



Preliminary Ignition Investigation Report

Ignition Database Index:	20241773
Electric Incident Investigation (EII) Number:	N/A
Incident Name:	N/A
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	December 3, 2024 at approximately 1519 hours
Street Address:	Near 37084 Road 425C
City:	Coarsegold
County:	Madera
Latitude/Longitude:	37.287362, -119.655203
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	SRA
PG&E Division:	Yosemite
High Fire Threat District (HFTD):	Tier 2
High Fire Risk Area (HFRA):	Yes
EPSS Buffer:	No
Fire Index Area (FIA):	424
Fire Potential Index (FPI) Rating: FIA	R1
Fire Potential Index (FPI) Rating: Circuit	R1
Was there a PSPS event at the time of ignition?	No
Suspected Initiating Event:	Vegetation
Failure Driver:	Contact from Object
Failure Sub-driver:	Contact – Vegetation
Circuit:	Coarsegold 2104, 25443-2104
Circuit Protection Zone:	Coarsegold 2104 LR 10160
Nominal Voltage:	12kV
Pole SAP Equipment ID:	103387968
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	4 aluminum conductor steel reinforced (ACSR)
EPSS enabled at time of ignition?	No
Fault Type:	Line to Ground
Wire Down (Primary)?	No
Lead Agency/Agency Having Jurisdiction:	CAL FIRE
Fire Size:	0.26-9.99 acres

FAS Field Remarks¹:	Tree fell on primary, caused 0.33 acre vegetation fire, one floater, one on crossarm, and bird caged wire.
HAWC Summary²:	N/A
Injuries / Fatalities / Property Damage / Media Attention:	No Injuries/Fatalities/Property Damage/Media Attention
Weather Conditions:	At 1630 hours near the Incident Location: Temperature: 58.5°F Relative Humidity: 63% Wind Speed: Calm
Red Flag Warning (RFW) / High Wind Warning (HWW):	RFW – No HWW – No
911 Standby Relief Time:	20 minutes
OIS #:	2643201 2643145
ILIS #:	24-0142244
FAS #:	T006572217
TOTL #:	N/A
Assigned Attorney:	N/A
Ignition Investigator & Phone:	

¹ FAS Field Remarks entered verbatim.

² HAWC Summary entered verbatim.

Executive Summary

On December 3, 2024 at approximately 1519 hours, SmartMeter™ alarms detected a momentary outage to the Coarsegold 2104 12kV distribution circuit when Line Recloser (LR) 10110 temporarily opened and closed within one minute. PG&E received a 911 call for a fire with possible damages to powerlines. The official Integrated Reporting of Wildfire Information (IRWIN) time for this fire is logged at 1558 hours. Shortly after, a troubleshooter was dispatched at 1626 hours to the Incident Location near Road 425C and Highway 41 in the community of Coarsegold in Madera County situated within a Tier 2 High Fire Threat District (HFTD) and High Fire Risk Area (HFRA) (see Figure 1 and 2). CAL FIRE was already on scene and actively extinguishing a 0.33-acre fire with a five-gallon bladder bag. The troubleshooter arrived at the Incident Location between Pole SAP ID 101026374 (Pole #1, source side) and 103387968 (Pole #2, load side) and confirmed that a tree was down in the middle of the fire between the spans but did not observe a wire down on the ground. However, the troubleshooter noticed a floating conductor, while another conductor had detached from its insulator and was resting on a charred crossarm (see Figure 3 and 4). Based on CAL FIRE's investigation and the observations of the troubleshooter, it is suspected this ignition event was caused by the large tree falling into the primary conductor, catching fire as it rested on the line and eventually falling and igniting the ground below³.

As a result of this ignition event, a priority "A" Electric Corrective (EC) tag (#129890835) was created to repair the damaged/bird caged conductor. Repairs were completed by a PG&E crew on December 3, 2024.

The Vegetation Management (VM) team conducted a post-incident investigation on December 3, 2024. A black oak (*Quercus kelloggii*) measuring 52-feet tall with a diameter at breast height (DBH) of 35-inches uprooted towards the live 12kV line located 40-feet away (see Figure 5). Although one branch was identified as dead, the canopy was otherwise green and healthy. Two small partially healed wounds were identified at the base of the tree, however, the bark was intact and healthy. The wound wood indicated compartmentalization⁴ with no evidence of significant rot inside the tree at the wound location. The trunk of the tree at the base had about 95% holding wood. It was determined that the incident tree likely failed due to poor root attachment caused by decay and large rocks present around its base. Other than the previously described characteristics, the tree appeared alive and did not show signs of external rot, decay, or disease (see Figure 6). The VM team has the fire around the tree listed as approximately 50 x 225-foot in size.

The incident black oak is listed on a Routine Inspection Record. The tree was last inspected on August 21, 2024 with a next inspection date scheduled for February 2025. During the course of a Level 1 inspection on August 21, 2024, the inspector identified two dead spars on the top of the tree that may fall into or make contact with the powerlines (see Figure 7). The observed conditions triggered a Level 2 inspection that required a closer look at the tree⁵. Due to the detailed Level 2 inspection, the inspector identified a hole located on the back side base of the tree (see Figure 8) that would not have been noticeable if the inspector was standing below the powerline.

³ CAL FIRE Incident Number: 24CAMMU0028251

⁴ A defense mechanism in which trees use to isolate damaged/diseased areas and prevent the spread of pathogens.

⁵ Utility Procedure: Vegetation Management Distribution Inspection Procedure, TD-7102P-01, Section 3 – *Performing an Inspection*

Prescription RX-02958666 was created to have the tree top cleared so that if the tree failed, no branches would make contact with the conductors. Although the tree was prescribed to be cleared prior to the ignition event, work was constrained because the tree was on tribal land. Work constraint case number 00414984 was created on September 4, 2024 but was in 'New' status at the time of the ignition.

An Extent of Condition was also completed by the VM team on December 5, 2024 but the patrol (five spans in each direction of the Incident Location) did not identify any Priority 1 (P1) or Priority 2 (P2)⁶ trees or trees with similar conditions as the incident black oak.

This incident occurred during R1 FPI conditions with no Enhanced Powerline Safety Settings (EPSS) enabled. PG&E Meteorology data pulled from the MesoWest observation site that was approximately 1.3 miles southwest of the Incident Location indicates a fair, dry and warm day at 58.5°F with relative humidity at 63%. Winds were calm with the highest wind speed registering 8.6 Miles Per Hour (MPH) at 0520 hours. There were no Red Flag or High Wind Warnings issued nor did this ignition occur during a Public Safety Power Shutoff (PSPS) event.

This information is preliminary and subject to change based on new data.

System Protection Analysis

This ignition occurred within a Tier 2 HFTD and HFRA, however, PG&E's Enhanced Powerline Safety Settings (EPSS) were not enabled for the Coarsegold 2104 distribution circuit given R1 FPI conditions, the expected wind speeds, relative humidity and fuel moisture threshold for the area.

Ignition Impact

The ignition event on December 3, 2024 resulted in a fire measuring 0.33 acres in size. The resulting outage was momentary and no customers were without power for any significant amount of time. There were no reported injuries, fatalities, property damage or media attention associated to this vegetation-caused event.

Sequence of Events

December 3, 2024

- 1519 Hours: First SmartMeter™ Last Gasp, First No Light (FNL), LR 10110 opens temporarily then closes, 1071 customers de-energized momentarily.
- 1558 Hours: First Irwin time.
- 1626 Hours: First Troubleshooter dispatched.
- 1643 Hours: Troubleshooter arrives onsite.

⁶ P1 trees presents an immediate safety and/or reliability risk with high probability for significant impact. P2 trees are non-immediate high to low safety and/or reliability risk.

- 1705 Hours: Troubleshooter confirms tree fell into primary and that crew can perform work while energized, no need to de-energize.

Corrective Notification Associated with Ignition

As a result of this event, a priority “A” EC tag (#129890835) was created/associated to Pole #2 to repair the damaged bird caged conductor.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	128724888	Replace decaying and splitting pole.	E	May 7, 2024	May 7, 2025
	128733646	Replace bent insulator and missing bird guard.		May 8, 2024	May 8, 2025
COE Notification	N/A				
LC Notification	N/A				
Veg Work Order	RX-02958666	Notes indicate: Top to clear whole tree two dead spars at top and hollow hole at base back side.		August 21, 2024	Work not issued to tree contractor because of constraint/review.

Please note this may not include pending major program or project work at the incident location.

Asset Info & Most Recent Inspections and Tests

Source Side Structure	Pole SAP ID 101026374 (Pole #1)	
Info / Inspection	Most Recent Date	Findings
Install Date:	January 1, 1947	40-foot, Class 5, Douglas Fir
Inspection:	May 6, 2024	Aerial Inspection identified decaying pole top that needs to be replaced. Outside phases are bird caged due to installation of automatic splice and tap guards.
	July 3, 2022	GO165 Inspection identified no vegetation risks but indicated that tap guards are installed incorrectly. EC tag (#123989762) created. Please see Corrective History section below for further details.
Patrol:	N/A	
Corrective History:	May 7, 2024	Priority “E” EC tag (#128724888) created to replace decaying and splitting pole. Tag is still open. See Pending Work section above for further details.
	July 3, 2022	

		Priority “E” EC tag (#123989762) created to replace connector and damaged bird mitigating bushing guards. Conductor would need to be adjusted. Work completed on October 28, 2023.
Aerial Inspection Records:	September 10, 2019	Aerial photography of asset within Sharper Shape.
	April 4, 2023	Aerial photography of asset within iHawk.
VM Inspection:	August 21, 2024	Dead spars at top and hollow hole at base back side identified. Tree prescribed for major pruning under RX-02958666.
EVM Inspection:	N/A	
Equipment Test:	N/A	
Pole Intrusive Test:	June 4, 2018	Passing results with the following: Fair pole top and pole bottom condition. Wood strength testing at 100%.
WSIP Inspection:	May 13, 2019	WSIP Inspection identified no vegetation risk or compelling abnormal conditions for the pole, equipment and its associated spans. It is noted that there are three auto splices on the incident span.

Load Side Structure	Pole SAP ID 103387968 (Pole #2)	
Info / Inspection	Most Recent Date	Findings
Install Date:	November 3, 2014	45-foot, Class 3, wood pole
Inspection:	May 7, 2024	Aerial Inspection identified a large woodpecker hole at the pole top that needs to be repaired. Insulator is noted as bent on pin and bird guard is missing on bushing. EC tag (#128733646) created. Please see Corrective History section below for further details.
	July 3, 2022	GO165 Inspection identified no vegetation or equipment risks.
Patrol:	N/A	
Corrective History:	May 8, 2024	Priority “E” EC tag (#128733646) created to replace bent insulator and missing bird guard on bushing. Tag is still open. See Pending Work section above for further details.
	February 25, 2023	Priority “A” EC tag (#125558166) created to repair one span, one wire down and a floater on the center phase. Work completed on February 26, 2023.
Aerial Inspection Records:	September 10, 2019	Aerial photography of asset within Sharper Shape.
	March 31, 2023	Aerial photography of asset within iHawk.

VM Inspection:	August 21, 2024	Dead spars at top and hollow hole at base back side identified. Tree prescribed for major pruning under RX-02958666.
EVM Inspection:	N/A	
Equipment Test:	N/A	
Pole Intrusive Test:	June 4, 2018	Visual inspection only, no issues identified.
WSIP Inspection:	May 13, 2019	WSIP Inspection identified no vegetation risk or compelling abnormal conditions for the pole, equipment and its associated spans. It is noted that there are six total auto splices located both east of and west of incident span.

*Incident Location: Between Pole SAP ID 101026374 and 103387968

Hazard Barrier Analysis:

Hazard	Vegetation Contact	Sub-Hazard	Fallen Tree
Target	To Reduce Vegetation Contact Caused Ignitions		
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event? (See ICF Codes)	Opportunity
Barriers that were Assessed as Opportunities			
Enhanced Powerline Safety Settings - Downed Conductor Detection	Expected Performance: Automatically turn off power when a hazard is detected to reduce the risk of ignition in High Fire Risk Areas. Operate devices when a downed conductor is detected.; Observed Performance: Barrier did not exist	[A4B1C1D1 - Strategy: EPSS Strategies; HFTD-Related; Conditions did not meet EPSS enablement criteria]	EPSS enablement with DCD could have added further detection capabilities.
Covered Conductor on Primary Conductors	Expected Performance: Covered conductor should lower the risk of a wildfire. Observed Performance: Barrier did not exist	A4B2C1D2 – Program limited to certain conductors	Insulated conductors may have reduced the energy of the electrical fault as the tree laid on the line.
Gridscope	Expected Performance: Enable detection of acoustic disturbances on the system, including line break, vegetation contact, conductor contact, or pole tilt.	N/A	Gridscope did not exist for the incident span but could have added further detection capabilities.

	Observed Performance: Barrier did not exist		
Other Relevant Barriers			
Level 2 Basic Tree Assessment	Expected Performance: Arborists walk completely around a tree and look for defects in all visible areas of a tree. Observed Performance: Barrier performed as expected	A1B4C1D3 – Delayed work due to environmental hold	Tree was correctly identified due to the Level 2 inspection but the work was pending an environmental review (Tribal Land).

Potential Next Steps / Associated CAP Items:

- None at this time.


Single Line Diagram




LEGEND

 Substation

 Fuse

 Line Recloser

 Area of Interest

Photos and Diagrams of Events

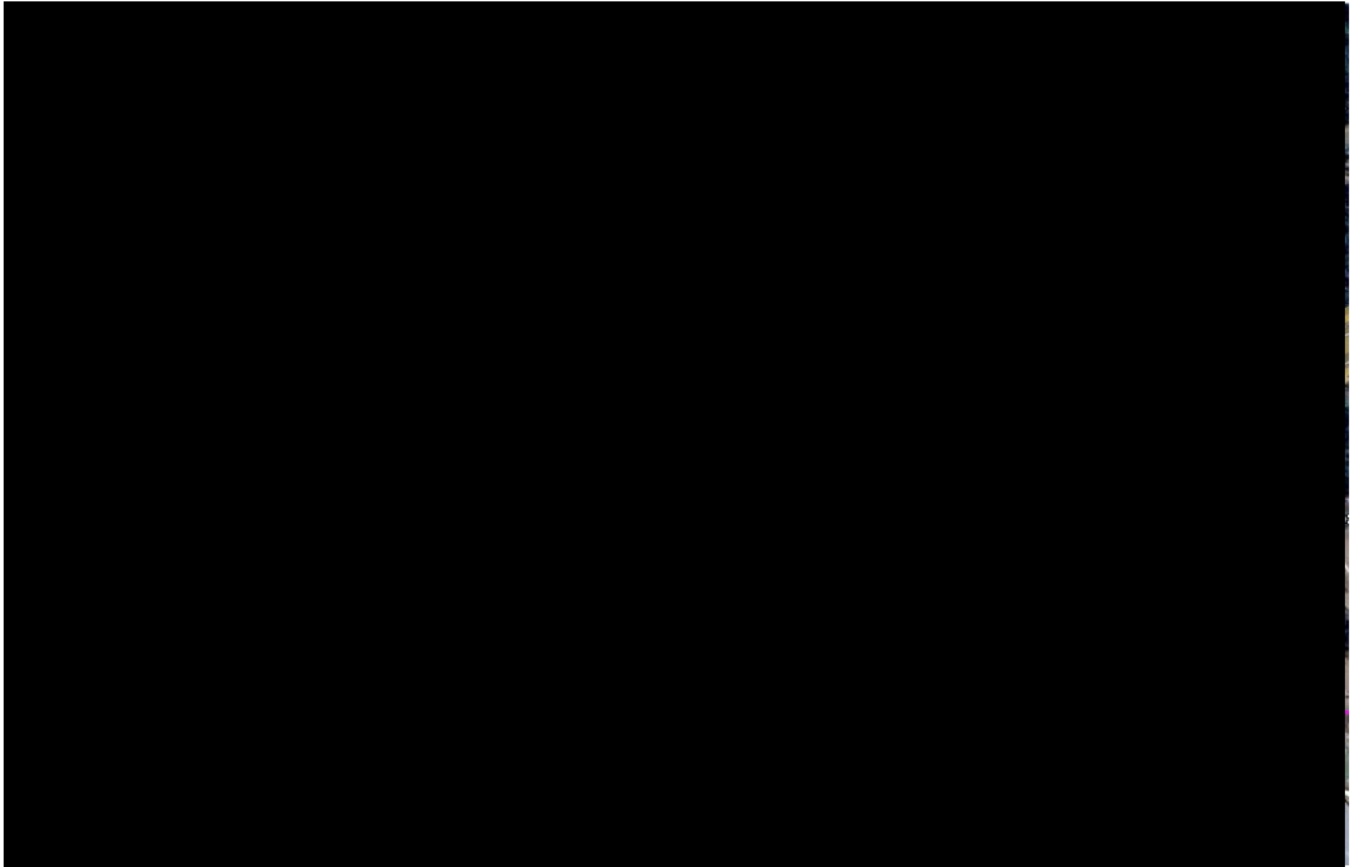


Figure 1 – Google Earth view of the Coarsegold 2104 12kV distribution circuit. The red box is the approximate location of the fire footprint with the white X showing the approximate location of the incident tree.

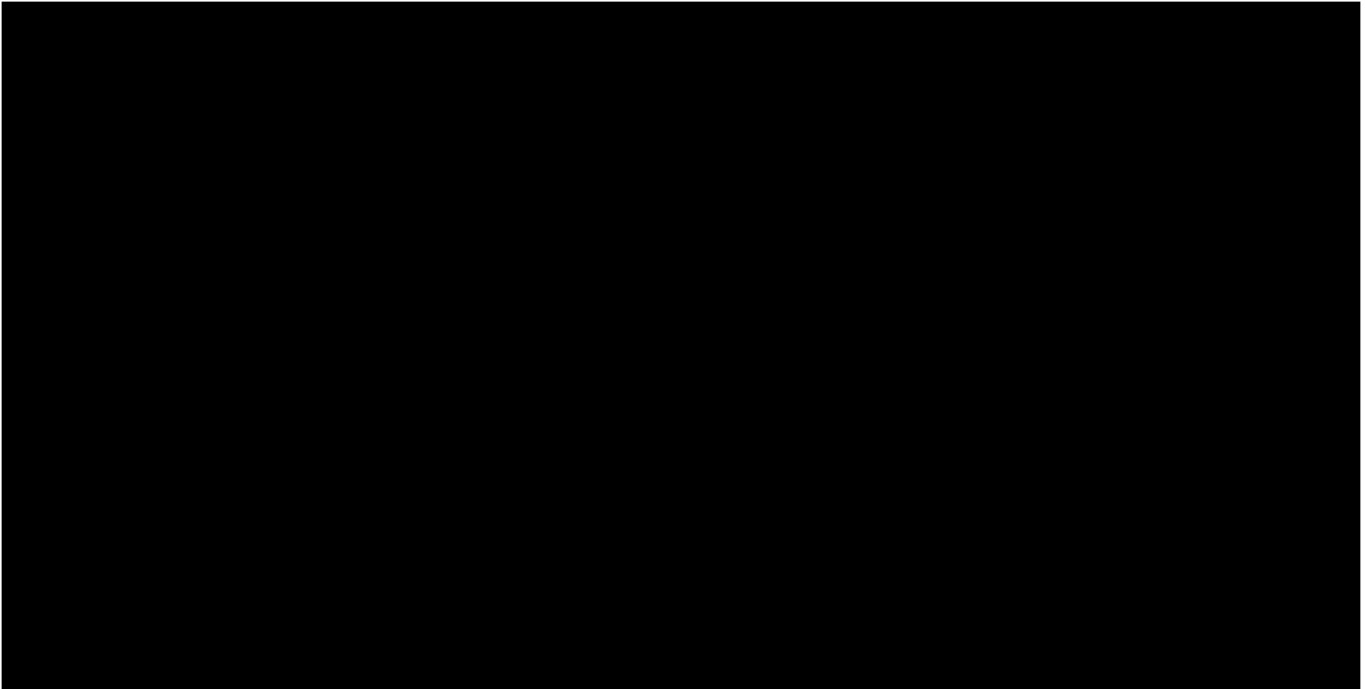


Figure 2 – EDGIS diagram of the Coarsegold 2104 12kV distribution circuit. The red box is the approximate location of the fire footprint with the red X showing the approximate location of the incident tree.



Figure 3 – View of downed incident tree (left) and fire footprint (right) on December 3, 2024. Photos taken by troubleshooter.

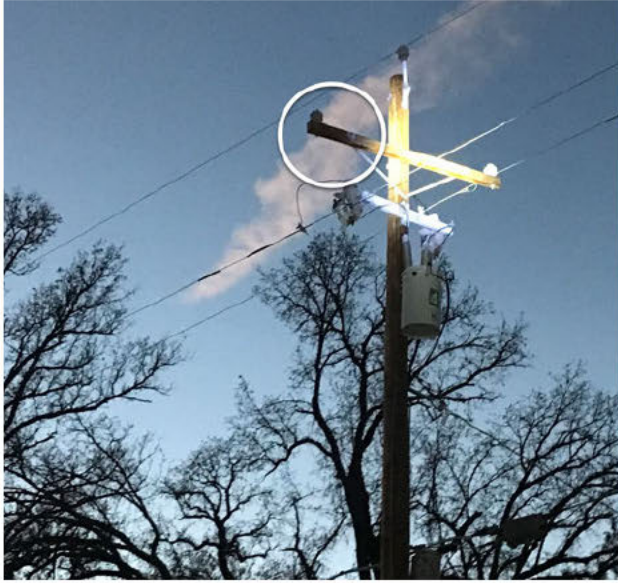


Figure 4 – View of charred crossarm on Pole #2 (left) and damaged/bird caged conductor (right) on December 3, 2024. Photos taken by troubleshooter.



Figure 5 – View of incident tree on December 3, 2024. Photo taken by the VM team.



Figure 6 – View of failure/uprooted point of incident tree on December 3, 2024. Photos taken by the VM team.

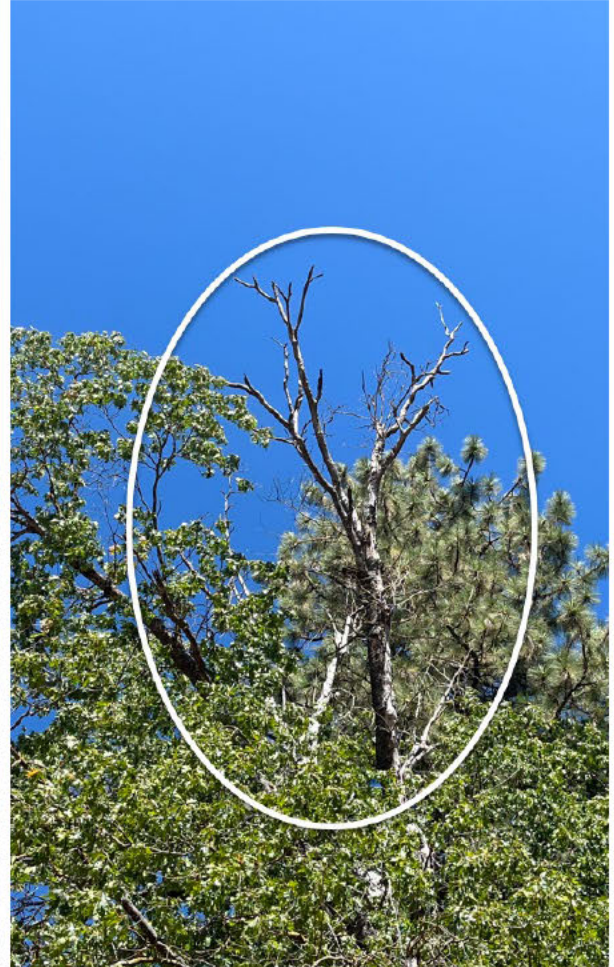


Figure 7 – View of dead spars on treetop on August 21, 2024. Photo taken by VM Inspector.



Figure 8 – View of hole at the back side of the base of the tree on August 21, 2024. Photo taken by VM Inspector.

Attachments

Attachments and references can be located in the ESA folder, located below:



-----END of REPORT-----