ground line, but in no event shall the barrier be less than 8 feet in length. If the bottom of the barrier is more than 12 feet above the ground line, it shall not be less than 6 feet in length."

Table 10. GO 95, Rule 51.6-B Violations

Location	Violation Description
44	Anti-climb guard is too short. Onsite measurement is 5 feet for the vertical portion of the guard. PG&E staff stated that there is a CAP being implemented.
58	Anti-climb guard too short. Also, the top of the guard is less than 7' 7" above ground.

V. Observations

GO 95, Rule 18, Reporting and Resolution of Safety Hazards Discovered by Utilities states in part:

"For purposes of this rule, "Safety Hazard" means a condition that poses a significant threat to human life or property..."

GO 95, Rule 18-A, Resolution of Potential Violations of General Order 95 and Safety Hazards states in part:

"(3) 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 entity of such Safety Hazard(s) no later than ten (10) business days after the discovery.

(4) To the extent a company that has a notification requirement under (2) or (3) above cannot determine the facility owner/operator, it shall contact the pole owner(s) within ten (10) business days if the subject of the notification is a Safety Hazard, or otherwise within a reasonable amount of time not to exceed 180 days after discovery. The notified pole owner(s) shall be responsible for promptly (normally not to exceed five business days) notifying the company owning/operating the facility if the subject of the notification is a Safety Hazard, or otherwise within a reasonable amount of time not to exceed 180 days, after being notified of the potential violation of GO 95."

During the field inspection, ESRB observed the following third-party safety concerns.

Table 11. Third-party safety concerns

Location	Violation Description
34	Slack telecom down guy wire.
34	Frayed cable at insulator on down guy