



Preliminary Ignition Investigation Report

Ignition Database Index:	20241124
Electric Incident Investigation (EII) Number:	N/A
Incident Name:	C Street NCCFD87
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	August 10, 2024 at 1207 hours
Street Address:	Near 10570 C Street
City:	Grass Valley
County:	Nevada
Latitude/Longitude:	39.2206916188, -121.0857207054
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	State Responsibility Area (SRA)
PG&E Division:	Sierra
High Fire Threat District (HFTD):	Tier 2
High Fire Risk Area (HFRA):	Yes
EPSS Buffer:	No
Fire Index Area (FIA):	330
Fire Potential Index (FPI) Rating: FIA	R5
Fire Potential Index (FPI) Rating: Circuit	R5
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:	Brunswick 1110
Circuit Protection Zone:	Brunswick 1110LR63100
Nominal Voltage:	12kV
Pole SAP Equipment ID:	104116656
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	Conductor
EPSS enabled at time of ignition?	Yes
Fault Type:	Line to Line
Wire Down (Primary)?	No
Lead Agency/Agency Having Jurisdiction:	CAL FIRE
Fire Size:	<0.25 acres in size

FAS Field Remarks:	large tree branch fell into line causing 15x15 grass fire and damaging cable. fire extinguished by CAL FIRE. crew to replace cable
HAWC Summary:	Incident Name: C St NCCFD87 First responders are on scene and have a line around a small fire at the base of a pole this information came from PSS Web. The incident commander stated the fire was 15 by 15 contained and they are available at scene. The fire is in Tier 2. The fire is near an EPSS circuit the BRUNSWICK 1110. There is an outage in OMT. With 210 customers potentially impacted on OIS#2539381. OMT also has a 911 stand by stating that there is a branch on a pole and may need a tree trimmer.
Injuries / Fatalities / Property Damage / Media Attention:	No injuries, fatalities property damage or media attention reported.
Weather Conditions:	At 1205 hours near the incident location: Temperature: 88.0° Relative Humidity: 25% Wind Speed: 1.0 mph from the west-southwest Wind Gust: 9.0 mph
Red Flag Warning (RFW) / High Wind Warning (HWW):	No Red Flag Warning or High Wind Warning
911 Standby Relief Time:	N/A
OIS #:	2539381
ILIS #:	24-0097993
FAS #:	T006471711, T006471712
TOTL #:	N/A
Assigned Attorney:	N/A
Ignition Investigator & Phone:	

Executive Summary

On August 10, 2024 at approximately 1207 hours, PG&E became aware of an areawide power outage through SmartMeter™ indicating 210 customers on the Brunswick 1110 circuit were affected. At 1210 hours a troubleshooter was dispatched to the vicinity and at 1217 hours a customer called into PG&E reporting hearing an explosion.

The Brunswick 1110 circuit is a three-phase, 12kV distribution circuit with 2ACSR conductor. This incident occurred in a Tier 2 High Fire Threat District (HFTD) and a High Fire Risk Area (HFRA). PG&E's Enhanced Powerline Safety Settings (EPSS) were enabled in May 2024 due to the increased fire danger in the area.

The Troubleshooter arrived onsite near C Street, south of Squirrel Creek Road in Grass Valley at 1238 hours. Upon arrival the troubleshooter located CAL FIRE onsite in the process of suppressing a spot fire caused by a large tree branch that onto the primary. The troubleshooter confirmed Line Recloser (LR) 63100 was open and did not attempt to reclose. He then performed a visual inspection of the area. Upon inspection, the troubleshooter located a large tree branch fell striking the conductor at the riser on the Incident Pole (SAP ID 104116656). The troubleshooter located fuse 77595 in the open position. This fuse feeds the underground service. After the de-energization of the fuse, the troubleshooter cleared the failed tree branch and inspected the molding on the incident pole to see if repairs were warranted. The molding and conductor showed signs of melting near the base of the pole therefore, the troubleshooter requested a PG&E repair crew to repair the damaged infrastructure, (*refer to figure 5*).

A corrective notification was created by the troubleshooter as a priority "A" tag, (EC Notification 129369027). The work order stated to repair the underground conductor connecting to the riser pole, and plastic molding covering. A PG&E repair crew was onsite on August 10, 2024 and completed all repairs at 1605 hours.

On August 10, 2024 a Vegetation Management (VM) post incident investigation was performed. The subject tree was a black oak that measured thirty-two inches in diameter at breast height (DBH). The partial limb failure occurred six feet above the branch collar. The branch exhibited signs of a past wound that was not able to heal before decay and insects were likely introduced. A section of wood was missing bark and appeared to have been damaged several years prior to the ignition. The post incident inspection identified decay and insect galleries that weakened the structural integrity of the branch, and likely led to its failure. This post incident inspection also identified six trees for priority 2 removals, twelve were prescribed for priority removals and three trees were prescribed for routine pruning work. The incident tree was last inspected on April 18, 2024 and no work was prescribed at that time. The next inspection cycle is slated for the fourth quarter 2024.

PG&E Meteorology data pulled post incident confirmed at 1205 hours the temperature was at 88°F with a Relative Humidity at 25%. Wind speed was 1.0 miles per hour (mph) from the west-southwest with a wind gust of 9.0 mph. This data was taken from a weather observation site approximately 1.67 miles southeast of the Incident Location.

System Protection Analysis

The Brunswick 1110 circuit was equipped with EPSS enabled devices at the time of incident. The nearest protection device, LR 63100 (Nova form 6) was set in alternate three mode with sensitive ground fault settings. LR 63100 does not have Downed Conductor Detection (DCD) capabilities. LR 63100 tripped causing it to stay

open. Data indicates phase A reached a current of 368A, and phase C reached a current of 364A. LR 63100 responded within seven milliseconds with a clearing time of 87 milliseconds indicating it operated as designed.

Ignition Impact

The limb of a black oak tree failed onto the 12kV conductor causing a 12-foot x 12-foot vegetation fire. Conductor damage was identified on the riser pole going to the underground feeder to transformer T42448. CAL FIRE responded to the incident and provided suppression efforts. An area wide power outage affected 210 customers for one hour six minutes.

Sequence of Events

August 1, 2024

- 1207 hours, LR 63100 opened, 210 customers without power
- 1210 hours, Troubleshooter dispatched
- 1238 hours, Troubleshooter onsite
- 1300 hours, fuse 77595 found open by troubleshooter
- 1313 hours, LR 63100 closed, 210 customers restored
- 1424 hours, Troubleshooter left site, repair crew working on repairs
- 1603 hours, repairs complete at fuse 77595 and riser pole
- 1604 hours, disabled EPSS at LR 63100 and Brunswick 1110CB
- 1605 hours, fuse 777595 closed by troubleshooter with 8 ELF (current limiting drop out fuse)
- 1638 hours, EPSS enabled on LR 63100, LR 2664, and Brunswick 1110CB

Corrective Notification Associated with Ignition

A corrective “A” tag was created, (EC notification, 129369027) to repair damages to the riser conductor and molding. The corrective tag was worked by a PG&E repair crew on August 10, 2024.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	N/A				
COE Notification	N/A				
LC Notification	N/A				
Veg Work Order	N/A				

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		
Info / Inspection	Most Recent Date	Findings
Install Date:	2022	50', class 3 wooden pole
Inspection:	09/22/2023	GO 165 Inspection – identified trees/vines within 4'
Patrol:	N/A	

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Corrective History:	10/18/2023	Tree work identified in 09/22/2023 inspection completed
Aerial Inspection Records:	N/A	
VM Inspection:	04/03/2024	
EVM Inspection:	09/01/2019	Incident tree was not identified for work
Equipment Test:	N/A	
Pole Intrusive Test:	N/A	
WSIP Inspection:	N/A	

*Incident Location: SAP ID: 104116656

Load Side Structure		
Info / Inspection	Most Recent Date	Findings
Install Date:	1967	40' Douglas fir, class 4 wooden pole
Inspection:	09/22/2023	GO165 Inspection – No findings for follow up
	01/27/2017	OH Inspection – No Findings for follow up
Patrol:	N/A	
Corrective History:	03/24/2019 01/28/2017	Replace broken crossarm Exposed ground, need to replace wood ground molding (not completed)
Aerial Inspection Records:	N/A	
VM Inspection:	04/03/2024	
EVM Inspection:	09/01/2019	Incident tree was not identified for work
Equipment Test:		
Pole Intrusive Test:	08/24/2016 04/17/2007	Required dig for inspection due to riser and attachments No issues identified
WSIP Inspection:	N/A	

*End of Line Pole: Location: SAP ID: 100076572

Hazard Barrier Analysis:

Hazard	Vegetation Contact	Sub-Hazard	Fallen Branch
Target	Object made contact with covered conductor on primary		
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event? (See ICF Codes)	Opportunity
Barriers that Negatively Affected Ignition			
Barriers that Positively Affected Ignition			

Enhanced Powerline Safety Settings - Sensitive Ground Fault Settings	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 high impedance fault condition is detected at all times (not only when EPSS is enabled); Observed Performance: Barrier performed as expected EPSS work as designed	A1B2C2D3 – Limitation: Equipment Limitation: EPSS Limitation: Device tripping time is limited	EPSS work as designed
Barriers that were Assessed as Opportunities			
Covered Conductor on Primary Conductors	Expected Performance: Covered conductor should lower the risk of a wildfire. Requires tree wire to be installed for new construction and reconstruction work in Tier 2 and Tier 3 Fire Areas and Zone 1 (tree mortality) areas.; Observed Performance: Barrier did not exist	A4B2C1D2 – Strategy; Program Strategies: Line Equipment-Related; Program limited to certain conductors	Covered conductors provides opportunity to reduce wildfires in HFTD areas with heavy vegetation
Vegetation Management Operational Mitigation	Patrol 5 spans on either side of incident tree that caused EPSS outage in HFTD. Identify trees with overhang, outage species, or other conditions that may impact PG&E facilities.		Initial post inspection was not complete. Had to send vegetation experts to assess the incident tree to provide details on failure.
Level 2 Basic Tree Assessment	Arborists walk completely around a tree and look for defects in all visible areas of a tree. This assessment may include use of a rubber mallet for sounding the tree and probe of open cavities.		Level 2 inspection was not completed for this tree. If completed it could have identified defects.

Potential Next Steps / Associated CAP Items:

- There are no follow up items or CAP items associated with this incident that require follow up.

Single Line Diagram

LEGEND



Substation



Fuse



Line
Recloser



Area of
Interest

Photos and Diagrams of Events

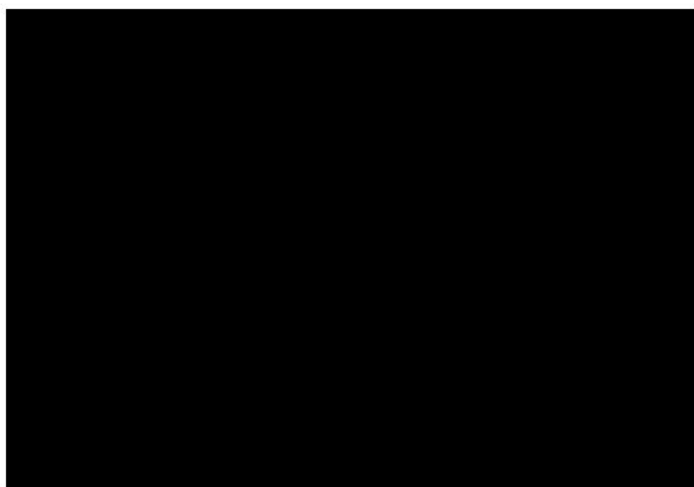


Figure 1 - EDGIS map of incident circuit.

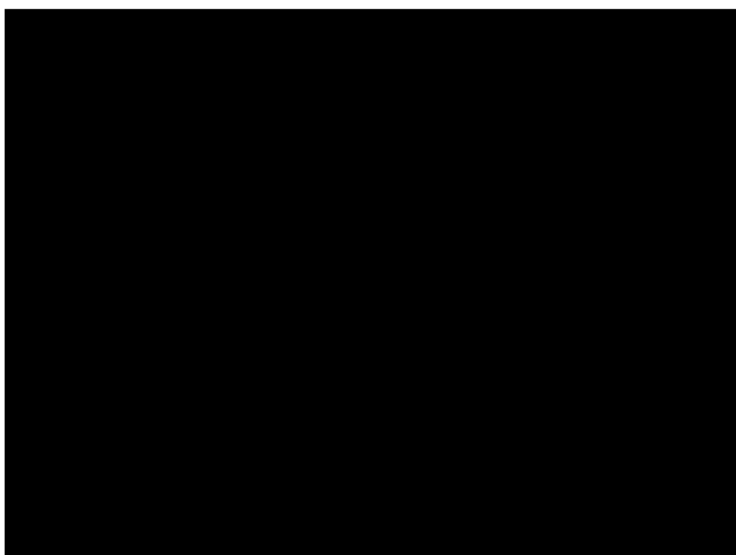


Figure 2 - Google Earth map of incident circuit.



Figure 3 -GO 165 Inspection photo from September 22, 2023.



Figure 4 -Troubleshooter photo of failed tree branch on Incident Pole.



Figure 5- Troubleshooter photo of ignition damage.



Figure 6 – VM photo of failure point from different angles.

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Figure 7 - VM photo showing “gray” discoloration leading to wood decay.



Figure 8 – VM photo showing insect damage and decay.

Revision Notes

Section:	What Changed?
Asset Info & Recent Inspections and Tests:	Corrected date for VM inspection and EVM inspection date

Attachments

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

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