

CALIFORNIA PUBLIC UTILITIES COMMISSION

Safety and Enforcement Division Gas Safety and Reliability Branch

Incident Investigation Report

Report Date: July 11, 2016

Investigator: Alin Podoreanu

Incident Number: G20141024-01

Utility: Pacific Gas & Electric Co. (PG&E)

Date and Time of the Incident: 10/24/2014, 7:28 AM

Location of the Incident: Wible Road & Houghton Road
Bakersfield, CA
County: Kern

INCIDENT SUMMARY:

On October 24, 2014, at approximately 0732 hours, PG&E was notified of a third-party line strike near the intersection of Wible Road and Houghton Road in Bakersfield, CA. A third party excavator was ripping an agricultural field when it struck PG&E's 34-inch gas transmission line L-300A with a 6 foot shank causing an unintentional release of natural gas. No ignition, no fatalities and no injuries were reported. Three commercial customers lost service during the incident. The estimated property damage and gas release cost were approximately \$979,000.

SCOPE OF THE INVESTIGATION:

The California Public Utilities Commission, Safety and Enforcement Division (SED) derives its authority to regulate intrastate gas pipeline facilities from the certification approved by the United States Secretary of Transportation pursuant to Section 60105 of Title 49 of the United States Code. The scope of the investigation is limited to determining whether PG&E committed violations of 49 Code of Federal Regulations (CFR) Part 192, Section 4216 of the California Government Code, General Order 112¹ and the California Public Utilities Code Section 955-970.

¹ General Order 112-F was adopted by the Commission on June 25, 2015 via Decision 15-06-044.

Casualties: None

Property Damage: \$979,000

Utility Facilities involved:

Pipe Material = Steel, Pipe Size = 34 (inches), MAOP = 757 (psi), Operating Pressure = 640 (psi)

Witnesses:

| <i>Name</i> | <i>Title</i> | <i>Phone</i> |
|--------------------|------------------------------|--------------------|
| 1 Carlos Hernandez | PG&E Mechanic | Regulatory Support |
| 2 Bruce Riggs | PG&E Engineer | Regulatory Support |
| 3 Jeff Alexander | Third Party Co. Owner | (661) 343-1004 |
| 4 Russ Martin | Third Party Tractor Operator | (661) 370-6534 |

Evidence

| <i>Source</i> | <i>Description</i> |
|---------------|---|
| 1 PG&E | CPUC File No. 420 FINAL |
| 2 PG&E | Electronic Notification Supplemental Letter |
| 3 PG&E | DR Response PG&E Index 5852, 11/7/2014 |
| 4 PG&E | DR Response (2) PG&E Index 5852, 11/21/2014 |
| 5 SED | SED Phone Interviews |
| 6 SED | Field Photographs |
| 7 PG&E | Form - PHMSA 7100.2 |
| 8 SED | DR Response Index 8111, 2/10/2016 |

INCIDENT BACKGROUND:

L-300A has a maximum allowable operating pressure (MAOP) of 757 psig and was operating at approximately 640 psig. On October 24, 2014 at approximately 0728 hours, a third-party contractor ripping an agricultural field struck and punctured the 34-inch line with a 6 foot shank attached to a D-10 Caterpillar tractor. PG&E completed a DCVG evaluation near the strike location and identified two additional locations where the pipeline sustained damage. PG&E replaced the damaged section of pipeline with pre-tested pipe and radiographically examined the tie-in welds. L-300A was re-pressurized with natural gas at approximately 0145 hours on October 26, 2014.



Figure 1. A photograph of the D10 Caterpillar with the 6 foot ripper attachment near the strike location. A PG&E line marker can be seen in the background.



Figure 2. A photograph of the 100% through-wall puncture on L-300A – gas flow from right to left.



Figure 3. A photograph of a metal section resulting from the ripper attachment striking the pipeline.

EMERGENCY RESPONSE:

The fire department established a safety perimeter around the incident location and two elementary schools were evacuated. Traffic control was conducted by the California Highway Patrol and the Kern County Sheriff. In response to the incident, PG&E closed valves at MP 270.85 and MP 278.70 to isolate the approximately 8 mile long section of L-300A where the line was struck and opened blow-off valves to depressurize the line section. Environmental health and hazmat personnel monitored the air quality for approximately 30 minutes after the gas was shut in and deemed it was safe to lift the safety perimeter. PG&E notified the National Response Center (NRC Report No. 1099198) and the CPUC as a result of the incident. Service to two commercial customers was restored by 0900 hours on October 26, 2014. Service to the third commercial customer was restored at approximately 1100 hours on October 26, 2014. Gas transmission line L-312 which served approximately 100 customers was also isolated but due to line pack the customers were not affected.

INCIDENT LOCATION:

The line strike occurred in an agricultural Class 1² location. The agricultural field was separated by an irrigation canal running north-south. L-300A crossed the north-east corner of the agricultural field.

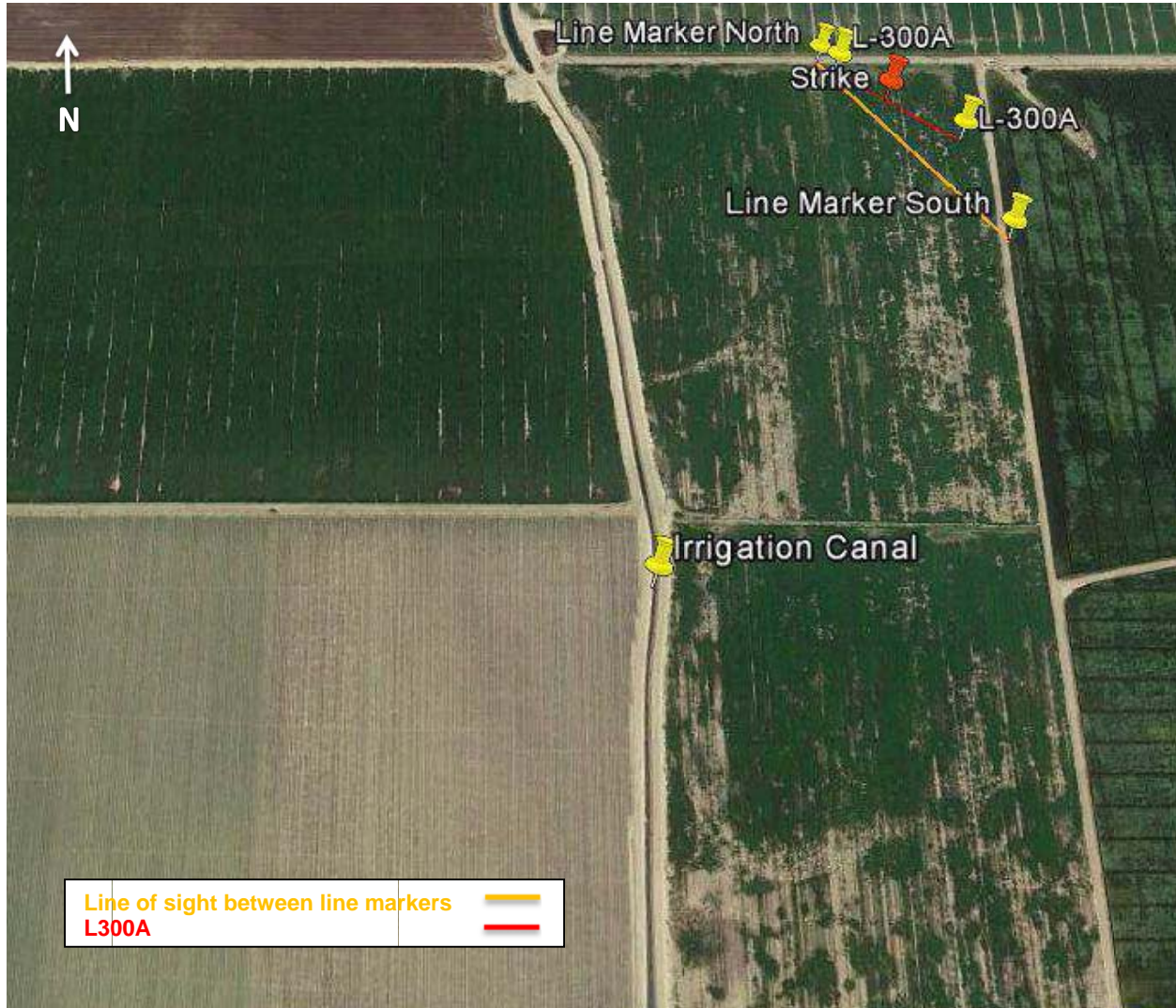


Figure 4. Aerial view of the incident location.

²The section of pipeline was categorized as Class 1 because of the sparse population surrounding the pipeline. Full categorization criteria can be found in Title 49 CFR § 192.5.

ONE CALL:

USA North is Northern California's one-call damage prevention program adopted in accordance with Title 49 CFR § 198.37. USA North receives planned excavation reports from excavators and transmits reports to participating utility members who may have underground facilities at the excavation location. Utility members then mark or stake the horizontal path of their facilities and provide a response to excavators' once an underground facility or lack thereof is identified. A two working day up to 14 calendar day notice is required before digging.³ California Government Code 4216 details the requirements for both excavators and operators of subsurface installations.

Two USA North notifications (USA tickets) were associated with the excavation at the incident site. The third party excavator stated he requested the second ticket because the line was not marked.

SED examined both USA Tickets which indicated:

USA Ticket No. 422144

- October 10, 2014 at 1023 hours - USA North received the locate notification
- October 10, 2014 at 1331 hours (Eastern Time) - PG&E Gas Transmission Bakersfield received locate notification
- The USA ticket indicated work begins at 1045 hours on October 15, 2014
- The USA ticket indicated an expiration date of November 7, 2014 at 2359 hours.
- The USA ticket listed the third party contractor that struck the line as the excavator
- The USA ticket excavation area included the location where L-300A was struck on October 24, 2014

SED asked PG&E the name and title of the employee that located the area described in USA ticket No. 422144. PG&E provided Response 5852.03, which stated:

“PG&E did not have a conflict for this ticket and therefore did not perform mark and locate. However, the USA ticket was addressed and cleared by the following personnel: Marshall Elijah (PG&E Distribution, Bakersfield) and Carlos Hernandez (PG&E Transmission, Kettleman City).”

SED also asked PG&E what method it used to locate the area described in USA ticket No. 422144. PG&E provided Response 5852.05, which stated:

“PG&E did not perform a mark and locate for this ticket.”

³ USA North's California Excavation Manual

SED obtained and examined PG&E's ticket response provided to the third party contractor for USA ticket No. 422144. The response stated:

"PGEBAK: PG&E has determined that there is no conflict with our facilities at this excavation site."⁵

PG&E - Mechanic:

The PG&E Mechanic declared⁶ that in his capacity with PG&E he responded to requests to mark and locate gas transmission lines in the field and obtain clearances to conduct excavations. On October 14, 2014, in connection with USA Ticket No. 0422144, the PG&E Mechanic went to the field - on the west of the irrigation canal. There were three Hispanic workers and a backhoe in the field. The workers informed him that they were only ripping the field located west of the irrigation canal. The PG&E Mechanic stated that based on his conversation with the workers, it was his understanding that the field west of the irrigation canal was the only area to be excavated at that time. He noted on USA Ticket No. 422144 that direct contact with the excavator was established. He then sent an email to the excavator stating there was "No Conflict." This declaration is consistent with the statements made by the PG&E Mechanic during a phone interview with SED. In addition, SED asked whether the PG&E Mechanic documented the names of the three workers with which he had a conversation or the name of the company which employed them. PG&E explained that this information was not documented.⁷

Third Party - Tractor Operator

The Tractor Operator acknowledged that initially he thought he was going to rip on the west side of the canal. He also acknowledged that the foreman told him they were going to rip on the west side of the canal. When asked if he knew if whether anyone from the third party excavation company told PG&E that they would only be ripping west of the irrigation canal, the Tractor Operator stated he did not know.⁸

Owner of the Excavation Company

The Owner of the excavation company denied any interaction with PG&E that claimed he gave PG&E verbal approval that the excavation site was smaller than what was stated on the USA ticket No. 422144. The Owner denied that his employees had contact with the PG&E Mechanic and denied that the crew the PG&E Mechanic met with was employed by him. The Owner stated that the only persons on the excavation site were the Tractor

⁵ PGEBAK denotes PGE Bakersfield Gas Transmission Facilities

⁶ Declaration of Carlos Hernandez In Support Of Pacific Gas and Electric Company's Reply In Support of Its Application For Preliminary Injunction, January 15, 2016

⁷ SED Phone Interview – November 13, 2014

⁸ Deposition of Gerald R. Martin, January 8, 2016

Operator and his son, both of them Caucasian. The Owner also denied having a backhoe working in the field at any time.⁹

USA Ticket No. 441996

- October 22, 2014 at 1332 hours – USA North received the locate notification
- October 22, 2014 at 1639 hours (Eastern Time) – PG&E Gas Transmission Bakersfield received locate notification
- The USA ticket indicated work begins at 1345 hours on October 24, 2014
- The USA ticket indicated an expiration date of November 19, 2014 at 2359 hours.
- The USA ticket listed the third party contractor that struck the line as the excavator
- The USA ticket excavation area included the location where L-300A was struck on October 24, 2014

SED asked PG&E what method it used to locate the area described in USA ticket No. 441996. PG&E provided Response 5852.15, which stated:

“PG&E did not perform a mark and locate for this ticket.”

Third Party - Tractor Operator

The Tractor Operator further explained that he knew there was a gas transmission line on the east side of the irrigation canal and observed the line was unmarked. He discussed this concern with the foreman and the owner of the excavation company. The Tractor Operator alleged that the Owner stated there was a USA ticket for the excavation that had been cleared.¹⁰ The Owner met with the Tractor Operator at the incident location and they “cut the line out”¹¹ so they can start working. The Tractor Operator explained that a PG&E representative (The PG&E Field Meter Person) came out the next day¹² and at first told him to stop working because the line wasn’t marked. The Tractor Operator alleged that as they talked, the PG&E representative looked at the safety perimeter, explained that is how he would have cut it out and gave him the go-ahead to proceed with the excavation activities outside the safety perimeter. The PG&E representative did not mark the line at that time but stated he would return the following morning at 7:00 a.m. to mark the line. Shortly thereafter the tractor ran low on fuel and the Tractor Operator stopped work for the day. The Tractor Operator returned the following morning at 7:00 a.m. but the gas line was not yet marked and no PG&E representative was on-site.¹³ He

⁹ Deposition of Jeff Alexander, January 11, 2016

¹⁰ Deposition of Gerald R. Martin, January 8, 2016

¹¹ “Cut the line out” refers to the excavators’ practice of establishing a safety perimeter around the pipeline right of way. The operator used the tractor to mark the soil approximately 30 feet on both sides of the right of way indicated by the two PG&E gas markers.

¹² Based on documentation conducted interviews and other documentation SED concluded the date is October 23, 2014.

¹³ SED Phone Interview with Gerald R. Martin, November 14, 2014

felt comfortable there was far enough distance and proceeded to rip outside the established safety perimeter.

PG&E - Field Meter Person

The PG&E Field Meter Person declared¹⁴ his duties included marking and locating gas transmission lines in conjunction with USA locate requests. On October 23, 2014 he noticed a tractor ripping in the field related to USA ticket No. 0441996. He approached the Tractor Operator and instructed him to stop work immediately and that if he did not he would call the police. He told the Tractor Operator he had until 1:45 p.m. on October 24, 2014 to mark the gas line but that he would return on October 24, 2014 at 7:00 a.m. to mark the gas line. The Field Meter Person alleged that at no point in the conversation did he tell the Tractor Operator that he could excavate before the transmission line was marked or that the markings around the transmission line were adequate. The Field Meter Person then contacted the phone number on USA ticket No. 0441996 and informed the foreman that he had shut down the operation. He also told the foreman that he would be back on October 24, 2014 and have the line marked by 9:00 a.m.

Third Party – Night Time Tractor Operator

The Night Time Tractor Operator acknowledged that he operated the tractor the night before the strike and alleged that he had a phone conversation with the day driver who informed him that a PG&E representative was on site and gave him the go ahead to run because he liked the way he cut the line and that he was going to return in the morning to mark the line.¹⁵

FINDINGS:

Based on conflicting statements provided by the Third Party Excavator and the Operator, SED cannot determine the version of events that occurred in the field on October 14, 2014, in connection with USA Ticket No. 0422144 or on October 23, 2014 in connection with USA Ticket No. 0441996. SED's findings are based on the review of the documentation provided by both parties and the applicable regulations.

1. California Government Code Section 4216.2(a)(1) states:

“Any operator of a subsurface installation who receives timely notification of any proposed excavation work in accordance with Section 4216.2 shall, within two working days of that notification, excluding weekends and holidays, or before the start of the excavation work, whichever is later, or at a later time mutually agreeable to the operator and the excavator, locate and field mark the approximate location and, if known, the

¹⁴ Declaration of Casey Champlin In Support Of Pacific Gas and Electric Company's Reply In Support of Its Application For Preliminary Injunction, January 15, 2016

¹⁵ Deposition of Zachary Alexander, January 8, 2016

number of subsurface installations that may be affected by the excavation to the extent and degree of accuracy that the information is available either in the records of the operator or as determined through the use of standard locating techniques other than excavating, otherwise advise the person who contacted the center of the location of the operator's subsurface installations that may be affected by the excavation, or advise the person that the operator does not operate any subsurface installations that would be affected by the proposed excavation.”

SED found PG&E in violation of California Government Code Section 4216.2(a)(1) because it failed to locate its subsurface installation for USA ticket No. 422144. The strike location was included in the excavation area documented on USA ticket No. 422144. PG&E alleged that the third party excavator verbally informed PG&E that the excavation site was smaller than what was stated on the USA ticket No. 422144; however PG&E has failed to provide documentation demonstrating this claim.

2. California Government Code Section 4216.2(a)(2) states:

“When the excavation is proposed within 10 feet of a high priority subsurface installation, the operator of the high priority subsurface installation shall notify the excavator of the existence of the high priority subsurface installation prior to the legal excavation start date and time, as such date and time are authorized pursuant to paragraph (1) of subdivision (a) of Section 4216.2. The excavator and operator or its representative shall conduct an onsite meeting at a mutually-agreed-on time to determine actions or activities required to verify the location of the high priority subsurface installations prior to start time.”

SED found PG&E in violation of California Government Code Section 4216.2(a)(2) because it failed to notify the excavator of the existence of the high priority subsurface installation prior to the legal excavation start date and time for USA ticket No. 422144.

3. Title 49 CFR § 192.614(a) states:

“Except as provided in paragraphs (d) and (e) of this section, each operator of a buried pipeline shall carry out in accordance with this section, a written program to prevent damage to that pipeline from excavation activities. For the purposes of this section, the term “excavation activities” includes excavation, blasting, boring, tunneling, backfilling, the removal of aboveground structures by either explosive or mechanical means, and other earthmoving operations.”

Title 49 CFR § 192.614(c) states:

“The damage prevention program required by paragraph (a) of this section must, at a minimum:”

“(2) Provide for temporary markings of buried pipelines in the area of the excavation activity before, as far as practical, the activity begins.”

SED found PG&E in violation of Title 49 CFR § 192.614(a) because it failed to carry out Title 49 CFR § 192.614(c)(2) for USA ticket No. 422144.

RECOMMENDATIONS:

- SED conducted a field investigation on October 24 and October 25, 2014 and measured the distance between the strike location and the line of sight between the two PG&E line markers to be approximately 60 feet. SED believes the placement of line markers indicated to the third party contractor that L-300A was located more southwest than it actually was. The Tractor Operator felt comfortable excavating outside the cut out “safety zone” but struck the line. Operators should increase public awareness efforts to educate excavators that the presence of line markers is only an indication of underground utilities and does not indicate exact location or directional changes.
- Operators should document verbal agreements to changes of excavation areas listed on USA tickets and document the identity of any third party excavator representatives.