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

May 3, 2024 EA2023-1145

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

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

Mr. Tanguay:

On behalf of the Electric Safety and Reliability Branch (ESRB) of the California Public Utilities Commission (CPUC), Monica Hoskins and Joe Murphy of ESRB staff conducted an electric distribution audit of PG&E's North Bay Division from September 11 through September 15, 2023. During the audit, ESRB staff conducted field inspections of PG&E's distribution facilities and equipment and reviewed pertinent documents and records.

As a result of the audit, ESRB staff identified violations of General Order (GO) 95 and GO 128. A copy of the audit findings itemizing the violations and observations is enclosed. Please provide a response no later than June 5, 2024, via 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 Monica Hoskins at monica.hoskins@cpuc.ca.gov or (415) 652-1847.

Sincerely,

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

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Enclosure: CPUC Electric Distribution Audit Report for PG&E North Bay Division

Cc: Lee Palmer, Director, Safety and Enforcement Division (SED), CPUC
Nika Kjensli, Program Manager, ESRB, SED, CPUC
Fadi Daye, Program and Project Supervisor, ESRB, SED, CPUC
Nathan Sarina, Senior Utilities Engineer (Supervisor), ESRB, SED, CPUC
Monica Hoskins, Utilities Engineer, ESRB, SED, CPUC
Joe Murphy, Utilities Engineer, ESRB, SED, CPUC
Anne Beech, Director of EO Compliance, PG&E
Tripti Uprety, Manager of EO Compliance, PG&E
Sean Mackay, Director of Investigations, PG&E
Leah Hughes, Manager of Investigations, PG&E
Jerrod Meier, Director of Governance and Reporting, PG&E
Meredith Allen, VP of Regulatory Affairs, PG&E
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**PG&E NORTH BAY DIVISION**
**ELECTRIC DISTRIBUTION AUDIT FINDINGS**
**SEPTEMBER 11 – 15, 2023**

## I. Records Review

During the distribution audit, Electric Safety and Reliability Branch (ESRB) staff reviewed the following standards, procedures, and records for PG&E's North Bay Division:

- Electric Distribution Preventive Maintenance Manual, April 1, 2016
- TD-2305M-B006, Revised Distribution Inspection Guidelines, January 24, 2020
- TD-2302S, Electric Distribution Maintenance Requirements for Overhead and Underground Equipment, August 02, 2022
- TD-2301S, Patrols and Detailed/Intrusive Inspections of Electric Overhead and Underground Distribution Facilities, May 15, 2020
- Electric Corrective Notifications list, July 2018 – July 2023
- Distribution facilities statistics and their wildfire risks, including equipment risks and vegetation risks
- North Bay Distribution Plats with High Fire Threat Districts
- Patrol and Inspection Records list, July 2018 – July 2023
- Reliability Indexes and Outage list, July 2018 – July 2023
- North Bay Division New Projects list, August 2022 – July 2023
- Pole Loading Calculations list, January 2022 – May 2023
- Incoming Third-Party Notifications list, July 2018 – July 2023
- Outgoing Third-Party Notifications list, July 2018 – July 2023
- Inspector training records, January 2018 – May 2023
- Equipment test records, June 2018 – May 2023
- Intrusive Inspections, July 2022 – July 2023
- PG&E Pre-Audit Preliminary Analysis for Audit Readiness – Records Review
- North Bay Division Quality Management Audit Results, 2018 – 2023

## II. Records Violations

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

1. **General Order (GO) 95, Rule 18-B(1), Maintenance Programs** states in part:

> *"Each company (including electric utilities and communications companies) shall establish and implement an auditable maintenance program for its facilities and lines for the purpose of ensuring that they are in good condition so as to conform to these rules.*
>
> *Each company must describe in its auditable maintenance program the required qualifications for the company representatives who perform inspections and/or who schedule corrective actions. Companies that are subject to GO 165 may maintain procedures for conducting inspections and maintenance activities in compliance with this rule and with GO 165.*
>
> *The maximum time periods for corrective actions associated with potential violation of GO 95 or a Safety Hazard are based on the following priority levels:*
>
> *(i) Level 1 -- An immediate risk of high potential impact to safety or reliability:*
> - *Take corrective action immediately, either by fully repairing or by temporarily repairing and reclassifying to a lower priority.*
>
> *(ii) Level 2 -- Any other risk of at least moderate potential impact to safety or reliability:*
> - *Take corrective action within specified time period (either by fully repair or by temporarily repairing and reclassifying to Level 3 priority). Time period for corrective action to be determined at the time of identification by a qualified company representative, but not to exceed: (1) six months for potential violations that create a fire risk located in Tier 3 of the High Fire-Threat District; (2) 12 months for potential violations that create a fire risk located in Tier 2 of the High Fire-Threat District; (3) 12 months for potential violations that compromise worker safety; and (4) 36 months for all other Level 2 potential violations.*
>
> *(iii) Level 3 -- Any risk of low potential impact to safety or reliability:*
> - *Take corrective action within 60 months subject to the exception specified below."*

**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 completed within the North Bay Division for the past 60 months (July 2018 – July 2023), shown in Table 1. PG&E's Electric Distribution Preventative Maintenance (EDPM) Manual, published on April 1, 2016, defines the priority codes and associated time frames for the response/repair action as follows:

- *Priority A – Safety / Emergency Immediate Response An emergency is defined as any activity in response to an outage to customer(s) or an unsafe condition requiring immediate response or standby to protect the public.*
- *Priority B – Urgent Compliance (Due within 3 months)*
- *Priority E – Compliance (Due 3-12 months)*
- *Priority F – Compliance (For Regulatory Conditions, the Recommended Repair Date is the due date for the next Inspection (UG = 3 years, OH = 5 years)."*

ESRB staff reviewed late work orders and determined that PG&E did not address a total of 35,164 work orders by their assigned due date. Table 1 below breaks down the 35,164 late work orders by their given priority, including the total number of late work orders completed, pending, and canceled work orders, which are included in the total.

**Table 1: Late Work Orders in North Bay Division**

| Priority Code | Late Work Orders Completed | Late Work Orders Pending | Late Work Orders Cancelled | Total by Priority |
|---|---|---|---|---|
| A | 7 (2,946)* | - | - | 2,946 |
| B | 1,339 | 131 | 291 | 1,761 |
| E | 7,969 | 18,480 | 3,436 | 29,885 |
| F | 46 | 475 | 51 | 572 |
| Total | 9,361 (12,300) | 19,086 | 3,778 | **35,164** |

* Priority A notifications of 2,939 includes work that is categorized as Priority A (e.g., the data includes Fire Rebuilds and Vegetation Management) but is not an "emergency" as that term is defined for Priority A.

PG&E shall provide ESRB with its corrective action plan to complete the 19,086 late pending work orders and its preventive measures to prevent any work orders from being addressed late in the future.

Table 2 below identifies the most overdue and late non-exempt work orders for each priority. The late work orders have been closed and the past-due work orders are still open, as of July 16, 2023.

**Table 2: Most Overdue Work Orders***

| Priority Code | Most Past Due Work Orders (WO#s) | Number of Days Past Due** |
|---|---|---|
| A | 117280338 | 508 |
| B | 116743802 | 1,585 |
| E | 114838902 | 1,443 |
| F | 116735756 | 1,405 |

*Days past due determined using the Required End Date noted in DR 3
**As of July 16, 2023

PG&E identified work order #117280338 (A-Complete) on May 20, 2019, to perform vegetation management with a required end date of November 16, 2019. The work order was completed on April 7, 2021.

PG&E identified work order #116743802 (B-Open) on March 15, 2019, to replace a decaying pole with a required end date of September 11, 2019. As of July 16, 2023, PG&E's records indicate that the order is still open.

PG&E identified work order #114838902 (E-Open) on August 3, 2018, to replace a damaged conductor with a required end date of August 3, 2019. As of July 16, 2023, PG&E's records indicate that the order is still open.

PG&E identified work order #116735756 (F-Open) on March 14, 2019, to test an overloaded pole with a required end date of September 10, 2019. As of July 16, 2023, PG&E's records indicate that the order is still open.

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

> *"Lines shall be inspected frequently and thoroughly for the purpose of ensuring 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 staff identified that PG&E completed a total of 9,736 patrol and detailed inspections of overhead and underground (UG)/padmount electric facilities past their GO 165 required completion date, as shown in Table 3.

**Table 3: Late Overhead Patrols and Inspections**

| Year | OH Patrol | OH Detailed | UG Patrol | UG Detail | Total Structures |
|---|---|---|---|---|---|
| 2018 | 3 | - | - | 4 | 7 |
| 2019 | - | - | - | - | - |
| 2020 | - | 48 | 30 | 2* | 80 |
| 2021 | 6,831 | 1,296 | | 1 | 8,128 |
| 2022 | - | - | - | - | - |
| 2023** | 1,521 | - | - | - | 1,521 |
| Total | 8,355 | 1,344 | 30 | 7 | **9,736** |

*Reported as "Can't Get In"
**Preliminary information, final report due July 1, 2024

3. **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."*

ESRB also reviewed selected EC Notifications and FSRs identified during the field audit of PG&E's facilities. The selected review shows a pattern of various issues, including FSRs conducted after the initial required due date, FSRs conducted after the revised due date, revised due dates not in keeping with the reassessments, and work orders overdue beyond the most recent revised date. While a review of all EC and FSRs is not feasible, examples of the issues noted above are shown in Table 4.

**Table 4: Late FSRs and Overdue Work Orders**

| EC Notification | Priority | Initial Notification | 1st FSR Date | 2nd FSR Date | Comments |
|---|---|---|---|---|---|
| | | Required Due Date | Due Date | Due Date | |
| 116973362 | E | 4/7/2019 | 3/27/2021 | 4/22/2022 | Pole split and rotting. |
| | | 10/5/2019 | 8/28/2021 | 4/23/2023 | |
| 118260838 | E | 12/11/2019 | 5/10/2021 | 5/11/2022 | Top of pole really split, add damaged conductor |
| | | 6/11/2020 | 5/11/2022 | 5/12/2023 | |

| | | | | | |
|---|---|---|---|---|---|
| 119493135 | E | 7/23/2020 | 4/24/2020 | 7/10/2022 | 2nd FSR notes condition needs attention <12 months. Rescheduled 24. |
| | | 7/23/2021 | 5/11/2022 | 5/11/2022 | |
| 114005089 | F | 11/25/2017 | 5/16/2022 | - | Late FSR |
| | | 3/13/2022 | 5/17/2027 | - | |
| 119466024 | E | 4/27/2020 | 4/1/2021 | 5/10/2022 | Required and FSR dates exceeded. |
| | | 10/27/2020 | 4/2/2022 | 5/11/2023 | |

4. **GO 95, Rule 44.1, Installation and Reconstruction** states in part:

> *"Lines and elements of lines, upon installation or reconstruction, shall provide as a minimum the safety factors specified in Table 4. The design shall consider all supply and communication facilities planned to occupy the structure. For purposes of this rule, the term "planned" applies to the facilities intended to occupy the structure that are actually known to the constructing company at the time of design.*
>
> *"The entity responsible for performing the loading calculation(s) for an installation or reconstruction shall maintain records of these calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such information to authorized joint use occupants and the Commission upon request."*

ESRB reviewed selected pole loading calculations (PLCs) identified during the field audit of PG&E's facilities. The review showed PLC parameters used for safety factor calculations not accurately reflecting the facility condition as constructed, including missing components. While a review of all PLCs is not feasible, the erroneous PLC is shown in Table 5.

**Table 5: PLC Parameters Differing from Location Construction**

| SAP ID | PLC Parameter | Observed in Field |
|---|---|---|
| 102229822 | Two primary down guys: at 128 and 253 degrees | One primary down guy: at 253 degrees (no primary down guy at 128 degrees) |

## III. Field Inspection

During the field inspection, ESRB staff inspected the following facilities in PG&E's North Bay Division:

| Location | Structure Type | SAP ID Number |
|---|---|---|
| **1** | Pole | 102242937 |
| **2** | Pole | 102242936 |
| **3** | Pole | 102242934 |
| **4** | Pole | 104125713 |
| **5** | Pole | 102232521 |
| **6** | Pole | 102232160 |
| **7** | Pole | 102132516 |
| **8** | Pole | 102232075 |
| **9** | Pole | 104025970 |
| **10** | Pole | 103329323 |
| **11** | Pole | 102233262 |
| **12** | Pole | 102233257 |
| **13** | Subsurface Transformer | 107787283 |
| **14** | Splice Box | 107789617 |
| **15** | Pad Mount Transformer | 107688030 |
| **16** | Pole | 102249968 |
| **17** | Pole | 102249966 |
| **18** | Pole | 102249963 |
| **19** | Pole | 102249961 |
| **20** | Pole | 104147330 |
| **21** | Pole | 104129622 |
| **22** | Pole | 102229620 |
| **23** | Pole | 102230415 |
| **24** | Pole | 102230413 |
| **25** | Pole | 104174406 |
| **26** | Pole | 102229826 |
| **27** | Pole | 102229822 |
| **28** | Pad Mount Transformer | 107675198 |
| **29** | Pole | 104057048 |
| **30** | Pole | 102230646 |
| **31** | Pole | 102230647 |
| **32** | Pole | 103911193 |
| **33** | Pole | 102264093 |
| **34** | Pole | 102264094 |
| **35** | Pole | 102264095 |
| **36** | Pole | 102288053 |
| **37** | Subsurface Transformer | 107729897 |
| **38** | Splice Box | 107735432 |
| **39** | Splice Box | 107768196 |

| | | |
|---|---|---|
| **40** | Secondary Splice Box | 107783591 |
| **41** | Subsurface Transformer | 107808254 |
| **42** | Pole | 102279950 |
| **43** | Pole | 102264751 |
| **44** | Pole | 102264752 |
| **45** | Pad Mount Transformer | 107682135 |
| **46** | Pad Mount Transformer with Switches | 107678988 |
| **47** | Secondary Splice Box | 107767811 |
| **48** | Pad Mount Transformer | 107678298 |
| **49** | Pole | 104025880 |
| **50** | Pole | 102220728 |
| **51** | Pole | 102220752 |
| **52** | Pole | 103135261 |
| **53** | Pole | 104045875 |
| **54** | Pole | 104045322 |
| **55** | Pole | 102225679 |
| **56** | Pole | 102225678 |
| **57** | Pole | 104026254 |
| **58** | Pole | 102263595 |
| **59** | Pole | 104026253 |
| **60** | Pole | 104026255 |
| **61** | Pole | 102260486 |
| **62** | Pad Mount Transformer | 107688246 |
| **63** | Pole | 102260483 |
| **64** | Pole | 102260482 |
| **65** | Pole | 102260480 |
| **66** | Pole | 102281969 |
| **67** | Pole | 102281967 |
| **68** | Pole | 102281966 |
| **69** | Pole | 102281978 |
| **70** | Pole | 102273404 |
| **71** | Pole | 102292677 |
| **72** | Pole | 102285407 |
| **73** | Pole | 102285409 |
| **74** | Pole | 102285410 |
| **75** | Pad Mount Transformer | 107682478 |
| **76** | Pole | 102285411 |
| **77** | Pad Mount Transformer | 107685490 |
| **78** | Pad Mount Transformer | 107686544 |
| **79** | Underground Switch | 107830724 |
| **80** | Pad mount Transformer | 107685488 |
| **81** | Pad mount Transformer | 107680429 |
| **82** | Pad mount Transformer | 107677858 |

## 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."*

   ESRB's findings related to the above rule are listed in Table 6:

**Table 6: GO 95, Rule 31.1 Findings**

| Location | Finding | Notes |
|---|---|---|
| **3** | The pole is rotten and decayed and needs replacement, and the pole has a tilted insulator. | PG&E has a preexisting tag for the pole replacement, all additional issues at the pole will be resolved when the pole is replaced (EC 116973362). |
| **6** | The pole is rotten and decayed and needs replacement. | PG&E has a preexisting tag for the issue (EC 118260838). |
| **16** | The pole has splices with improper connections from tie wires connected directly to the insulators. | PG&E has a preexisting tag for the issue (EC 123608568). |
| **17** | The pole has a down guy with a buried anchor. | PG&E has a preexisting tag for the issue (EC 117272612). |
| **19** | The pole has a down guy with a buried anchor. | PG&E has a preexisting tag for the issue (EC 114005089). |
| **22** | The pole is rotten and decayed and needs replacement. | PG&E has a preexisting tag for the issue (EC 119466024). |
| **23** | The pole has an incorrectly installed connector. | PG&E has a preexisting tag for the issue (EC 119042051). |
| **30** | The pole has conductors with improper connections. | PG&E has a preexisting tag for the issue (EC 123960396). |
| **31** | The pole has a strained anchor down guy in contact with the crossarm. | PG&E has a preexisting tag for the issue (EC 123965426). |

| | | |
|---|---|---|
| **42** | The pole has a down guy with a corroded anchor. | PG&E has a preexisting tag for the issue (EC 124803155). |
| **43** | The pole has a tie wire tied into and wrapped around the splice on the primary phase. | PG&E created a tag for this issue during the field portion of the audit (EC 127050336). |
| **50** | The pole has a down guy with a corroded anchor. | PG&E has a preexisting tag for the issue (EC 119025673). |
| **51** | The pole is rotten and decayed with a large crack along the side and needs replacement. | PG&E has a preexisting tag for the issue (EC 117160015). |
| **55** | The pole is rotten and decayed with woodpecker holes and needs replacement. The pole is in a Local Responsibility Area and does not have a firebreak.[1] | PG&E has a preexisting tag for the pole replacement (EC 123863171). |
| **56** | The pole is rotten and decayed and needs replacement. | PG&E has a preexisting tag for the issue (EC 123863853). |
| **61** | The pole has a down guy with a buried anchor. | PG&E has a preexisting tag for the pole replacement, and the buried anchor will be resolved when the pole is replaced (EC 119689350). |
| **63** | The pole is rotten and decayed and needs replacement. | PG&E has a preexisting tag for the issue (EC 119689324). |
| **64** | The pole is rotten and decayed and needs replacement. | PG&E created a tag for this issue during the field portion of the audit (EC 127058090). |
| **73** | The pole has a down guy with a buried anchor and soil eroding around the anchor. | PG&E has a preexisting tag for the issue (EC 124285472). |

2. **GO 95, Rule 34, Foreign Attachments** states in part:

> *"Nothing in these rules shall be construed as permitting the unauthorized attachment, to supply, streetlight or communication poles or structures, of antennas, signs, posters, banners, decorations, wires, lighting fixtures, guys, ropes and any other such equipment foreign to the purposes of overhead electric line construction.*

[1] California Public Resource Code, Section 4292

*Nothing herein contained shall be construed as requiring utilities to grant permission for such use of their overhead facilities; or permitting any use of joint poles or facilities for such permanent or temporary construction without the consent of all parties having any ownership whatever in the poles or structures to which attachments may be made; or granting authority for the use of any poles, structures or facilities without the owner's or owners' consent.)."*

ESRB's finding related to the above rule is listed in Table 7:

**Table 7: GO 95, Rule 34 Finding**

| Location | Finding | Notes |
|---|---|---|
| **36** | The pole has an unauthorized third-party attachment. | PG&E removed the attachment in the field. |

3. **GO 95, Rule 35, Vegetation Management** states in part:

*"Where overhead conductors traverse trees and vegetation, safety and reliability of service demand that certain vegetation management activities be performed in order to establish necessary and reasonable clearances, the minimum clearances set forth in Table 1, Cases 13 and 14, measured between line conductors and vegetation under normal conditions shall be maintained. (Also see Appendix E for tree trimming guidelines.) These requirements apply to all overhead electrical supply and communication facilities that are covered by this General Order, including facilities on lands owned and maintained by California state and local agencies.*

*Communication and electric supply circuits, energized at 750 volts or less, including their service drops, should be kept clear of vegetation in new construction and when circuits are reconstructed or repaired, whenever practicable. When a supply or communication company has actual knowledge, obtained either through normal operating practices or notification to the company, that its circuit energized at 750 volts or less shows strain or evidences abrasion from vegetation contact, the condition shall be corrected by reducing conductor tension, rearranging or replacing the conductor, pruning the vegetation, or placing mechanical protection on the conductor(s)."*

ESRB's findings related to the above rule are listed in Table 8:

**Table 8: GO 95, Rule 35 Findings**

| Location | Finding | Notes |
|---|---|---|
| **10** | Excessive vegetation and a branch are causing strain on the service drop. | PG&E has a preexisting tag for the issue (EC 119493135). |
| **12** | The pole has excessive vegetation in the climbing space. | PG&E has a preexisting tag for the issue (EC 119497989). |
| **44** | Excessive vegetation is causing strain and abrasion on the secondary lines. | PG&E created a tag for this issue during the field portion of the audit (EC 127050338). |
| **57** | Excessive vegetation between the pole and the service pole is causing strain and abrasion on the service drop. | PG&E has a preexisting tag for the issue on the adjacent service pole (EC 116990306). |
| **67** | Excessive vegetation is causing strain and abrasion on the service drop. | PG&E has a preexisting tag that includes the issue (EC 122055073). |
| **72** | The pole has excessive vegetation that is causing strain and abrasion in the secondary lines and deflecting the down guy wire. | PG&E has a preexisting tag for the issue (EC 124285504). |

4. **GO 95, Rule 44.1, Installation and Reconstruction** states in part:

> *"Lines and elements of lines, upon installation or reconstruction, shall provide as a minimum the safety factors specified in Table 4. The design shall consider all supply and communication facilities planned to occupy the structure. For purposes of this rule, the term "planned" applies to the facilities intended to occupy the structure that are actually known to the constructing company at the time of design.*
>
> *The entity responsible for performing the loading calculation(s) for an installation or reconstruction shall maintain records of these calculations for the service life of the pole or other structure for which a loading calculation was made and shall provide such information to authorized joint use occupants and the Commission upon request."*

ESRB's findings related to the above rule are listed in Table 9:

**Table 9: GO 95, Rule 44.1 Findings**

| Location | Finding | Notes |
|---|---|---|
| **54** | The pole is overloaded and leaning, and it is contacting nearby communication lines. | PG&E has a preexisting tag for the issue (EC 123863591). |
| **69** | The pole is overloaded and needs replacement. | PG&E has a preexisting tag for the issue (EC 123445235). |

5. **GO 95, Rule 49.2-C, Crossarms, Strength** states in part:

> *"Crossarms shall be securely supported by bracing, where necessary, to withstand unbalanced vertical loads and to prevent tipping of any arm sufficiently to decrease clearances below the values specified in Section III. Such bracing shall be securely attached to poles and crossarms. Supports in lieu of crossarms shall have means of resisting rotation in a vertical plane about their attachment to poles or shall be supported by braces as required for crossarms. Metal braces or attachments shall meet the requirements of Rules 48.2 and 49.8."*

ESRB's findings related to the above rule are listed in Table 10:

**Table 10: GO 95, Rule 49.2-C Findings**

| Location | Finding | Notes |
|---|---|---|
| **3** | The pole has decayed crossarms. | PG&E has a preexisting tag for the pole replacement, all additional issues at the pole will be resolved when the pole is replaced (EC 116973362). |
| **16** | The pole has decaying crossarms. | PG&E has a preexisting tag for the issue (EC 123608568). |
| **30** | The pole has a crossarm that needs replacement. | PG&E has a preexisting tag for the issue (EC 123960396). |
| **34** | The pole has a secondary crossarm that is split and needs replacement. | PG&E has a preexisting tag for the issue (EC 125998468). |
| **42** | The pole has a decaying crossarm that needs replacement. | PG&E has a preexisting tag for the issue (EC 124803155). |
| **44** | The pole has a decaying secondary crossarm. | PG&E created a tag for this issue during the field portion of the audit (EC 127050343). |

6. **GO 95, Rule 49.3-C(1)(b), Pins and Conductor Fastenings, Strength** states in part:

*"Insulator pins and conductor fastenings shall be able to withstand the loads to which they may be subjected with safety factors at least equal to those specified in Rule 44.*

*(1) Longitudinal Loads Normally Balanced:*

*b. Conductor Fastenings: Where longitudinal loads are normally balanced, tie wires or other conductor fastenings shall be installed in such a manner that they will securely hold the line conductor to the supporting insulators and will withstand without slipping of the conductor unbalanced pulls as follows:*
*Supply conductor fastening – 40% of the maximum working tensions but not more than 500 pounds.*
*Class C conductor fastenings – 15% of the maximum working tensions but not more than 300 pounds.*
*Tie wires are not required on Class C conductors at point– type transpositions in Grade F construction."*

ESRB's findings related to the above rule are listed in Table 11:

**Table 11: GO 95, Rule 49.3-C(1)(b) Findings**

| Location | Finding | Notes |
|---|---|---|
| **57** | The pole has a loose tie wire on the primary phase. | PG&E has a preexisting tag for the issue (EC 123636857). |
| **59** | The pole has a secondary tie wire that needs adjustment or replacement. | PG&E has a preexisting tag for the issue (EC 123637371). |
| **69** | The pole has an incorrectly installed connector. | PG&E has a preexisting tag for the issue (EC 122055052). |

7. **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. Such signs shall be of weather and corrosion–resisting material, solid or with letters cut out therefrom and clearly legible.*

*The top of such sign(s) shall be located between the level of the lowest line conductor, energized in excess of 750 volts, on the pole to no more than 40 inches below that conductor level (see Figure51–1).*

*Poles that support risers of more than 750 volts, which are not supporting line conductors of more than 750 volts, shall be marked with a high voltage sign(s). The top of such sign(s) shall be located between the level of the lowest exposed energized portion of the riser to no more than 40" below that portion of the riser."*

ESRB's findings related to the above rule are listed in Table 12:

**Table 12: GO 95, Rule 51.6-A Findings**

| Location | Finding | Notes |
|---|---|---|
| **16** | The pole has a damaged high voltage sign on the cross arm. | PG&E has a preexisting tag for a cross arm replacement, which would resolve the high voltage sign finding (EC 123608568). |
| **65** | The pole has a faded high voltage sign on the primary cross arm. | |

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

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

ESRB's finding related to the above rule is listed in Table 13:

**Table 13: GO 95, Rule 54.6-B Finding**

| Location | Finding | Notes |
|---|---|---|
| **24** | The pole has an exposed vertical ground wire. | PG&E has a preexisting tag for the issue (EC 123908379). |

9. **GO 95, Rule 54.6-I, Attachment of Protective Covering** states in part:

*"Protective covering shall be attached to poles, structures, crossarms, and other supports by means of corrosion–resistant materials (straps, plumbers tape, lags, nails, staples, screws, bolts, etc.) which are adequate to maintain such covering in a fixed position.*

*Where such covering consists of wood moulding, rigid plastic moulding, or other suitable protective moulding, the distance between the attachment materials (straps, plumbers tape, lags, nails, staples, screws, bolts, etc.) shall not exceed 36 inches on either side of the moulding."*

ESRB's finding related to the above rule is listed in Table 14:

**Table 14: GO 95, Rule 54.6-I Finding**

| Location | Finding | Notes |
|---|---|---|
| **35** | The pole has a broken ground moulding that is exposing the transformer ground wire. | PG&E has a preexisting tag for the issue (EC 125998113). |

**10. 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."*

ESRB's findings related to the above rule are listed in Table 15:

**Table 15: GO 95, Rule 56.2 Findings**

| Location | Finding | Notes |
|---|---|---|
| **3** | The pole has a slack span guy. | PG&E has a preexisting tag for the pole replacement, all additional issues at the pole will be resolved when the pole is replaced (EC 116973362). |
| **29** | The pole has a slack down guy. | PG&E has a preexisting tag for the issue (EC 123962530). |
| **49** | The pole has a slack down guy. | PG&E has a preexisting tag for the issue (EC 124012105). |
| **50** | The pole has a slack down guy. | PG&E has a preexisting tag for the issue (EC 119025673). |
| **52** | The pole has a slack secondary span guy to the pole at Location 51. | PG&E has a preexisting tag for the overloaded pole, and the slack guy will be resolved when the pole is replaced (EC 123999062). |
| **53** | The pole has a slack down guy. | PG&E has a preexisting tag for the issue (EC 126892254). |

| | | |
|---|---|---|
| **65** | The pole has a slack primary down guy. | |

**11. 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."*

ESRB's findings related to the above rule are listed in Table 16:

**Table 16: GO 95, 56.7-B Findings**

| Location | Finding | Notes |
|---|---|---|
| **3** | The pole has vegetation above the guy insulator that is contacting and ground the anchor guy. | PG&E has a preexisting tag for the pole replacement, all additional issues at the pole will be resolved when the pole is replaced (EC 116973362). |
| **9** | The pole has vegetation above the guy insulator that is contacting and grounding the anchor guy. | PG&E resolved the finding in the field. |
| **17** | The pole has vegetation above the guy insulator that is contacting and grounding the anchor guy. | PG&E has a preexisting tag for the issue (EC 117272612). |
| **32** | The pole has vegetation above the guy insulator that is contacting and grounding the anchor guy. | PG&E has a preexisting tag for the issue (EC 125998891). |
| **65** | The pole has vegetation above the guy insulator that is contacting and grounding the anchor guy. | |
| **69** | The pole has vegetation above the guy insulator that is contacting and grounding the anchor guy. | PG&E has a preexisting tag for the issue (EC 122055052). |

| | | |
|---|---|---|
| **74** | The pole has vegetation above the guy insulator that is contacting and grounding the anchor guy. | PG&E has a preexisting tag for the issue (EC 113092001). |

**12. GO 95, Rule 56.9, Guy Marker (Guy Guard)** states:

> *"A substantial marker of suitable material, including but not limited to metal or plastic, not less than 8 feet in length, shall be securely attached to all anchor guys. Where more than one guy is attached to an anchor rod, only the outermost guy is required to have a marker."*

ESRB's finding related to the above rule is listed in Table 17:

**Table 17: GO 95, Rule 56.9 Finding**

| Location | Finding | Notes |
|---|---|---|
| **18** | The pole has a loose guy marker that is unsecured. | PG&E fixed the finding in the field. |

**13. 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's finding related to the above rule is listed in Table 18:

**Table 18: GO 128, Rule 17.1 Finding**

| Location | Finding | Notes |
|---|---|---|
| **81** | The pad mount transformer has different interior and exterior equipment number labels. | PG&E fixed the finding in the field. |

14. **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."*

ESRB's finding related to the above rule is listed in Table 19:

**Table 19: GO 128, Rule 17.8 Finding**

| Location | Finding | Notes |
|---|---|---|
| **79** | The underground switch is missing a utility ownership marker. | PG&E fixed the finding in the field. |

15. **GO 128, Rule 32.3, Manholes, Handholes and Subsurface Equipment Enclosures, Materials and Strength** states:

*"The materials, design and construction of manholes, handholes, subsurface equipment enclosures, and other underground boxes shall be such as to provide sufficient strength to sustain, with a suitable margin of safety, the loads which may reasonably be imposed on them. Manholes, handholes, and subsurface equipment enclosures in street areas which are subject to vehicular traffic shall be constructed to withstand H–20–44 highway loading as designated by the American Association of State Highway Officials. Floors of manholes shall meet the requirements of Public Utilities Code, Sec. 8054."*

ESRB's finding related to the above rule is listed in Table 20:

**Table 20: GO 128, Rule 32.3 Finding**

| Location | Finding | Notes |
|---|---|---|
| **37** | The subsurface transformer has a damaged enclosure that requires replacement. | PG&E has a preexisting tag for the issue (EC 122444933). |

16. **GO 128, Rule 32.7, Manholes, Handholes and Subsurface Equipment Enclosures, Covers** states in part:

*"Manholes, handholes, and subsurface equipment enclosures while not being worked in, shall be securely closed by covers of sufficient strength to sustain such loads as may reasonably be imposed upon them and arrangements shall*

*be such that a tool or appliance shall be required for their opening and cover removal."*

ESRB's findings related to the above rule are listed in Table 21:

**Table 21: GO 128, Rule 32.7 Findings**

| Location | Finding | Notes |
|---|---|---|
| **39** | The splice box has an unsecured and raised bolt on the cover. | PG&E fixed the finding in the field. |
| **47** | The secondary splice box cover has a hole that is accessible by the public. | PG&E fixed the finding in the field. |

**17. GO 128, Rule 34.3-A, Self-contained Surface-mounted Equipment, Strength** states:

*"The equipment case or enclosure shall be secured in place and be of sufficient strength to resist entrance or damage to the equipment by unauthorized persons."*

ESRB's findings related to the above rule are listed in Table 22:

**Table 22: GO 128, Rule 34.3-A Findings**

| Location | Finding | Notes |
|---|---|---|
| **78** | The pad mount transformer has a corroded enclosure that is accessibly by the public. | PG&E did a temporary repair in the field to make the transformer safe. |
| **80** | The pad mount transformer enclosure is corroded. | PG&E has a preexisting tag for the issue (EC 126529892). |

**18. GO 128, Rule 35.1, Identification of Cables** states:

*"Cables operating at a voltage in excess of 750 volts shall be permanently and clearly identified by tags or other suitable means to indicate their operating voltage and the circuit with which they are normally associated at each manhole or other commonly accessible location of the underground system."*

ESRB's finding related to the above rule is listed in Table 23:

**Table 23: GO 128, Rule 35.1 Finding**

| Location | Finding | Notes |
|---|---|---|
| **48** | The pad mount transformer is missing a label on the primary phase 2 cable. | PG&E fixed the finding in the field. |

**19. GO 128, Rule 35.3, Warning Signs** states:

*"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. Such warning signs shall also be installed on an exterior surface of all such pad mounted transformer compartments and other above ground enclosures. Such signs shall be clearly visible to a person in position to open any such access door, other opening, or barrier."*

ESRB's findings related to the above rule are listed in Table 24:

**Table 24: GO 128, Rule 35.3 Findings**

| Location | Finding | Notes |
|---|---|---|
| **48** | The pad mount transformer has a faded exterior high voltage sign. | PG&E fixed the finding in the field. |
| **79** | The underground switch has a missing high voltage sign. | PG&E fixed the finding in the field |

**20. GO 128, Rule 36.5-C, Grounding and Bonding of Conductors and Equipment, Grounding Methods** states in part:

*"Conductors and equipment required by Rule 36.5–A to be grounded shall be effectively grounded by one or more of the following methods:*

*(1) Burial in Earth: Bare neutral conductors, metallic cable sheaths and shields, metal pipes and metal conduits may be grounded by burying them directly in the earth.*

*(2) Grounding Electrodes: Conductors and equipment may be grounded by connections at one or more locations to driven ground rods or other suitable grounding electrodes.*

*(3) Bonding: Conductors and equipment may be grounded by bonding at one or more locations to conductors or equipment grounded in accordance with Rule 36.5–C1 or Rule 36.5–C2."*

ESRB's finding related to the above rule is listed in Table 25:

**Table 25: GO 128, Rule 36.5-C Finding**

| Location | Finding | Notes |
|---|---|---|
| **48** | The pad mount transformer is missing a ground for the case on the secondary side. | PG&E has a preexisting tag for the issue (EC 126528944). |

## V. Observations

1. **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 listed in Table 26:

**Table 26: Third-Party Audit Observations**

| Location | Observations |
|---|---|
| **3** | The pole has a broken communications lashing wire. |
| **7** | The pole has a loose vertical communications drop and has a loose bracket. |
| **10** | The communications service drop to 106 Crescent Road is wrapped around the power service drop and the communications lines have strain and abrasion from excessive vegetation. PG&E sent a third-party notification for these issue. |
| **18** | The pole has a loose communications line. PG&E fixed the finding in the field. |

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|---|---|
| **19** | The pole has a low hanging communications service drop. |
| **26** | The pole has a slack communications down guy. |
| **29** | The pole has a loose communications lashing wire. |
| **30** | The communications vertical riser guard is gaping away from the pole. PG&E fixed the finding in the field. |
| **31** | Two communications down guys are in contact. |
| **36** | The communications down guy cover is missing visibility strips. PG&E fixed the finding in the field. |
| **39** | The cable TV box has a loose lid and the enclosure is accessible by the public. PG&E sent a third-party notification for this issue. |
| **43** | The pole has loose communications lines and an unsecured riser guard. |
| **50** | The pole has abandoned communications lines. |
| **51** | The pole has abandoned communications lines. PG&E fixed this issue in the field. |
| **55** | The pole has a cut and abandoned communications down guy. PG&E sent a third-party notification for this issue. |
| **64** | The pole has loose communications lines and an unsecured riser guard. PG&E fixed this issue in the field. |
| **66** | The pole has loose communications lines and an unsecured riser guard. PG&E fixed this issue in the field. |