Company:	San Diego Gas & Electric Company (U 902 M)
Proceeding:	2024 General Rate Case – Track 3
Application No.:	A.22-05-016
Exhibit:	SDG&E-T3-WMPMA-18

HEARING EXHIBIT

OF SAN DIEGO GAS & ELECTRIC COMPANY

Incident Investigation Report (Edgewood Fire)

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

May 2026

SDG&E and PCF have stipulated to the introduction of this exhibit in exchange for the waiver of cross examination of PCF witness Bill Powers.

CALIFORNIA PUBLIC UTILITIES COMMISSION
Safety and Enforcement Division
Wildfire Safety and Enforcement Branch

Incident Investigation Report

Report Date: December 13, 2023.

Incident Number: E20220622-01 (Edgewood Fire)

Regulated Utility Involved: Pacific Gas and Electric Company (PG&E)

Incident Date and Time: June 21, 2022, at 1420 hours

Incident Location: Adjacent to and southwest of [redacted], Woodside, San Mateo County, California. [redacted]

Fatality/Injury: Zero fatalities, four firefighter injuries.

Property Damage: $0 non-utility property / $1,898,560 utility property damages[1]

Regulated Utility Facilities Involved: Jefferson-Stanford 60 Kilovolt (kV) transmission circuit, and Emerald Lake 4.2kV distribution circuit.

I. Summary

On June 21, 2022, at approximately 1420 hours, the Edgewood Fire (Incident) ignited in Woodside, California, in a Tier 2 High Fire Threat District (HFTD). The Incident originated at a PG&E distribution interset pole, supporting the Emerald Lake 4.2kV distribution circuit (Subject Distribution Circuit), which runs directly below a span of the Jefferson-Stanford 60kV transmission circuit (Subject Transmission Circuit).[2] The cause of the fire was most likely contact or arcing between the Subject Transmission Circuit and the Subject Distribution Circuit, due to insufficient clearance between the transmission and distribution conductors at Pole 103068309 (Incident Pole).

The Edgewood Fire burned 20 acres of wildland. There were no reports of damaged structures, but PG&E reported four firefighter injuries caused by the fire.[3] Before PG&E restored power at 1525 hours, on June 23, 2022, 2,733 distribution customers and one transmission customer experienced an outage. The California Department of Forestry and Fire Protection (CAL FIRE) confirmed that the fire was fully contained on June 26, 2022, at 1138 hours.[4]

[1] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 14," page 1. May 4, 2023.
[2] Subject Distribution and Transmission Circuits together hereafter referred to as "Subject Circuits."
[3] Pacific Gas and Electric Company. "Electric Incident Report Form," page 4. July 21, 2022. (20-Day Report).
[4] https://www.fire.ca.gov/incidents/2022/6/21/edgewood. Last accessed October 17, 2023.

On June 22, 2022, PG&E reported the Incident to the California Public Utilities Commission (Commission or CPUC) under Resolution E-4184's media criterion.[5] The CPUC Safety Enforcement Division's (SED) investigation of the Incident found that PG&E violated several requirements of General Order (GO) 95, Rules of Overhead Electric Line Construction and Section 451 of the California Public Utilities Code (Public Utilities Code or Pub. Util. Code).

A. Rules and Requirements Violated

	Rule	Violation
1.	GO 95, Rule 18	Failure to complete the following work orders within the time frame required by Rule 18: 1. Line Corrective Tag (LC) #120899152: insufficient conductor clearance at the Incident Location, a Tier 2 HFTD. 2. LC #119238762: missing guy wire fiberglass insulation at the Incident Location, in a Tier 2 HFTD. 3. Electrical Corrective Tag (EC) #124536873: insufficient conductor clearance to the ground below, in a Tier 3 HFTD.
2.	GO 95, Rule 31.1	Failure to comply with PG&E procedure TD-1001M, which requires insufficient clearance issues to be assigned Priority B status, by classifying work order LC #120899152 as Priority E.
3.	GO 95, Rule 31.1	Failure to comply with PG&E's Excavation Safety Manual by failing to identify a conductor clearance issue during the excavation near Pole 000/005 on June 21, 2022.
4.	GO 95, Rule 31.1	Failure to comply with PG&E's Electric Distribution Preventative Maintenance Manual (EDPM Manual) and Electric Transmission Preventative Maintenance (ETPM Manual) by failing to identify the conductor clearance issue at the Incident Location during 19 separate distribution and transmission patrols and inspections between 2017 and 2022.
5.	GO 95, Rule 38	Failure to maintain the GO 95, Rule 38 required conductor-to-conductor clearance for 4.2kV and 60kV conductors at the Incident Location.
6.	Pub. Util. Code Section 451	Failure to maintain facilities as necessary to promote the safety of the public by failing to maintain the minimum conductor clearances required by GO 95, Rules 37 and 38 in multiple instances throughout PG&E's service territory.

[5] Resolution E-4184 requires incidents attributable to utility facilities are reported to the CPUC if it meets of one three criteria: (a) a fatality or injury, (b) significant media coverage, (c) property damage in excess of $50,000.

GO 95, Rule 18 – Maintenance Programs and Resolution of Potential Violations of GO 95 and Safety Hazards states in part:

> *Companies shall undertake corrective action within the time period stated for each of the priority levels set forth below. . .*
>
> *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.*
>
> *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 [sic] 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 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.*
>
> *Level 3 – Any risk of low potential impact to safety or reliability: Take corrective action within 60 months subject to the exception specified below.*[6]

GO 95, Rule 31.1 – Design, Construction and Maintenance[7] states in part:

> *For all particulars not specified in these rules, design, construction, and maintenance should be done in accordance with accepted good practice for the given local conditions known at the time by those responsible for the design, construction, or maintenance of communication or supply lines and equipment.*[8]

GO 95, Rule 37 – Minimum Clearances of Wires above Railroads, Thoroughfares, Buildings, Etc. states in part:

> *Clearances between overhead conductors, guys, messengers or trolley span wires and tops of rails, surfaces of thoroughfares or other generally accessible areas across, along or above which any of the former pass; also the clearances between conductors, guys, messengers or trolley span wires and buildings, poles, structures, or other objects, shall not be less than those set forth in Table 1, at a temperature of 60° F. and no wind.*[9]

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[6] California Public Utilities Commission. "General Order 95 – Rules for Overhead Electric Line Construction" (GO 95), Rule 18, page I-10-11. January 2020.
[7] The scope of this investigation regarding GO 95, Rule 31.1 excludes reviewing the utility's compliance with its Wildfire Mitigation Plan.
[8] GO 95, Rule 31.1, page III-5.
[9] GO 95, Rule 37, page III-21.

GO 95, Rule 38 – Minimum Clearance of Wires from Other Wires states in part:

> *The minimum vertical, horizontal or radial clearances of wires from other wires shall not be less than the values given in Table 2 and are based on a temperature of 60° F. and no wind. Conductors may be deadended at the crossarm or have reduced clearances at points of transposition, and shall not be held in violation of Table 2, Cases 8–15, inclusive.*
>
> *The clearances In Table 2 shall in no case be reduced more than 10 percent, except mid-span in Tier 3 of the High Fire-Threat District where they shall be reduced by no more than 5 percent, because of temperature and loading as specified in Rule 43 or because of a difference in size or design of the supporting pins, hardware or insulators.*[10]

Public Utilities Code Section 451 states in part:

> *Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.*

B. Witnesses

	Name	Title
1.	Will Dundon	CPUC Lead Investigator
2.	Doug Mackie	CAL FIRE Battalion Chief
3.	[redacted]	PG&E Incident Investigator
4.	[redacted]	PG&E Electric Foreman

C. Evidence

	Source	Title
1.	PG&E	Initial Incident Report, 06/22/2022
2.	PG&E	20-Day Report, 07/21/2022
3.	CPUC	Data Request SED-001-Edgewood Fire (DR-1), 08/05/2022
4.	PG&E	Response to DR-1, 09/02/2022 (Tranche 1)
5.	PG&E	Response to DR-1, 09/30/2022 (Tranche 2)
6.	PG&E	Response to DR-1, 10/18/2022 (Tranche 3)
7.	PG&E	Response to DR-1, 02/06/2023 (Non-Privileged Event Analysis Report)
8.	PG&E	Response to DR-1, 03/03/2023 (Question 50 Amended)
9.	PG&E	Response to DR-1, 05/18/2023 (Question 24 Amended)
10.	CPUC	Data Request SED-002-Edgewood Fire (DR-2), 12/21/2022
11.	PG&E	Response to DR-2, 02/27/2023 (Tranche 1)

[10] GO 95, Rule 38, page III-27.

12.	PG&E	Response to DR-2, 02/17/2023 (Tranche 2)
13.	PG&E	Response to DR-2, 03/03/2023 (Tranche 3)
14.	CPUC	Data Request SED-003-Edgewood Fire (DR-3), 03/03/2023
15.	PG&E	Response to DR-3, 05/04/2023 (Tranche 1)
16.	PG&E	Response to DR-3, 05/18/2023 (Tranche 2)
17.	CPUC	Data Request SED-004-Edgewood Fire (DR-4), 06/05/2023
18.	PG&E	Response to DR-4, 06/26/2023

II. Background

The Edgewood Fire ignited on June 21, 2022 (Incident Date), at 1420 hours, adjacent to and southwest of [redacted], Woodside, San Mateo County, California (Incident Location). The Incident originated at the Incident Pole, an interset pole on the Subject Distribution Circuit, between Pole 000/004 and Pole 000/005 (the Incident Span). Poles 000/004 and 000/005 support conductors on both the Subject Distribution Circuit and the Subject Transmission Circuit. The Incident Location is in a Tier 2 HFTD. Figure 1 shows a satellite view of the Incident Location.

The Edgewood Fire burned 20 acres of wildland. There were no reports of damaged structures, but PG&E reported four firefighter injuries caused by the fire.[11] A total of 2,733 distribution customers and one transmission customer experienced a loss of power due to an electrical fault at 1420 hours on June 21, 2022. On June 23, 2022, at 1525 hours, PG&E fully restored power to customers on the affected circuits via switching and temporary generation. The utility then repaired and restored the Subject Circuits. CAL FIRE confirmed the fire was fully contained on June 26, 2022, at 1138 hours.

[11] 20-Day Report, page 4.

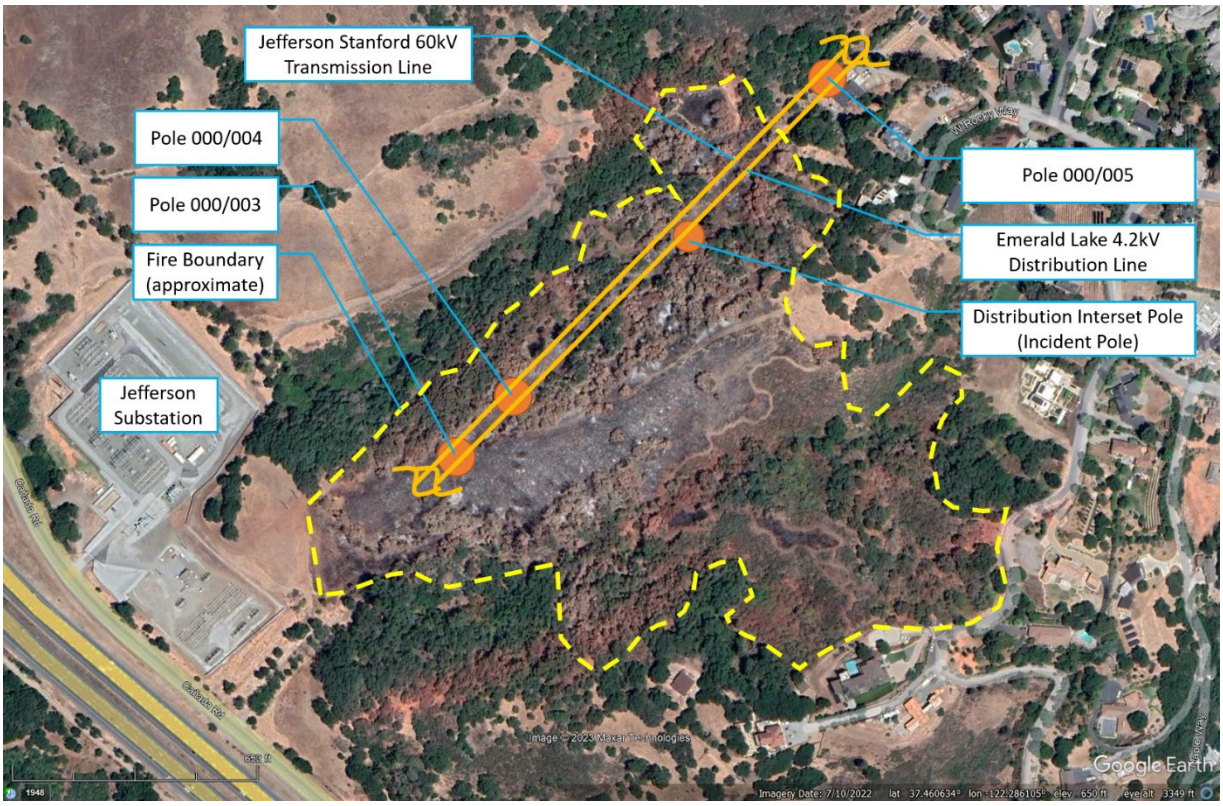

Figure 1**:** Map of the Incident Location.

According to PG&E, on the Incident Date at 1516 hours, the weather near the Incident Location was a high of 104°F with a relative humidity low of 13 percent. PG&E recorded the strongest wind gust of 10 mph at 1646 hours.

In addition to reviewing the weather data provided by PG&E, SED reviewed the weather data recorded by a nearby Remote Automatic Weather Station (RAWS). At the time of the fire ignition, the RAWS Pulgas weather station, located approximately 1.34 miles from the Incident Location, at an elevation of 644 feet (the approximate Incident Location elevation), recorded a temperature of 99°F, with 12 percent relative humidity, and 2 mile per hour winds with 14 mile per hour gusts. These conditions did not meet the PG&E's requirements for a Public Safety Power Shutoff activation according to the utility's Wildfire Mitigation Plan.

On June 22, 2022, PG&E reported the Incident to the CPUC under the media criterion.

III. Fire Authority Report

SED did not review the CAL FIRE Report as part of this investigation, because the CAL FIRE Report was still confidential and part of an ongoing investigation at the time of issuing this SED Incident Investigation Report.

IV. SED Review and Analysis

A. Review of Event Timeline

SED reviewed the timeline of events reported by PG&E provided in the 20-Day Report.[12]

1. Incident Timeline on the Incident Date[13]

On Tuesday, June 21, 2022, the following events occurred:

0700 hours	A PG&E contract construction crew arrived at Pole 000/005 on the Subject Transmission Circuit to excavate a hole so that another construction crew could install a new Pole 000/005 the following day.
1230 hours	The crew completed the excavation of a 14-foot deep, 3-foot diameter hole, approximately 3 feet from the existing pole. The crew reported they did not encounter any problems during the work and did not make contact with Pole 000/005. The crew covered the hole, put a temporary fence around the area, and left the area.
1420 hours	An interruption on PG&E's Subject Transmission Circuit occurred. Line protection devices detected a fault, and Jefferson Circuit Breaker (CB) 32 tripped open. At the same time, the Subject Distribution Circuit also experienced an interruption. Multiple protective devices tripped open which resulted in outages on the three different distribution circuits. Due to these events, one transmission customer and 2,733 distribution customers lost power.
1437 hours	A PG&E troubleman (Troubleman #1) investigating the transmission interruption, reported two fires to PG&E's Grid Control Center (GCC). The first fire was reportedly outside the Emerald Lake Substation near [redacted] in Redwood City, California, and the second fire was between the Jefferson-Stanford 60kV Poles 000/004 and 000/005, down the hill from and southwest of [redacted] in Woodside, California. PG&E reported that the local fire department arrived on the scene near [redacted]. This first fire was named the Colton Fire. The second fire, near [redacted], was named the Edgewood Fire.
1445 hours	A second troubleman (Troubleman #2) was dispatched to the site of the Colton Fire. Upon arriving at 1512 hours, the troubleman reported seeing the Edgewood Fire to PG&E's Distribution Control Center (DCC).
1600 hours	Local media reported that Colton Fire had burned less than one acre and subsequently reported that the Colton Fire was contained that afternoon. CAL FIRE later stated to SED that they initially been dispatched to the Colton Fire, but while on site, they saw the Edgewood Fire nearby and then responded to it as well.
1621 hours	The CAL FIRE Incident Commander asked Troubleman #2 to notify PG&E's DCC that there were reports of downed wires close to the Jefferson Substation and request that additional troublemen be dispatched to Jefferson Substation.

[12] Resolution E-4184 requires utilities to provide the CPUC with a report within 20 business days of any reportable incident that includes a description of the incident, cause, estimated damage, time and date, location, and measures taken to repair facilities and/or remedy problems on the system.

[13] 20-Day Report, pages 1-5.

1623 hours — A third PG&E troubleman (Troubleman #3) was dispatched to the Jefferson Substation and arrived at 1700 hours. At 1806 hours, Troubleman #3 informed the DCC that there was a broken crossarm on Pole 000/003 on the Subject Transmission Circuit. PG&E created a corrective work order to repair the crossarm.

1914 hours — Troubleman #3 called the DCC again to report a broken primary jumper at the Incident Pole. The troubleman did not observe any downed transmission or distribution conductors but did notice a fiber-optic communication line on the ground between Jefferson Substation and Emerald Lake Substation, which presumably were the downed wires the CAL FIRE Incident Commander requested PG&E investigate.

1938 hours — A transmission troubleman (Troubleman #4) called the GCC and reported damage to the Subject Transmission Circuit conductor above the Incident Pole, where Troubleman #3 reported the broken distribution jumper. PG&E determined that the damage would require repair and re-sagging of the transmission conductor before it could be reenergized.

2. Timeline of Events Following the Incident Date

On the following day, June 22, 2022, CAL FIRE maintained command of the scene at the Colton Fire and the Edgewood Fire sites.[14] The following events occurred:[15]

1. PG&E's construction contract crew arrived to install the new Pole 000/005 in the hole excavated the day before. CAL FIRE personnel stopped this work and told the crew not to proceed with their work due to the active fire scene.
2. CAL FIRE collected, with PG&E's assistance, a flying-bell jumper and eight feet of distribution conductor from the Subject Distribution Circuit close to Pole 000/010.
3. At 1353 hours, PG&E returned the Las Pulgas 0401/0402 distribution circuits to service through switching, and restored power to all customers on those distribution circuits.
4. PG&E collected four transformers from multiple locations in the neighborhood served by the Subject Distribution Circuit, which were reportedly damaged by the Incident.[16]
5. PG&E reported the Incident to the CPUC under the media criterion.

On June 23, 2022, the following events occurred:

1. At approximately 1400 hours, SED arrived on site and met with PG&E and CAL FIRE to perform a site visit.
2. PG&E measured, with SED and CAL FIRE present, the clearance between the distribution jumper on the Incident Pole, and the transmission conductor suspended above it. The minimum distance between the two measured as 23.5 inches, which is less than the GO 95, Rule 38 requirement of 96 inches.[17]

[14] 20-Day Report, page 4.
[15] 20-Day Report, page 4.
[16] Pacific Gas and Electric Company. "Data Request Response to DR-1, Question 41," page 1. September 2, 2022.
[17] GO 95, Rule 38, page III-27.

3. CAL FIRE collected, with PG&E's assistance, a distribution jumper and insulator from the Subject Distribution Circuit on the Incident Pole, and a 20-foot segment of transmission conductor from the Subject Transmission Circuit above the Incident Pole.
4. At 1525 hours, PG&E returned the Emerald Lake 0401/0402 distribution circuits to service through switching and temporary generation and restored power to all customers on those distribution circuits.
5. At 1700 hours, CAL FIRE released the scene to PG&E to begin repairs after collecting the evidence.
6. PG&E repaired the damaged jumper at the Incident Pole and the broken crossarm at Pole 000/003, and made plans to replace Poles 000/001, 000/002, 000/003, and 000/004 between the Incident Location and the Jefferson Substation at a future date.
7. At 1900 hours, PG&E began work to replace Pole 000/005. PG&E completed that work on June 24, 2022, at 0140 hours.

On June 24, 2022, at 0243 hours, the Subject Transmission Circuit was returned to full service.

On June 26, 2022, at 1138 hours, CAL FIRE officially declared the Edgewood Fire fully contained.

The fire burned 20 acres of wildland, resulted in zero structures burnt, zero civilian injuries or fatalities, four firefighter injuries,[18] and $1,898,560 dollars in property damage to utility facilities. [19] The utility received $0 dollars in claims for property damage to non-utility facilities.[20]

B. SED Field Observations

SED conducted two site visits to the Incident Location. The first site visit was to view CAL FIRE collection of evidence immediately after the Incident. The second site visit was to view the completion of pole installations to repair the damaged facilities after the fire.

1. Site Visit #1 – CAL FIRE Evidence Collection

On Wednesday, June 22, 2022, PG&E reported an Incident to the CPUC that CAL FIRE had made the utility aware of. Prior to visiting the site, SED was aware of the following:

- CAL FIRE had collected PG&E equipment from the Emerald Lake 0401 (4kV) distribution circuit.
- The Edgewood Fire began at approximately 1420 hours, on June 21, 2022, in the vicinity of Rocky Way and Eastview Way, at Edgewood County Park in Woodside, California in San Mateo County.
- As of 1500 hours on June 22, 2022, the fire had covered approximately 20 acres and was 42 percent contained.
- PG&E reported this Incident under the media coverage criteria.

[18] 20-Day Report, page 4.
[19] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 14," page 1. May 4, 2023.
[20] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 14," page 1. May 4, 2023.

On Thursday, June 23, 2022, at 1400 hours, SED Investigator Will Dundon met with PG&E Investigator [redacted], at [redacted] in Woodside, California, which is in a Tier 2 HFTD. CAL FIRE Battalion Chief Doug Mackey allowed the SED Investigator into the Incident Location while the PG&E Investigator waited outside the Incident Location. At 1510 hours, additional PG&E representatives arrived including: Transmission Electric Foreman for the Bay, Region [redacted], and Senior Public Safety Specialist, [redacted].

CAL FIRE reported to SED that they initially responded to a small (less than one acre) fire that they referred to as the Colton Fire, which they stated was potentially caused by a blown fuse and was quickly contained. CAL FIRE representatives then saw smoke from the Edgewood Fire and responded to that Incident. At the time of the SED site visit, the fire was essentially contained, and CAL FIRE reported it had spread to approximately 20 acres.

CAL FIRE escorted SED to the Incident Location and SED observed that transmission and distribution lines ran parallel from the Jefferson Substation across the hillside in the open space adjacent to [redacted] (shown above in Figure 1). PG&E later confirmed that the transmission line was the Subject Transmission Circuit, which runs from the Jefferson Substation next to Highway 280, to the Emerald Lake Substation, on the other side of the neighborhood in Woodside, California. PG&E also later confirmed that the distribution line was the Subject Distribution Circuit, which ran from the Jefferson Substation to serve the part of the Woodside neighborhood near [redacted]. Poles 0-4T40755282 (Pole 000/004) and 0-5T40767172 (Pole 000/005) supported the transmission and distribution conductors, but between these two poles, on the Incident Span, an unmarked pole, referred to as Pole 0-4A (Incident Pole), also supported the distribution conductors.[21]

CAL FIRE led SED down the hill to the Incident Pole shown in Figure 2 below. Upon initial inspection of the Incident Pole, SED observed that the transmission line was hanging very low and appeared damaged directly above the high point of the distribution circuit on the Incident Pole (see Figure 3 below). The high point of the distribution line was a jumper cable supported by a vertical insulator on the south phase. SED observed that the jumper cable was broken at the point of the vertical insulator. In addition, visible flashing on the vertical insulator implied that the transmission conductor and distribution jumper cable likely came in close enough contact to cause an electrical arc.

[21] The Incident Pole, the interset pole between Pole 000/004 and Pole 000/005 is referred to as Pole 0-4A by PG&E Transmission, and is referred to as Pole 103068309 by PG&E Distribution.

Figure 2: Incident Pole supporting a distribution line with a transmission line visible above.

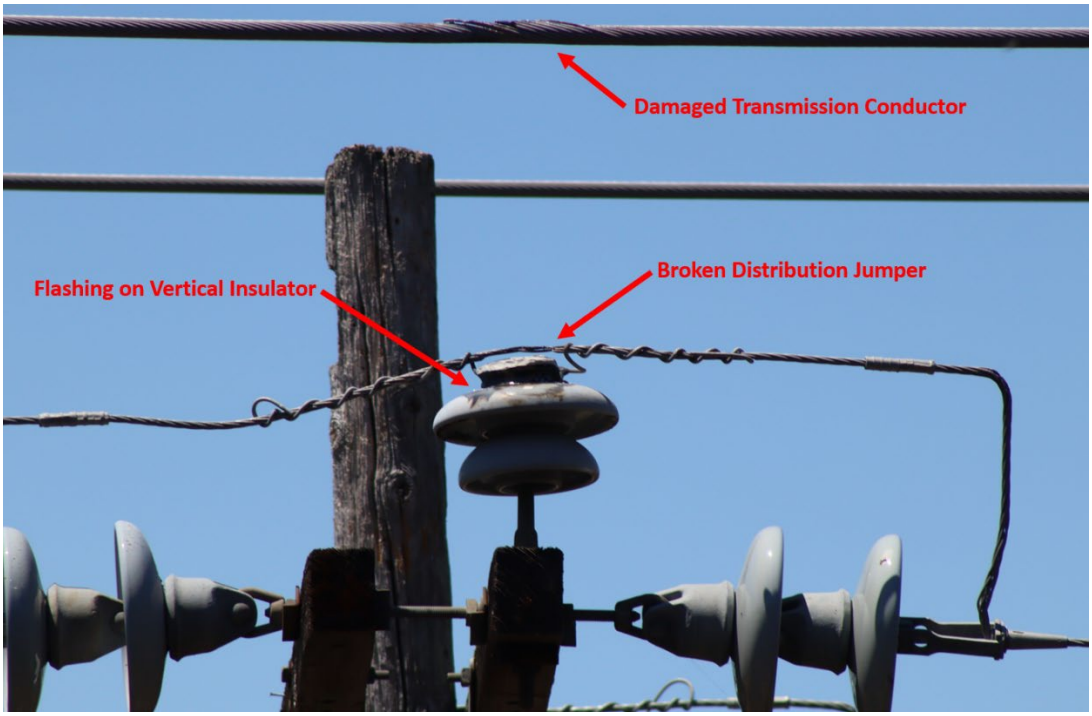

Figure 3: Top of the Incident Pole showing a damaged transmission conductor and a broken distribution jumper.

When PG&E joined CAL FIRE and SED, CAL FIRE informed the utility that they would be collecting evidence prior to the utility being able to repair and restore power. PG&E's priority for repair work was to repair the transmission line which served [redacted]. Before removing the evidence for CAL FIRE, the utility took measurements of the conductors in place, shown in **Figure 4** below. The distance between the transmission line, and distribution line jumper on the south phase was 23.5 inches. The distance between the transmission line and distribution line jumper on the north phase was 36.5 inches. The PG&E Transmission Foreman acknowledged that GO 95, Rule 38 required a minimum distance of 96 inches between 60kV and 4.2kV power lines. The measurements taken were "in situ." To SED's knowledge, the measurements taken reflect the distances between the lines prior to the fire's ignition. PG&E also measured the distance from the ground to the south phase transmission line at 40 feet 0 inches, and the distance from the ground to the south phase distribution line at 36 feet 5 inches.

Figure 4: PG&E Lineman measuring the distance between a transmission line and a distribution jumper cable, which reportedly measured 23.5 inches.

CAL FIRE collected the following as evidence from the Incident Pole: the jumper cable on the south phase of the distribution line, the vertical insulator on the south phase of the distribution line, and an approximately 6-foot segment of the south phase transmission line. The vertical

insulator had visible flashing on it, shown in Figure 5 below. The segment of transmission line CAL FIRE collected included the damaged portion, which showed flashing and melted metal. See Figure 6 below.

Figure 5: Flashing on the insulator collected by CAL FIRE.

Figure 6: Damaged transmission conductor collected by CAL FIRE.

SED observed the poles in the Incident Location. The Incident Pole had no label indicating the equipment number. CAL FIRE confirmed they did not find any sign or label near the pole when they were containing the fire. A tag on the side of the Incident Pole indicated that the pole was installed in 1968, shown in Figure 7 below.

Figure 7: Tag indicating the Incident Pole was installed in 1968.

Pole 000/005 was one pole east of the Incident Pole. When SED observed this pole, there was a replacement pole and new insulators visible at the base of the pole, shown in Figure 8 below. At

the time of SED's site visit, a contracting company's trucks and workers were present at the pole. However, the contracting company was not performing any work. PG&E confirmed that this pole had been scheduled to be replaced, and the work had begun, but was placed on hold when the fire broke out.

Figure 8: Pole 000/005, downstream from the Incident Pole. The fire outbreak stopped the work scheduled to replace this pole. The replacement pole can be seen in the lower left corner of the photo.

Pole 000/004 was one pole west (towards the Jefferson Substation) from the Incident Pole. This pole supported both the transmission and distribution lines. PG&E's Transmission Electric Foreman confirmed that the naming convention for Pole 000/004 indicates that it is the fourth pole from the Jefferson Substation. Figure 9 shows that this pole noticeably separates the lines further apart than they were above the Incident Pole (see Figure 2).

Figure 9: Pole 000/004 upstream of the Incident Pole, supporting and separating transmission and distribution lines.

Figure 10: Pole 000/004 damaged by the fire, a telecom line is hanging on the ground.

SED did not measure the lines at Pole 000/004, but the lines displayed in Figure 9 appeared to be 96 inches apart, in accordance with GO 95, Rule 38. The fire significantly burned the pole, as shown in Figure 10, and PG&E confirmed that it would be replaced, though not on the day of the site visit. SED observed a fiber-optic telecom line, broken and on the ground and extending from this pole to the next pole upstream, Pole 000/003. PG&E later confirmed to SED via email that the utility owned the fiber-optic line, and it would be replaced.

The view from Pole 000/004 looking towards the Incident Pole showed the significant amount of sag the transmission lines had across the Incident Span. See Figure 11 below.

Figure 11: View from Pole 000/004 looking towards the Incident Pole and Pole 000/005.

Pole 000/003 was two poles west from the Incident Pole. This naming convention indicates that it is the third pole from the Jefferson Substation. The fire also damaged this pole, and the pole had a broken crossarm supporting the Distribution lines. See Figure 12 below.

Figure 12: Pole 000/003 with a broken crossarm supporting distribution conductors.

2. Site Visit #2 – PG&E Repair Work

On Thursday, September 29, 2022, at 0815 hours, SED Investigator Will Dundon met with PG&E Investigator [redacted] at the Jefferson Substation off Highway 280 to visit the site of the Edgewood Fire. See Figure 1 above for a satellite image of the site. PG&E performed construction work the night before to replace poles in the area, and Transmission Construction Supervisor [redacted] met with the SED and the PG&E investigators to walk through the site. Figure 13 below shows the construction staging area where the parties met.

Figure 13: Staging Area for Repair Work (looking down at Jefferson Substation).

The PG&E construction supervisor confirmed that his crew had replaced Poles 000/002, 000/003, and 000/004 the night before the site visit, and that PG&E scheduled Pole 000/001 to be replaced that night or the next night (September 30, 2022). Figure 14 below shows Pole 000/001 prior to it being replaced.

SED observed that PG&E replaced the other wooden poles that the Edgewood fire damaged, Poles 000/002, 000/003, and 000/004, with metal poles. Figure 15 below shows Pole 000/002 as an example of the newly installed poles.

SED asked the PG&E construction supervisor about the broken crossarm on Pole 000/003 that SED observed during the June 23, 2022, site visit. He stated that the crossarm was likely damaged from the fire, and then twisted and snapped.

Figure 14: Wooden Pole 000/001.

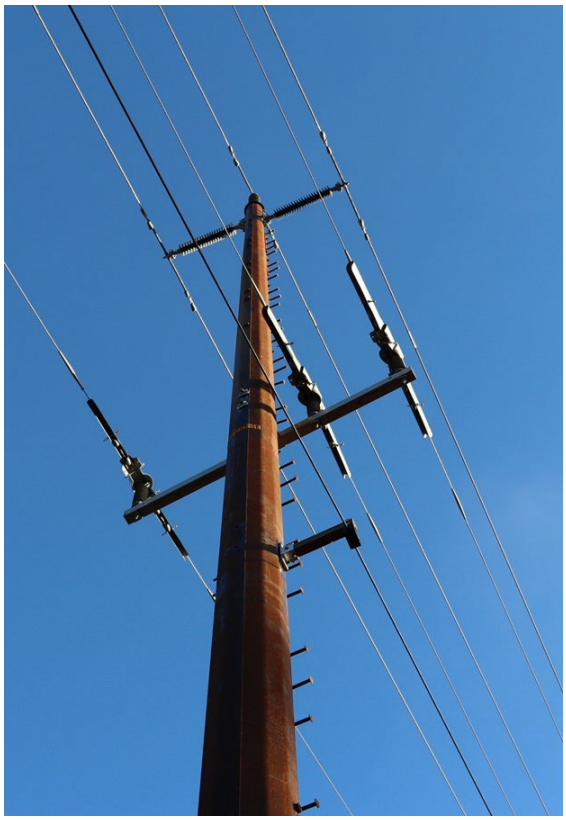
Figure 15: New Metal Pole 000/002.

The Incident Span to Pole 000/005 is visible from Pole 000/004. Figure 16 shows this span. SED observed that the sag in the transmission line was substantially less than what SED observed during the June 23, 2022 site visit. On the second site visit, SED observed that the clearance between the 60kV transmission conductors and the 4kV distribution conductors, running parallel below the transmission lines, had substantially increased with the installation of the new poles. Comparing Figure 11 to Figure 16, the clearance appeared to SED to meet the minimum 96-inch clearance required by GO 95, Rule 38, though no measurements were taken during SED's site visit.

Figure 16: Conductor span between Poles 000/004 and 000/005, with the Incident Pole visible below the transmission conductors.

After the SED and PG&E investigators took photos of Poles 000/001, 000/002, 000/003, and 000/004, they descended a steep grade to reach the Incident Pole. SED observed that PG&E had not replaced the Incident Pole, which showed some fire markings around the base. The PG&E construction supervisor remarked to SED during the site visit that he did not know if PG&E would replace this pole, since it was a distribution asset, and he was only knowledgeable about transmission assets. SED observed that the new jumper cables installed on the Incident Pole had insulation wrap around them, as shown in Figure 17 below.

PG&E had replaced the flying bell insulator, shown in Figure 18 below, after CAL FIRE took the old one as evidence. The PG&E construction supervisor pointed out that PG&E had not replaced the transmission conductor. Instead, PG&E installed “compression splices” on the spliced cable after CAL FIRE retained a section of conductor for evidence. Then, PG&E added “shunt splices” on top of the “compression splices.” He explained that a shunt splice looks like a wrap around the shiny tube-like sleeve, which is a compression splice. Both are shown in Figure 19 below. The PG&E construction supervisor added that these splices are commonly installed nowadays for increased electrical and mechanical security.

Figure 17: Top of the Incident Pole showing new, insulated jumper lines.

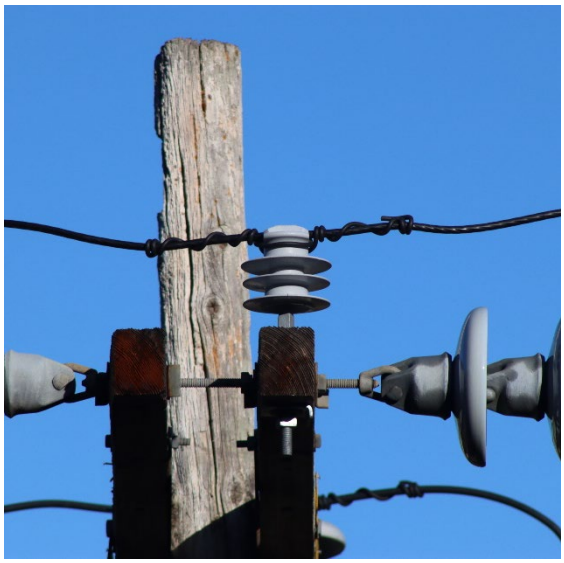

Figure 18: New flying bell insulator and insulated jumper lines on the Incident Pole.

Figure 19: Transmission conductor compression splice and shunt splice above the Incident Pole.

Pole 000/005 had been scheduled to be replaced and work was in progress prior to the Edgewood Fire igniting on June 21, 2022.[22] According to the PG&E construction supervisor and the

[22] The work order to replace Pole 000/005 was created on May 4, 2021 to replace the pole.

investigator, an ongoing dispute[23] between the utility and the property owner at Pole 000/005 had previously delayed the work.

Relatedly, due to the remarked upon ongoing dispute, during the site visit, the PG&E investigator called PG&E corporate security to request permission to access Pole 000/005 during the site visit. In turn, PG&E corporate security recommended that the investigator avoid the owner's property. As a safety measure, SED followed suit and did not access the pole. Rather than access the pole, SED photographed the pole from a distance and did not identify any abnormal conditions. See Figure 20 and Figure 21 for images of Pole 000/005.

Figure 20: Pole 000/005 viewed from down the hill looking north-east.

Figure 21: Bottom of Pole 000/005 viewed from down the hill looking north-east.

After walking the lines, the SED and the PG&E investigators, and the PG&E construction supervisor walked back to the staging area and concluded the site visit.

C. SED Document Review and Investigation

1. Analysis of Conductor Clearances

GO 95, Rule 38 provides a table with the minimum clearances that are required between multiple wires. The clearances specified in Rule 38 are based on the conditions of a temperature of 60˚F and no wind, and prohibit a clearance reduction of more than 10 percent. Case No. 5H in Table 2 of GO 95 provides the required clearance applicable to the Incident Location. Case No. 5H governs the clearance between 750 – 7,500 volt supply conductors, and 35,000 – 75,000 volt supply conductors, that are supported on different poles. With regard to the Edgewood Fire, the Subject Transmission Circuit (between 35,000 – 75,000 volts) spans above the Incident Pole, which supports the Subject Distribution Circuit (between 750 – 7,500 volts). The required

[23] The nature of the dispute is unknown to SED.

clearance for Case No. 5H is 96 inches.[24] Thus, the PG&E cannot reduce the clearance below 86.4 inches at any time, according to the 10 percent rule of Rule 38.

However, during SED's Site Visit #1, SED observed the conductors in violation of this clearance requirement. To investigate further, SED requested records from the utility to determine how long this clearance had been reduced below the required distance.

PG&E reported the following chain of events:

Feb. 19, 2019	Line Corrective Tag (LC) #116500147 identified a bent guy-wire anchor head on Pole 000/005.[25]
June 3, 2020	An engineering review of LC #116500147 identified that there was only 27.6 inches of clearance between the Subject Distribution Circuit and the Subject Transmission Circuit.[26] The review recommended replacing Pole 000/005 with a taller pole to address the clearance issue.[27] PG&E updated LC #116500147 with the findings from the June 3, 2020 report.
May 4, 2021	PG&E issued LC #120899152, a new Priority E work order with a 12-month due date, to replace the pole by April 29, 2022.[28]
June 3, 2022	PG&E performed a Field Safety Reassessment (FSR) and extended the deadline for the pole replacement to June 3, 2023.[29]
June 21, 2022	PG&E was in the process of replacing pole 000/005 and dug a hole for the new pole on the day the Edgewood Fire ignited.

During SED's investigation, PG&E provided a supporting document from the utility's Electric Transmission Preventative Maintenance Manual (ETPM Manual) called the Identifying Conductor Conditions Job Aid (TD-1001M-JA10). TD-1001M-JA10 states that if circuit-to-circuit clearances do not meet the values specified in the utility standard (such as 96 inches between a transmission conductor and a distribution interset pole) the utility must assign a Priority B level work order with a 3-month due date to the work.[30] PG&E failed to assign LC #120899152 this level of priority.

Furthermore, with appropriate analysis of readily available data, PG&E could have known about the insufficient clearance as early as September 28, 2016. In response to SED's request, PG&E provided historical Light Detection and Ranging (LIDAR) data for the Incident Span. The earliest available data was from September 28, 2016.[31] Figure 22 below shows a profile drawing

[24] GO 95, Rule 38, page III-27.
[25] Pacific Gas and Electric Company. "Data Request Response to DR-1, Question 49," page 1. September 2, 2022.
[26] Pacific Gas and Electric Company. "Data Request Response to DR-1, Question 49," page 1. September 2, 2022.
[27] Pacific Gas and Electric Company. "Data Request Response to DR-1, Question 49," page 1. September 2, 2022.
[28] Pacific Gas and Electric Company. "Data Request Response to DR-2, Question 21," page 1. March 3, 2023.
[29] Pacific Gas and Electric Company. "Data Request Response to DR-2, Question 21," page 1. March 3, 2023.
[30] Pacific Gas and Electric Company. "Identifying Conductor Conditions Job Aid" (TD-1001M-JA10), page 2. March 1, 2020. Provided to SED as an attachment to "Data Request Response to DR-2, Question 21." March 3, 2023.
[31] Pacific Gas and Electric Company. "Edgewood Fire Span Exhibit (2016-2019 LIDAR Data)," page 1. Provided as an attachment to PG&E Data Request Response to DR-3 Question 12. March 3, 2023.

of the Incident Span that PG&E provided based on LIDAR point cloud data from a September 28, 2016 scan of the area. The cross section shown in Figure 23 is based on LIDAR point cloud data at the Incident Pole. Figure 23 shows that on September 28, 2016, the clearance was 69.6 inches between the Subject Distribution Circuit conductors on the Incident Pole, and the Subject Transmission Circuit conductors hanging above the Incident Pole.

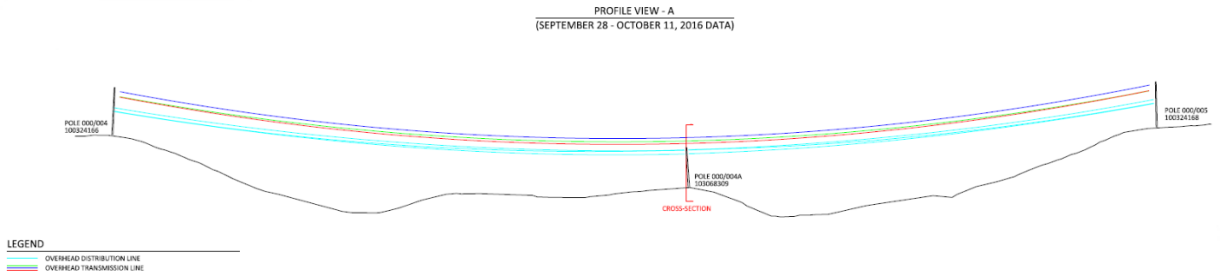

Figure 22: Profile Drawing of the Incident Span based on 2016 LIDAR Data.[32]

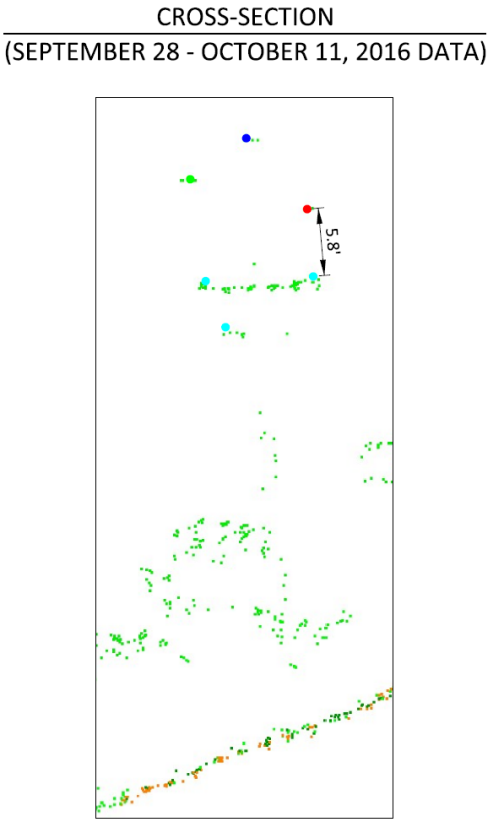

Figure 23: A cross section of the clearance at the Incident Pole based on LIDAR Data indicates a 69.6-inch clearance.[33]

[32] Pacific Gas and Electric Company. "Edgewood Fire Span Exhibit (2016-2019 LIDAR Data)," page 1. Provided as an attachment to PG&E Data Request Response to DR-3 Question 12 on May 4, 2023.
[33] Pacific Gas and Electric Company. "Edgewood Fire Span Exhibit (2016-2019 LIDAR Data)," page 1. Provided as an attachment to PG&E Data Request Response to DR-3 Question 12 on May 4, 2023.

PG&E also provided SED with similar drawings from LIDAR data from 2017 through 2021.[34] [35] Each drawing shows that the clearance between the transmission and distribution conductors at the Incident Pole was below the minimum clearance required by GO 95, Rule 38. This indicates that the insufficient clearance condition existed continuously since at least September 28, 2016, and PG&E had the LIDAR data that indicated as much. However, despite having this data available, PG&E stated that the utility did not use it programmatically to identify Rule 38 violations until after the Incident Date.[36]

Due to a lack of records earlier than 2016, SED could not conclusively determine when the Subject Span's clearance was reduced below the required limit. SED asked PG&E to provide the history of the installation of the Incident Span prior to the Edgewood Fire. PG&E stated that the utility installed Poles 000/004 and 000/005 and hung the Subject Transmission Circuit on February 26, 1968 and installed the Incident Pole on September 25, 1968.[37] PG&E reported that the utility made the last sag adjustment for the Incident Span in October 1979, but the utility could not determine the sag of the lines at the time of installation.[38]

However, the records PG&E did provide indicate a pervasive failure to act in accordance with legally prescribed timeframes to correct hazardous clearance deficiencies. PG&E provided a summary of the utility's Event Analysis Report for the Edgewood Fire that included a list of corrective and precautionary actions taken to enhance PG&E operations and procedures. One of the corrective actions for PG&E to take was to use its internal database to search for open transmission work tags which used one of several terms such as "GO 95" or "clearance." The search identified several work orders that PG&E had upgraded in priority.[39]

SED requested that PG&E provide a list and copies of the work orders identified in the search of the utility's internal database. The work orders provided are listed in the table below.[40]

[34] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 12," page 1. May 4, 2023.
[35] Pacific Gas and Electric Company. "Data Request Response to DR-2, Question 4," page 1. February 17, 2023.
[36] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 16," page 1. May 4, 2023.
[37] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 13," page 1. February 17, 2023
[38] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 13," page 1. February 17, 2023
[39] Pacific Gas and Electric Company. "Non-Privileged Summary of Incident and Corrective and Precautionary Actions," page 2. February 3, 2023. Provided in response to DR-1 Question 55.
[40] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 2." May 4, 2023. Attachments include LC #124254305, LC #118014477, LC #118014490, LC #118014473, LC #123431936, LC #123432042, LC #123432044, LC #123835796, and EC #124536873.

Work Order Tag ID #	Location	Inadequate Clearance Identified[41]	Date Identified	Date Due per GO 95, Rule 18[42]	Date Completed
LC #124254305	San Mateo County (Tier 2 HFTD)	44" between a 60kV conductor and a 12kV interset pole.	08/09/2022	08/09/2023	10/23/2022
LC #118014477* **LC #118014490** **LC #118014473**	San Mateo County (Tier 2 HFTD)	44" between a 115kV conductor and a 4kV conductor.	10/17/2019	10/17/2022	10/03/2022
LC #123431936* **LC #123432042** **LC #123432044**	San Mateo County (Non-HFTD)	21.33' between a 60kV conductor and ground level below.	04/26/2022	04/26/2025	Incomplete as of 05/04/2023[43]
LC #123835796 **EC #124536873**[44]	Humbolt County (Tier 3 HFTD)	21.24' between a 12kV conductor and ground level below.	06/13/2022	12/13/2022	Incomplete as of 05/04/2023

*PG&E noted the same clearance deficiency on the same conductor repeatedly, in multiple work orders.

LC #124254305 identified a 44-inch clearance between the 60kV and 12kV conductors. Case No. 6H in Table 2 of GO 95 defines the basic minimum clearance for these two voltages as 96 inches.[45] PG&E completed the work order and addressed the insufficient clearance 76 days after identification.

LC #118014477, LC #118014490, and LC #118014473 identified a 44-inch clearance between the 115kV and 4kV conductors. Case No. 5I in Table 2 of GO 95 defines the basic minimum clearance for these two voltages as 96 inches.[46] PG&E completed the work order and addressed the insufficient clearance 1,083 days after identification.

[41] Pacific Gas and Electric Company. "Data Request Response to DR-4, Question 1," pages 1-3. June 26, 2023.
[42] GO 95, Rule 18 requires Level 2 priority (any risk of at least moderate potential impact to safety or reliability) work to be completed within 36 months, but within 12 months in Tier 2 HFTDs, and within 6 months in Tier 3 HFTD. The Date Due listed in the table is based on this rule and the location of the particular work order inside or outside of a Tier 2 or Tier 3 HFTD.
[43] May 04, 2023, is the date PG&E sent the Data Request Response with copies of the work orders to SED.
[44] Issue first identified in LC #123835796 (transmission tag) and later reassigned as EC #124536873 (distribution tag). The date identified, due date, and date completed are based on the day it was first identified.
[45] GO 95, Rule 38, page III-27. Table 2 specifies reductions to the basic minimum clearance based on temperature, and variations in voltages. However, the clearance identified by PG&E was still below the adjusted minimum clearance required by Rule 38.
[46] GO 95, Rule 38, page III-27. Table 2 specifies reductions to the basic minimum clearance based on temperature, and variations in voltages, however the clearance identified by PG&E was still below the adjusted minimum clearance required by Rule 38.

LC #123431936, LC #123432042, and LC #123432044 identified a 21.33-foot clearance from 60kV conductors to the ground below. Case No. 3F in Table 1 of GO 95 defines the basic minimum clearance for supply conductors, at that voltage, crossing or along throughfares in urban or rural districts as 30 feet.[47] PG&E completed the work order and addressed the insufficient clearance 374 days after identification.

LC #123835796 and Electrical Corrective Notification (EC) #124536873 identified a 21.24-foot clearance from 12kV conductors to the ground below at a simulated 60˚F. The identified issue is located within a Tier 3 HFTD. As such, according to GO 95, Rule 18, the work order must be completed within 6 months of identification.[48] Case No. 3E in Table 1 of GO 95 defines the basic minimum clearance for supply conductors, at that voltage, crossing or along throughfares in urban or rural districts, as 25 feet at 60˚F. PG&E had not completed the work order as of May 4, 2023, the date SED received a copy of the work order. As of the date SED received that information, the insufficient clearance condition had existed for 326 days.

PG&E's Event Analysis Report for the Edgewood Fire described the utility's commitment to create a new process to regularly use collected LIDAR data to identify clearance issues.[49] Further, PG&E committed to improve its processes to allow the department collecting the LIDAR data to share datasets.[50] Nonetheless, these four instances of inadequate clearance identified by PG&E's search of its database, in addition to the instance of inadequate clearance that most likely directly led to the Incident, demonstrate PG&E's failure to maintain adequate facilities necessary to promote the public's health and safety.

2. Analysis of Overdue Work Orders near the Incident Location

GO 95, Rule 18 requires that each regulated utility establish maintenance programs for its facilities and sets maximum time periods to complete corrective actions associated with potential violations of GO 95 or Safety Hazards.[51] Priority Levels 1-3 are defined as follows:

[47] GO 95, Rule 37, page III-21. Table 1 specifies reductions to the basic minimum clearance based on temperature, and variations in voltages, however the clearance identified by PG&E was still below the adjusted minimum clearance required by Rule 38.
[48] GO 95, Rule 18, page I-10.
[49] Pacific Gas and Electric Company. "Non-Privileged Summary of Incident and Corrective and Precautionary Actions," page 2. February 3, 2023. Provided in response to DR-1 Question 55.
[50] Pacific Gas and Electric Company. "Non-Privileged Summary of Incident and Corrective and Precautionary Actions," page 2. February 3, 2023. Provided in response to DR-1 Question 55.
[51] GO 95, Rule 18, page I-10. "Safety Hazard" means a condition that poses a significant threat to human life of property. (GO 95, page I-8.)

Priority Level 1	An immediate risk requiring immediate corrective action.[52]
Priority Level 2	A risk of moderate potential impact and requiring corrective action within 6 months in a Tier 3 HFTD, within 12 months in a Tier 2 HFTD if it creates a fire risk, and 36 months for all others.[53]
Priority Level 3	Any risk of low potential impact generally requiring corrective action within 60 months.[54]

Since the Incident Location is in a Tier 2 HFTD, SED reviewed PG&E's open and recent work orders in the vicinity and paid particular attention to Priority Level 2 potential fire ignition risks. GO 95, Appendix I lists missing insulators and inadequate conductor clearances as examples of Level 2 risks.[55]

While the CPUC tracks work using the prioritization levels set by GO 95, PG&E uses its own internal prioritization levels when repair or corrective work is needed. The work is prescribed by a corrective work form with an identifying "tag." Transmission work orders receive a Line Correction Notification number (LC Tag) and distribution work orders receive an Electrical Corrective Notification number (EC Tag).[56] These tags have priority levels which correspond to different types of work and different required due dates.

PG&E's prioritization procedures have changed over the last several years in response to the increased number of work orders from the Wildfire Safety Inspection Program (WSIP).[57] SED reviewed work orders in the Incident Area and performed its analysis based on the PG&E prioritization procedures that were in effect at the time of the work order's creation. According to PG&E Procedure TD-8999B-001, effective November 2019, Priority tags A, B, and E were defined as follows:[58]

Priority A Tags	Emergency tags requiring an immediate response or stand-by.
Priority B Tags	Urgent tags requiring a response within 90 days.
Priority E and F Tags	Tags to be completed according to risk-based circuit prioritization.

[52] GO 95, Rule 18, page I-10.
[53] GO 95, Rule 18, page I-10.
[54] GO 95, Rule 18, page I-10.
[55] GO 95, Appendix I, page I-1.
[56] Pacific Gas and Electric Company. "PG&E's 2019 Corrective Tag Execution Approach" (TD-8999B). November 23, 2019. Provided to SED as an attachment to the supplemental response to DR-1 Question 50 on March 3, 2023.
[57] PG&E published Procedure TD-8999B on November 23, 2019 in response to a significant increase in volume of tags from the WSIP inspections. The procedure implemented a modified execution approach using risk-based prioritization because PG&E anticipated that many open work orders would not be resolved by their due dates.
[58] Pacific Gas and Electric Company. "PG&E's 2019 Corrective Tag Execution Approach" (TD-8999B), page 2. November 23, 2019. Provided to SED as an attachment to the supplemental response to DR-1 Question 50 on March 3, 2023.

Since then, PG&E Procedure TD-8123P-103, effective January 2023, has replaced that bulletin and redefined the priorities to be more in line with the requirements of Rule 18 as follows:[59]

Priority A Tags	Aligns with (Rule 18) Priority Level 1 as an immediate risk requiring immediate corrective action.
Priority B Tags	(No longer used for maintenance corrective actions.)
Priority E Tags	Align with Priority Level 2 and are due within 6, 12, or 36 months depending on the issue's location within a HFTD.
Priority F Tags	Align with Priority Level 3 and are due within 60 months.

Line Corrective Notifications #116500147 and #120899152

As previously discussed, SED reviewed LC #116500147, which identified a bent guy-wire anchor head on Pole 000/005 on February 19, 2019. An engineering review of the work order on June 3, 2020, identified the 27.6-inch clearance between the Subject Circuits at the Incident Span, and recommended replacing Pole 000/005 with a taller pole to address the clearance issue.[60] To execute the June 3, 2020 recommendation to replace the pole, PG&E created LC #120899152 as a Priority E work order on May 4, 2021.[61] However, PG&E had not installed the new pole as of June 21, 2022, the day the Edgewood Fire ignited. This work represented at least a Level 2 priority fire risk in a Tier 2 HFTD. Under Rule 18, the required due date for the completion of this clearance issue was June 3, 2021, meaning that the work was overdue by 383 days on the Incident Date. PG&E confirmed that it did not submit a Rule 18 exemption request for LC #120899152.[62]

Line Corrective Notification #119238762

SED reviewed open work orders near the Incident Location. LC #119238762 was created on June 30, 2020, as a work order to install fiberglass insulators on guy wires on Pole 000/004 near the Incident Location. PG&E created the work order as Priority E, with a due date of June 30, 2021.[63] The utility subjected the work order to an FSR on March 29, 2021, which acknowledged the condition still needed to be addressed and proposed a new due date of March 29, 2022.[64] Then on June 17, 2022, PG&E performed a second FSR which noted the condition still needed to be addressed and proposed a new due date of June 18, 2023.[65] On June 21, 2022, the Edgewood

[59] Pacific Gas and Electric Company. "Transmission Line Corrective (LC) Notification Maintenance Strategy" (TD-8123P-103), page 4. November 3, 2022, effective January 3, 2023. Provided to SED as an attachment to the response to DR-2 Question 9 on February 17, 2023.
[60] Pacific Gas and Electric Company. "Data Request Response to DR-1, Question 49," page 1. September 2, 2022.
[61] Pacific Gas and Electric Company. "Data Request Response to DR-2, Question 21," page 1. March 3, 2023.
[62] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 8," page 1. May 4, 2023.
[63] Pacific Gas and Electric Company. "Corrective Work Form Electric Transmission Line LC #119238762" (LC #119238762), page 1. Created June 30, 2020. Provided to SED as an attachment in response to DR-1 Question 27 on September 30, 2022.
[64] LC #119238762, page 2.
[65] LC #119238762, page 3.

Fire damaged the pole, and PG&E created a new work order to replace the pole.[66] SED observed this completed work during Site Visit #2.

Rule 18 requires that when a utility identifies Level 2 priority work that poses a fire risk in a Tier 2 HFTD (such as a missing fiberglass insulator), the corrective work must be completed within 12 months. However, PG&E did not complete the work identified in LC #119238762 until 24 months later when the pole was damaged by the Edgewood Fire and replaced. At the time of the Incident, the work was overdue by 356 days. PG&E confirmed that it did not submit a Rule 18 exemption request for LC #119238762.[67]

Electrical Corrective Notification #124536873

As previously discussed, on June 13, 2022, EC #124536873 identified an insufficient clearance of 21.24 feet between the 12kV distribution conductors and the ground below. As of May 4, 2023, when PG&E provided the work order to SED, EC #124536873 was still incomplete. The insufficient clearance identified in EC #124536873 was in a Tier 3 HFTD and represents a potential fire risk. Rule 18's required due date for EC #124536873 was December 13, 2022, six months after identifying the clearance issue. When SED received a copy of the work order, it was 143 days late according to GO 95 Rule 18.

3. Analysis of Utility's Compliance with Internal Procedures

GO 95, Rule 31.1 requires electrical utilities such as PG&E to design, construct, and maintain their facilities in accordance with accepted good practices for the intended use under known local conditions.[68] Pursuant to Rule 31.1, PG&E's own internal procedures constitute "accepted good practices." SED reviewed PG&E's actions related to the Edgewood Fire and in related work orders to evaluate the utility's compliance with its own internal procedures.

PG&E's Procedures for the June 21, 2022 Excavation

SED reviewed PG&E's procedures related to the excavation at Pole 000/005 on the Incident Date. PG&E provided its Procedure TD-4621M, which is the utility's Excavation Safety Manual.[69] The manual states in Section 1.4 that "excavations near electric utility structures, including power poles, may be subject to additional hazards." It continues, "after [a] Qualified Worker identifies and evaluates potential hazards, controls must be put in place to reduce or eliminate the hazards before beginning the work."[70]

SED asked PG&E what additional precautions the utility took, beyond the requirements of utility standard TD-4621M, during the excavation near pole 000/005, due to the insufficient clearance between the conductors of the Subject Circuits. PG&E responded that the excavation was approximately 36 inches away from the existing pole, so it would not alter the existing

[66] LC #119238762, page 3.
[67] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 8," page 1. May 4, 2023.
[68] GO 95, Rule 31.1, page III-5.
[69] Pacific Gas and Electric Company. "Data Request Response to DR-1, Question 31," pages 1-2. October 17, 2022.
[70] Pacific Gas and Electric Company. "Excavation Safety Manual" (TD-4621M), page 30. January 1, 2015. Provided to SED as an attachment to the response to DR-1, Question 31 on October 17, 2022.

clearances.[71] When SED asked for a copy of the calculations that showed that excavating 36 inches away from the pole would ensure the existing pole would be unaffected, PG&E responded:

> . . . [We] did not perform engineering calculations to confirm that excavation occurring 36 inches away from the existing pole would not affect the clearances between the conductors and are not aware of our contractor having performed such calculations. PG&E's contractors stated that the decision to locate the hole at that distance from the pole was to eliminate any potential risk of shifting the pole and thereby eliminate potential impacts on conductor clearance.[72]

This response indicated to SED that PG&E and the excavation contractor knew about the potential risk of the work affecting the clearances between the Subject Circuits, but did not take any preventative measures other than estimating that digging 36 inches from the existing pole would not affect Pole 000/005.

PG&E's contractors are required to understand the concepts in TD-4621M[73] and PG&E provided the contractor with a copy of the tailboard meeting notes from the work site. While the tailboard identified a multitude of potential hazards on the jobsite,[74] it omitted the potential hazard of line-to-line contact. Both PG&E and the contractor's management personnel knew about the potential hazard that initiated the work in the first place, but PG&E reported that the excavation crew was not briefed about the inadequate clearance and the potential hazard that represented. The purpose of the excavation was to dig a hole for a new, taller pole which would resolve the insufficient conductor clearance violation. SED asked PG&E why the tailboard did not identify the conductor clearance issue and PG&E responded:

> [The contractor's] tailboard did not identify a potential hazard related to conductor clearances because, as a civil construction company, their tailboard was concerned with crew safety during excavation. Because the conductors were outside of their 10-inch Minimum Approach Distance, they were not a safety concern and were not addressed in the tailboard. The excavation crew was not briefed on the potential hazard of inadequate conductor clearance. . .there was not a concern about potential shifting of the pole affecting conductor clearances.[75]

[71] Pacific Gas and Electric Company. "Data Request Response to DR-2, Question 24," page 1. January 27, 2023.
[72] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 1," page 1. May 4, 2023.
[73] TD-4621M. Appendix D, Section 1.2, page 143.
[74] Cedar Creek Corporation. "Tailboard," page 2. June 21, 2022. Provided to SED as an attachment to the response to DR-2, Question 11 on February 17, 2023. ("Fire, Heat Exhaustion, Slips, Trips & Falls, Moving vehicles & equipment, Wildlife, Poisonous snakes & insects, Sunburns, Dehydration, Pinch points, Driving, Improper PPE, Falling Rocks, Overhead loads, Lack of Communication, Open Hole, Cave-in, Heavy lifting, Steep Terrain.")
[75] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 11," page 1. May 18, 2023.

Figure 24: Excavation at Pole 000/005 the morning of June 21, 2022.[76]

Inspections Performed along the Incident Span

SED reviewed the records of inspections and patrols performed along the Incident Span from Pole 000/004 to Pole 000/005 to investigate if PG&E had an opportunity to identify the insufficient clearance between the Subject Circuits prior to the engineering review of LC #116500147 on June 3, 2020.

PG&E provided SED with the following information identifying the distribution and transmission inspections and patrols performed along the Incident Span from 2012 to 2022.[77]

[76] Pacific Gas and Electric Company. "Incident Area Photos." Provided as an attachment included with the 20-Day Report on July 21, 2022.
[77] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 15, Response Nos. 001 and 0002" May 4, 2023 and "Data Request Response to DR-3, Question 15, Response No. 002" May 18, 2023.

Inspection/Patrol Program	Method of Inspection/Patrol	Date Performed on Incident Span
Distribution GO 165 Patrol	Ground Patrol	June 2012
Transmission GO 165 Inspection	Ground Inspection	July 2012
Distribution GO 165 Patrol	Ground Patrol	March 2013
Transmission GO 165 Patrol	Ground Patrol	August 2013
Distribution GO 165 Patrol	Ground Patrol	January 2014
Transmission GO 165 Inspection	Ground Inspection	June 2014
Distribution GO 165 Patrol	Ground Patrol	February 2015
Transmission GO 165 Patrol	Ground Patrol	July 2015
Distribution GO 165 Inspection	Ground Inspection	March 2016
Transmission GO 165 Inspection	Ground Inspection	August 2016
Distribution GO 165 Patrol	Ground Patrol	April 2017*
Transmission GO 165 Patrol	Ground Patrol	August 2017*
Distribution GO 165 Patrol	Ground Patrol	February 2018*
Transmission GO 165 Inspection	Ground Inspection	August 2018*
Transmission WSIP Inspection	Ground Inspection	January/February 2019*
Distribution WSIP-100324166	Ground Inspection	March 2019*
Distribution WSIP-100324168	Ground Inspection	March 2019*
Distribution GO 165 Patrol	Ground Patrol	April 2019*
Distribution WSIP-103068309	Ground Inspection	April 2019*
Transmission Infrared Inspection	Infrared Inspection	May 2019
Transmission Drone Inspection	Drone Inspection	June 2019*
Transmission GO 165 Patrol	Ground Patrol	August 2019*
Distribution GO 165 Patrol	Ground Patrol	June 2020**
Distribution GO 165 Inspection	Ground Inspection	August 2020**
Transmission GO 165 Patrol	Aerial Patrol	September 2020**
Distribution GO 165 Patrol	Ground Patrol	March 2021**
Transmission GO 165 Patrol	Ground Patrol	May 2021**
Transmission Aerial Inspection	Detailed Aerial Inspection	March-May 2022**
Transmission GO 165 Inspection	Ground Inspection	June 2022**
Distribution GO 165 Patrol	Ground Patrol	June 2022**

* The lines with yellow highlights indicate inspections where PG&E failed to identify the insufficient clearance before the June 3, 2020 engineering review.

** The lines with green highlights indicate inspections where PG&E failed to identify the insufficient clearance after the June 3, 2020 engineering review.

Based on the LIDAR data SED reviewed of the Incident Span, as early as September 28, 2016, the clearance between the Subject Circuits reduced below 75 percent of the required 96-inch clearance, more than 24 inches closer together than what is required by GO 95.[78] For the purposes of this investigation, SED is using the date of September 28, 2016 as the basis of its findings of violations because it is the earliest date SED has evidence of the clearance issue.

Additionally, July 22, 2019 LIDAR data of the Incident Span identified the insufficient clearance had degraded further over the years and under the summer heat[79] to only 42 inches, less than 50 percent of the required 96 inch clearance between the Subject Circuits. [80] This GO 95 violation is visible to the naked eye and should have been identifiable in what GO 165 defines as a "patrol inspection." In response to SED's inquiry, PG&E listed issues that distribution patrols and inspections, and transmission patrols and inspections, are intended to identify. Both lists included "conductor clearance issues."[81] In addition, PG&E stated that WSIP inspections followed the guidelines of PG&E's ETPM Manual, which call for the inspector to determine whether clearance meets GO 95 and PG&E design requirements during the inspection.[82]

However, because PG&E's records show that the utility first became aware of the Subject Circuits' inadequate clearance on June 3, 2020, the utility failed to identify insufficient clearance during the 11 GO 165 or WSIP inspections conducted between September 2016 and June 2020. The following patrols and inspections failed to identify the unsafe condition caused by the insufficient clearance between the conductors:

1. Distribution GO 165 Patrol, April 2017
2. Transmission GO 165 Patrol, August 2017
3. Distribution GO 165 Patrol, February 2018
4. Transmission GO 165 Inspection, August 2018
5. Transmission WSIP, January 2019
6. Distribution WSIP-100324166, March 2019
7. Distribution WSIP-100324168, March 2019
8. Distribution GO 165 Patrol, April 2019
9. Distribution WSIP-103068309, April 2019
10. Transmission Drone Inspection, May 2019
11. Transmission GO 165 Patrol, August 2019

[78] Pacific Gas and Electric Company. "Edgewood Fire Span Exhibit (2016-2019 LIDAR Data)," page 1. Provided as an attachment to PG&E Data Request Response to DR-3 Question 12. March 3, 2023.
[79] Higher temperatures in summer lead to the thermal expansion of the metal conductors, which would mean the transmission conductors sag lower in the center of the span. Since the distribution conductors are supported by an interset pole at the lowest point of the transmission span, the clearance between the two circuit decreases.
[80] Pacific Gas and Electric Company. "Edgewood Fire Span Exhibit (2016-2019 LIDAR Data)," page 3. Provided as an attachment to PG&E Data Request Response to DR-3 Question 12. March 3, 2023.
[81] Pacific Gas and Electric Company. "Data Request Response to DR-4, Question 5," page 1, and "Data Request Response to DR-4, Question 6," page 1. June 26, 2023.
[82] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 9," page 1. May 4, 2023.

PG&E provided inspection reports for the WSIP inspections of the Incident Span with its 20-Day Report, and the photos below from two separate 2019 inspections show transmission conductors hanging visibly close to the distribution conductors on the Incident Pole. LIDAR data from that year confirms that there was insufficient clearance at the time of this inspection.[83] Nonetheless, the inspector failed to identify the condition. PG&E explained to SED that as part of its corrective actions taken in response to the Edgewood Fire, PG&E created a new process to use LIDAR data to identify GO 95, Rules 37 and 38 clearance issues. However, PG&E confirmed that prior to July 21, 2022, the utility did not use LIDAR to identify clearance issues and that those issues, if they were identified at all, were identified via overhead inspections.[84]

Figure 25: Photo of the Incident Pole taken on January 16, 2019 as part of a transmission WSIP inspection. The inspection report does not identify any clearance issues.[85]

Figure 26: Photo of the Incident Pole taken on April 6, 2019 as part of a Distribution WSIP inspection. The inspection report does not identify any clearance issues.[86]

After the engineering review identified the clearance issue at the Incident Pole on June 3, 2020, eight more inspections (highlighted in green in the table above) of the Incident Span continued to fail to identify the clearance deficiency.

[83] Pacific Gas and Electric Company. "Edgewood Fire Span Exhibit (2016-2019 LIDAR Data)," page 3. Provided as an attachment to PG&E Data Request Response to DR-3 Question 12. March 3, 2023.
[84] Pacific Gas and Electric Company. "Data Request Response to DR-3, Question 16," page 1. May 4, 2023.
[85] Pacific Gas and Electric Company. "Non-Steel Structure Detailed Inspection Form for Structure 000/004A" (2019 Transmission WSIP Inspection Report), page 2. January 16, 2019. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.
[86] Pacific Gas and Electric Company. "Electric Distribution Overhead Inspection for Pole 103068309" (2019 Distribution WSIP Inspection Report), page 2. April 6, 2019. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.

1. The June 2020 Distribution GO 165 Patrol records do not identify conductor clearances issues and notes "no abnormal conditions identified today."[87]

2. The August 2020 Distribution GO 165 Inspection records do not identify any issues with conductor clearances along the Incident Span, but include photos which show the transmission conductor sagging low and hanging above the Incident Pole.

Figure 27: Photo of the Incident Pole taken by the PG&E Compliance Inspector on August 6, 2020, during a Distribution GO 165 Inspection. Transmission conductors are visible above in the top left corner.[88]

Figure 28: Photo of the Incident Pole taken by the PG&E Compliance Inspector on August 6, 2020, during a Distribution GO 165 Inspection. Transmission conductors are visible above.[89]

3. The September 2020 Transmission GO 165 Aerial Inspection records do not identify any conductor clearance issues along the Incident Span, though PG&E's ETPM Manual states that "all [flying] patrols must be conducted in a manner that will ensure the identification of the typical problems listed in Section 3.1.1." This list of typical problems includes "inadequate conductor clearances."[90] However, when SED questioned PG&E why this aerial inspection did not identify the clearance issue, PG&E stated that because the Incident Pole is located on a steep hill and surrounded by trees, it was very difficult for the patrolman to gauge the distance between the conductors.[91]

[87] Pacific Gas and Electric Company. "Electric Maintenance Patrol Log" (2020 GO 165 Distribution Patrol Records), page 3. June 15, 2020. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.
[88] Pacific Gas and Electric Company "103068309 Overhead Checklist" (2020 GO 165 Distribution Inspection Records) page 3. August 6, 2020. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.
[89] Pacific Gas and Electric Company "103068309 Overhead Checklist" (2020 GO 165 Distribution Inspection Records) page 3. August 6, 2020. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.
[90] Pacific Gas and Electric Company "Electric Transmission Preventative Maintenance Manual" (ETPM Manual, or TD-1001M). Section 3.1.1, page 55 of 94. November 20, 2018. Provided to SED as an attachment to the response to DR-2, Question 2 on February 17, 2023.
[91] Pacific Gas and Electric Company. "Data Request Response to DR-2, Question 2," page 1. February 17, 2023.

PG&E also reminded SED in its response that the inspection records stated, "no *new* issues found,"[92] indicating that PG&E inspectors knew about the *old* issue of insufficient clearance and simply chose not to identify it on the inspection records. However, since PG&E acknowledged that the helicopter pilot did not conduct the patrol in a manner that would ensure identification of clearance issues due to the terrain and trees in the area, SED finds a preponderance of evidence that this inspection failed to identify the issue.

4. The March 2021 Distribution GO 165 Patrol records identify no issues with conductor clearances along the Incident Span and notes "no abnormal conditions identified today."[93]

5. The May 2021 Transmission GO 165 Patrol records do not identify any issues with conductor clearances along the Incident Span and notes "no problems found."[94]

6. The March 2022 Transmission Detailed (drone) Aerial Inspection records do not identify any issues with conductor clearances along the Incident Span. The report states for Pole 000/005 that there are "no conductor issues or compelling abnormal conditions to report." The inspection found no issues despite PG&E already being aware that there was a clearance issue and that a work order has been created for Pole 000/005 to be replaced with a taller pole to address the issue.

7. The June 2022 Transmission GO 165 Inspection records do not identify any issues with conductor clearances along the Incident Span. The inspection report for Pole 000/005 states "no conductor issues or compelling abnormal conditions to report"[95] The inspection found no issues despite that fact that work was progressing to replace the pole in the next month to address the known clearance issues with the conductors.

8. The June 2022 Distribution GO 165 Patrol records do not identify any issues with conductor clearances along the Incident Span and notes "no abnormal conditions identified today."[96]

[92] Pacific Gas and Electric Company. "Data Request Response to DR-2, Question 2," page 1. February 17, 2023.
[93] Pacific Gas and Electric Company. "Electric Maintenance Patrol Log" (2021 GO 165 Distribution Patrol Records), page 1. March 22, 2021. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.
[94] Pacific Gas and Electric Company. "Transmission Line Inspection Datasheet" (2021 GO 165 Transmission Patrol Records), page 1. May 7, 2021. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.
[95] Pacific Gas and Electric Company. "Non-Steel Inspection Form for Structure 000/005" (2022 GO 165 Transmission Inspection Records), page 3. June 3, 2022. Provided to SED as an attachment to the 20-Day Report on July 21, 2022.
[96] Pacific Gas and Electric Company. "Electric Maintenance Patrol Log" (2022 GO 165 Distribution Patrol Records), page 2. June 16, 2022. Provided to SED as an attachment to the response to DR-4, Question 3 on June 26, 2023.

This recurrent oversight indicates that the patrols and inspections were a woefully inadequate mechanism to maintain the utility's facilities in a safe manner, or to comply with GO 95 requirements when the terrain made inspections more difficult. SED acknowledges that the Incident Pole is on a steep slope and surrounded by trees, however, this is the case for a large portion of PG&E's service territory and should not prevent the utility from properly maintaining its facilities. The fact that the utility did not have an effective mechanism for identifying these issues, until after the fire, when PG&E began to implement a procedure to use LIDAR data, shows PG&E's failure to provide safe and reliable service.

D. Violations

SED reviewed and analyzed inspection and maintenance records, and investigation reports related to this Incident, to determine compliance with the Commission's regulations. SED's investigation found 11 violations as detailed below.

GO 95, Rule 18 – Maintenance Programs and Resolution of Potential Violations of GO 95 and Safety Hazards states in part:

> *Companies shall undertake corrective action within the time period stated for each of the priority levels set forth below. . .*
>
> *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.*
>
> *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 violation that create a fire risk located in Tier 3 of the High Fire Threat District; (2) 12 months for potential violations that create 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.*
>
> *Level 3 – Any risk of low potential impact to safety or reliability: Take corrective action within 60 months subject to the exception specified below.*

Violation 1

GO 95, Rule 18 requires that risks of at least moderate potential impact to safety or reliability, such as insufficient conductor clearances, be addressed within 12 months in a Tier 2 HFTD, and within 6 months in Tier 3 HFTD. PG&E failed to meet these required deadlines in three instances:

1. PG&E identified an insufficient clearance of 27.6 inches between the conductors of the 60kV Jefferson-Stanford transmission circuit and the 4.2 kV Emerald Lake distribution circuit on June 3, 2020, during an engineering review of LC #116500147. The clearance issue was not addressed within 12 months despite being in a Tier 2 HFTD. On May 4, 2021, PG&E created LC #120899152 to replace Pole 000/005 to address the clearance issue and assigned the work a due date of April 29, 2022. PG&E did not complete LC #120899152 within the required time frame, and did not submit a request for exemption from the required time frame. PG&E was in the process of replacing the pole on June 21, 2022, when the Edgewood Fire ignited. The work to address the insufficient clearance identified on June 3, 2020 was overdue by 383 on the day the Edgewood Fire ignited.

2. PG&E created LC #119238762 on June 30, 2020, to address a guy wire supporting an electrical pole near the Incident Location of the Edgewood Fire, which was missing its fiberglass insulator. PG&E did not address the missing insulator within 12 months despite being in a Tier 2 HFTD. PG&E did not complete the work until the Edgewood Fire burned the pole on June 21, 2022, and the utility replaced the pole after the fire. PG&E did not submit a request for exemption from the required time frame. The work was overdue by 356 days on the day the Edgewood Fire ignited.

3. PG&E created EC #124536873 on June 13, 2022, to address the insufficient clearance of 21.25 feet between the 12kV distribution conductors and the ground below. PG&E did not address the clearance issue within 6 months, despite being in a Tier 3 HFTD. EC #124536873 remained incomplete as of May 4, 2023, when PG&E sent the work order to SED. At that time, the work was 143 days overdue.

PG&E's failure to address these Level 2 maintenance issues by the required due date violates GO 95, Rule 18.

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

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

Violation 2

GO 95, Rule 31.1 requires that utilities follow accepted good practices for the design, construction, and maintenance of their electric facilities, which extends to requiring utilities to follow their internal procedures as accepted good practices. The PG&E ETPM Manual states that if circuit-to-circuit clearances exceed the values specified by the utility's standard, the work must be assigned Priority B with a 3-month due date.

PG&E created LC #120899152 to address the insufficient clearance identified at the Incident Location of the Edgewood Fire but assigned it Priority E with a 12-month due date.

PG&E's failure to follow its ETPM Manual by failing to assign the correct internal priority to a work order which identified an insufficient clearance violates GO 95, Rule 31.1.

Violation 3

GO 95, Rule 31.1 requires that utilities follow accepted good practices for the design, construction, and maintenance of their electric facilities, which extends to requiring utilities to follow their internal procedures as accepted good practices. PG&E's contractors performing an excavation on June 21, 2022, to replace Pole 000/005 at the Incident Location were required to follow the utility's procedure TD-4621M, PG&E's Excavation Safety Manual. The manual requires that a Qualified Worker must identify and evaluate potential hazards and implement controls to reduce or eliminate those hazards before beginning work.

PG&E's tailboard which identified the potential hazards at the jobsite did not identify the insufficient clearance between the conductors, and the potential risk of line-to-line contact, while excavating near a pole supporting those conductors. In addition, the excavation crew was not briefed on the potential hazard of inadequate conductor clearance.

By failing to brief workers and address the potential hazard for line-to-line contact, PG&E failed to meet the requirements of its Excavation Safety Manual, which violates GO 95, Rule 31.1.

Violation 4

GO 95, Rule 31.1 requires that utilities follow accepted good practices for the design, construction, and maintenance of their electric facilities, which extends to requiring utilities to follow their internal procedures as accepted good practices. PG&E's EDPM and ETPM Manuals both state that distribution and transmission patrols and inspections (including aerial inspections) are intended to identify conductor clearance issues.

Despite LIDAR data confirming that an insufficient conductor clearance condition was present at the Incident Location as early as September 2016, the following separate patrols and inspections at the Incident Location did not identify any conductor clearance issues:

1. Distribution GO 165 Patrol, April 2017
2. Transmission GO 165 Patrol, August 2017
3. Distribution GO 165 Patrol, February 2018
4. Transmission GO 165 Inspection, August 2018
5. Transmission WSIP, January 2019
6. Distribution WSIP-100324166, March 2019
7. Distribution WSIP-100324168, March 2019
8. Distribution GO 165 Patrol, April 2019
9. Distribution WSIP-103068309, April 2019
10. Transmission Drone Inspection, May 2019

11. Transmission GO 165 Patrol, August 2019
12. Distribution GO 165 Patrol, June 2020
13. Distribution GO 165 Inspection, August 2020
14. Transmission GO 165 Arial (helicopter) Inspection, September 2020
15. Distribution GO 165 Patrol, March 2021
16. Transmission GO 165 Patrol, May 2021
17. Transmission Detailed Aerial (drone) Inspection, March 2022
18. Transmission GO 165 Inspection, June 2022
19. Distribution GO 165 Patrol, June 2022

PG&E's failure to identify conductor clearance issues during 19 patrols and inspections as required by the utility's EDPM and ETPM Manuals violates GO 95, Rule 31.1.

GO 95, Rule 38 – Minimum Clearance of Wires from Other Wires states in part:

> *The minimum vertical, horizontal or radial clearances of wires from other wires shall not be less than the values given in Table 2 and are based on a temperature of 60° F. and no wind. Conductors may be deadended at the crossarm or have reduced clearances at points of transposition, and shall not be held in violation of Table 2, Cases 8–15, inclusive.*
>
> *The clearances In Table 2 shall in no case be reduced more than 10 percent, except mid-span in Tier 3 of the High Fire-Threat District where they shall be reduced by no more than 5 percent, because of temperature and loading as specified in Rule 43 or because of a difference in size or design of the supporting pins, hardware or insulators.*

Violation 5

Table 2 of GO 95, Rule 38 states that the basic minimum clearance is 96 inches for wires, cables and conductors not supported on the same poles, for supply conductors between 750 – 7,500 volts and supply conductors between 35,000 – 75,000 volts.

As addressed by EC #120899152, PG&E identified a 27.6-inch clearance between the Subject Distribution Circuit and the Subject Transmission Circuit at the Incident Location on June 3, 2020, during an engineering review of a work order. A LIDAR scan identified a 69.6-inch clearance at the same location on September 28, 2016. The clearance was below the required basic minimum clearance until the Edgewood Fire on June 21, 2022.

PG&E's failure to maintain the clearance required by Table 2 violates GO 95, Rule 38.

Public Utilities Code Section 451 states in part:

> *Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including*

telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.

Violation 6

Public Utilities Code Section 451 states that public utilities shall furnish and maintain service, equipment, and facilities as necessary to promote the safety and health of the public.

PG&E identified multiple instances of open work orders to address conductor clearance which did not meet the minimum requirements of GO 95, Rules 37 and 38, including the following:

1. LC #123431936, LC #123432042, and LC #123432044 identified a 21.33-foot clearance between the 60kV conductors and the ground below on April 26, 2022, which is less than the required 30-foot clearance required by GO 95, Rule 37. This inadequate clearance condition existed 374 days after identification.

2. EC #124536873 identified a 21.24-foot clearance between the 12kV conductors and the ground below at a simulated 60˚F on June 13, 2022, which is less than the 25-foot clearance required by GO 95, Rule, 37. When SED received this information, the inadequate clearance condition had existed for 326 days.

3. LC #124254305 identified a 44-inch clearance between a 12kV conductor and a 60kV conductor on August 9, 2022, which is less than the 96-inch clearance required by GO 95, Rule 38. This inadequate clearance condition existed 76 days after identification.

4. LC #118014477, LC #118014490, and LC #118014473 identified a 44-inch clearance between a 4kV conductor and a 115kV conductor on October 17, 2019. The clearance was below the required basic minimum clearance until the work order was completed on October 3, 2022. This inadequate clearance condition existed for 1,083 days after identification.

GO 95, Rules 37 and 38 establish the necessary minimum clearance requirements for safe operation of electric facilities. PG&E's repeated failure to maintain facilities as necessary to meet these requirements results in a risk to public safety and violates Public Utilities Code Section 451.

V. Conclusion

SED's investigation finds that two years before the Edgewood Fire occurred, PG&E knew about the conductor clearance violation which most likely caused the fire. Although the utility did not start using LIDAR data to identify clearance violations until after the Edgewood Fire, SED also found that PG&E had LIDAR data in its possession that showed the conductor clearance violation existed for at least six years before eventually leading to the Edgewood Fire. PG&E's procedures required a clearance issue like this to be addressed within three months, but the utility

failed to correct the issue for at least six years. In that time, nineteen inspections or patrols of the Incident Location could have, and should have, identified the clearance issue, but they did not.

PG&E has a history of failing to act in a timely manner to address maintenance issues and safety hazards. SED determined the utility violated GO 95 Rule 18 for failing to complete maintenance work on time in multiple prior investigations of wildfires. This pattern of negligent omissions most likely caused the Edgewood Fire, which burned 20 acres of wildland and caused an outage for 2,733 distribution customers and one transmission customer, and reportedly injured four firefighters.

Although Edgewood Fire did not result in substantial non-utility property damage or loss of life, it occurred in a HFTD, where there is increased risk of severe consequences when utilities neglect to maintain their equipment. As part of its internal investigation, PG&E found other instances in its service territory where the utility identified clearance violations, and the utility stated to SED that these issues would be prioritized and addressed quickly. SED urges PG&E to use the data it has available to identify hazards quickly, disseminate that information, and timely act to resolve these maintenance issues.

If SED becomes aware of additional information that could modify SED's findings in this report, SED may re-open the investigation. If so, SED may modify this report and take further actions as appropriate.