

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

Incident Investigation Report

Report Date: 10/16/2020

Incident Number: G 20200802-3092

Utility: Southern California Gas SoCalGas

Date and Time of the Incident: 8/2/2020, 7:25:00 AM

Location of the Incident: [REDACTED]
Santa monica ,CA
County: Los Angeles

Summary of Incident:

On August 2, 2020, at approximately 0726 hours, water intrusions were found in a SoCalGas main and several service lines in the vicinity of [REDACTED]. There were no injuries, fatalities, fire, or third-party property damage. The incident became both DOT and CPUC reportable due to the cost of repairs potentially exceeding \$50,000. SED investigation found that a metallic balloon (mylar nylon) made contact with Edison's overhead power lines, caused a fault current that traveled in the ground, and onto the water service and the 2-inch steel gas main. The fault current arced on both the water service line and the 2-inch steel gas main and resulted in a hole allowing water intrusion into SoCalGas' 2-inch steel gas main.

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

Property Damage: \$170,000.00

Utility Facilities involved:

Pipe Material = Steel, Pipe Size = 2 (inches), MAOP = 43 (psi), Operating Pressure = 39 (psi)

Witnesses:

	<i>Name</i>	<i>Title</i>	<i>Phone</i>
1	Mahmoud Intably	CPUC Investigator	N/A
2	██████████	SoCalGas -PS&C	██████████
3	██████████	SoCAIGas -PS&C	██████████
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Evidence:

	<i>Source</i>	<i>Description</i>
1	SoCalGas	Initial report
2	SoCalGas	Final Report
3	SED	Data request sent to SoCalGas
4	SoCalGas	Response to SED data request

Observations and Findings:

On August 2, 2020, at approximately 0726 hours, water intrusions were found in a SoCalGas gas main and several services in the vicinity of ██████████. There were no injuries, fatalities, fire, or third-party property damage. The incident became both DOT and the CPUC reportable due to the cost of repairs potentially exceeding \$50,000. SED received a call from SoCalGas at 1215 hours and SED staff arrived on scene at approximately 1320 hours to investigate and met with SoCalGas' representatives. The affected area was a 3-block radius composed of apartment buildings and one essential customer (convalescent home). During interviews with residents in the area, SED's investigator learned that a metallic balloon (mylar nylon) made contact with Edison's overhead power lines, caused a fault, brought down one overhead power line, and resulted in an electrical outage to approximately 300 customers around 1500 hours the day before. Edison's crews repaired and energized the overhead power lines (circuit). On August 2, 2020, SoCalGas' crews were dispatched to investigate and, at 0726 hours, SoCalGas' crews found water intrusion at approximately 0700 hours, SoCalGas' Call Center received several calls of no hot water in a SoCalGas 3-inch steel gas main. The 3-inch steel gas main was installed in 1989 with CP. The MAOP and MOP of the gas main are 43-psig and 39-psig, respectively, at the time of the incident. SoCalGas along with Santa Monica Water Department's crews exposed water service lines crossing the 3-inch steel gas main to determine the location of the water intrusion.

SoCalGas' crews started isolating the gas services in the neighborhood at the risers. In addition, SoCalGas brought two vacuum trucks and were positioned at a low point of the system to collect water from the gas main. Furthermore, SoCalGas' Customer Service's crews were on standby and ready to relight services to affected

customers (266 customers as of 2000 hours) after the water was purged from the gas system.

On August 3, 2020, at 0815 hours SED visited the site and learned that at 0100 hours, SoCalGas' crews located the water intrusion at [REDACTED] (alley way), excavated the location and found a leak from a water service line (3/4-inch copper at 90 psig) bored a 1/8-inch diameter hole into a 2-inch steel gas main (the 3-inch steel main transitions into 2-inch steel gas main (installed in 1970) at [REDACTED]). In addition, the water service line was installed on top of SoCalGas' 2-inch steel gas main. SoCalGas' crews examined the pipe condition and permanently repaired the pipe by installing a full encirclement clamp over the 1/8-inch diameter hole.

SoCalGas' crews completed the repair on the gas service line and purged water from the gas main. As planned, SoCalGas' Customer Service's crews started to relight services to the affected customers and by midnight all the affected customers were back in service.

SoCalGas' crew examined the gas main and found that the water intrusion was caused by the phase-to-ground fault on Edison's overhead powerline. The fault current traveled into the ground via nearby metallic structures (SoCalGas' 3-inch steel gas main and 2-inch steel gas main transition) and jumped onto a nearby water service line (the gas main and the water service line were in proximity of each other) causing an arc and resulted in water intrusion into the 2-inch steel gas main. The arc caused damage to both water service line and the gas main and allowed the high-pressure water (90-psig) to enter the low-pressure gas main (38-psig).

SoCalGas' crews followed SoCalGas' Gas Standard 104.0478 - Removal of Invasive Water in Mains and Services, to purge water from the main and services. In addition, SoCalGas' crew followed SoCalGas' Gas Standards 180.0035 - Leak repair Clamps, 185.0225 - Leak Repair Distribution Piping, and 184.0150 - Leak Testing of Distribution Piping to repair the 2-inch steel gas main.

SED reviewed the qualification records of SoCalGas' employees who performed the covered task activities on SoCalGas' facility to ensure that they are qualified and found their qualifications to be current.

The last leakage survey was completed on September 20, 2019, a post-incident leakage survey was completed on August 2, 2020, and no leaks were found.

SoCalGas deployed 10 Management employees, 13 Distribution employees, 3 M&R Technicians, and 22 Customer Service Technicians to investigate, make repair, and relight the service to the affected customers.

The estimated cost to repair the damage to SoCalGas' facilities was estimated to be in the amount of \$170,000.

SED investigation found that on August 1, 2020, at 1500 hours, a metallic balloon (mylar nylon) made contact with Edison's overhead power lines, caused a fault current, brought down one overhead power line, and resulted in an electrical outage to approximately 300 customers. Edison's crews arrived on the scene, made repairs, and energized the overhead power lines (circuit). The fault current travelled in the ground and caused the water service and the 2-inch steel gas main to arc on each other resulting in a hole allowing water intrusion into SoCalGas' 2-inch steel gas main. Therefore, SED did not find any General Order 112-F, Reference Title 49 Code of Federal Regulations (CFR), Part 192 violations by SoCalGas.

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

<i>General Order</i>	<i>GO Rule</i>
1 GO112F	CFR, Part 192.617 Investigation of failures
2 GO112F	CFR, Part 192.629 Pugging of pipelines
3 GO112F	CFR, Part 192.723 Dist system - Leakage survey
4 GO112F	CFR, Part 192. Leak repairs

Conclusion:

SED investigation found that on August 1, 2020, at 1500 hours, the metallic balloon (mylar nylon) made contact with Edison's overhead power lines, caused a fault current, brought down one overhead power line, and resulted in an electrical outage to approximately 300 customers. Edison's crews arrived on the scene, made repairs, and energized the overhead power lines (circuit). The fault current travel in the ground and caused the water service and the 2-inch steel gas main to arc on each other resulting in a hole allowing water intrusion into SoCalGas' 2-inch steel gas main. Therefore, SED did not find any General Order 112-F, Reference Title 49 CFR, Part 192 violations by SoCalGas.