



Preliminary Ignition Investigation Report

Ignition Database Index:	1314
Electric Incident Investigation (EII) Number:	None
HAWC Incident Name:	Oconner – 03 Aug 2022
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	August 3, 2022, at 1119 hours
Street Address:	[REDACTED]
City:	San Luis Obispo
County:	San Luis Obispo
Latitude/Longitude:	[REDACTED]
PG&E Division:	Los Padres
High Fire Threat District (HFTD):	Non-HFTD
High Fire Risk Area (HFRA):	No
EPSS Buffer:	Yes
Fire Index Area:	None
Fire Potential Index (FPI) Rating:	R2
Was there a PSPS event at the time of ignition?	No
Failure Driver:	Connector
Failure Sub-driver:	Splice
Circuit:	Foothill 2101
Circuit Protection Zone:	Foothill-2101-CB2101/2
Nominal Voltage:	21kV
PG&E Equipment associated with ignition:	Splice/Clamp/Connector
EPSS enabled at time of ignition?	Yes
Fault Type:	Line to Ground
Wire Down (Primary)?	Yes
MAVF Score	None
Lead Agency/Agency Having Jurisdiction:	CAL FIRE
Fire Size:	0.26-9.99 Acres
FAS Field Remarks:	"crew to replace primary wire down"
HAWC Summary:	"Units responded to a fire at [REDACTED]. Fire is being reported as forward progress stopped with a current size of 1.5 acre(s). EPSS enabled circuit(s): Foothill 2101 was located within .25 miles of the reported location. An outage was reported on the EPSS enabled circuit(s). No other outages reported. Total customers affected was 380. Notifications have been made to: DCC, Epage, PSS, HAWC Ops."

Injuries / Fatalities / Property Damage / Media Attention:	No injuries, fatalities, or property damage, but local media and fire agencies did report on the fire. ¹
Weather Conditions:	Temperature: 71.9° Relative Humidity: 62% Wind Speed: 5.5 mph (gusts up to 9.2 mph)
Red Flag Warning (RFW) / High Wind Warning (HWW):	None
911 Standby Relief Time:	None
OIS #:	1772053
ILIS #:	22-0093115
FAS #:	T005696166, T005696168
Assigned Attorney:	None
EII Ignition Investigator & Phone:	[REDACTED]

¹ <https://keyt.com/news/san-luis-obispo-county/2022/08/03/cal-fire-san-luis-obispo-crews-respond-to-wildfire-on-oconnor-way/>
<https://www.sanluisobispo.com/news/california/fires/article264143106.html>
<https://www.ksby.com/weather/fire-watch/crews-respond-to-vegetation-fire-near-bishops-peak>
<https://twitter.com/SLOCityFire/status/1554901136892575744?s=20&t=fHawmzbB1QDExPljYDD6sg>

Executive Summary

On August 3rd, 2022, at approximately 1150 hours, PG&E Troublemens patrolled the EPSS enabled circuit Foothill 2101 21 kV Overhead Distribution Circuit near O'Connor Way and Partner Road in San Luis Obispo, California. They were dispatched in response to multiple SmartMeter auto-generated outage reports; in addition, a Foothill Substation circuit breaker (acting as Temporary Line Recloser 1101/2) opened at 1120 hours.

Upon arrival, the Troublemens observed the westernmost phase of the Foothill 2101 circuit (a 4 ACSR conductor) had failed near a wood pole (SAP ID No. 101850483) supporting both the Foothill 2101 circuit and the Goldtree Tap 115 kV Transmission Line overbuild load side (Figure 1, Figure 2). The troubleman observed a cracked and corroded splice attached to the downed conductor (Figure 3 **Error! Reference source not found.**), as well as a vegetation fire on the hillside near the downed conductor (Figure 4). CAL FIRE, the San Luis Obispo City Fire Department, the United States Forest Service, and the Atascadero State Hospital firefighters all responded to the fire, which burned an area of approximately 1.5 acres.

PG&E issued a priority "A" EC Notification (No. 124219702) to replace the downed conductor, and repairs were completed the same day. The failed splice and conductor were collected from PG&E by CAL FIRE on August 3rd, 2022 and retained as evidence.

The ignition was caused by a downed conductor that resulted from failure of a deteriorated conductor splice. At the time of the incident, there was an open priority "E" EC Notification tag (No. 123700083), issued May 26, 2022 and due May 26, 2023, to replace the splice and adjust the conductor. The EC tag notes "splice installed within 2 feet from insulator or dead ends preventing free movement, remove and replace splices further away from insulator, dead end, or armor rods. Replace primary connectors with coated jumpers and proper connections."

EPSS Analysis

The Distribution Asset Planning team reported that EPSS settings were enabled on the upstream temporary line recloser (Temp LR 1101/2) and were active at the time of the incident. This incident occurred in an EPSS Buffer, and no partial voltage alarm tripped. The EPSS settings did trip, and there was no evidence found of a high impedance fault. The first recorded point in the oscillography indicates line (Phase A) to ground (G) currents of around 130A peak, which was higher than the normal approximate load 51A on Phase A and 15A on the ground. The oscillography indicates the fault was present for some time before the fault current grew enough to where the device reacted. This indicates an evolving fault where arcing developed into a lower impedance fault over time. EDPI did not record any DCD alarm or observable change in ground amps which implies the higher impedance duration of the fault may have been relatively brief.

Ignition Impact

The downed wire ignited a fire that burned approximately 1.5-acres of ground vegetation and caused a 95-minute outage that affected 380 customers. PG&E did not identify any injuries, fatalities, or property damage resulting from the incident, but did identify several local media reports on the fire.

Sequence of Events

August 03, 2022

- 1120 hours – PG&E detects multiple smart meter outages on the Foothill 2101 circuit.
- 1120 hours – Temporary LR 1101/2 opens.
- 1130 hours – PG&E dispatches troublemen to investigate the cause of the outages.
- 1150 hours – Troublemán arrives at the incident location.
- 1230 hours – Troublemán identifies open Fuse 3561.
- 1245 hours – Temporary LR 1101/2 is closed, restoring power to 369 customers.
- 1810 hours – Fuse 3561 is closed, restoring power to remaining 11 customers.

Corrective Notification Associated with Ignition

PG&E issued Engineering Corrective (EC) Notification #124219702 to replace the downed conductor and connectors on the incident pole.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	123700083	Incorrectly installed connector and improper connection	E	05/26/2022	05/26/2023
COE Notification					
LC Notification					
Veg Work Order					

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:	01/01/1989	
Inspection:	06/15/2017	
	05/26/2022	Inspection identified abnormal conditions and notification 123700083 was created.
Corrective History:	N/A	
Aerial Inspection Records:	N/A	
VM Inspection:	N/A	
EVM Inspection:	N/A	
Equipment Test:	N/A	
Pole Intrusive Test:	03/25/2010	Pass
WSIP Inspection:	N/A	

*Incident Location: SAP ID: 101850483

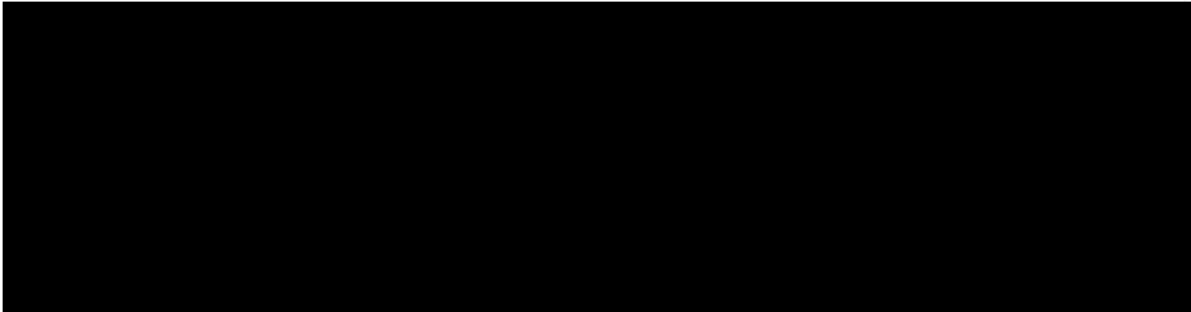
Hazard Barrier Analysis:

Hazard	Splice failure causing downed wire				
Target	Vegetation fire contacting PG&E assets				
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	Higher prioritization of the existing EC tag for splice replacement may have prevented the incident.
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.	No	No	The upstream temporary line recloser with EPSS settings eventually detected a fault and de-energized the circuit. However, the wire down still ignited a fire and device oscillography indicates a ground fault may have occurred for some time prior to the device tripping.

Potential Next Steps / Associated CAP Items:


- None


Single Line Diagram





Device ID	Brand	Type
1101/2	Beckwith	Viper
Fuse 3561	E Fuse	25 E Fuse Part 63

LEGEND

 Substation

 Fuse

 Line Recloser

 Area of Interest

Photos and Diagrams of Events

Company

Ad Hoc Map

1 inch = 463 feet

0 115 230 460 690 920

Feet

PLEASE CALL 800.451.4511 AT LEAST 48 HOURS PRIOR TO EXCAVATING IN THIS AREA. DIAL 811

APPROXIMATE LOCATION: VERIFY BY HAND TOOLS. PACIFIC GAS AND ELECTRIC CO.

*WARNING: Confidential, Proprietary Information

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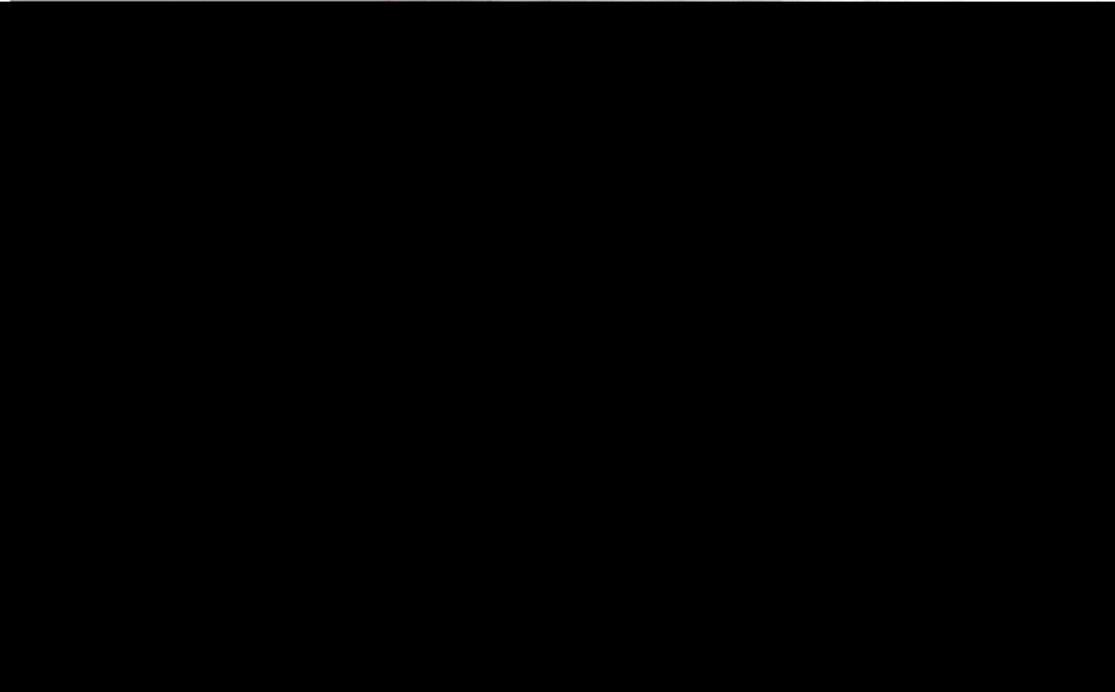


Figure 1. PG&E Ad Hoc Repair Map from EC Notification No. 124219702 with incident span indicated.



Figure 2. Broken conductor (indicated) attached to the subject pole (SAP ID No. 101850483).

This report is preliminary and based on available information as of 08/18/2022; event data is subject to change based upon subsequently discovered information.

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Internal



Figure 3. End of downed conductor with failed splice still attached.



Figure 4. Burned ground vegetation in the vicinity of the downed conductor.

Attachments

Attachments and references are located in the ESA folder below:



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