



Preliminary Ignition Investigation Report

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|---|---|
| Ignition Database Index: | 1461 |
| Electric Incident Investigation (EII) Number: | N/A |
| HAWC Incident Name: | N/A |
| PG&E Facility Ignition? | Yes |
| CPUC Reportable Ignition? | Yes |
| Date & Time of Incident: | August 26, 2022 at 1520 hours |
| Street Address: | Section 12 Substation B |
| City: | Bakersfield |
| County: | Kern |
| Latitude/Longitude: | ██████████ |
| PG&E Division: | Kern |
| High Fire Threat District (HFTD): | Non-HFTD |
| High Fire Risk Area (HFRA): | No |
| EPSS Buffer: | Yes |
| Fire Index Area: | N/A Not in a high fire risk area |
| Fire Potential Index (FPI) Rating: | N/A Not in a high fire risk area |
| Was there a PSPS event at the time of ignition? | No |
| Failure Driver: | All types of equipment |
| Failure Sub-driver: | Switch failure (Kyle Vacuum Switch) |
| Circuit: | Poso Mountain 2104 |
| Circuit Protection Zone: | Poso Mountain 2104CB |
| Nominal Voltage: | 21kV |
| PG&E Equipment associated with ignition: | Other |
| EPSS enabled at time of ignition? | Yes |
| Fault Type: | Line to Line to Ground (LLG) |
| Wire Down (Primary)? | No |
| MAVF Score | 3687.4 |
| Lead Agency/Agency Having Jurisdiction: | Kern County Fire Department |
| Fire Size: | <0.25 acres |
| FAS Field Remarks: | Kyle failed when placing Cap Bank C-4976 on-line. Top blew off Kyle and started a small grass fire. Called 911 and notified SDCC. Fire suppressed by nearby oilfield workers and T-Man. Opened remaining Cap Bank fuse and made safe. Fire department arrived on scene and verified area was safe. Updated COE. |
| HAWC Summary: | N/A |
| Injuries / Fatalities / Property Damage / Media Attention: | No injuries, fatalities or property damage and no known media attention |
| Weather Conditions: | Temperature 95.1 degrees, Relative Humidity 24 %, wind speed 9.9 MPH from the west, wind gust 16.1 MPH |

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| Red Flag Warning (RFW) / High Wind Warning (HWW): | No Red Flag Warning (RFW) or High Wind Warning (HWW) in affect at time of incident |
| 911 Standby Relief Time: | N/A |
| OIS #: | No outage occurred during this ignition event |
| ILIS #: | No outage associated with this incident |
| FAS #: | 3256513101 |
| Assigned Attorney: | N/A |
| EII Ignition Investigator & Phone: | [REDACTED] |
| AFA Reviewer | [REDACTED] |
| EPSS | [REDACTED] |
| ATS | N/A |

Detailed Description of Events:

On August 26, 2022 at approximately 1420 hours, a PG&E troubleman was tasked with placing capacitor bank # 4976 at pole SAP ID # 103782805 on-line on the Poso Mountain, 21kV distribution circuit near Substation B in the community of Bakersfield. While in the process of restoring the capacitor bank, the Kyle vacuum switch failed, and the top blew off starting a small grass fire. The troubleman called 911 and notified the Southern Distribution Control Center (SDCC).

This incident occurred near the Macpherson Oil Company oilfields in the community of Bakersfield, Kern County. The Poso Mountain 21kV circuit and protective devices on this circuit have been enabled with Enhanced Powerline Safety Settings (EPSS) since April 27, 2022. The primary line was protected by EPSS capable device, Poso Mountain 2104 circuit breaker (CB) at the time of the ignition. The Line to Line to Ground (LLG) Fault did not trip the CB because the time delay threshold of 50 milliseconds (ms) was not met.

The fire was less than 0.25 acres in size, and it was suppressed by nearby oilfield workers and the responding troubleman. The Kern County Fire Department responded to confirm extinguishment of the fire and to take a report. According to the Kern County Fire incident report, the fire cause was listed as equipment and the factor contributing to ignition was listed as short-circuited arcing.

According to PG&E Meteorology, the weather conditions at the time and location of the incident were: temperature 95.1 degrees, relative humidity 24%, wind speed 9.9 miles per hour (MPH) from the west, wind gust of 16.1 MPH. There was no Public Safety Power Shutoff (PSPS) Red Flag Warning (RFW) or High Wind Warning (HWW) in effect at the time of the incident.

The troubleman opened the remaining CAP Bank fuses and made the equipment safe. The troubleman indicated that the CAP Bank would need to be replaced. There was no outage associated with this incident and no equipment was retained for failure analysis testing.

There was a pre-existing priority “F” Critical Operating Equipment (COE) tag (notification # 124077585 PIN # 313019) created on July 14, 2022 with a due date of November 11, 2022 with notes indicating “CAP 4976 is communications failed, telecom found no power to the controller, needs Distribution Line Technician (DLT) man” “Found two of three fuses blown, #1 and #3, will need crew to make repairs and test units.”

According to the troubleman, it was initially unknown why the two fuses failed at this CAP bank. He indicated that the CAP bank had no signs of damage and that the fuses did not operate as designed. The troubleman and the engineer agreed to re-fuse the CAP Bank and test it. According to the troubleman, the fuses initially closed OK to energize up to the open Kyle switches. On August 26, 2022 when the troubleman gave the close command at the controller center the Kyle switch failed and started the small grass fire. After the Kyle switch

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failed, the troubleman updated the COE tag to note “reporting failed vacuum Kyle on North unit will need to be replaced”.

According to the Electric Standards Engineer, there was no Material Problem Report (MPR) associated with this incident.

Ignition impact:

The ignition resulted in a fire less than 0.25 acres in size in the Bakersfield community of Kern County. The fire was caused by a failed Kyle vacuum switch which flew off into the dry receptive fuel bed at the base of the pole and started the grass fire. There were no reports of any injuries, fatalities or property damage and no known media coverage.

Sequence of Events:

August 26, 2022

1420 hours: PG&E troubleman dispatched to the Poso Mountain 2104 circuit

1432 hours: Kern County Fire Department arrives on scene at a vegetation fire reported to be in the oilfields

1542 hours: Kern County Fire Department clears the scene

1559 hours: Troubleman complete time in FAS

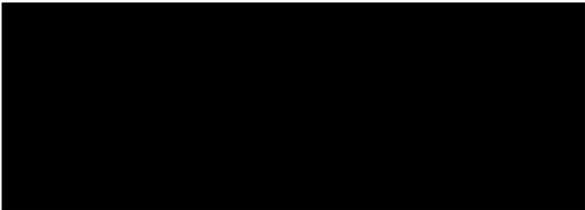
EPSS Analysis:

According to PG&E Distribution planning engineers, the Poso Mountain circuit and protective devices were enabled with Enhanced Powerline Safety Settings (EPSS) on April 27, 2022. See single line diagram and protective device below for device ID, brand, and type:



Poso Mountain 2104 – Single Line Diagram and Protective Devices

LEGEND



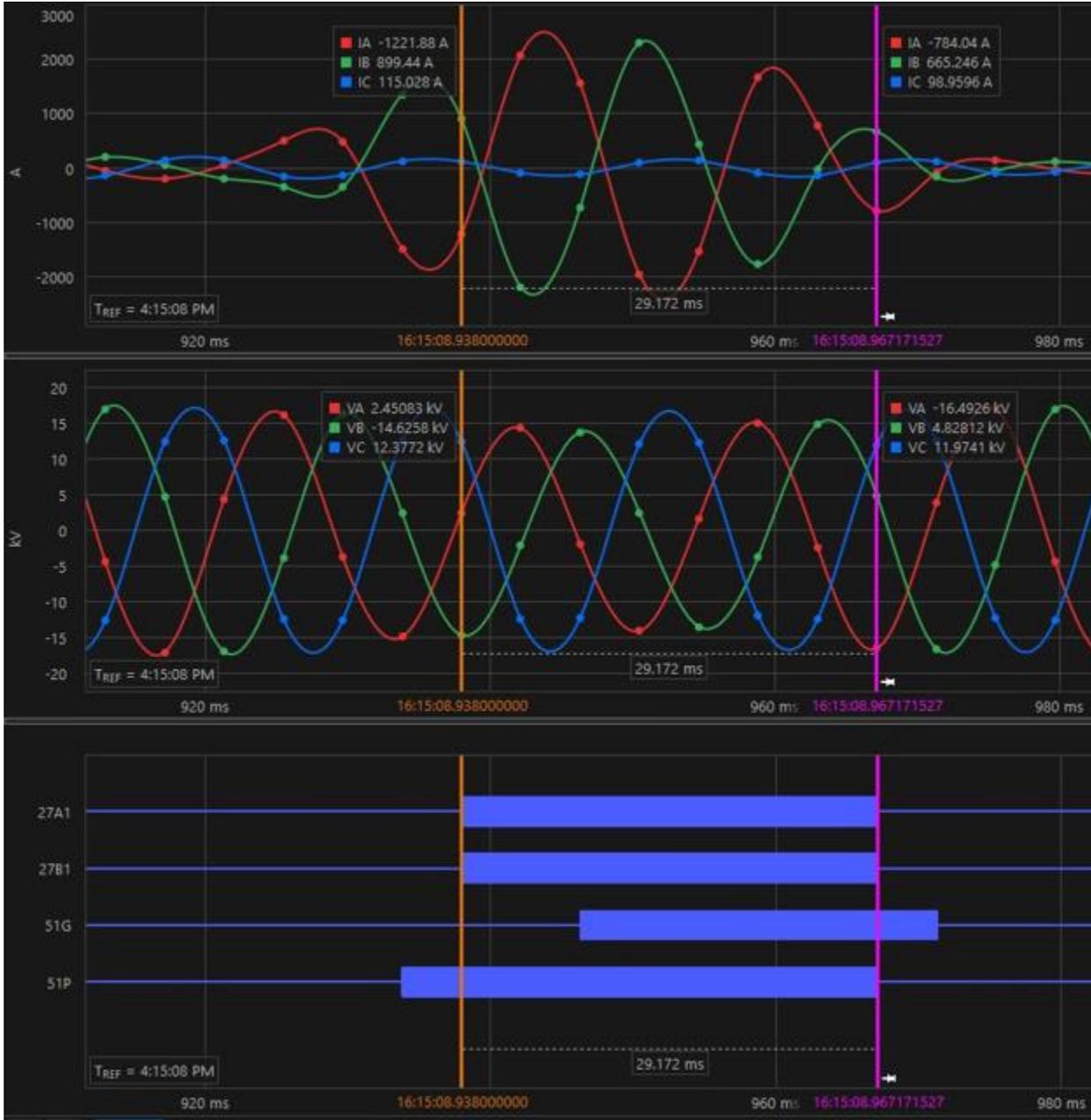
| Device ID | Brand | Type |
|-----------|--------|-----------------|
| 2104/2 | IPAC | F60 / SEL351 |
| 48268 | Cooper | Form 6 – Rev 28 |

Privileged and Confidential
Internal

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The Line to Line to Ground (LLG) fault did not trip the circuit breaker because the instantaneous time delay did not meet the threshold. The event seen lasted 30 milliseconds (ms). The instantaneous delay is programmed to trip after 50 milliseconds on the circuit breaker (see oscillography below):



Asset Failure Analysis:

Incident is not in scope for an Asset Failure Analysis Extent of Condition because it occurred in a Non-HFTD.

Corrective Notification Associated with Ignition:

There was a pre-existing, priority “F” COE tag (notification # 124077585) created on July 14, 2022 with a due date of November 11, 2022 for operating equipment #C4976, PIN # 313019 to refuse this CAP Bank and test the unit. When the Kyle switch failed and the grass fire started on August 26, 2022, the troubleman added notes to the tag to include “reporting failed vacuum Kyle on the North unit, will need to be replaced”.

Pending Work:

| Type | Number | Description | Priority | Date Identified | Due Date |
|------------------|-----------|--|----------|-----------------|-------------------|
| EC Notification | N/A | | | | |
| COE Notification | 124077585 | Capacitor bank C4976 is comm failed. Telecom needs DLT. Found 2 of 3 #1 and #3 blows. Will need crew to make repairs and test units. | F | July 14, 2022 | November 11, 2022 |
| LC Notification | N/A | | | | |
| Veg Work Order | N/A | | | | |

Asset Info & Most Recent Inspections and Tests:

| Info / Inspection | Most Recent Date | Findings |
|----------------------------|--------------------|---|
| Install Date: | May 26, 2015 | Class 4, 45-foot tall, wood pole |
| Inspection: | September 04, 2019 | GO 165 No abnormal conditions identified |
| | September 29, 2014 | No abnormal conditions identified |
| Patrol: | March 18, 2021 | No abnormal conditions identified |
| | October 19, 2020 | No abnormal conditions identified |
| Corrective History: | N/A | (see COE tag above) |
| Aerial Inspection Records: | N/A | |
| VM Inspection: | N/A | |

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| EVM Inspection: | N/A | |
| Equipment Test: | N/A | |
| Pole Intrusive Test: | April 15, 2020 | PTT intrusive inspection. Pole test and treat-passed |
| WSIP Inspection: | N/A | Not in a HFTD |

Pole SAP ID # 103782805

Hazard Barrier Analysis:

| | | | | | |
|---|--|---|--|---|--|
| Hazard | Equipment Failure | | | | |
| Target | Kyle Vacuum switch failure | | | | |
| 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 issues identified in Patrol and inspection records |
| 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 | Circuit breaker did not meet the minimum to trip threshold |

Corrective Actions:

None at this time.

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Photos and Diagrams of Events:

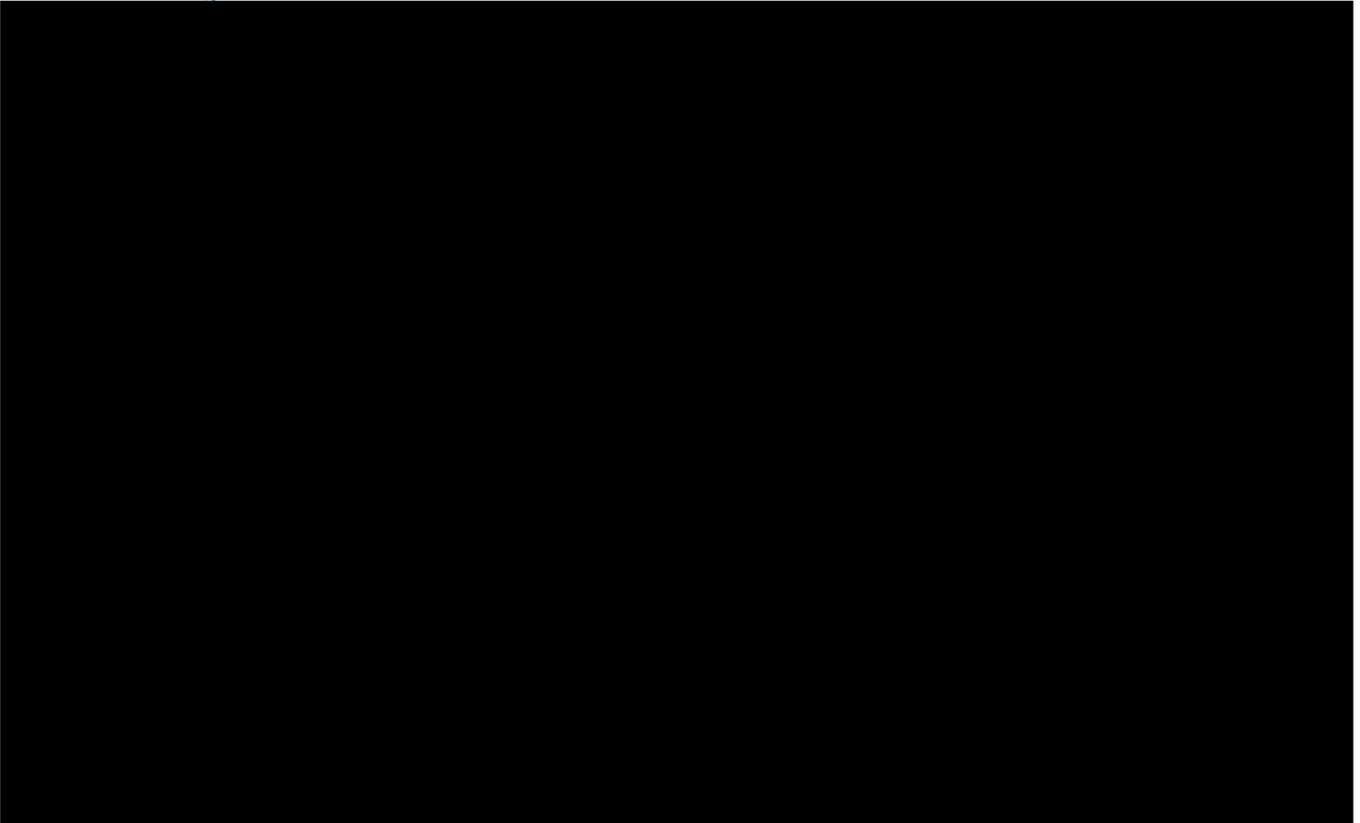


Figure 1 Google Earth overview of incident area with red arrow pointing to pole SAP ID # 103782805 and Capacitor bank C 4976.

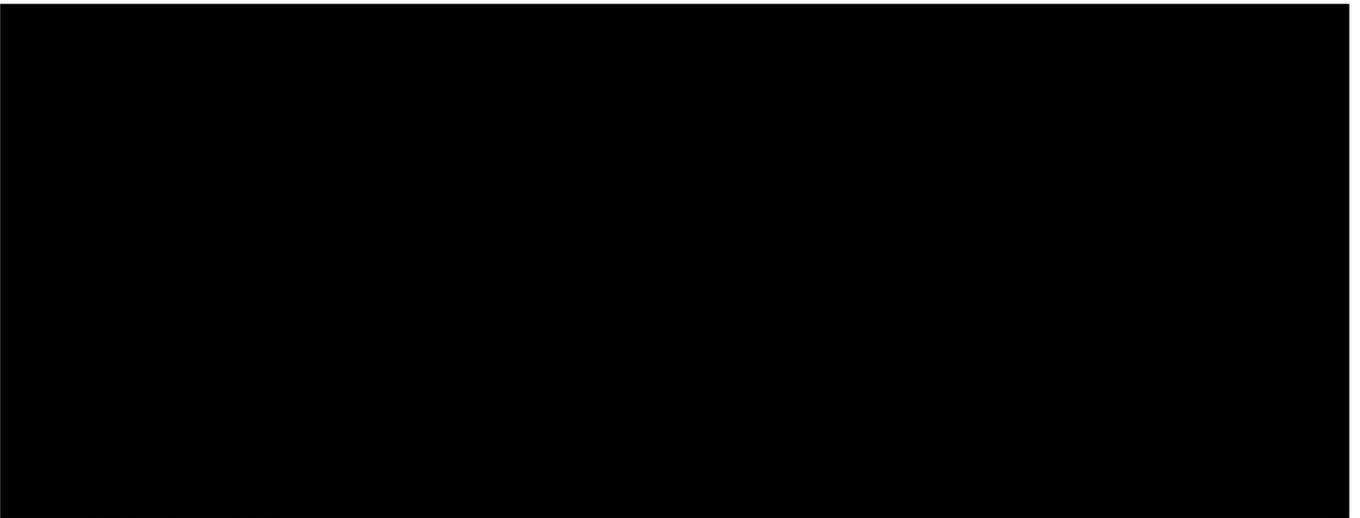


Figure 2 EDGIS Diagram of Poso Mountain circuit incident area with red arrow pointing to pole SAP ID # 103782805.

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Figure 3 Photo taken by responding troubleman showing incident area and oil field workers in the process of extinguishing fire.



Figure 4 Photo taken by responding troubleman showing approximate 0.25 acre fire footprint area.



Figure 5 Photo taken by responding troubleman showing capacitor bank # C-4976.



Figure 6 Photo taken by responding troubleman showing close up of capacitor bank # C 4976.



Figure 7 Photo taken by responding troubleman showing another angle of CAP bank 4976.

Attachments:

[Redacted]

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