Preliminary Ignition Investigation Report

Ignition Database Index:	1107
Electric Incident Investigation (EII) Number:	NR220708B
HAWC Incident Name:	Irwin – 08 Jul 2022
PG&E Facility Ignition?	Y
CPUC Reportable Ignition?	Y
Date & Time of Incident:	July 8, 2022 at 1530 hours
Street Address:	[redacted]
City:	Palermo
County:	Butte
Latitude/Longitude:	[redacted]
PG&E Division:	North Valley
High Fire Threat District (HFTD):	Non-HFTD
High Fire Risk Area (HFRA):	N
EPSS Buffer:	Y
Fire Index Area:	NA
Fire Potential Index (FPI) Rating:	R3
Was there a PSPS event at the time of ignition?	No
Failure Driver:	Contact from Object
Failure Sub-driver:	Veg. Contact
Circuit:	Wyandotte-1109
Circuit Protection Zone:	WYANDOTTE-1109-LR1520
Nominal Voltage:	12 kV
PG&E Equipment associated with ignition:	Conductor, Crossarm
EPSS enabled at time of ignition?	Y
Fault Type:	Open Circuit
Wire Down (Primary)?	Y
MAVF Score	4481.5
Lead Agency/Agency Having Jurisdiction:	CAL FIRE
Fire Size:	<0.25 acres (approximately 10’ x 40’)
FAS Field Remarks:	tree limb fell took the wires down
HAWC Summary:	Units responded to a fire at Upper Palermo Rd X Pinecrest Rd. Fire is being reported as contained with a current size of 0.25 acre(s). EPSS enabled circuit(s): Wyandotte 1109 was located within .25 miles of the reported location. An outage was reported on the EPSS enabled circuit(s). An outage on a non-EPSS enabled circuit, the 102911109, was reported. Total customers affected was 1430. Notifications have been made to: DCC, EPSS Text, PSS, HAWC Ops.

This report is preliminary and based on available information as of August 18, 2022; event data is subject to change based upon subsequently discovered information.

Injuries / Fatalities / Property Damage / Media Attention:	No injuries or fatalities; Damage incurred to pickup truck and incident reported on by local media outlet KRCR
Weather Conditions:	90.4° F, 23% humidity, max wind gust 12.6 mph
Red Flag Warning (RFW) / High Wind Warning (HWW):	No / No
911 Standby Relief Time:	42
OIS #:	1751625
ILIS #:	22-0083393
FAS #:	T005674408
Assigned Attorney:	NA
EII Ignition Investigator & Phone:	[redacted]

Executive Summary

On July 8, 2022, at 1530 hours, PG&E received a report from CAL FIRE that a tree came into contact with the Wyandotte 1109 12kV Distribution Circuit and subsequently started a vegetation fire at [redacted] in Palermo (Figure 1, "Incident Location"). Also at this time, PG&E received multiple SmartMeter auto-generated outage reports. PG&E subsequently dispatched a troubleman to the Incident Location while the Distribution Control Center (DCC) forced Line Recloser (LR) 1520 open to de-energize the incident conductor.

At 1610 hours, the troubleman arrived at the Incident Location and observed a vehicle on fire, two phases of downed load-side primary overhead conductor (Figure 3), and a broken tree limb in contact with underbuilt communication line (Figure 2) at the Incident Location. Also upon arrival, the troubleman observed CAL FIRE on site and a burn scar approximately 10 feet by 40 feet in size. At 1635 hours, the troubleman made the Incident Location safe by opening the overhead jumpers on the wooden distribution pole just west of the downed span (Figure 1, "Incident Pole", SAP ID 100393970) to de-energize the tap line. At 1640 hours, the troubleman opened overhead fuses 13453 and tagged them man-on-line (MOL). At the direction of DCC, the troubleman then proceeded to patrol the Wyandotte 1109 Distribution Circuit from the Incident Location to LR 1520. By 1700 hours, the troubleman had completed the patrol and observed no additional damage to the subject circuit. The DCC subsequently closed LR 1520, re-energizing 1,395 impacted customers. At 2030 hours, a PG&E repair crew arrived at the Incident Location and by 0015 hours the next day replaced a broken crossarm on the Incident Pole, the two broken phases of 4-ACSR conductor and closed the overhead jumpers. At 0020 hours, the PG&E repair crew closed overhead fuses 13453, restoring service to the remaining 40 customers. The fire resulted in damage to a Sprinter fifth-wheel trailer, a Dodge pickup truck, fence, and several trees.

At the time of the incident, the temperature was 90.4° F, with humidity at 23% at maximum wind gusts up to 12.6 miles per hour.

PG&E Vegetation Management ("VM") analyzed the incident and performed an extent of condition patrol in the vicinity of the Incident Location. VM identified the subject tree to be a Valley Oak 70 feet in height and 40 feet in diameter at breast height (DBH) with sparse canopy foliage and evidence of a branch tear at a codominant union that would not have been evident from a ground inspection. The report found no similar conditions on other trees, but did identify a Black Walnut tree with overextended limbs that was subsequently removed on July 21, 2022.

EPSS Analysis

The incident was in an EPSS buffer zone, and EPSS settings were enabled on the Cooper 4C LR 1520 on the incident date, with the sensitive ground fault (SGF) element cut in and reclosing element cut out. However, because the fault was not of a sufficient magnitude or duration, LR 1520 did not trip at the time of the fault and was instead forced open in accordance with recently published Utility Bulletin TD-2700P-26-B001, Enhanced Powerline Safety Settings (EPSS) Partial Voltage Outage De-Energization & Restoral Process, due to DCC identifying a single-phasing / partial voltage condition and multiple SmartMeter notifications. This action may have reduced the ensuing damage from the ignition event.

Ignition Impact

The downed conductors led to a fire approximately 10 feet by 40 feet in size. No injuries or fatalities occurred as a result of the ignition. The fire resulted in cosmetic damage to a Sprinter fifth-wheel trailer and substantial damage to a Dodge pickup truck, fence, and several trees under the downed span. PG&E did not receive any property damage claims as a result of this incident.

Sequence of Events

July 8, 2022

- 1528 hours – Tree falls into line near corner of Irwin Ave and Esperanza Ave in Palermo, CA
- 1530 hours – PG&E dispatches troubleman to Incident Location
- 1531 hours – PG&E DCC forces open LR 1520
- 1609 hours – PG&E troubleman arrives at Incident Location
- 1635 hours – PG&E troubleman opens overhead jumpers at distribution pole on corner of Irwin Ave and Esperanza Ave
- 1640 hours – PG&E troubleman opens fuse 13453 and tagged MOL
- 1700 hours – PG&E troubleman completes overhead patrols from opens fuse 13453 and tagged MOL
- 1702 hours – PG&E DCC closes LR 1520 restoring power to 1421 affected customers
- 2029 hours – PG&E crew arrives to make repairs to crossarm and conductor

July 9, 2022

- 0015 hours – PG&E crew completes repairs and closes overhead jumpers at distribution pole on corner of Irwin Ave and Esperanza Ave
- 0022 hours – PG&E crew closes fuse 13453; restoring power to remaining 38 affected customers

Corrective Notification Associated with Ignition

The responding PG&E troubleman issued EC notification # 124033103 to identify the corrective work. A repair crew replaced the crossarm on SAP ID 100393970 and repaired the 4-ACSR conductor on the span east of the subject pole.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	122162369	Damaged guy wire under strain by oak trees	E	10/07/2021	03/07/2022
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

Info / Inspection	Most Recent Date	Findings
Install Date:	01/01/1985	
Inspection:	06/26/2022	No compelling issues
	05/23/2017	No compelling issues
Corrective History:	N/A	No corrective work completed prior to incident
VM Inspection:	07/01/2021	
EVM Inspection:	N/A	
Equipment Test:	N/A	

Pole Intrusive Test:	01/22/2010	Pass
WSIP Inspection:	N/A	

*Incident Location: SAP ID:100393970

Hazard Barrier Analysis:

Hazard[1]	Tree limb within strike distance of energized overhead conductors				
Target[2]	Property and vegetation damage; Sustained outage to customers				
Barrier	**Objective**	**Expected Performance**	**Did Barrier Perform as Expected**	**Did Barrier Contribute to Incident**	**Defect**
Patrol & Inspection (P&I) Records	Identify any nonconformances with poles or lines.	Inspection or patrol would identify any issues with PG&E equipment.	Yes	No	
EPSS Partial Voltage De-energization	Eliminate an energized wire down scenario that may exist in the field	Force out upstream protective devices that do not trip when SmartMeters report multiple PV alarms	Yes	No	
Tree Mortality (Formerly CEMA) Inspections	Identify dead or dying trees that could fall into primary or secondary PG&E facilities	Inspection would identify any dead or dying trees and mark them for removal.	Yes	No	
Vegetation Management (VM) Inspection (Routine)	Identify any trees that need work	Inspection would identify any vegetation that could cause a potential hazard.	Yes	No	
Enhanced Powerline Safety Settings (EPSS)	De-energize sections of the distribution grid when a fault is experienced to make the line safe.	De-energize sections of the distribution grid until restored after visual inspection.	Yes	Yes	Known gap in protection for single phasing condition

[1] Source of harm

[2] result of event; outcome to be prevented (personnel injury, ignition, property damage)

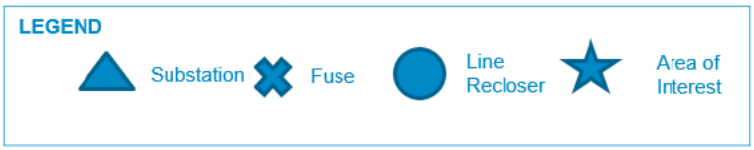
Enhanced Vegetation Management (EVM) Risk Inspection	Identify any trees that do not meet the state standards for minimum clearance around the power lines.	Trimming overhanging limbs & branches directly above & around the lines. Targeted removal of dead & dying trees as well as certain species that pose an increased potential risk of falling into power lines.	Yes	No	

Potential Next Steps / Associated CAP Items:

- Vegetation Management should close the Work Request (WR) for removal of the identified Black Walnut with overhanging limbs above conductor, (tree removal completed on July 21, 2022).

Single Line Diagram

[redacted]



Photos and Diagrams of Events

[redacted]

Figure 1: Location of downed conductor and resulting ignition.

Figure 2: Photo of broken limb from subject tree in contact with communication wire, taken on July 8, 2022.

Figure 3: Photo of downed conductor on damaged pickup truck, taken on July 8, 2022.

Figure 4: Photo of damage to Sprinter fifth-wheel trailer, fence, and trees on adjacent property, taken on July 8, 2022.

Attachments

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

[redacted]

[redacted]

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