



Preliminary Ignition Investigation Report

Ignition Database Index:	531
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:	May 2, 2022 1631 hours
Street Address:	[REDACTED]
City:	Nevada City
County:	Nevada
Latitude/Longitude:	[REDACTED]
PG&E Division:	Sierra
High Fire Threat District (HFTD):	Tier 3
Fire Index Area:	330
Fire Potential Index (FPI) Rating:	R1
Was there a PSPS event at the time of ignition?	No
Failure Driver:	Contact from object
Failure Sub-driver:	Vegetation contact-PG&E contracted crew (2 nd party)
Circuit:	Brunswick 1103
Circuit Protection Zone:	Brunswick 1103173934
Nominal Voltage:	12kV
PG&E Equipment associated with ignition:	Primary conductor
EPSS enabled at time of ignition?	No
Fault Type:	Line to ground
Wire Down (Primary)?	Primary conductor broken and, on the ground
MAVF Score	TBD
Lead Agency/Agency Having Jurisdiction:	Nevada County Consolidated Fire District
Fire Size:	10 feet X 12 feet
FAS Field Remarks:	Tree crew fell tree through 1/0 Aluminum Cable Steel Reinforced (ACSR) tree wire. Opened jumpers line side damaged, re-energized customers except one.
HAWC Summary:	N/A
Injuries / Fatalities / Property Damage / Media Attention:	No property damage or injuries reported. No known media coverage
Weather Conditions:	Temperature 59.7 degrees, relative humidity 48 %, wind speed 1.8 MPH out of the south southwest with a gust of 8 MPH
Red Flag Warning (RFW) / High Wind Warning (HWW):	No Red Flag Warning or High Wind Warning in effect
911 Standby Relief Time:	N/A

OIS #:	168666
ILIS #:	22-0057003
FAS #:	T005611919
Assigned Attorney:	N/A
EII Ignition Investigator & Phone:	[REDACTED]

Executive Summary

On May 2, 2022 at 1631 hours, a PG&E troubleman was dispatched to the Brunswick 1103 12kV distribution circuit near Lake Vera Purdon Road in Nevada City in response to a report of a power outage, wires down and a small fire. The troubleman arrived on scene near pole SAP ID # 104007214 and noted that a PG&E contracted tree crew company (Evergreen Arborist Inc) fell a pine tree through an Aluminum Cable Steel Reinforced (ACSR) tree wire. The troubleman also noted that there was wire down on the ground east of fuse cut out (FUCO) # 7705 (see figures # 8 and # 9 below.)

The troubleman noted the cause location as [REDACTED] in Nevada City and the fault location as FUCO # 7705 near pole SAP ID # 104007214 and source side device # 4665.

The Nevada County Consolidated Fire District responded to and extinguished the approximate 10-foot X 12-foot fire.

According to PG&E Meteorology, the weather conditions at the time and location of the incident were: temperature 59.7 degrees, relative humidity 48 %, wind speed 1.8 MPH from the south-southwest, a wind gust of 8 MPH during R1 conditions.

This incident involved a 2nd party contact (a PG&E contracted) Enhanced Vegetation Management (EVM) crew, Evergreen Arborist. The subject tree was originally assigned a R3B_Rmv 3-B prescription (meaning a large tree with a higher degree of difficulty in removal usually requiring roping and rigging, identified for removal due to its potential hazard to PG&E facilities) with the EVM team's PI comments stating "the tree is growing weird and has previously broken and is possibly rotten or cracked about 40 feet up the trunk. Remove to reduce the hazard."

The Evergreen Arborist tree crew (TC) foreman provided the following detailed description of the incident:

The tree crew was in the process of falling the pine tree for removal. The tree crew set up rigging on the subject tree to assist in the controlled, directional falling of the tree by tying a rope from the top of the subject tree to a redirect device on the second tree, then to a come- along at a third tree operated by the ground person. The TC foreman put in a conventional tree felling cut. The conventional cut may have had inadequate holding wood. Additionally, during the felling, the ground person noticed slack forming in the rope and tried to get the attention of the foreman using his Fox40 whistle but was unsuccessful. The poor-quality cut and slack in the rigging resulted in loss of control of the directional fell causing the tree to fall and as the tree fell, it struck the distribution lines. The energized lines came to the ground causing a vegetation fire approximately 10 X 12 feet in size (see figures # 2, # 3 and # 4 below.) The tree crew retreated to a safe location, notified the local fire department of the incident and the tree crew stood down for the remainder of the day.

The Vegetation Management (VM) team conducted a post-incident investigation and found that the subject tree was not in the tree database. It was however, identified for EVM program work and had been given the R3B_Rmv 3-B prescription (a large tree identified for removal due to its potential hazard to PG&E facilities.) The VM team described the subject tree as an alive, healthy, 120 foot tall, Ponderosa Pine with a Diameter at Breast Height (DBH) of 35 inches however, the tree had been listed for abatement due to structural concerns. The date

last worked was May 2, 2022 (the date of the ignition incident) and the planned next inspection is December of 2022.

During the extent of condition (EOC) patrol, the VM team found no priority one or two trees requiring work prior to the next planned inspection. The EOC patrol did find five cedar trees and one additional pine tree that are dead or were damaged by the tree which caused the ignition. VM also found trees in the span which have poor taper and could be a hazard before the next routine patrol in late 2022. (See figure # 15 below showing trees listed under corrective action.)

Two priority “A” EC tags were created because of this incident. EC tag # 123480524 and tag # 123480521.

EPSS Analysis

The Brunswick 1103 circuit was not equipped with Enhanced Powerline Safety Settings (EPSS) at the time of this ignition incident. Therefore, EPSS settings were not a factor in this incident.

The table below from the Foundry Time Machine tool shows the circuits which were enabled with EPSS settings at the date and time of the ignition incident subject to this report. There were 38 circuits enabled with EPSS settings and the Brunswick 1103 was not included.

*** > Enabled Circuits and Devices - Ti... ☆

File Help 1

Viewing mode

Sh

← Back to analysis Temporary override applied to 1 parameter.

Parameters

Date Overridden

May 02, 2022 4:31:00 PM X MST

Circuit Name

Q Enter values...

Cancel Apply

<< Enter a Date AND Time into the Parameter to see Enabled Circuits at that time

Reminder: if you only select a date, the time machine will default to '12:00 noon' on that day. if you want to see what the enabled circuits/devices were at a different time, click below the calendar and choose a different time (MST Time Zone is the same as PDT Time Zone -- GMT/UTC -7:00)

Counts

Date: 2022-05-02T16:31:00-07:00

Enabled Circuits (Time Machine)

38

Unique count of device_id

94

Show data Affects 2 boards

Enabled Circuits

Date: 2022-05-02T16:31:00-07:00

	circuit_name String	circuit_id String	playbook_confirmed_timestamp Timestamp	Item_propose... String	expanded_pb... Timestamp
1	ANTELOPE 1101	252021101	Apr 29, 2022 8:37:41 AM -07:00	Enabled	Apr 29, 2022 5:37:4... ***
2	AVENAL 2101	255002101	Apr 25, 2022 6:02:23 AM -07:00	Enabled	Apr 25, 2022 3:02:2... ***
3	CAL WATER 1102	255451102	Apr 30, 2022 4:09:07 PM -07:00	Enabled	Apr 30, 2022 1:09:0... ***
4	CANTUA 1103	253591103	Apr 25, 2022 6:02:23 AM -07:00	Enabled	Apr 25, 2022 3:02:2... ***
5	CARBONA 1101	163091101	Apr 30, 2022 4:09:07 PM -07:00	Enabled	Apr 30, 2022 1:09:0... ***
6	CHOLAME 2102	182562102	May 02, 2022 6:33:01 AM -07:00	Enabled	May 02, 2022 3:33:... ***
7	COALINGA NO 1 1108	252161108	Apr 28, 2022 12:59:27 PM -07:00	Enabled	Apr 28, 2022 9:59:2... ***
8	COALINGA NO 1 1109	252161109	Apr 28, 2022 12:59:27 PM -07:00	Enabled	Apr 28, 2022 9:59:2... ***
9	COALINGA NO 2 1105	252381105	Apr 27, 2022 6:20:32 AM -07:00	Enabled	Apr 27, 2022 3:20:3... ***
10	COPPERMINE 1104	252411104	May 02, 2022 6:33:01 AM -07:00	Enabled	May 02, 2022 3:33:... ***
11	CORNING 1101	103331101	May 02, 2022 6:33:01 AM -07:00	Enabled	May 02, 2022 3:33:... ***
12	CORNING 1102	103331102	May 02, 2022 6:33:01 AM -07:00	Enabled	May 02, 2022 3:33:... ***
13	CUYAMA 1103	253141103	Apr 30, 2022 4:09:07 PM -07:00	Enabled	Apr 30, 2022 1:09:0... ***
14	DEWEE 5 DEFW 1101	763451101	Apr 30, 2022 4:09:07 PM -07:00	Enabled	Apr 30, 2022 1:09:0... ***

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Ignition Impact

The ignition resulted in a fire approximately 10 X 12 feet in size in the Nevada City community in Nevada County. The ignition occurred when a PG&E EVM contracted tree crew inadvertently fell a pine tree into the primary conductor causing the energized lines to fall to the ground igniting the receptive fuel bed beneath the line. The outage affected 470 customers and the last customer's service was restored at 0335 hours on May 3, 2022. PG&E is not aware of any property damage, injuries or media coverage associated with this ignition incident.

Sequence of Events

May 2, 2022

- 1630 hours: First No Light (FNL)
- 1631 hours: PG&E Troubleshooter dispatched to the Brunswick 1103 12 kV circuit
- 1644 hours: Line Recloser 50070 open
- 1647 hours: Outage start time in OIS
- 1652 hours: Troubleshooter reports wire down near fuse cut out 7705
- 1740 hours: Troubleshooter reports tree crew dropped a tree through the primary near Fuse cut out 7705
- 1842 hours: PG&E repair crew dispatched to the Brunswick 1103 circuit

May 3, 2022

- 0335 hours: Outage complete time in OIS
- 0545 hours: Repair crew clears the scene

Corrective Notification Associated with Ignition

Two Electric Corrective (EC) tags were created because of this incident. Priority "A" EC tag # 123480524 associated with pole SAP ID # 104007214 to replace 2000 of overhead conductor. Repairs were completed on May 3, 2022. Priority "A" EC tag # 123480521 associated with pole SAP ID # 104007213 to replace the conductor due to it being burned and cut in multiple places. Repairs were completed on May 3, 2022.

Pending Work

Type	Number	Description	Priority	Date Identified	Due Date
EC Notification	N/A				
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

Info / Inspection	Most Recent Date	Findings
Install Date:	November 20, 2020 November 20, 2020	Pole SAP ID #104007213, Class 1, 45-foot wood pole Pole SAP ID # 104007214 Class 1 45-foot wood pole
Inspection:	June 4, 2021	Pole SAP ID # 104007213 No compelling or abnormal issues

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	June 10, 2020	Pole SAP ID # 104007213 (Ancestor pole #10090132) No issues
	June 4, 2021 June 10, 2020	Pole SAP ID # 104007214 No compelling or abnormal issue Pole SAP ID # 104007214 (Ancestor pole # 103026419) no issues
Patrol:	February 23, 2018	
	December 13, 2017	
Corrective History:	N/A	
Aerial Inspection Records:	N/A	
VM Inspection:	N/A	Subject tree was not in the VM tree database
EVM Inspection:		PI Prescription-R3B_Rmv 3-B prescribed for removal to reduce hazard. Veg point was "in progress" at time of incident
Equipment Test:	N/A	
Pole Intrusive Test:	2010	Passed
WSIP Inspection:	June 4, 2021	No compelling or abnormal issues

*Incident Location: near pole SAP ID #'s 104007213 and 104007214

Hazard Barrier Analysis:

Hazard	Downed Tree				
Target	Fallen tree or portion of tree 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 compelling issues noted in 2020, 2021 Inspection or 2018 patrol
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.	Yes	No	No abnormal issues noted in June, 2021 WSIP inspection
Catastrophic Event Memorandum (CEMA) Inspections	Identify dead or dying trees that could fall into primary or secondary PG&E facilities	Inspection would identify any dead or dying trees and mark them for removal.	Yes	No	Subject tree not in the CEMA database

Vegetation Management (VM) Inspection (Routine)	Identify any trees that need work	Inspection would identify any vegetation that could cause a potential hazard.	N/A	No	Subject tree not in VM routine inspection
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.	N/A	No	Brunswick 1103 circuit not equipped with EPSS settings
Enhanced Vegetation Management (EVM) Risk Inspection	Identify any trees that do not meet the state standards for minimum clearance around the power lines.	Trimming overhanging limbs & branches directly above & around the lines. Targeted removal of dead & dying trees as well as certain species that pose an increased potential risk of falling into power lines.	No	Yes	Veg point status was listed as “in progress” in EVM program was being removed to reduce the hazard

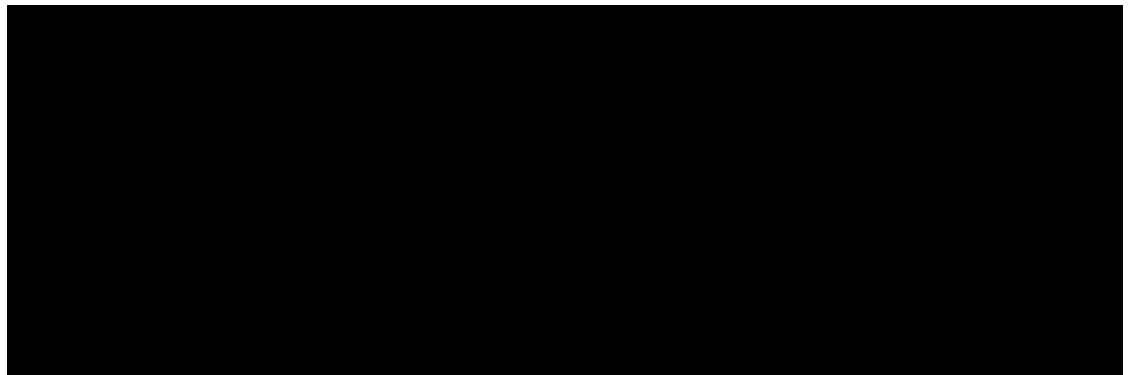
Potential Next Steps / Associated CAP Items:

- None

Extent of Condition:

- 2021 Ignition Index # 903 involved a 2nd party contact (PG&E contracted tree crew KDF Forestry Inc.) Also involved a pine tree.
- 2022 Ignition Index # 133 involved 2nd party contact (PG&E contracted crew AERI company). Involved an oak tree.

Single Line Diagram



Photos and Diagrams of Events

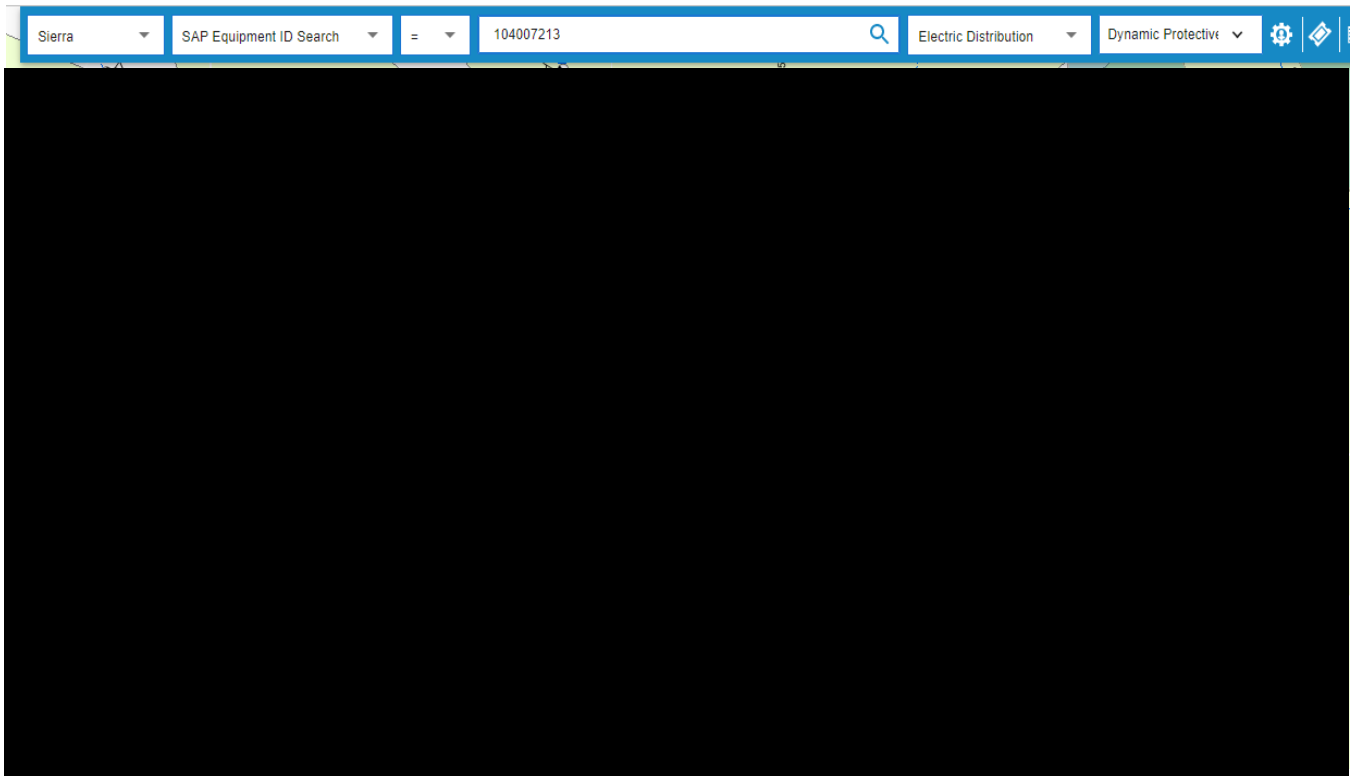


Figure 1 ED GIS Diagram of the Brunswick 1103 12 kV circuit with red arrow pointing to pole SAP ID # 104007213 and yellow arrow pointing to pole SAP ID # 104007214.



Figure 2 Photo taken by the responding troubleman showing approximate 10 X 12-foot fire.



Figure 3 Photo taken by responding troubleman showing burned spot and vegetative condition in the area.



Figure 4 Photo taken by responding troubleman showing close up of fire area.



Figure 5 Photo taken by VM team showing a portion of the 120-foot tall, 35 DBH, subject tree and lines above.



Figure 6 Photo taken by VM team showing stump of subject tree.



Figure 7 Photo taken by responding troubleman showing trees in the area in proximity to pole.



Figure 8 Photo taken by responding troubleman showing wire down.



Figure 9 Photo taken by responding troubleman showing subject tree remnants and wire down.



Figure 10 Photo taken by VM Team showing portions of pine tree.



Figure 11 Photo taken by responding troubleman showing subject tree.



Figure 12 Photo taken by VM team showing broken chainsaw parts on the tree stump.



Figure 13 Photo taken by VM team showing fire area and vegetative state in the incident area.



Figure 14 Photo taken by VM team showing downed subject tree.

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