



Preliminary Ignition Investigation Report

Ignition Database Index:	20240916N
Electric Incident Investigation (EII) Number:	N/A
Incident Name:	Infrastructure In Calaveras
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	May 21, 2024 @ 1640 hours
Street Address:	Vallecito Road and Tyrone Road
City:	Angels Camp
County:	Calaveras
Latitude/Longitude:	38.067161, -120.537208
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	LRA
PG&E Division:	Stockton
High Fire Threat District (HFTD):	Tier 2
High Fire Risk Area (HFRA):	Yes
EPSS Buffer:	No
Fire Index Area (FIA):	320
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:	Utility Work/Operation
Failure Driver:	Utility Work/Operation
Failure Sub-driver:	Utility Work/Operation
Circuit:	Frogtown 1701
Circuit Protection Zone:	Frogtown1701CB
Nominal Voltage:	17kV
Pole SAP Equipment ID:	101268856 and 101269614
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	715 Aluminum Primary Conductor
EPSS enabled at time of ignition?	No
Fault Type:	Line to Ground
Wire Down (Primary)?	No
Lead Agency/Agency Having Jurisdiction:	Angels Camp Fire Department
Fire Size:	20' x 25' and the 20' x 35'
FAS Field Remarks:	N/A

HAWC Summary:	██████ reported fire caused by PG&E crew. 1655 Tyron Rd. Angels Camp. Crew called 911 to report ignition fire occurred at 1650. No impact to assets. Crew was untying a circuit and popped off insulator and started a fire with wire on ground. Fire size approx. 75 x 75. ¹ Fire extinguished by contractor and FD showed up and controlled fire. Fire occurred right behind the fire station.
Injuries / Fatalities / Property Damage / Media Attention:	None reported
Weather Conditions:	At 16:50 near the incident location Temperature: 79.1°F Relative Humidity: 21% Wind Speed: 4.1 mph out of the WNW Wind Gust: 10.1 mph
Red Flag Warning (RFW) / High Wind Warning (HWW):	No
911 Standby Relief Time:	N/A
OIS #:	N/A
ILIS #:	N/A
FAS #:	N/A
TOTL #:	N/A
Assigned Attorney:	N/A
Ignition Investigator & Phone:	████████████████████

¹ Note the HAWC references a 75 x 75 fire size which is combining the two spot fire sizes.

Executive Summary

On May 21, 2024, two contractor line crews (Crew) were working on a section of double circuit poles. This included Frogtown 1701 and Frogtown 1702 17kV overhead three phase distribution circuits via the PM Order 35145540 as part of a system hardening project. The crews were tasked with removing the Frogtown 1702 from the Frogtown Substation to SAP 101268847, consisting of 715 aluminum conductors.

The upper circuit, Frogtown 1701, was energized with a non-test order in place while the lower circuit, Frogtown 1702, was de-energized and grounded. The work was near the Frogtown Substation, in a Tier 2 High Fire Threat District (HFTD) near Vallecito Road and Tyron Road, Angels Camp, CA 95222 (Incident Location).

The Crew held a tailboard which included a discussion about fire hazards and scheduling the work prior to vegetation drying further in the season. The Crew tested, grounded, and removed a span of conductor from both source sides to isolate the deenergized conductor. The crew working on the isolated and deenergized circuit, built capacity by utilizing the rubber glove method due to the above energized circuit.

During the pre-job assessment, the Crew identified a split pole top. After a tailboard, the Crew utilized the tracked rig to access the pole top and installed an anti-split bolt to secure the pole top. The Crew recognized that the crossarms were in a strain after untying the first couple of crossarms, so they stopped, tailboarded a second time and agreed to snub the conductor off to the pole at the top of the hill as opposed to the crossarm. This was to build additional structural capacity because the conductor tension was determined to be too tight to bring the conductor to the ground and the energized circuit above required no shock loads to the strain on poles in already poor condition.

The Crew began removing the tie wire and laying the conductor on the cross arms as they worked their way up the hill, repeating the work method. When a Journeyman Lineman removed half of a tie wire on an insulator (field phase to the west side of the pole), the conductor began moving through the tie wire due to tension being greater than anticipated. As the moving conductor hit the ground, the conductor galloped, causing the uphill span to slap upwards, into the energized circuit above. The Crew reported electricity traveled through the deenergized conductor to the north where the conductor was laying on the ground as the source of ignition.

The Crew reported two spot fires occurred between two spans (Incident Pole #1² and Incident Pole #2³) see Figures 1 and 2 below. They immediately stopped all work, called 911, extinguished the 20 x 25 feet and the 20 x 35 feet spot fire. In compliance with "EMER-4102S Preventing and Mitigating Fires While performing PG&E Work", the Crew used a combination of fire extinguishers and water pump backpacks to extinguish the spot fires. They subsequently reported the ignition to PG&E supervision, and to the HAWC team per "EMER-4102S jobsite Ignition Reporting Procedure".

The Integrated Reporting of Wildfire Information (IRWIN) system reported the "Finn Fire" was discovered at 1653 hours. After being notified of the ignition by the Contract Crew Inspector, the HAWC reported the fire name was "Infrastructure In Calaveras at 5/21/2024, 6:21:20". The Angels Camp Fire Department responded to and confirmed full extinguishment of the less than one-quarter acre fire was completed.

² SAP 101269614

³ SAP 101268856

A search in SAP for the Incident Poles resulted in two open notifications. These notifications do not appear to be related to the cause of the ignition. There is an open priority “E” EC notification 124137106 created on July 21, 2022, for Incident Pole #1. The notification indicates the pole-top has large woodpecker hole right at king-pin bolt and the bottom set of crossarms are starting to roll. There is an open priority “F” EC notification 109260624 that was created on October 9, 2014, for Incident Pole #2. The notification indicates a field safety reassessment was completed twelve days prior to this incident, and advised the bottom crossarm was rolling substantially and the double-arm ties were starting to come off insulators.

System Protection Analysis

Due to low Fire Potential Index (FPI) ratings, expected wind speeds, relative humidity and fuel moisture thresholds, Enhanced Powerline Safety Settings (EPSS) were not enabled on the Frogtown 1701 17kV overhead distribution circuit at the time of the ignition.

Ignition Impact

The two ignitions were isolated to grassy vegetation, resulting in two burn scars approximately 20 x 25 feet and the 20 x 35 feet. There were no reports of injuries, fatalities, or property damage. There was no outage, and no customers were impacted.

Sequence of Events

May 21, 2024, as reported in the contractor initial report. Times were not provided.

- The Crew held an Initial tailboard.
- The Crew tested, grounded, and isolated the Frogtown 1702 circuit by removing a span of wire from both source sides.
- The Crew stopped work when they observed crossarm strain.
- The Crew updated the tailboard and work plan.
- 1650 hours – The Crew observed the fire and called 911.
- 1653 hours – First IRWIN time.
- The Crew used appropriate fire suppression equipment to extinguish the ignition.
- The Crew notified PG&E Supervision.
- ~1833 hours – Contract Crew Inspector reported worksite ignition to HAWC.

Corrective Notification Associated with Ignition

No corrective notifications were created as a result of this ignition.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	124137106	Notification created from the GO 165 inspection for the woodpecker holes.	E	7/21/2022	7/21/2023

	109260624	Notification created for missing high sign on 10/16/2014. FSR on 7/21/2022 and 5/9/2024 at the time of the GO 165 inspection. Added crossarm and framing to the FDAs on the notification.	F	10/16/2014	10/6/2019
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	SAP ID: 101269614	
Info / Inspection	Most Recent Date	Findings
Install Date:	1998	Western Red Cedar, 50' tall, Penta treated
Inspection:	May 9, 2024	The pole top has large woodpecker hole right at Kingpin bolt and has arm starting to roll. Suggest reframing with fiber, arms, and moving kingpin to avoid woodpecker damage. Pole is not truck accessible, possibly track machine accessible. Remainder of pole looks fairly solid.
Patrol:	N/A	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:	March 3, 2020	Pass, 100% remaining strength
WSIP Inspection:	May 14, 2019	There were no compelling abnormal conditions for the pole, equipment or span

Load Side Structure	SAP ID: 101268856	
Info / Inspection	Most Recent Date	Findings
Install Date:	1998	Western Red Cedar, 50' tall, Penta treated
Inspection:	May 9, 2024	Bottom arm, rolling substantially double arm ties starting to come off insulators needs to be reframed and ties reinstalled high signs are OK at this time but install new ones when repairing arms. This is a remote location, track machines possibly accessible. Pole is stubbed.
Patrol:	N/A	N/A

Corrective History:	August 7, 2020	EC Notification 119575846 completed on April 28, 2021 Install 900A SW @ 38.0680,-120.5381. Emailed local team to see if this notification belongs on this pole.
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:	April 27, 2020	Pass, 100% remaining strength
WSIP Inspection:	June 4, 2019	There were no compelling abnormal conditions for the pole, equipment or span

Hazard Barrier Analysis:

Hazard	Operational Error	Sub-Hazard	Construction Error
Target	Two Spot Fires		
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event? (See ICF Codes)	Opportunity
Barriers that Positively Affected Ignition			
EMER-4102S Preventing and Mitigating Wildfires While Performing PG&E Work	<p>Expected Performance: Establishes precautions for PG&E employees and contractors to follow when traveling or performing work on any forest, brush, or grass-covered land. Includes ground saturation and equipment to mitigate potential fire spread.</p> <p>Observed Performance: Barrier performed as expected</p>	N/A	The Incident Location was remote and not vehicle accessible. The Crew used a combination of fire extinguishers and water pump backpacks to extinguish the spot fires, which are the required firefighting tools for the R1 FPI conditions.
Barriers that were Assessed as Opportunities			
Insulated Hard Plastic Line Conductor Covers, Crossarm Covers and Pole Covers	<p>Expected Performance: Covers should reduce potential for inadvertent contact with energized lines.</p> <p>Observed Performance: Barrier did not exist</p>	N/A	Plastic line covers are typically near to the cross arms and not mid-span where the energized and de-energized conductors made contact.

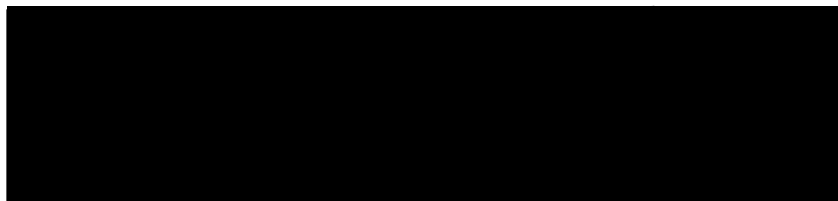
Maintaining Positive Control of Conductor Where Strain is Being Changed	<p>Expected Performance: Crews are to maintain positive control of de-energized conductor being removed below energized overbuilt circuit.</p> <p>Observed Performance: Crew didn't adequately maintain positive control of conductor being removed. Spans of de-energized and isolated conductor were on the ground in two directions and tied into insulators in multiple spans. When strain was released, the conductor was able to move, causing the conductor to jump up from the immediate release of strain into the energized conductor mid-span.</p>	N/A	The Crew could have tied the spans of conductor on the ground to a pole of crossarm with hot rope to maintain strain so that in the event of release the conductor wouldn't have been able to move.
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Potential Next Steps / Associated CAP Items:

The contractor involved in the incident completed a Work Group Evaluation captured in CAP [128839525](#) outlining the following corrective actions:

- The contractor held a division wide stand down the following day regarding down powerline safety.
- The contractor will apply a set of master grounds at the last span planned for removal. These grounds will remain installed until the last span of wire is removed.
- The contractor will ensure public safety during wire stringing installation or removal by identifying personnel for communication and utilize proper signage.
- The contractor will request the utility to de-energize any paralleling circuit when applicable.
- The contractor will ensure 100% mechanical control of the conductor when horizontal or vertical strain has changed.
- CAP [128839525](#) completed on June 3, 2024.

Single Line Diagram



LEGEND



Substation



Fuse



Line
Recloser



Area of
Interest

Photos and Diagrams of Events

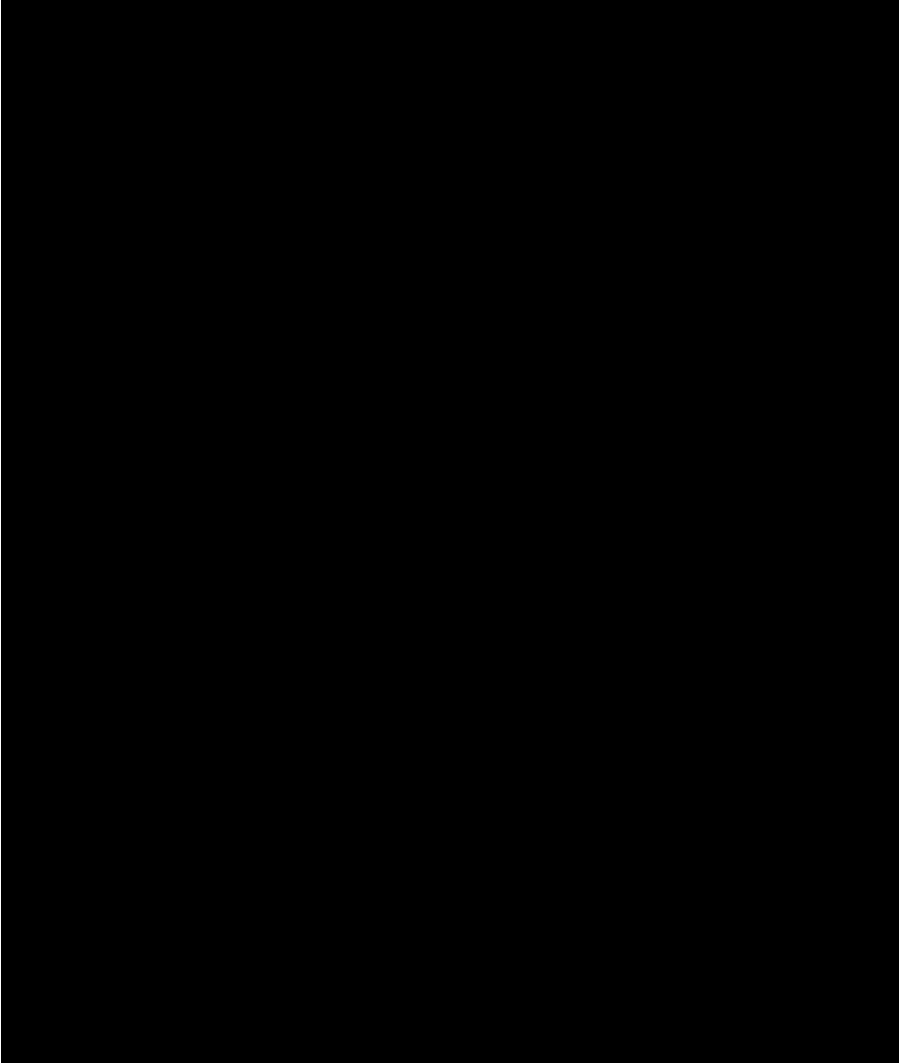


Figure 1: Incident Diagram



Figure 2: Pictures of the two fire footprints taken by the Crew.

References

References can be located in the ESA folder, located below:

[REDACTED]

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