



Preliminary Ignition Investigation Report

Ignition Database Index:	20240177
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 15, 2024 at approximately 1400 hours
Street Address:	Near [REDACTED]
City:	Woodside
County:	San Mateo
Latitude/Longitude:	[REDACTED]
State Responsibility Area (SRA) / Local Responsibility Area (LRA) / Federal Responsibility Area (FRA)	SRA
PG&E Division:	Peninsula
High Fire Threat District (HFTD):	Tier 3
High Fire Risk Area (HFRA):	Yes
EPSS Buffer:	No
Fire Index Area (FIA):	518
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:	Woodside 1101, 02425-1101
Circuit Protection Zone:	Woodside 1101 LR 8974
Nominal Voltage:	4kV
Pole SAP Equipment ID:	Near pole SAP ID 103489594
Subject to PRC 4292 Veg Pole Clearance:	No
PG&E Equipment associated with ignition:	4 aluminum conductor steel reinforced (ACSR) tree wire
EPSS enabled at time of ignition?	No
Fault Type:	Force Out
Wire Down (Primary)?	Yes
Lead Agency/Agency Having Jurisdiction:	San Mateo County Fire Department
Fire Size:	Between one and three meters

FAS Field Remarks:	Tree came down midspan broke wire onto tree and ground source side device (SSD) 10265 4-ACSR tree wire 275 ft. near driveway near [REDACTED]
HAWC Summary:	N/A
Injuries / Fatalities / Property Damage / Media Attention:	No Injuries/No Fatalities/No Property Damage/No Media Attention
Weather Conditions:	Dry but windy at 65.0°F
Red Flag Warning (RFW) / High Wind Warning (HWW):	RFW – No HWW – No
911 Standby Relief Time:	N/A
OIS #:	2406639
ILIS #:	24-0042916
FAS #:	T006346687
TOTL #:	N/A
Assigned Attorney:	N/A
Ignition Investigator & Phone:	[REDACTED]

Executive Summary

On March 15, 2024 at approximately 1409 hours, PG&E dispatched a troubleshooter to the area of Bear Gulch Road and Allen Road in the City of Woodside in response to a SmartMeter™ auto-generated tag. The associated outage occurred on a two-phase primary overhead segment of the Woodside 1101 4kV distribution circuit (see Figure 1). Although the incident occurred within a Tier 3 High Fire Threat District (HFTD) and High Fire Risk Area (HFRA), PG&E's Enhanced Powerline Safety Settings (EPSS) were not enabled given expected R1 FPI conditions.

PG&E Meteorology data pulled from the MesoWest observation site that was approximately 2.5 miles east of the Incident Location indicates a dry but windy day at 65.0°F with relative humidity at 32%. Winds registered up to 3.2 Miles Per Hour (MPH) from the north with gusts up to 11.2 MPH. The strongest recorded wind gust was up to 18.1 MPH at 0310 hours. There were no Red Flag or High Wind Warnings issued nor did this incident occur during a Public Safety Power Shutoff (PSPS) event.

The troubleshooter was the PG&E first responder to arrive on scene at approximately 1452 hours. In order to isolate this section of the circuit for patrol and eventual remediation, the troubleshooter, upon his arrival, requested and was approved by the Distribution Operations (DO) operator to open Fuse 10265. After de-energizing and making the scene safe, the troubleshooter patrolled multiple spans of tree connects¹ and observed a broken tree leaning into a broken 4 ACSR tree wire midspan between tree connect SAP ID 103489594 and 103493985 (Incident Location) (see Figure 2 and 3). One end of the broken tree wire came to rest onto source side tree connect SAP ID 103493985 and ignited a fire that was contained to the tree connect. The burn scar left on the tree connect measured approximately between one and three meters (see Figure 4) and was extinguished by the San Mateo County Fire Department.

As a result of this ignition event, a priority "A" Electric Corrective (EC) tag (#128296417) was created to repair the broken 4 ACSR tree wire. Per the troubleshooter, the tag was created in association with load side tree connect SAP ID 103489594 that did not sustain any fire damage.

The Vegetation Management (VM) team conducted a post-incident investigation on March 15, 2024. The incident tree identified by the VM investigator is a 50-foot tanoak with green canopy and a seven-inch diameter at breast height (DBH) located 15 feet west of the conductor. The tanoak experienced a complete trunk failure approximately six feet above ground level and fell eastward into the wire. The VM investigator noted that the tree had been cut into three large sections prior to his arrival. Although the foliage in the canopy is green, it is sparse. Additionally, an area of cubicle rot was observed in the main stem at the failure point (see Figure 5). It is unknown if the rot was visible externally, however, some hypoxylon² is present externally.

¹ A tree connect is a PG&E asset because the tree which is not owned by PG&E has one or more attachments connected to it. Attachments may include conductors, hardware, anchor, guy assemblies, etc.

² Hypoxylon is a fungal disease that is commonly found on dead wood and often one of several factors responsible for tree death.

The trunk of the incident tanoak is marked with yellow paint, flagged (see Figure 6) and was identified for work in the third quarter of 2019 under the Enhanced Vegetation Management (EVM) program. With the EVM program concluding near the end of 2022, the tree was listed for the Tree Removal Inventory (TRI)³ program. However, risk modeling did not yet scope in the tree for the 2023 or 2024 work plan.⁴ With regards to the circuit, both VM records from the Project Management Database (PMD) and OneVM⁵ shows that the Woodside 1101 last completed and projected completion of the following:

- Routine Tree Work: May 14, 2021 to August 10, 2021 (PMD #191584)
 - Note: 2022 and 2023 Tree Trim PMD projects for the Allen Road area do not have completion dates.
- Tree Mortality Tree Work: October 30, 2020 to December 19, 2020 (PMD #183086)
- Routine Pre-Inspection Patrol: March 1, 2023 to April 14, 2023 (PMD #209104)
- Tree Mortality Pre-Inspection Patrol: September 14, 2023 to December 14, 2023 (OneVM)
- Next Planned Routine Tree Work: June 6, 2023 to Present (PMD #209104)
- Next Planned Tree Mortality Tree Work: September 24, 2024 to November 8, 2024 (OneVM)
- Next Planned Routine Tree Pre-Inspection Patrol: Inspected in 2024 between April 9, 2024 and May 10, 2024 (One VM)
- Next Planned Tree Mortality Pre-Inspection Patrol: August 23, 2024 to September 24, 2024 (OneVM)

An Extent of Condition (EOC) was also completed by the VM team on March 18, 2024. The EOC included a patrol that was five spans to the south and five spans to the north of the Incident Location for Priority 1 (P1) and Priority 2 (P2)⁶ trees or trees with similar conditions as the incident tanoak tree. A total of three tanoak trees (two P2s and one P1) were identified for removal under Work Request (R5AL- [REDACTED]). The patrol also identified numerous trees previously marked for work under EVM with defects that warrants re-inspection. Re-inspection of these trees was completed on an expedited Routine Patrol at the end of March 2024.

³ The Tree Removal Inventory (TRI) program supports the PG&E commitment to reducing wildfire risk by removing trees that pose an increased potential hazard. As of now, there are approximately 385,000 trees listed for work. This includes trees that are dead, dying, diseased or adjacent with strike potential to powerlines in CPUC-designated HFTDs.

⁴ Per risk ranking by Circuit Protection Zone (CPZ), the incident area is ranked #540. The 2024 TRI scope of work runs through CPZ rank #323.

⁵ One VM is a vegetation management software that consolidates all 18 VM work management systems into one and will provide map-based work execution, monitoring and validation application.

⁶ P1 trees presents an immediate safety and/or reliability risk with high probability for significant impact. P2 trees are non-immediate high to low safety and/or reliability risk.

System Protection Analysis

EPSS was not enabled for the Woodside 1101 distribution circuit at the time of the ignition event due to the R1 FPI conditions for the circuit, the expected wind speeds, relative humidity and fuel moisture thresholds for the service area.

Ignition Impact

The ignition event on March 15, 2024 resulted in a small fire contained to a tree connect asset that measured approximately less than three meters in size. The associated outage affected three customers for a total of 429 minutes after a force out to make the scene safe. There were no reported injuries, fatalities, property damages or significant media attention associated to this event.

Sequence of Events

March 15, 2024

- 1400 Hours: First No Light (FNL)
- 1409 Hours: Troubleshooter is dispatched.
- 1452 Hours: Troubleshooter is onsite and reports tree leaning on broken tree wire.
- 1455 Hours: Fuse 10265 opened to isolate.
- 1618 Hours: Repair crew onsite.
- 2104 Hours: Fuse 10265 closed, all customers restored.
- 2115 Hours: Repairs completed.

Corrective Notification Associated with Ignition

A priority “A” EC tag (#128296417) was created to replace the 4 ACSR tree wire. However, the wire was repairable, and power was restored to the customers on March 15, 2024.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	117231383	2019 WSIP Inspection originally identified contaminated insulators that required replacement and to re-sag conductor for tree clearance on tree connect SAP ID 103489594. Field Safety Reassessment (FSR) on July 2020 indicates the tree connect is decaying and needs to be replaced. FSR in 2021 states tree pull is in good condition. FSR in 2022 notes job is on hold as	E	May 14, 2019	May 14, 2020

		the overhead wires are connected from tree to tree.			
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	103493985	
Info / Inspection	Most Recent Date	Findings
Install Date:	N/A	Tree connect, installation date unavailable.
Inspection:	June 26, 2022	Tree connect noted in good condition with no damage. High sign noted as missing (EC tag #123927683 created but would be cancelled as high sign would be replaced on emergency work through EC tag #125734621). No vegetation issues identified.
	April 5, 2021	Tree connect noted as living tree. High sign noted as missing. No vegetation issues identified. EC tag #120743014 created to assess tree connect.
Patrol:	N/A	
Corrective History:	March 26, 2023	EC tag (#125734621) required repair/splice for wire down primary.
	April 5, 2021	EC tag (#120743014) created to assess tree connect. No issues identified.
Aerial Inspection Records:	July 19, 2019	Aerial photography of Incident Location can be located in Sharper Shape. Heavily forested area with tree connects utilized as structure.
		No aerial photography in iHawk as of yet.
VM Inspection:	March 15, 2024	Incident tree is marked with yellow paint and flagged. External rot may have been visible externally prior to incident.
EVM Inspection:	3 rd Quarter of 2019	Identified for work and marked with yellow paint and flagged.
Equipment Test:	N/A	
Pole Intrusive Test:	August 17, 2016	No issues reported.
WSIP Inspection:	May 14, 2019	Damaged insulators identified along with jumper clearance issues. EC tag #117231381 created to replace insulator, install clearance pole, adjust conductor and replace decaying pole. Tag was cancelled as all work found completed on arrival in 2021.

Load Side Structure	103489594	
Info / Inspection	Most Recent Date	Findings
Install Date:	January 1, 1978	Tree connect
Inspection:	June 26, 2022	Tree connect noted in good condition with no damage or abnormal conditions to report for its attached equipment. No vegetation issues identified.
	April 5, 2021	Tree connect noted in good condition with no damage or abnormal conditions to report for its attached equipment. No vegetation issues identified.
Patrol:	N/A	
Corrective History:	May 20, 2023	EC tag (#126193714) required clearance adjustment of jumper away from tree.
	July 1, 2020	EC tag (#119295720) created to repair service on tree connect.
Aerial Inspection Records:	July 19, 2019	Aerial photography of Incident Location can be located in Sharper Shape. Heavily forested area with tree connects utilized as structure.
		No aerial photography in iHawk as of yet.
VM Inspection:	March 15, 2024	See VM Inspection in previous chart for source side structure/tree connect SAP ID 103493985.
EVM Inspection:	3 rd Quarter of 2019	See EVM Inspection in previous chart for source side structure/tree connect SAP ID 103493985.
Equipment Test:	N/A	
Pole Intrusive Test:	August 17, 2016	No issues reported.
WSIP Inspection:	May 14, 2019	See EC Notification under Pending Work section above.

*Incident Location: Between tree connect SAP ID 103489594 and 103493985

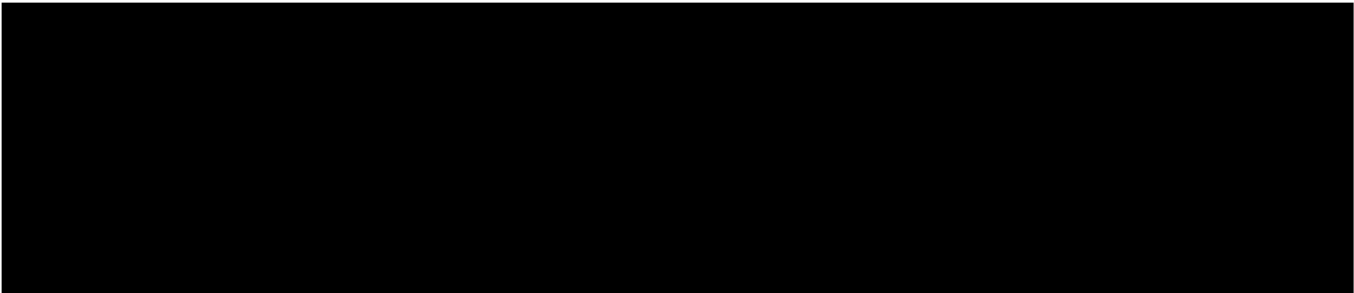
Hazard Barrier Analysis:





Hazard	Vegetation Contact	Sub-Hazard	Fallen Tree
Target	Fallen Tree Contacting PG&E Assets		
Barrier	Expected vs. Observed Performance	Why did the barrier not prevent the ignition event? (See ICF Codes)	Opportunity
Barriers that were Assessed as Opportunities			
Tree Removal Inventory	Expected Performance: Focus on removing risk from previously listed trees with a removal prescription. Improve asset protection in the event of a wildfire.; Observed Performance: Barrier performed as expected	[A4B2C2D1 - Strategy: Program Strategies; Vegetation-Related; Location not prioritized for program]	Though risk tree was added to TRI, the location was not prioritized based on WDRM V3 risk ranking.

Potential Next Steps / Associated CAP Items:

- CAP 129073615 – Vegetation Management Operations to review and address open tree trim projects from 2022 and 2023.

Single Line Diagram



LEGEND			
	Substation		Fuse
	Line Recloser		Area of Interest

Photos and Diagrams of Events

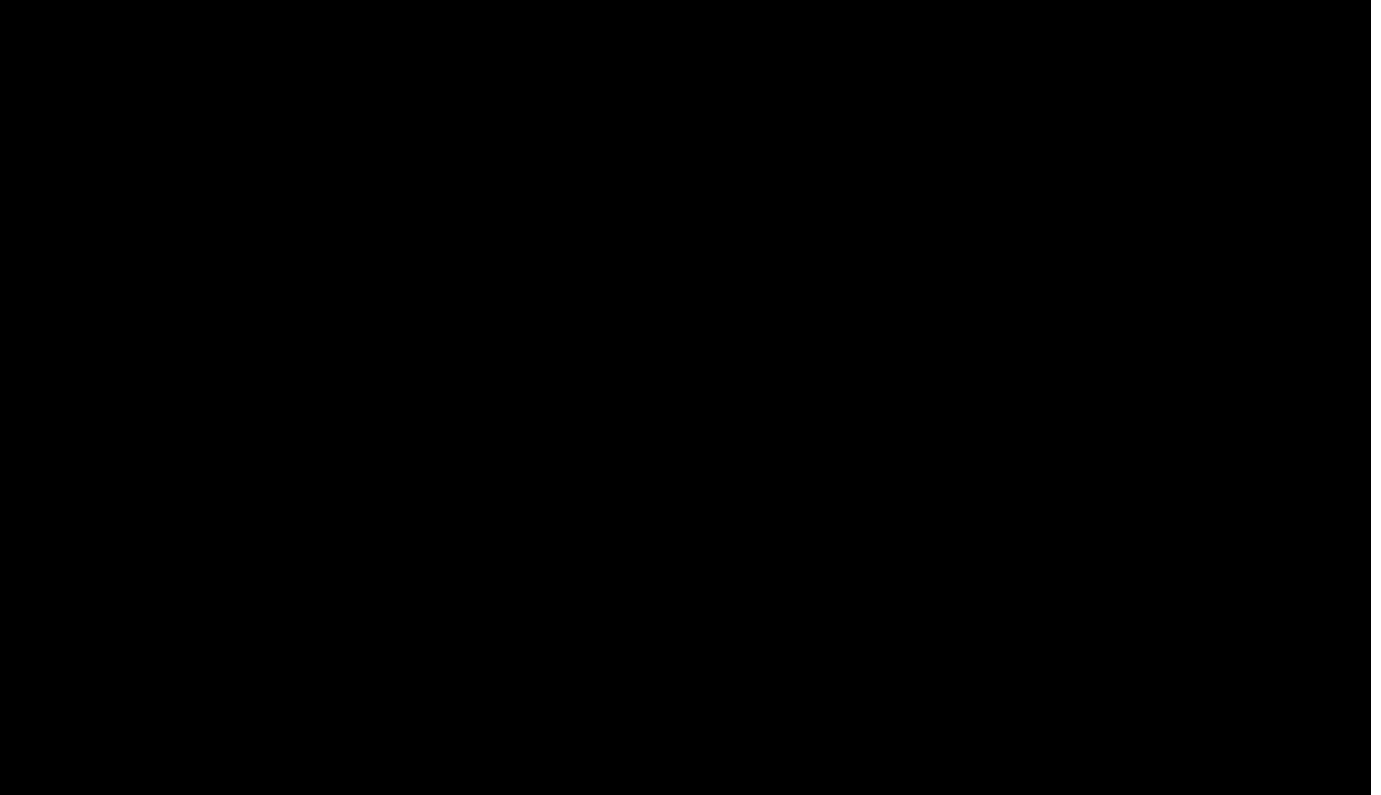


Figure 1 – Google Earth view of incident span marked by a white line in relation to incident tree designated with a white x. Location of fire damage is marked with a red x. Location of incident tree is approximate and based off of available photos and reports.



Figure 2 – Incident tree in relation to wire post-ignition event. Photos taken by the VM team.



Figure 3 – Incident tree. Photos taken by the VM team.



Figure 4 – Photo of tree connect SAP ID 103493985 and fire damage. Photo taken by the troubleshooter.



Figure 5 – Close-up view of interior rot on incident tree with visible external fruiting bodies of wood decay fungus. Photo taken by the VM team.



Figure 6 – Yellow paint and flag on incident tree. Photo taken by the VM team.

Attachments

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



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