



Preliminary Ignition Investigation Report

Ignition Database Index:	20230613
Electric Incident Investigation (EII) Number:	N/A
Incident Name:	N/A
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	June 30, 2023, at approximately 1441 hours
Street Address:	Encinal Place and Valle Vista
City:	Pittsburg
County:	Contra Costa
Latitude/Longitude:	37.994617436308, - 121.899106865404
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	Local Responsibility Area
PG&E Division:	Diablo
High Fire Threat District (HFTD):	No
High Fire Risk Area (HFRA):	No
EPSS Buffer:	No
Fire Index Area (FIA):	N/A
Fire Potential Index (FPI) Rating: FIA	N/A
Fire Potential Index (FPI) Rating: Circuit	R4
Was there a PSPS event at the time of ignition?	No
Suspected Initiating Event:	Equipment – PG&E
Failure Driver:	All types of equipment / facility failure
Failure Sub-driver:	Transformer failure
Circuit:	Kirker 2104
Circuit Protection Zone:	Kirker 2104CB
Nominal Voltage:	21kV
Pole SAP Equipment ID:	107914951 (enclosure)
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	Transformer
EPSS enabled at time of ignition?	Yes
Fault Type:	Line to Ground
Wire Down (Primary)?	No
Lead Agency/Agency Having Jurisdiction:	Contra Costa Fire Department
Fire Size:	Less than three meters in size
FAS Field Remarks¹:	Crew to replace TX and make necessary repairs

¹ FAS Field Remarks entered verbatim.

This report is preliminary and based on available information as of **March 5, 2024**; event data is subject to change based upon subsequently discovered information.

HAWC Summary:	N/A
Injuries / Fatalities / Property Damage / Media Attention:	No/No/No/No
Weather Conditions²:	It was a hot day on June 30, 2023, near the incident location. The high temperature for the day was 101.0° at 15:40 and the low temperature was 63.0° at 06:50. The relative humidity was as high as 74% at 06:40 and as low as 24% at 23:15. The strongest wind gust was 13.0 mph at 18:15 from the northwest.
Red Flag Warning (RFW) / High Wind Warning (HWW):	No/No
911 Standby Relief Time:	25 minutes
OIS #:	2149998
ILIS #:	23-0087694
FAS #:	T006096883, T006096889, T006096936
TOTL #:	N/A
Assigned Attorney:	N/A
Ignition Investigator & Phone:	

² Mesowest Weather Observation Site: F6305 (Elevation 82 feet, approximately 1.26 miles north of the Incident Location).

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Executive Summary

On June 30, 2023, at approximately 1442 hours, a PG&E troubleshooter was dispatched to the Kirker 2104, 21kV Distribution Circuit on Encinal Place off Valle Vista in Pittsburg in response to auto generated tags indicating there was an active power outage in the area. The responding PG&E troubleshooter arrived onsite at 1506 hours to the vicinity of the location noted in the outage reports. Upon investigating the cause of the outage, the troubleshooter located an underground vault with a transformer that had flashed over.

An underground transformer connection failed causing a flashover and flame to come out of the underground vault. The Contra Costa Fire Department responded to the incident and supported suppression efforts to the incident. The subsequent fire finalized at under three meters in size and caused damage to the utility enclosure as well as charring on the landscaping near the utility enclosure.

This transformer was inspected 21 days prior to this incident occurring. The inspector noted the secondary SweetHeart™ connectors were, “bad, burning” and the top cap was, “broken and difficult to secure.” The inspection results prompted the creation of a “B” Tag, however the 90-day period a “B” tag holds were not sufficient to eliminate this facility from failing.

After the failure, the responding troubleshooter created an emergency “A” tag to replace the transformer along with the primary and secondary enclosure. Repair of the primary and secondary cable was also required due to the cable melting during the incident. A PG&E repair crew was onsite and removed the damaged 75kVA transformer and installed a new 100kVA transformer on July 1, 2023.

PG&E Meteorology data pulled from the MesoWest observation site that was approximately 1.26 miles north of the Incident Location indicates it was a hot day on June 30, 2023, near the Incident Location. Calm winds with the high temperature of 101.0 F at 1540 hours and a low temperature of 63.0 F at 0650 hours. The relative humidity was as high as 74% at 0740 hours and as low as 24% at 2315 hours. The strongest registered wind gust was 13.0 Miles Per Hour (MPH) at 1815 hours from the northwest. There were no Red Flag or High Wind Warnings in effect nor did this ignition occur during a Public Safety Power Shutoff (PSPS).

This incident occurred in a non-HFTD and Enhanced Powerline Safety Settings (EPSS) was enabled at the time of incident. This event impacted a total of 5,123 customers with a power outage.

System Protection Analysis

PG&E’s Distribution Asset Planning team confirmed that EPSS was enabled on the Kirker 2104 on June 30, 2023. Per engineering, Circuit Breaker (CB) 2104/2 was set to a Group 3 (EPSS with Sensitive Ground Fault (SGF) cut in) protection profile with the settings set as per the protection guidelines. The underground transformer failure caused a line to ground fault which resulted in an ignition. Circuit Breaker 2104/2 tripped during the incident at 96ms at a peak of 5645A according to LR CB 2104/2 OSC.

Ignition Impact

This ignition resulted in a burn scar under three meters in size.

Sequence of Events

June 30, 2023

- 1441 hours – First report of no light
- 1442 hours – Troubleshooter dispatched to Kirker 2104
- 1445 hours – Circuit Breaker 2104/2 open
- 1506 hours - Troubleshooter arrived onsite
- 1633 hours – Switch J1721 TWD T8554 open
- 1642 hours – Circuit breaker 2104/2 close
- 1708 hours – Interrupter 362270 open
- 1710 hours – Interrupter 362270 closed
- 1830 hours – repair crew called to site
- 1931 hours – repair crew onsite

June 30, 2023

- 0816 hours – switch 9488 open
- 0820 hours – switch J1721 TWD T8554 close
- 0831 hours – switch 9448 close, power fully restored

Corrective Notification Associated with Ignition

A priority 'A' EC Tag (#126491248) was created for post repairs after the ignition.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	NA				
COE Notification	NA				
LC Notification	NA				
Veg Work Order	NA				

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:	N/A	
Inspection:	06/09/2023	Secondary sweethearts going bad/burning. Top cap broken difficult to secure, replacement warranted
Patrol:	N/A	
Corrective History:	05/28/2020	Fault indicator damaged/broken

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Aerial Inspection Records:	N/A	
VM Inspection:	N/A	
EVM Inspection:	N/A	
Equipment Test:	N/A	
Pole Intrusive Test:	N/A	
WSIP Inspection:	N/A	

*Incident Location: SAP ID: 107914951

Hazard Barrier Analysis:

Hazard	Equipment Failure	Sub-Hazard	Transformer Failure
Target			
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event?	Opportunity
Barriers that Negatively Affected Ignition			
Equipment Work Management	Expected Performance: Complete maintenance identified through patrols and inspections in timely and correct manner. (Assess this barrier if there was any overdue or pending work.); Observed Performance: Barrier did not perform as expected.	A3B1C1D3 – Non-Conformance: Work non-conformance; Work Identification; Maintenance tag priority ineffective in preventing failure	Inspection completed 6/9/23, found damage, B tag created which has a 90-day timeline. Incident occurred 6/30/23.
Barriers that Positively Affected Ignition			
Enhanced Powerline Safety Settings – Instantaneous Trip Settings	Automatically turn off power when a hazard is detected to reduce the risk of ignition in High Fire Risk Areas. Set protective devices to operate quickly when a fault occurs but not under typical operating conditions for the line		CB 2104/2 was enabled and reacted within 96ms
Barriers that were Assessed as Opportunities			
Infrared Inspections	Expected Performance: IR imaging and temperature-measuring systems to identify faulty components and initiate repairs or replacements proactively; Observed Performance: Barrier did not exist.		No record of IR on UG transformers to determine if they are at or over capacity.

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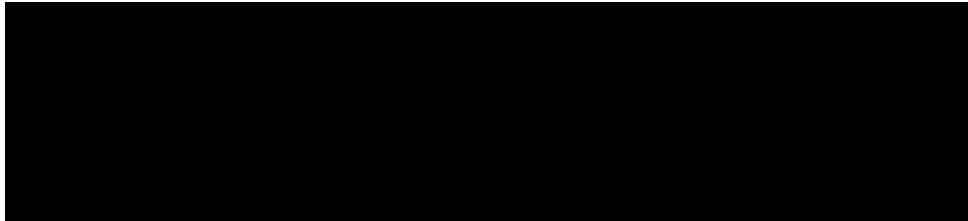
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Potential Next Steps / Associated CAP Items:

- There are no next steps or CAP items associated with this ignition.

Single Line Diagram



LEGEND



Substation



Fuse

Line
RecloserArea of
Interest

Photos and Diagrams of Events

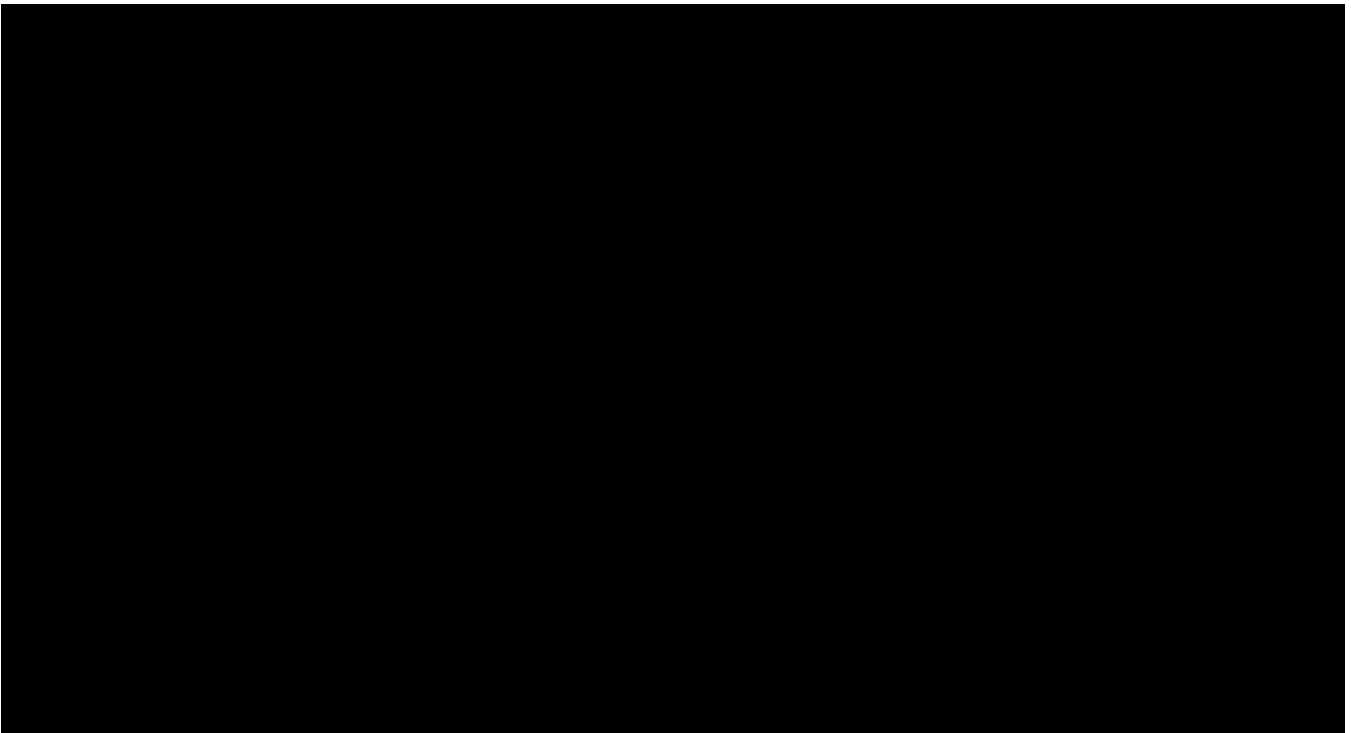


Photo 1 – Google Earth Image of Incident Location.

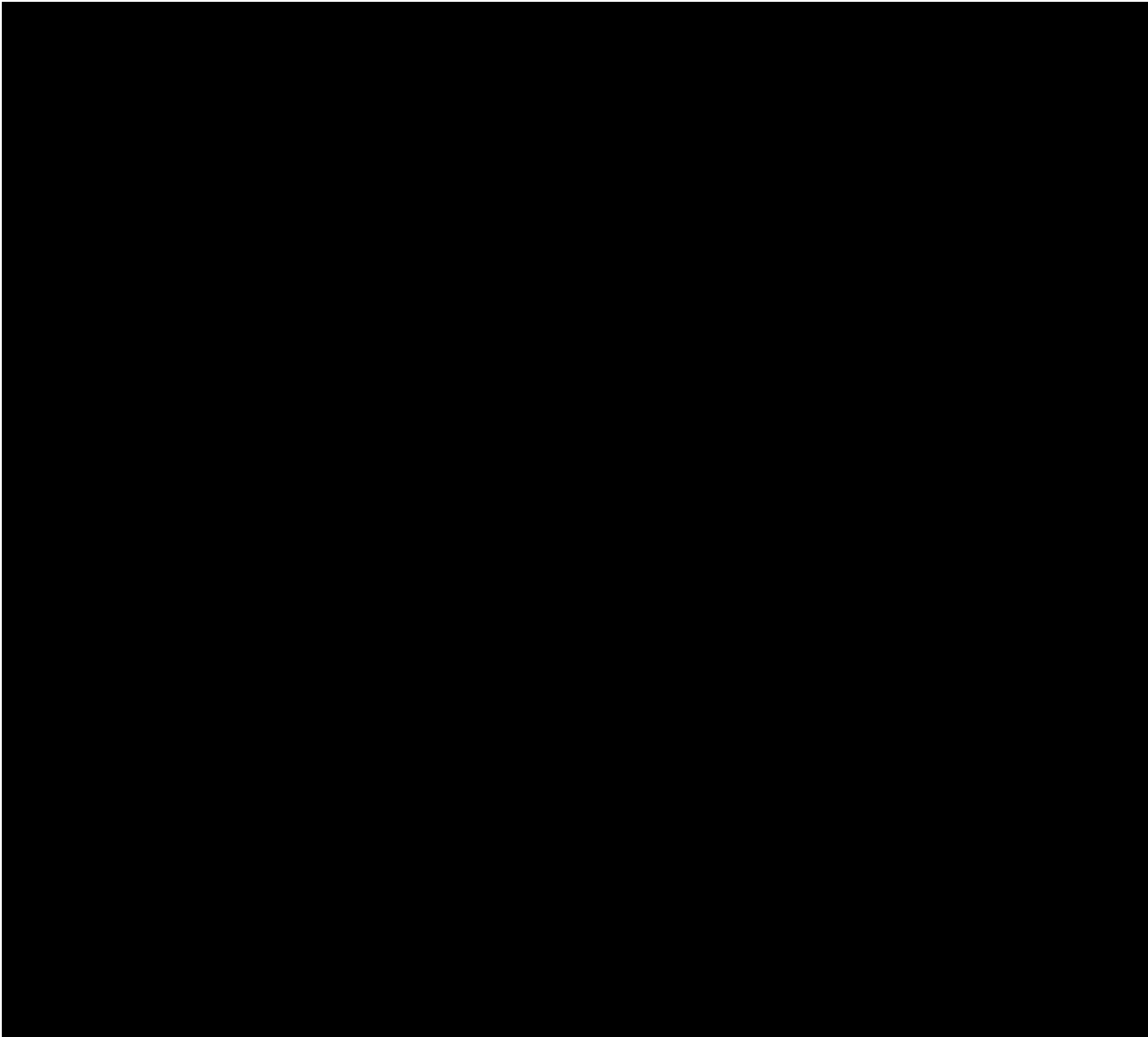


Photo 2 – Incident Location from EDGIS.

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Photo 3 – Post incident photo taken by troubleshooter.



Photo 4 – June 9, 2023, inspection photo showing full view of facilities in enclosure.



Photo 4 – June 9, 2023, inspection photo showing damage.

Attachments

Attachments and references can be located in the ESA folder, located below:
(INSERT LINK TO IGNITION FOLDER URL)



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

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