



## Preliminary Ignition Investigation Report

Ignition Database Index:	20240167
Electric Incident Investigation (EII) Number:	N/A
Incident Name:	N/A
PG&E Facility Ignition?	Yes
CPUC Reportable Ignition?	Yes
Date & Time of Incident:	March 14, 2024 at approximately 2239 hours
Street Address:	54149 Road 432
City:	Bass Lake
County:	Madera
Latitude/Longitude:	37.321100°, -119.561487°
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	State Responsibility Area
PG&E Division:	Yosemite
High Fire Threat District (HFTD):	Tier 3
High Fire Risk Area (HFRA):	Yes
EPSS Buffer:	No
Fire Index Area (FIA):	424
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:	Vegetation
Failure Driver:	Contact from Object
Failure Sub-driver:	Contact – Vegetation
Circuit:	Oakhurst 1103
Circuit Protection Zone:	Oakhurst 110377348
Nominal Voltage:	12kV
Pole SAP Equipment ID:	103827934
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	2 ACSR Conductor - Primary
EPSS enabled at time of ignition?	No
Fault Type:	Line-to-ground
Wire Down (Primary)?	No
Lead Agency/Agency Having Jurisdiction:	CAL FIRE
Fire Size:	40 feet x 40 feet
FAS Field Remarks:	Tree fell on conductor. Need line crew to ground and tree crew to remove. Also need line crew to

	make repairs to burnt conductor from the tree lying on it.
<b>HAWC Summary:</b>	N/A
<b>Injuries / Fatalities / Property Damage / Media Attention:</b>	No/No/No/No
<b>Weather Conditions:</b>	It was a dry and windy day on March 14, 2024 near the incident location. The high temperature for the day was 57.0° at 1720 hours and the low temperature was 41.0° at 0645 hours. The relative humidity was as high as 36% at 2335 hours and was as low as 17% at 1450 hours. The strongest wind gust was 34.0 mph at 2250 hours from the west-northwest.
<b>Red Flag Warning (RFW) / High Wind Warning (HWW):</b>	No/No
<b>911 Standby Relief Time:</b>	N/A
<b>OIS #:</b>	2405564
<b>ILIS #:</b>	24-0042491
<b>FAS #:</b>	T006345686
<b>TOTL #:</b>	N/A
<b>Assigned Attorney:</b>	N/A
<b>Ignition Investigator &amp; Phone:</b>	

## Executive Summary

On March 14, 2024, at 2239 hours Line recloser (LR) 77384 automatically opened and locked out. At the same time, the PG&E Distribution Control Center (DCC) began receiving first no light (FNL) notifications from SmartMeters® in the community of Bass Lake indicating an outage affecting 469 customers. According to the DCC dispatcher, a three-phase fault was detected. In response, a PG&E troubleshooter was dispatched to the Oakhurst 1103 three-phase overhead distribution circuit to identify the location and cause of the outage. At 2242 hours, the Madera County Sheriff's Office called the Madera Mariposa Emergency Command Center (ECC) to report a vegetation fire in the vicinity of Road 432 in Bass Lake. The reporting sheriff's deputy observed arcing that had started a fire coming from the transformer mounted on a pole. CAL FIRE Engine 4264 (E4264) was dispatched to the fire at 2243 hours and arrived at the scene of the fire at 2300 hours. Upon arrival at the incident location, E4264 observed a tree leaning on high voltage conductors and noted it as the probable cause of the ignition. Fire personnel contained the fire at 2304 hours. While the troubleshooter was initially dispatched for a fault at an unknown location, they prioritized the report of a fire from CAL FIRE and arrived at pole SAP ID# 103827934 ("incident location") near the corner of Alder Lane and N. Shore Road at 2313 hours. Upon arrival at the incident location, the troubleshooter observed a tree that was leaning on high voltage conductors. The fire had been extinguished by CAL FIRE when they arrived. After making the scene safe, the troubleshooter called for a Vegetation Management (VM) tree crew and a PG&E repair crew to remove the tree from conductors and perform repairs. At 2340 hours, the troubleshooter manually opened switch 10396 to narrow the scope of the outage. Then the distribution control center dispatcher closed LR 77384 at 2349, restoring 359 customers. E4264 left the incident location at 2359 hours. The incident location was in Tier 3 HFTD, State Responsibility Area (SRA), and High Fire Risk Area (HFRA).

On March 15, 2024, a PG&E contract tree crew removed the tree from the conductors and a PG&E electric construction crew replaced a 10 foot section of the center phase conductor with 2-ACSR.

On March 18, 2024, a PG&E vegetation management inspector (VMI) performed a Fire Incident Investigation to assess the incident tree for factors that may have contributed to its failure. The VMI observed that the tree was a 15-inch diameter at breast height (DBH), 60-foot-tall incense cedar (*Calocedrus decurrens*) that uprooted during gusty wind conditions. The tree showed no prior signs of decay or defects that might have indicated that it was at risk of uprooting toward conductors. While at the location of the ignition, the VMI performed an Extent of Conditions (XoC) patrol to identify other trees with similar factors that may have required work. No trees were identified as requiring work during the XoC patrol.

PG&E's meteorology department reported that it was a dry and windy day on March 14, 2024, near the incident location. The high temperature for the day was 57.0° Fahrenheit (F) at 1720 hours and the low temperature was 41.0°F at 0645 hours. The relative humidity was as high as 36% at 2335 hours and was as low as 17% at 1450 hours. The strongest wind gust was 34.0 miles per hour (mph) at 2250 hours from the west-northwest.

This information is preliminary.

## System Protection Analysis

Due to R1 Fire Potential Index (FPI) ratings, Enhanced Powerline Safety Settings (EPSS) were not enabled on the Oakhurst 1103 overhead distribution circuit at the time of the ignition.

## Ignition Impact

The line-to-ground incident resulted in a fire of approximately 1600 square feet which was extinguished by CAL FIRE. The incident occurred at 2239 hours on March 14, 2024. The initial outage affected 469 customers for 32,830 outage minutes. Once the incident location was isolated, power was restored to 359 customers, leaving

110 customers without power for 48,840 outage minutes. Power was restored to all customers on March 15, 2024, at 0713 after repairs were completed. The incident resulted in a total of 81,670 outage minutes.

### Sequence of Events

March 14, 2024

- 2239 hours – LR 77384 opened, resulting in an outage affecting 469 customers.
- 2241 hours – CAL FIRE received a report of a tree on fire from the Madera County Sheriff's Office.
- 2243 hours – CAL FIRE Engine 4264 was dispatched to the fire.
- 2247 hours– Engine 4264 arrived on the scene of the fire.
- 2250 hours – PG&E troubleshooter dispatched to investigate outage.
- 2313 hours – PG&E troubleshooter arrived at the scene of the fire.
- 2340 hours – Switch 10396 was opened to isolate the outage.
- 2349 hours– LR 77384 was closed, restoring 359 customers.
- 2340 hours– Engine 4264 reported incident terminated.

March 15, 2024

- 0022 hours – PG&E repair crew dispatched to the scene of the fire.
- 0306 hours – PG&E repair crew arrived at the scene of the fire.
- 0713 hours – Switch 10396 was closed, restoring 110 customers.

### Corrective Notification Associated with Ignition

"A" priority notification 128291513 was created to replace damaged conductors. Work was completed and the notification record was closed on March 15, 2024.

### Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	120827586	Center phase bird guard loose and hanging. Work found complete on crew arrival on May 22, 2024	E	4/16/2021	10/16/2021
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		
Info / Inspection	Most Recent Date	Findings
Install Date:	10/14/2015	
Inspection:	7/3/2022	No abnormal findings.

This report is preliminary and based on available information as of **October 8, 2024**; event data is subject to change based upon subsequently discovered information.

Patrol:	N/A	
Corrective History:	N/A	
Aerial Inspection Records:	9/13/2019	No abnormal findings.
VM Inspection:	1/25/2024	No work identified in incident span.
EVM Inspection:	1/25/2020	Incident tree not identified for work.
Equipment Test:	N/A	
Pole Intrusive Test:	N/A	
WSIP Inspection:	4/6/2019	Secondary voltage tree connect identified. No issues noted that required action.

\*Incident Location: SAP ID: 103827934

Load Side Structure		
Info / Inspection	Most Recent Date	Findings
Install Date:	5/9/2019	
Inspection:	7/3/2022	Molding missing, damaged, or loose
	4/16/2021	Hardware/Framing, Loose, Adjust. E priority EC notification 120827586 created for repair.
Patrol:	N/A	
Corrective History:	4/16/2021	E priority EC notification 120827586 for center phase bird guard loose and hanging. Work found complete on crew arrival on 5/22/2024
Aerial Inspection Records:	9/13/2019	No abnormal findings
VM Inspection:	1/5/2024	No work identified in incident span
EVM Inspection:	1/25/2020	Incident tree not identified for work.
Equipment Test:	N/A	
Pole Intrusive Test:	N/A	
WSIP Inspection:	N/A	

\*Incident Location: SAP ID: 103948531

## Hazard Barrier Analysis:

Hazard	Vegetation Contact	Sub-Hazard	Fallen Tree
Target	High Voltage Overhead Conductors		
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event? (See <a href="#">ICF Codes</a> )	Opportunity
Barriers that were Assessed as Opportunities			
Covered Conductor on Primary Conductors	<p>Expected Performance: Covered conductor could have prevented this ignition by providing a barrier that would not allow a fault to occur.</p> <p>Observed Performance: Barrier did not exist</p>	A4B2C1D2 – Program limited to certain conductors	The tree-line contact caused an ignition without the conductor falling to the ground. Covered conductor may have prevented the ignition.
Enhanced Powerline Safety Settings - Downed Conductor Detection	<p>Expected Performance: This barrier can detect line-to-ground faults and de-energize high voltage conductors.</p> <p>Observed Performance: Barrier did not exist</p>	A4B1C1D1 – Conditions did not meet EPSS enablement criteria	The ignition occurred during R1 fire potential index conditions. EPSS settings were not enabled. Downed conductor detection may have enabled trip on tree-line contact.
Enhanced Powerline Safety Settings - Instantaneous Trip Settings	<p>Expected Performance: Rapidly de-energize high-voltage conductors when a fault meets the minimum thresholds.</p> <p>Observed Performance: Barrier did not exist</p>	A4B1C1D1 – Conditions did not meet EPSS enablement criteria	The ignition occurred during R1 fire potential index conditions. EPSS settings were not enabled. EPSS may have enabled trip on tree-line contact.
Enhanced Powerline Safety Settings - Sensitive Ground Fault Settings	<p>Expected Performance: Will de-energize conductor segment when a high impedance fault is detected.</p> <p>Observed Performance: Barrier did not exist</p>	A4B1C1D2 – EPSS only implemented on selected circuits	The ignition occurred during R1 fire potential index conditions. EPSS settings were not enabled. SGF may have enabled trip on tree-line contact.

## Potential Next Steps / Associated CAP Items:

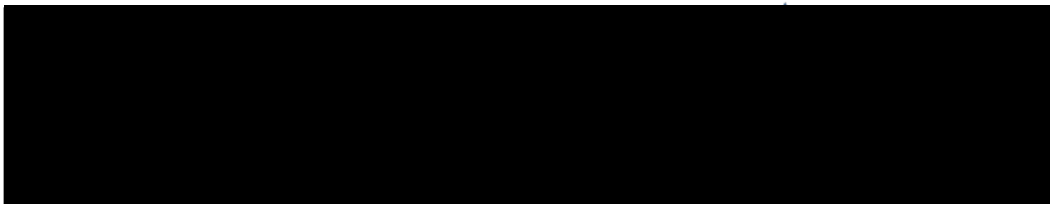
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Internal


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Single Line Diagram




LEGEND

 Substation

 Fuse

 Line Recloser

 Area of Interest

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Internal

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## Photos and Diagrams of Events



Figure 1: Image of incident tree and incident pole obtained from SharperShape aerial inspection imagery.



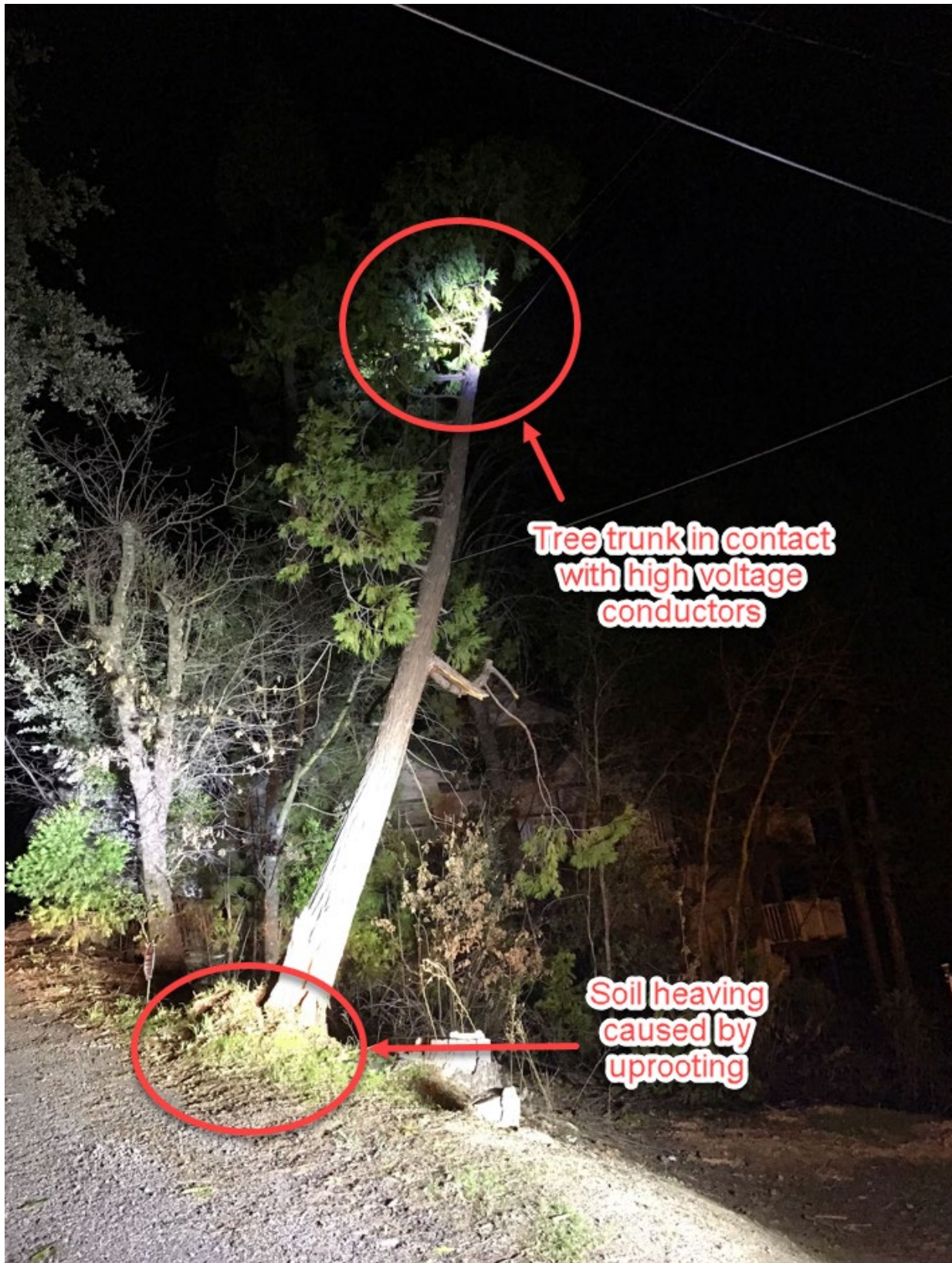




Figure 2: Photo collected by troubleshooter showing soil heaving and tree in contact with conductors.



Figure 3: Photo collected by vegetation management inspector showing soil heaving at the base of the incident tree.





Figure 4: Photo collected by vegetation management inspector showing soil heaving and exposed roots at base of incident tree.





Figure 5: Photo taken by vegetation management inspector of a portion of the fire footprint.

## Attachments

Attachments and references can be located in the ESA folder, located below:

