

CALIFORNIA PUBLIC UTILITIES COMMISSION
Safety and Enforcement Division
Electric Safety and Reliability Branch

Incident Investigation Report

Report Date: 3/27/2015

Investigator: Raymond Cho

Incident Number: E20141112-01

Utility: PG&E

Date and Time of the Incident: 11/7/2014, 1320 hours

Location of the Incident: [REDACTED] Scottsdale Ct
San Jose, CA
County: Santa Clara

Summary of Incident:

On November 7, 2014, San Jose city employee, [REDACTED] was replacing a sewer line when he hit and damaged a PG&E 21 kV underground conductor. As a result, Mr. [REDACTED] received burn injuries to his face and arms. My investigation found that PG&E did not mark its underground facilities properly and did not maintain a proper clearance from the sewer pipe.

Fatality / Injury: There was 1 injury reported.

Property Damage: None reported

Utility Facilities involved: Swift 2106, 21 kV Circuit

Witnesses:

<i>Employer</i>	<i>Name</i>	<i>Phone</i>
1 PG&E	[REDACTED]	[REDACTED]
2 OSHA	[REDACTED]	[REDACTED]

Evidence:

<i>Source</i>	<i>Description</i>
1 PG&E	Initial and Final Reports
2 OSHA	Interviews and Photographs
3 PG&E	Data Response 1
4 PG&E	Data Response 2
5 USA	Ticket #452871

Observations and Findings:

On November 7, 2014, a San Jose city work crew was dispatched to locate marked utilities and replace a problematic sewer line. [REDACTED] member of the crew, proceeded to replace the four (4) inch sewer line but he discovered what he thought to be roots in the way. Before excavating further around the sewer pipe (in the street), [REDACTED] and the crew tried to remove the “roots” by pulling it out from inside the pipe with a hook. After the failed attempt, they decide to cut the blockage from inside the pipe with a battery powered saw. The roots were concealing a PG&E conduit that was installed by boring through the sewer pipe. The conduit contained a 21 kV conductor. At around 1320 hours [REDACTED] cut through the PG&E conduit with the saw and contacted the 21 kV underground conductor. He was thrown back about five (5) feet from the force of the explosion and suffered burns to his face, hair, and arms.

There was a valid Underground Service Alert (USA) ticket #452871 at the time of the incident. The delineated area to be marked by utilities included forty (40) feet into the street and ten (10) feet toward a resident’s house (measurements from the curb line).



Figure 1. Approximate locations of underground services serving [REDACTED] Scottsdale Dr. (marker “A”).

I found that that PG&E did not mark the facilities in the street. PG&E only marked the sidewalk and noted three (3) different cables running in the same trench. The PG&E locator notated on the USA ticket that there was a “weak and jumpy” signal when locating the facilities but did not indicate the location of the weak signal on the USA ticket or the ground.

The damaged conductor was installed by PG&E in 1990 via a bore-in method that does not require excavation. When installing the conductor, the proper clearance of six (6) inches (GO 128, Rule 33.4-A3a) when crossing another utility or foreign structure, was not obtained. The conduit and conductor were installed by boring through the ground and clay sewer pipe. The PG&E facilities were left interfering with the operation of the sewer pipe.

I believe Mr. [REDACTED] did not excavate around the sewer pipe because he believed that the underground conductor was, in fact, a root because PG&E’s markings did not indicate any underground PG&E’s facilities at this location. Figure 2 (below), taken the day of the incident by PG&E, shows the charring of dirt from the explosion from within the pipe. Mr. [REDACTED] inserted the saw into the pipe and proceeded to saw the conduit resulting in the injury.



Figure 2. Saw and location of explosion.

Preliminary Statement of Pertinent General Order, Public Utilities Code Requirements, and/or Federal Requirements:

<i>General Order</i>	<i>GO Rule</i>
1 GO 128	Rule 17.7
2 GO 128	Rule 33.4-A3a

Conclusion:

My investigation found PG&E in violation of GO 128, Rule 17.7 for not marking its underground facilities properly, and Rule 33.4-A3a for not installing its conduit with at least 6 inches of separation from the residential sewer pipe.