



Preliminary Ignition Investigation Report

Ignition Database Index:	20240771
Electric Incident Investigation (EII) Number:	N/A
Incident Name:	Vegetation in Tulare
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	June 28, 2024 @ approximately 0917 hours
Street Address:	Near [REDACTED]
City:	Badger
County:	Tulare
Latitude/Longitude:	[REDACTED]
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	State Responsibility Area
PG&E Division:	Fresno
High Fire Threat District (HFTD):	Tier 2
High Fire Risk Area (HFRA):	Yes
EPSS Buffer:	No
Fire Index Area (FIA):	440
Fire Potential Index (FPI) Rating: FIA	R3
Fire Potential Index (FPI) Rating: Circuit	R4
Was there a PSPS event at the time of ignition?	No
Suspected Initiating Event:	Utility work / Operation
Failure Driver:	Utility work / Operation
Failure Sub-driver:	Improper Construction
Circuit:	Dunlap 1102
Circuit Protection Zone:	Dunlap 1102-LR7360
Nominal Voltage:	12kV
Pole SAP Equipment ID:	104064095
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	Connector
EPSS enabled at time of ignition?	Yes
Fault Type:	Line to Ground
Wire Down (Primary)?	No
Lead Agency/Agency Having Jurisdiction:	CAL FIRE
Fire Size:	3 meters - 0.25 Acres

FAS Field Remarks:	Tape and sealer separated on H tap connection, hot leg hit neutral and arced, fire at base of pole started.
HAWC Summary:	Fire resources were dispatched to a report of a small vegetation fire in the area of [REDACTED] Badger. There was a single customer outage reported in OMT of the EPSS Enabled Dunlap 1101 OH circuit (OIS# 2498416), and a PG&E t-man was requested to respond by CAL FIRE post incident. Per the t-man, the potential cause of the ignition was tape and sealer separated on H tap connection, hot leg hit neutral and arced, fire at base of pole started. The fire has been contained prior to the arrival of PG&E resources at the last reported size of 0.01 of an acre per CAL FIRE TUU. The outage remains active at time of incident closure. Final update barring any significant change in the current conditions as advised.
Injuries / Fatalities / Property Damage / Media Attention:	No injuries, fatalities, property damage or media attention reported.
Weather Conditions:	At 0920 hours near the Incident Location: Temperature: 72.7° Relative Humidity: 48% Wind Speed: 3.0 mph. Wind Gust: 5.3 mph out of the south-southwest
Red Flag Warning (RFW) / High Wind Warning (HWW):	Red Flag Warning (RFW) - No High Wind Warning (HWW) – No
911 Standby Relief Time:	82 minutes
OIS #:	2498416
ILIS #:	24-0081795
FAS #:	T006432386
TOTL #:	N/A
Assigned Attorney:	N/A
Ignition Investigator & Phone:	[REDACTED]

Executive Summary

On June 28, 2024, at approximately 0918 hours, a PG&E troubleshooter was dispatched to a two-phased overhead section of the Dunlap 1102 12kV distribution circuit, near Hogback Road in the town of Badger, in response to a call from CAL FIRE with reports of a vegetation fire near PG&E facilities. The incident was in a Tier 2 High Fire Threat District (HFTD) and High Fire Risk Area (HFRA) during R3 conditions.

The troubleshooter arrived on scene at approximately 1028 hours and confirmed a fire at the base of pole SAP ID # 104064095. Initial analysis indicates the tape seal separated on the secondary connector resulting in the hot leg hitting the neutral. A spark from the hot leg contacting the neutral resulted in a vegetation fire measuring 3 meters – 0.25 acres in size. CAL FIRE responded to and extinguished the fire. The responding troubleshooter

replaced all secondary connections and installed aqua seal and tape to make sure the hot legs were adequately covered, restoring power on the same day.

PG&E Meteorology data pulled from the MesoWest observation site that was approximately 0.5 miles north of the Incident Location indicates a fair and dry day on June 28, 2024. At 0920 hours near the Incident Location, the temperature was 72.7°, with relative humidity of 48%. Winds were 3.0 miles per hour (mph) out of the south-southwest with gusts up to 5.3 mph. There were no Red Flag or High Wind Warnings in effect nor did this ignition occur during a Public Safety Power Shutoff (PSPS) event.

Prior to the incident, there were no outstanding electric or vegetation tags for pole SAP ID # 104064095.

Asset Failure Analysis (AFA)

An Asset Failure Analysis (AFA) engineer was assigned to complete an Extent of Condition to analyze this ignition involving an equipment caused CPUC reportable ignition in a HFTD. AFA indicates that pole SAP ID # 104064095 was installed in August of 2021 with no indication that the H-type connector was replaced/alterd prior to the ignition. AFA confirms that the tape and sealer separation led to arcing from the hot leg and secondary neutral contact.

On September 12, 2024, Asset Failure Analysis (AFA) initiated Corrective Action Program (CAP) Issue No. 129525814 following a 100-foot by 100-foot ignition that occurred on June 25, 2024 as a result of a H-type connector failure on the Atascadero 1103 12kV circuit, as well as other H-type connector caused ignitions in 2024 and before.¹ As a result, by October 7, 2024, Electric Distribution Operations distributed Five Minute Meeting (5MM), “06/25/24 H-type connector failure due to improper installation,” to all restoration, construction, and contract team leads who subsequently tailboard proper installation techniques of aluminum-copper connections as well as PG&E’s preference toward utilizing fired wedge connectors going forward.²

System Protection Analysis

The Dunlap 1102 12kV Distributions Circuit was enabled with Enhanced Powerline Safety Settings (EPSS) at the time of the incident, however the ignition occurred on the secondary voltage level and EPSS is not capable of detecting the fault.

Ignition Impact

The ignition resulted in a vegetation fire measuring 3 meters – 0.25 acres in size. A sustained outage lasting 596 minutes occurred, affecting two customers. No injuries, property damage or media coverage associated with this incident was identified.

¹ PIIR Index 20240753, dated August 26, 2024

² CAP No. 129525814

Sequence of Events

June 28, 2024

- 0833 hours – First Irwin Time
- 0917 hours – PG&E receives a call from CAL FIRE with reports of a vegetation fire near PG&E facilities.
- 0918 hours – Troubleshooter was dispatched to the scene.
- 1028 hours – Troubleshooter arrived onsite and reports a fire at the base of the pole due to the tape seal separating on the secondary connector resulting in the hot leg hitting the neutral, causing an arc.
- 1913 hours – Troubleshooter replaced all secondary connections in the field and restored power.

Corrective Notification Associated with Ignition

No corrective notification was created for this ignition. The troubleshooter deenergized the transformer servicing the affected area and replaced secondary connections, retaped and sealed equipment and provided proper spacing. Power was restored to the two affected customers on the same day.

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

Info / Inspection	Most Recent Date	Findings
Install Date:	August 14, 2021	50-foot, Class 1 wood pole – per EDGIS
Inspection:	June 3, 2022	GO165 Compliance Inspection – No declarations to report
	N/A	
Patrol:	N/A	
Corrective History:	N/A	N/A
Aerial Inspection Records:	N/A	N/A
VM Inspection:	N/A	N/A
EVM Inspection:	N/A	N/A
Equipment Test:	N/A	N/A
Pole Intrusive Test:	N/A	Pole was installed on August 14, 2021 with no intrusive records.

WSIP Inspection:	N/A	Pole was installed on August 14, 2021 with no intrusive records.
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*Incident Location: Pole SAP ID # 104064095

Hazard Barrier Analysis:

Hazard	Utility work / Operation	Sub-Hazard	Improper Construction
Target	Tape seal separated on the secondary H-type connector resulting in the hot leg hitting the neutral, causing a spark, resulting in a vegetation fire measuring 3 meters – 0.25 acres in size in a Tier 2 HFTD.		
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event? (See ICF Codes)	Opportunity
Barriers that Negatively Affected Ignition ³			
Proper Construction & Installation - Document 028852 Rev. 15, Document 022487 Rev. 13	<p>Expected Performance: Follow installation guidelines for connectors, including proper taping and sealing.</p> <p>Observed Performance: Barrier did not perform as expected</p>	A3B1C2D3: Work not performed in accordance to standard	Properly installed tape on hot leg required by Document 028852 would have likely prevented arcing and resulting ignition. Troubleshooter installed aqua seal and tape to hot legs post ignition so they are adequately covered and a 5MM was distributed and tailboard with target personnel.
Relevant Barriers Assessed			
Distribution Detailed Inspection	<p>Expected Performance: Identify burnt, corroded, incorrectly installed, equipment or deteriorated insulation.</p> <p>Observed Performance: Barrier did not perform as expected</p>	A1B1C2D6 – Other condition not visually apparent	Pole installation occurred in 2021 with no indication that the secondary connector was replaced/altered prior to the ignition. GO165 compliance inspection in 2022 was the only inspection prior to ignition and no declarations were reported.

³ A control measure is defined to have had negatively affected an ignition event when its performance may have directly contributed to the ignition happening, increased potential for fire spread, or operated in a way to increase chances of an ignition. In other words, had the control measure performed as expected, the ignition event would have likely not occurred.

Pole Clearing Program - 2023-2025 Wildfire Mitigation Plan Public Resources Code (PRC) 4292, California Code of Regulations (CCR) Title 14 1254, TD-7112P-01 Rev. 0	<p>Expected Performance: Prevent or confine ignition by clearing 10-foot radius around subject poles from 0-8 feet above ground level.</p> <p>Observed Performance: Barrier did not exist.</p>	N/A	Clearing grass vegetation at base of pole would have either prevented ignition or limit the fire spread to the 10-foot clearing radius. Note this barrier includes the Voluntary Risk Reduction program specified in TD-7112P-01
Distribution Facility Patrol	<p>Expected Performance: Simple, visual inspection to identify obvious structural problems or hazards, such as damaged line equipment or corrosion with noticeable metal damage.</p> <p>Observed Performance: Barrier did not perform as expected</p>	A1B1C2D6 – Other condition not visually apparent	Pole installation occurred in 2021 with no indication that the secondary connector was replaced/alterd prior to the ignition. GO165 compliance inspection in 2022 was the only inspection prior to ignition and no declarations were reported.

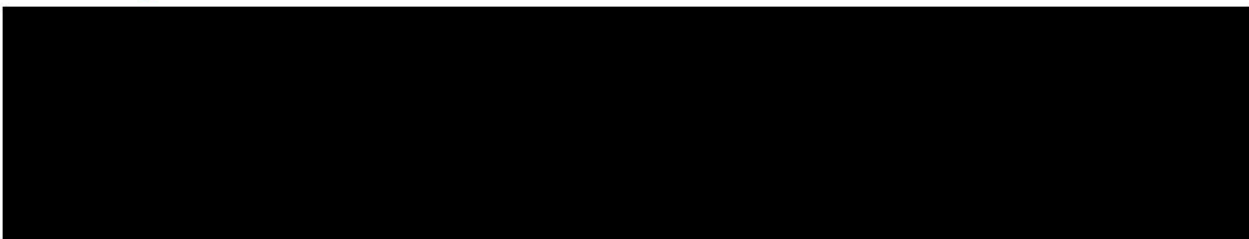
Potential Next Steps / Associated CAP Items:

Prior H-type connector failures have been attributed to inadequate crimping, advanced corrosion, insufficient/thermally damaged tape application.

AFA has recommended a tailboard to crews with 5MM to ensure that the entire restoration, construction, and contract teams are aware of the uptick in ignition incident and some of the misses that led to the ignition regarding H-type connector installation (proper number of crimps), cable preparation, and proper taping. Also, a reminder that the preferred method of connection is fired wedges. Distribution standards 041010 and 028852.

A Corrective Action [CAP #129525814](#) has been submitted to address these issues. This action was completed on October 7, 2024 which entailed the sharing of the 5MM with Restoration, Construction and Contract Teams leaders who have tailboard with their teams around the H-type connectors.

Single Line Diagram



LEGEND



Substation



Fuse



Line
Recloser



Area of
Interest

Photos and Diagrams of Events

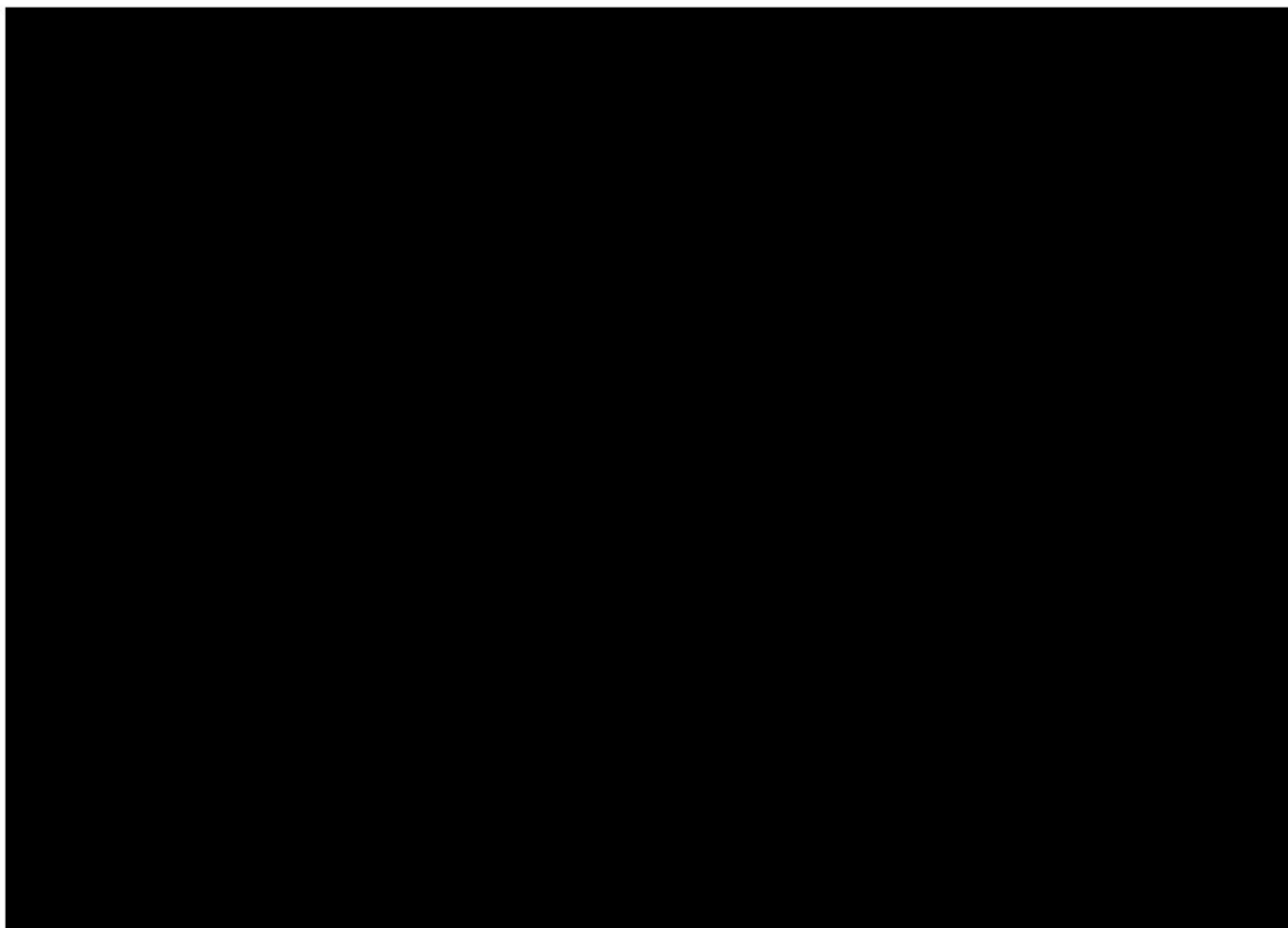


Figure 1 Image from EDGIS of Incident Location near pole SAP ID # 104064095.



Figure 2 Burn area at the base of pole SAP ID # 104064095 taken by troubleshooter on date of the incident.



Figure 3 Photo of burn mark on neutral where hot leg made contact taken by troubleshooter on the date of the incident.

Attachments

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

[REDACTED]
[REDACTED]

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