

CALIFORNIA PUBLIC UTILITIES COMMISSION
Safety and Enforcement Division
Gas Safety and Reliability Branch
Gas Engineering and Compliance Section

Incident Investigation Report

Report Date: 01/23/2021

Incident Number: G 20200716-3084

Utility: San Diego Gas and Electric SDG&E

Date and Time of the Incident: 7/16/2020, 9:14:00 AM

Location of the Incident: [REDACTED]
San Diego ,CA
County: San Diego

Summary of Incident:

On July 16, 2020, at approximately 0914 hours, SDG&E's contractor, PAR Electrical Contractors damaged an SDG&E's two-inch steel lateral (two-inch steel stub) off a 6-inch medium-pressure steel gas main while operating a backhoe resulting in an unintentional gas release into the atmosphere and a service interruption to 3,278 customers for approximately 23 hours. SED's investigation found that the incident was caused by SDG&E's contractor failing to use hand tools before using the backhoe within a tolerance zone of a sub-surface installation. Also, SDG&E failed to update its GIS map and make it available to the locate and mark employee prior to the incident. Furthermore, SDG&E failed to provide accurate temporary markings of its two-inch steel stub as described in a valid USA ticket. Therefore, SED finds SDG&E in violation of General Order (G.O.) 112-F, Reference Title 49 Code of Federal Regulations (CFR), Part 192, §192.605(a), §192.605(b)(3), and §192.614(c)(5).

Casualties: *Fatalities:* 0 *Injuries:* 0

Property Damage: \$736,387.00

Utility Facilities involved:

Pipe Material = Steel, Pipe Size = 6 (inches), MAOP = 60 (psi), Operating Pressure = 55 (psi)

Witnesses:

	<i>Name</i>	<i>Title</i>	<i>Phone</i>
1	Sann Naing	CPUC Investigator	N/A
2	Alexander Hughes	Sr Pipeline Safety and Com	(949) 697-2539
3	██████████	VP, Engineering, PAR Electr	██████████
4	██████████	Investigator, Dig Safe Board	██████████

Evidence:

	<i>Source</i>	<i>Description</i>
1	Alexander Hughes (SDG&E)	Initial report on 7/16/2020
2	Alexander Hughes (SDG&E)	Telephone interviews
3	Alexander Hughes (SDG&E)	CPUC 420 Initila report on 7/17/2020
4	Alexander Hughes (SDG&E)	Email data responses
5	██████████ (PAR Electric)	Telephone interview on 7/20/20
6	Alexander Hughes (SDG&E)	DOT F7100.1 Final report on 8/14/20
7	██████████, Dig Alert	Copy of USA Ticket: # A200350160

Observations and Findings:

On July 16, 2020, at approximately 0914 hours, an SDG&E's contractor, PAR Electrical Contractors' employee was operating a backhoe when he hit and damaged an SDG&E's two-inch steel lateral (two-inch steel stub) off a 6-inch medium-pressure steel gas main while excavating to install electrical conduits. This resulted in an unintentional gas release into the atmosphere and a service interruption to 3,278 customers for approximately 23 hours. There were no injuries, fatalities, or fire reported as the result of this incident. This incident was first reported to the CPUC due to media coverage, and the DOT (NRC#1282118) when SDG&E determined that the costs of repairs, emergency response, and service restoration to the affected customer exceeded \$50,000.00.

On July 16, at 0935 hours, SDG&E's crew arrived on the scene, utilized three mainline valves (two (2) - 6" plug valves and one (1) 1-1/2" plug valve), one cold pinch on a 2-inch steel gas main to control the flow of gas, and the gas was under control at approximately 1326 hours. SDG&E's crew welded a steel cap over the damage section of the 6-inch medium-pressure steel gas main, installed two pressure control fittings on the squeezed 2-inch steel gas main, cut out the squeezed section, and installed a new two-foot section of a 2-inch steel pipe.

On July 16, 2020, SED interviewed Mr. Alex Hughes, SDG&E's Senior Pipeline Safety and Compliance Advisor who stated that SDG&E's contractor had a valid USA ticket at the time of the incident and SDG&E's 6-inch medium-pressure steel gas main was properly marked.

On July 17, 2020, at approximately 0200 hours, SDG&E's crew completed the repair, performed a post incident leakage survey, and found zero gas indication. SDG&E's Customer Service Field (CSF) crews dispatched at approximately 0230 hours, to restore service to the affected customers using SDG&E's Gas Standard C5200 – Restoration of Service Due to Gas Outage. The CSF's crew completed service restoration to all the affected customers (3,278) at 0830 hours.

On July 17 and 20, 2020, Mr. Hughes stated in his emails that the two-inch steel stub was not marked. In addition, Mr. Hughes provided SED with a copy of the USA ticket (A200350160) which was requested by SDG&E's contractor, and photos of the excavation site including SDG&E's USA markings with reference to the damaged pipeline.

SDG&E's records showed that the 6-inch medium-pressure steel gas main was installed in 1930 with depth of cover of 45 inches. In addition, it was under Cathodic Protection with MAOP 60 psig and MOP 55 psig. Furthermore, SDG&E did not have any records of the two-inch steel stub showing on any drawings, maps, or prints. Based on SDG&E's investigation, the two-inch steel stub was not documented on any SDG&E's records, such as GIS maps, as-builts, and drawings.

SDG&E estimated the amount of gas release into the atmosphere to be \$9,000.00 (1.5 million cubic feet), and the total cost of property damages (total reconciled

costs) to be \$ 727,387.00.

SED reviewed operator qualification records for the employees who performed the covered tasks associated with the line locator, welding repair, and post-incident leakage survey, and found that those personnel had valid qualification records.

1 General Order (G.O.) 112-F, Reference Title 49 Code of Federal Regulations (CFR), Part 192, §192.605(a) General states:

“Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least one each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted.”

1.1 SDG&E Gas Standard G7451 – Prevention of Damage to Subsurface Installations, §1.1 states:

“The Company and Company Contractor personnel performing excavation and/or construction activities shall follow all State of California Regulations (i.e. California Government Code, Title 1, Division 5, Chapter 3.1, Section 4216) to prevent damage to subsurface installations.”

1.2 California Government Code (CGC), §4216.4(a)(1) states:

“if an excavation is within the tolerance zone of a subsurface installation, the excavator shall determine the exact location of the subsurface installations in conflict with the excavation using hand tools before using any power-driven excavation or boring equipment within the tolerance zone of the subsurface installations. In all cases the excavator shall use reasonable care to prevent damaging subsurface installations.”

SDG&E’s contractor failed to determine the exact location of the 6-inch medium-pressure steel gas main in conflict with the excavation using hand tools before using the backhoe (power-driven equipment) within the tolerance zone.

2 G.O. 112-F, Reference Title 49 CFR, Part 192, §192.605(b)(3) states:

“(b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.

(3) Making construction records, maps, and operating history available to

appropriate operating personnel.”

SDG&E failed to provide records, maps, and operating history of the two-inch steel stub to appropriate operating personnel.

3 G.O. 112-F, Reference Title 49 CFR, Part 192, §192.614(c)(5) states:

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

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

SDG&E failed to provide for temporary marking of its two-inch steel sub in the area of excavation activity.

SED's investigation found that the incident was caused by SDG&E's contractor failing to use hand tools before using the backhoe within a tolerance zone of a subsurface installation. Furthermore, SDG&E failed to update its GIS map and make it available to the locate and mark employee prior to the incident. Also, SDG&E failed to provide accurate temporary markings of its two-inch steel stub as described in a valid USA ticket. Therefore, SED finds SDG&E in violation of G.O. 112-F, Reference Title 49 CFR, Part 192, §192.605(a), §192.605(b)(3), and §192.614(c)(5).

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

<i>General Order</i>	<i>GO Rule</i>
1 GO112F	Title 49 CFR, Part 192, §192.605(a)
2	Title 49 CFR, Part 192, §192.605(b)(3)
3 GO112F	Title 49 CFR, Part 192, §192.614(c)(5)

Conclusion:

Based on the investigation, SED found that the incident was caused by SDG&E's contractor failing to use hand tools before using the backhoe within a tolerance zone of a sub-surface installation. Also, SDG&E failed to update its GIS map and make it available to the locate and mark employee prior to the incident. Furthermore, SDG&E failed to provide accurate temporary markings of its two-inch steel stub as described in a valid USA ticket. Therefore, SED finds SDG&E in violation of G.O. 112-F, Reference Title 49 CFR, Part 192, §192.605(a), §192.605(b)(3), and §192.614(c)(5).