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

Incident Investigation Report

Report Date: 05/07/2020

Incident Number: G 20200114-2978

Utility: Southern California Gas SoCalGas

Date and Time of the Incident: 1/13/2020, 9:43:00 AM

Location of the Incident: [redacted]

Los Angeles ,CA

County: Los Angeles

Summary of Incident:

On January 13, 2020, at approximately 0940 hours, SoCalGas was notified of a gas odor in the vicinity of South Alvarado Street and Wilshire Boulevard in the City of Los Angeles. SoCalGas crews arrived and performed leak investigation and discovered a leak in an eight-inch steel gas main. There were no injuries, fatalities, fire, or third-party damage reported. 36 customers were affected for approximately 11 hours. SED found that the incident was caused by a corrosion leak from SoCalGas' pipeline. This steel main had a Distribution Risk Evaluation score of 201.85. Therefore, SED did not find any General Order (GO) 112-F, Reference Title 49 Code of Federal Regulations (CFR), Part 192, violations by SoCalGas.

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

Property Damage: $58,366.00

Utility Facilities involved:

Pipe Material = Steel, Pipe Size = 8 (inches), MAOP = 40 (psi), Operating Pressure = 35 (psi)

Witnesses:

	Name	*Title*	*Phone*
1	Desmond Lew	CPUC Investigator	N/A
2	[redacted]	Pipeline Safety and Complia	[redacted]

Evidence:

	Source	*Description*
1	[redacted]	01/14/20 Initial Report
2	[redacted]	01/15/20 420 Initial Report
3	[redacted]	02/12/20 PHMSA F7100.1 Incident Report

Observations and Findings:

On January 13, 2020, at approximately 0940 hours, SoCalGas was notified of a gas odor in the vicinity of South Alvarado Street and Wilshire Boulevard in the City of Los Angeles. SoCalGas crews arrived and performed leak investigation and discovered a leak in the eight-inch steel gas main. There were no injuries, fatalities, fire, or third-party damage reported. 36 customers were affected for approximately 11 hours. The incident was reported to DOT and CPUC due to a potential release of gas. SoCalGas filed DOT Report Number 1268662 on January 14, 2020.

SoCalGas' crew arrived on the scene and performed a leak migration survey and pothole to determine the location of gas leak(s). SoCalGas' investigation found a one-inch diameter hole on a six-clock position on the eight-inch steel gas main. SoCalGas' crew controlled the gas flow at approximately 0530 hours on January 14, 2020.

On January 14, 2020, at 1030 hours, SED staff arrived at the incident site and met with SoCalGas representatives. The incident occurred in the Westlake community of the City of Los Angeles across from MacArthur Park. The Westlake community consisted of residential and commercial population. According to SoCalGas, the steel main was running north-south along South Alvarado Blvd and was installed in 1930's at a depth of 58-inches with MAOP of 40 psig and MOP of 35 psig at the time of the incident. SoCalGas' first responder arrived on site and controlled the gas flow by turning off critical valves located one block north and one block south of the incident location. SoCalGas' crew welded a steel patch on the steel main covering the one-inch hole (did they perform the work hot or purged the line? Address it). After the repair was completed, SoCalGas' crew opened the critical valves and performed post incident leakage survey and found zero leaks.

SoCalGas investigated the incident and found the root cause of the gas leak was corrosion related. SoCalGas will perform risk assessment to install cathodic

protection to mitigate the corrosion leak. On January 15, 2020, the repair was completed, and the service was restored to all affected customers. According to SoCalGas' Call Center, there were no reports of area odors in the vicinity of the gas leak for the past 15 days.

SoCalGas initially reported the incident to CPUC on January 13, 2020, at 0921 hours. SoCalGas submitted CPUC 420 Initial Report on January 15, 2019, at 1600 hours and PHMSA F7100.1 Report on February 12, 2020, at 1722 hours. Also transmitted with the PHMSA Report was a recent (before the incident) Leak Survey and related documentation of repairs related to this incident.

The last leakage survey for the area (Leak Survey Map CEN-2) was performed on September 26, 2019 and the result was zero leak indications. In addition, SoCalGas provided photos of the damaged steel gas main before and after the repair was completed. The estimated volume of gas released into the atmosphere was 561.000 MCF ($3,366). In addition, the estimated cost to repair the property damage and emergency response was $55,000.

The steel patch used for repair is cathodically protected by four, 60-pound anodes. The wires and test lead were brought to grade and placed inside a valve casing as a contact point for electrical measurement to determine the adequacy of cathodic protection. In addition, the pipes exposed in the excavation have been coated. Initial evaluation of the corrosion pattern (localized deep pit on a bare steel main) leads SoCalGas to consider the possibility the problem may have been the result of direct current interference from the Metro subway which runs close to the steel main.

To analyze current discharge and change in potential from the Metro subway to the steel main, SoCalGas installed a data logger and reference anodes. This will be studied at a later date to consider the effects of interference. The anodes serve the purpose of disrupting the galvanic interaction between the repair and existing steel as well as to act as a drain point for transient current from the Metro subway.

SED investigation found that the incident was caused by a corrosion leak from SoCalGas' steel gas main. SoCalGas has implemented a Distribution Risk Evaluation and Monitoring program to prioritize risk mitigation and replacement of early-vintage pipeline segments such as early vintage steel (pre-1960). This steel main has a Distribution Risk Evaluation Score of 201.85. Therefore, SED did not find any GO 112-F, Reference Title 49 CFR, Part 192, violations by SoCalGas.

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

	General Order	*GO Rule*
1	GO112F	49 CFR, Part 192, Section 192.615

2	GO112F	49 CFR, Part 192, Section 192.457
3	GO112F	49 CFR, Part 192, Section 192.483
4	GO112F	49 CFR, Part 192, Section 192.721
5	GO112F	49 CFR, Part 192, Section 192.723

Conclusion:

Based on the investigation, SED found that the incident was caused by a corrosion leak from SoCalGas' steel gas main. This steel gas main has a Distribution Risk Evaluation Score of 201.85. Therefore, SED did not find any GO 112-F, Reference Title 49 CFR, Part 192, violations by SoCalGas.