



Preliminary Ignition Investigation Report

Ignition Database Index:	20221919
Electric Incident Investigation (EII) Number:	N/A
HAWC Incident Name:	N/A
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	No
Date & Time of Incident:	November 03, 2022 @ 02:15 hours
Street Address:	Highway 33 and York Avenue
City:	Avenal
County:	Kings
Latitude/Longitude:	
PG&E Division:	Fresno
High Fire Threat District (HFTD):	Non-HFTD
High Fire Risk Area (HFRA):	No
EPSS Buffer Zone:	No
Fire Index Area (FIA):	N/A
Fire Potential Index (FPI) Rating: FIA	N/A
Fire Potential Index (FPI) Rating: Circuit	R3
Was there a PSPS event at the time of ignition?	No
Failure Driver:	Contamination
Failure Sub-driver:	Animal contact-nest
Circuit:	Devil's Den 1101
Circuit Protection Zone:	Devil's Den 1101824190
Nominal Voltage:	12kV
PG&E Equipment associated with ignition:	Recloser
EPSS enabled at time of ignition?	Yes
Fault Type:	Line to Line
Wire Down (Primary)?	No
Lead Agency/Agency Having Jurisdiction:	Fire Self extinguished
Fire Size:	Less than one Meter confined to structure only
FAS Field Remarks:	I found the remains of a burned up crow's nest on the ground at the base of the pole for recloser 824190. There's also a lot of barb wire from the nest left on top of the recloser. When it got wet and caught on fire, it flashed over the number two and number three source side bushings and Power Transformer (PT.) I called the DO and reported what I found, he had me bypass it restoring power to all the customers.
HAWC Summary:	N/A

Injuries / Fatalities / Property Damage / Media Attention:	No injuries, fatalities or property damage and no known media attention
Weather Conditions:	Temperature 44.1 degrees, Relative Humidity 85%, Winds Speed 10.3 MPH out of the Northwest, wind gust 15.4 MPH
Red Flag Warning (RFW) / High Wind Warning (HWW):	No Red Flag Warning (RWW) or High Wind Warning (HWW) in effect
911 Standby Relief Time:	N/A
OIS #:	1852116
ILIS #:	22-0127268
FAS #:	T005778813
Assigned Attorney:	N/A
Assigned EPSS Engineer:	
Asset Management reviewer:	
EII Ignition Investigator & Phone:	

Executive Summary:

On November 03, 2022 at 0228 hours, a PG&E Troubleman was dispatched to a three phase primary overhead segment of the Devil's Den 1101 12 kV circuit near Highway 33 in the community of Avenal, Kings, County. The troubleman was dispatched in response to Smart Meter™ auto generated outage reports.

This incident occurred near the Holmes Western Oil Corporation property during a storm event.

The Devils' Den 1101 circuit was protected by Enhanced Powerline Safety Settings (EPSS) capable device Line Recloser LR 824190 at the time of the ignition incident. LR 824190 operated automatically detecting the fault and operating as intended by deenergizing the line.

The troubleman arrived on scene at approximately 0313 hours, at pole SAP ID # 100658454 and reported that he found the remains of a burned up crow's nest on the ground at the base of the pole for recloser # 824190. He also noted "a lot" of barbed wire from the nest left on top of the recloser and when it got wet, it caught on fire, and flashed over the number two and number three source side bushings and power transformer (see figure's #3 and 4 below.)

According to the troubleman, the fire self-extinguished in the rainy weather. According to PG&E Meteorology, the weather conditions at the time and location of the incident were: Temperature 44.1 degrees, Relative Humidity (RH) 85%, winds 10.3 Miles Per Hour (MPH) from the North Northwest, and a wind gust of 15.4 MPH.

The troubleman created one priority B Critical Operating Equipment (COE) tag related to equipment # 4469192 recloser 824190 and noted "this EPSS LR not okay to bypass."

The 95-minute line to line fault outage impacted 41 customers and the last customer's service was restored by 0350 hours on November 03, 2022.

According to PG&E's Asset Management Team, this pole was fully "bird-guarded" and was therefore considered "bird safe." Bird guards are primarily intended for incidental contact and not constant contact like a bird's nest involved in this incident. PG&E has specific rules for the removal of bird's nests and removal can only occur


under specific conditions and when the bird is not nesting. Initial analysis indicates that the responding troubleman did not fill out the Bird Incident reporting form (Utility Procedure TD-2321P-01) however, the report is not required when just a bird’s nest is found.


EPSS Analysis:


PG&E’s Distribution Engineering team confirmed that the Devil’s Den 1101 was protected by EPSS cable device Line Recloser (LR) 824190 at the time of the ignition incident. LR 824190 was set In active profile 3 with Sensitive Ground Fault (SGF) enabled. LR 824190 operated automatically with a recorded fault magnitude of 369 A. This was not a high impedance fault. The LR bushing and arrestors melted and flashed over. Because it was burned, the LR did not capture the outage events or oscillography. The protective device worked as designed per the settings.


See below for Devils Den 1101 Single Line Diagram and Protective Devices:

LEGEND

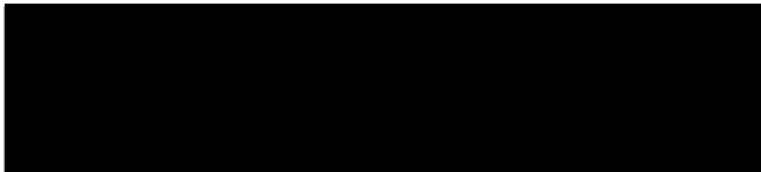
 Substation

 Fuse

 Line Recloser

 Area of Interest

Device ID	Brand	Type
1101/2	SEL/GE	IPAC
LR 824190	Cooper	Form 6 – Rev 30



Ignition Impact:

The ignition resulted in a fire less than one meter in size and confined to the PG&E structure only in the Avenal community of Kings County. The fire occurred when a crow’s nest with barbed wire in it was on top of a line recloser. The LR caught on fire and flashed over the number two and three source side bushings and power transformer. There were no reports of any injuries, fatalities or property damage and no known media coverage. 41 customers were impacted by the outage and the last customer’s service was restored by 0350 hours on November 03, 2022.

Sequence of Events:

November 03, 2022

- 0215 hours: Line Recloser 824190 open
- 0215 hours: First No Light (FNL)
- 0228 hours: PG&E troubleman enroute to the Devil's Den circuit
- 0313 hours: Troubleman arrives on scene to the Devil's Den circuit
- 0330 hours: Troubleman reports he found LR burnt up and source side bushings melted lightning arrestors melted and flashed over. Crow's nest full of barbed wire.
- 0350 hours: Troubleman creates one priority B COE tag for repair of the line recloser, lightening arrestor and disconnects
- 0350 hours: Outage end time in OMT

Corrective Notification Associated with Ignition:

One priority "B" COE tag # 124822708 associated with equipment # 44469192 was generated to replace the Line recloser (LR # 824190) lightning arrestor and disconnects with notes stating "this LR not okay to bypass." Due date was initially listed as February 01, 2023 then was changed to March 24, 2023 and is still showing as "open."

Pending Work:

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	N/A				
COE Notification	124822708	Line recloser needs repair-open PM # 35403620	B	November 03, 2022	March 24, 2023
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:	January 01, 1943	40-foot tall, Class 4 wood pole
Inspection:	July 01, 2020	No abnormal conditions identified
	September 02, 2019	No abnormal conditions identified
Patrol:	March 24, 2021	No abnormal conditions identified
	November 05, 2020	No abnormal conditions identified
Corrective History:	N/A	
Aerial Inspection Records:	N/A	
VM Inspection:	N/A	
EVM Inspection:	N/A	Not in EVM Scope
Equipment Test:	N/A	

This report is preliminary and based on available information as of **February 28, 2023**; event data is subject to change based upon subsequently discovered information.

Internal

Pole Intrusive Test:	July 31, 2020	Pole test and treat-Passed
WSIP Inspection:	N/A	

*Incident Location: Pole SAP ID # 100658454

Hazard Barrier Analysis:

Hazard	Animal or Avian Contact				
Target	Crow 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	No abnormal conditions identified in patrol and inspection records
Wildfire Safety Inspection Program (WSIP) Inspections in high fire threat districts (HFTD)	Identify any nonconformances with structures in HFTD	Inspection would identify any issue with PG&E equipment.	N/A	No	Pole not in a HFTD
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	No	LR worked as designed per the settings. Because it was burned, it did not capture outage events
Avian Protection Plan	Reporting and documenting avian incidents and establishing corrective actions	Implement avian-safe construction and corrective actions to reduce the risks to migratory and threatened or endangered birds	Yes	No	This SAP was considered "bird safe" according to the asset management team

Potential Next Steps / Associated CAP Items:

- None at this time.

- Photos and Diagrams of Events:

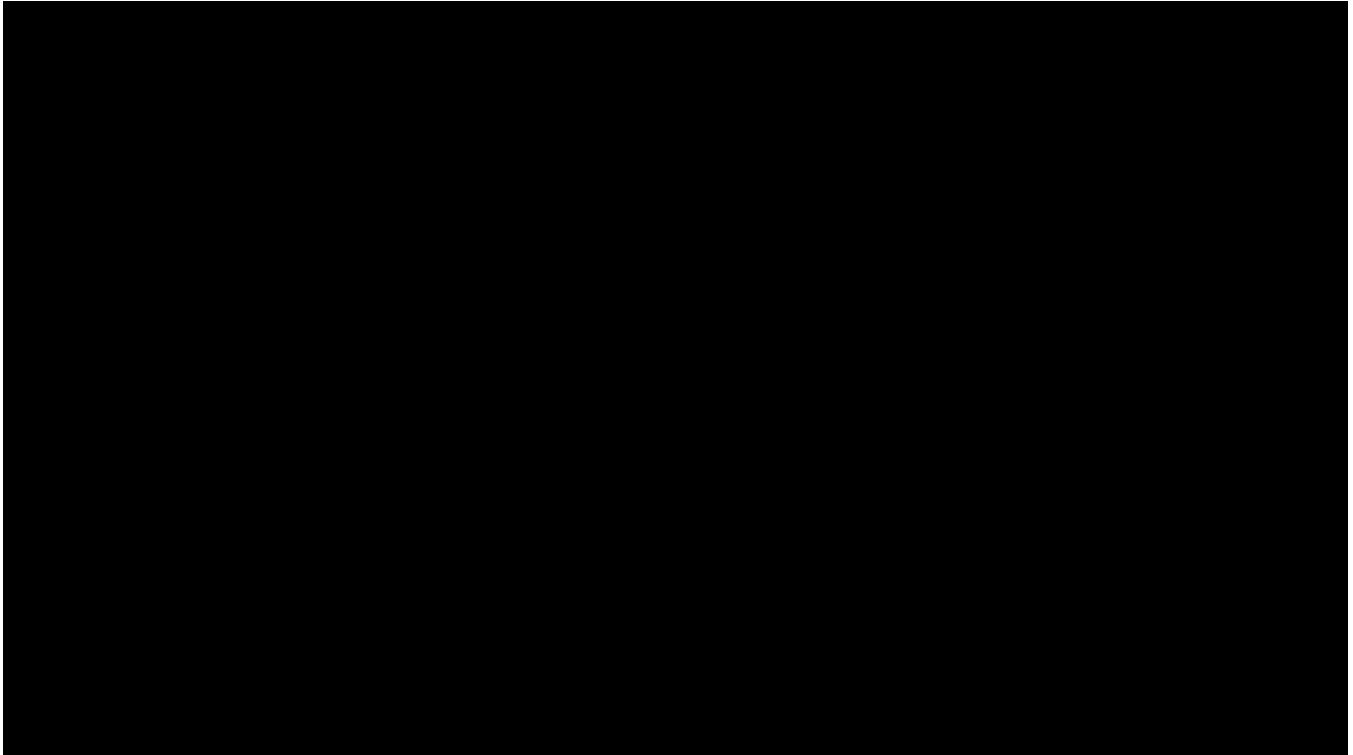


Figure 1 Google Earth overview of incident area with red arrow pointing to LR 824190 on pole SAP ID #100658454.

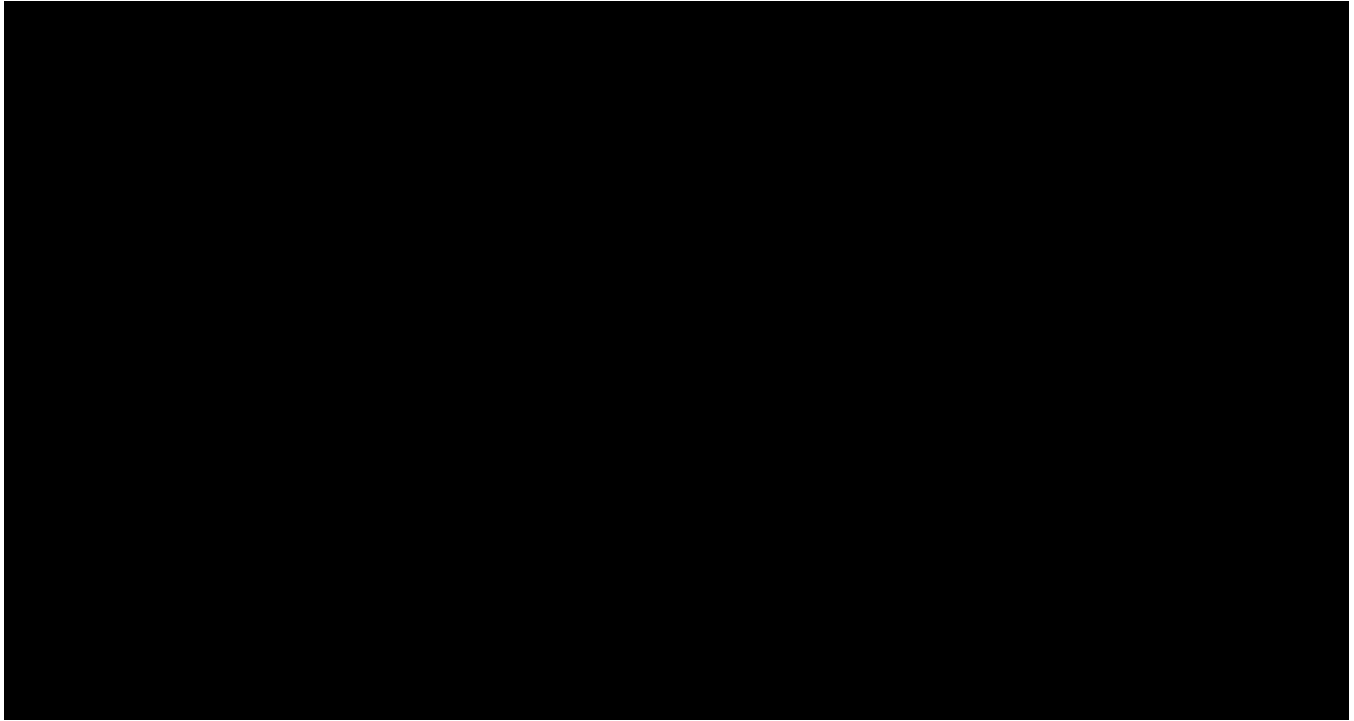


Figure 2 EDGIS diagram of incident area with red arrow pointing to pole SAP ID #100658454.



Figure 3 Photo taken by responding troubleman showing burned up bushings and melted power transformer.

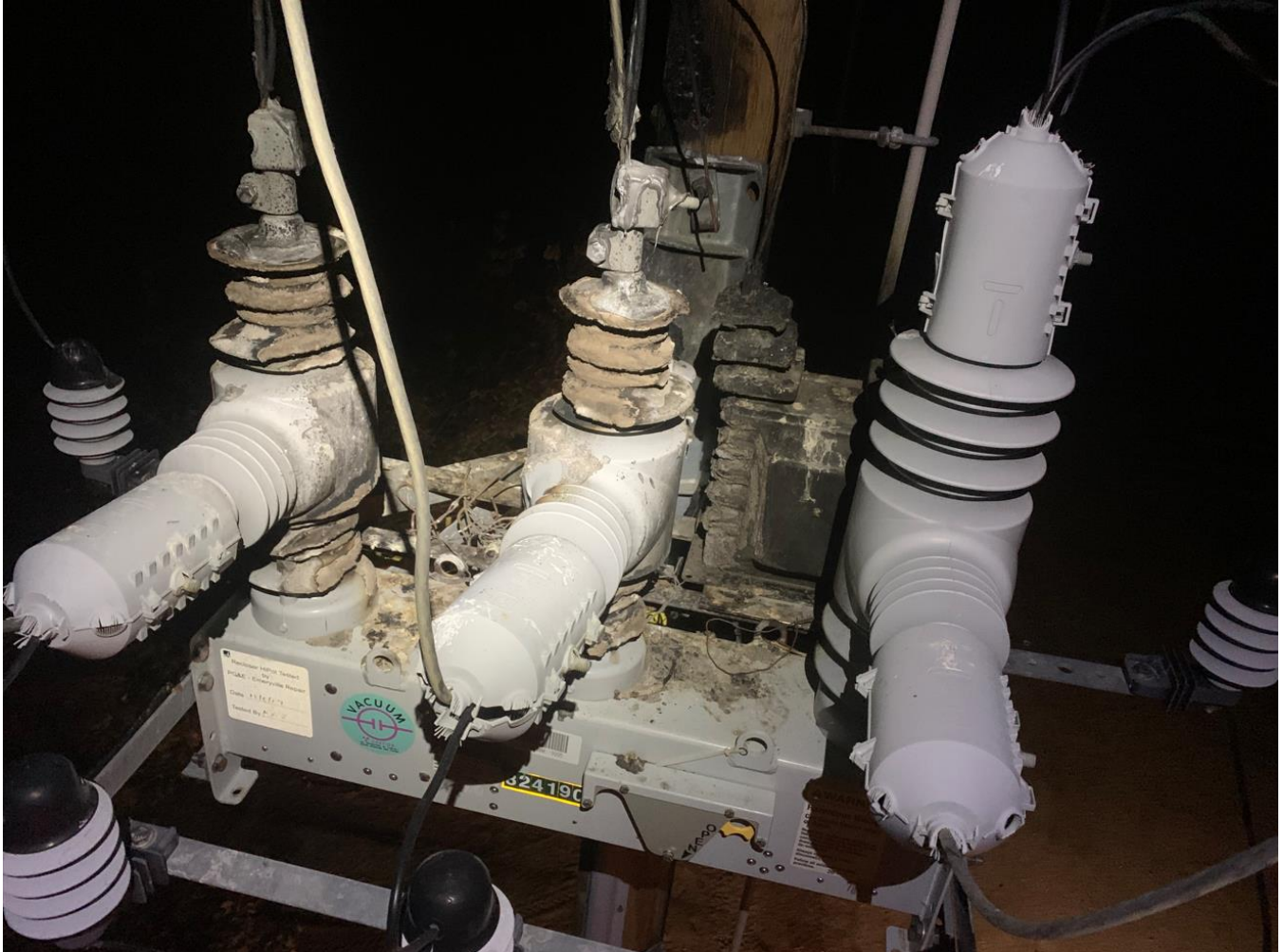


Figure 4 Photo taken by the responding troubleman showing burned up power transformer.

Attachments:

Attachments and references are located in the ESA folder, located below:

[REDACTED]

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

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Internal