

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

Incident Investigation Report

**Report Date:** 09/13/2019

**Incident Number:** G 20190715-2857

**Utility:** Southern California Gas      SoCalGas

**Date and Time of the Incident:** 7/15/2019, 11:00:00 AM

**Location of the Incident:** [REDACTED] Murrieta, Riverside  
Murrieta ,CA  
County: Riverside

**Summary of Incident:**

On July 15, 2019, Southern California Gas Company (SCG) received a call from Murrieta Fire and Rescue Department (MFRD) of damage to SCG's underground pipeline that resulted in a gas leak. SCG's crew arrived at the scene and while making repairs, an explosion occurred, and was followed by a fire. There was one fatality and several injuries as the result of this incident. Murrieta Police Department and other emergency units responded, and the affected area was blocked for traffic. SED found that Horizon Solar Power (HSP) failed to call 811 or contact USA Dig Alert to request for temporary marking of substructures at least 2 days prior to excavation. Therefore, HSP was in violation of California Government Code (CGC) 4216, Section 4216.2(b). In addition, SED found that MFRD failed to perform its responsibilities to ensure public safety, secure the incident site, coordinate/communicate with SCG, address the magnitude of the incident, and mitigate and manage the risk. Furthermore, SED found that SCG's employees failed to follow and comply with the requirement in SCG's Gas Standards. Therefore, SED found SCG in violation of General Order 112-F, Reference Title 49 CFR, Part 192, Section 192.605(a).

**Casualties:** *Fatalities:* 1    *Injuries:* 1

**Property Damage:** [REDACTED]

**Utility Facilities involved:**

Pipe Material = [REDACTED], Pipe Size = [REDACTED](inches), MAOP = [REDACTED](psi), Operating Pressure = [REDACTED](psi)

**Witnesses:**

	<i>Name</i>	<i>Title</i>	<i>Phone</i>
1	Mahmoud Intably	CPUC Investigator	N/A
2	[REDACTED]	[REDACTED]	[REDACTED]
3	[REDACTED]	[REDACTED]	[REDACTED]
4	[REDACTED]	[REDACTED]	[REDACTED]
5	[REDACTED]	[REDACTED]	[REDACTED]
6	Ha Nguyen	CPUC-UE	(213) 220-0261
7	See Attendance sheets		

**Evidence:**

<i>Source</i>	<i>Description</i>
1 SCG	Initial Report 7/16/2019
2 SCG	Final Report 8/27/2019
3 SCG	Response to SED Data Request 8/27/2019
4 SCG	Interview SCG's employees - July 15, 2019
5 Property Owner	Interview [REDACTED] - July 20, 2019
6 Dig Alert	Letter dated July 16, 2019

**Observations and Findings:**

On July 15, 2019 at 7:14 am - Horizon Solar Power (HSP) employees (at least four) arrived at [REDACTED] in the city of Murrieta, Riverside County to install roof top solar panel on a two-story home (2716 square feet). One of HSP employee was installing a ground rod (drilled the concrete and then drove the ground rod in the round) near a Southern California Edison Electrical panel and in proximity of Southern California Gas Company (SCG) Meter Set Assembly (MSA) located on the eastside wall of the house.

Around 10:40 am - HSP's employee drove the rod into the ground striking (puncturing) a [REDACTED] service line resulting in a gas leak. Immediately, HSP's employee called 911 to dispatch emergency. The HSP's employee knocked at the door and informed the resident, [REDACTED] that they hit the gas line, called 911, and told her not to start any fire.

At 10:56 am – [REDACTED] texted her husband, [REDACTED] to inform of the incident and shortly after that the Murrieta Fire and Rescue Department (MFRD) arrived at the scene.

At 10:58 am – The Murrieta Fire and Rescue Department/Police notified SCG. MFRD spoke to the HSP employee and assessed the damage.

Between 10:58 am and 11:01 am – MFRD evacuated the residence

At 11:01 am – SCG's [REDACTED] was dispatched

At 11:16 am – SCG's [REDACTED] was dispatched

At 11:23 am – SCG's [REDACTED] arrived at the scene. [REDACTED] was updated by the MFRD, who told him that HSP was drilling in the concrete and hit the gas line. He went back to the truck and got a clamshell and the fire extinguisher. He turned off the service/meter valve and installed the clamshell device on the service/meter valve to prevent tampering with the service. He knocked at the door of the house, but no one answered. He smelled, heard the gas leaking, and saw bubbles on the concrete near the MSA. He went back to his truck to document the conditions found and observed on SCG's Form [REDACTED] [REDACTED] and at 11:25 am, requested assistance from Distribution Department. He turned over the document to [REDACTED] SCG's [REDACTED] [REDACTED] and he left the scene.

At 11:32 am – SCG's [REDACTED] arrived at the scene. He talked to [REDACTED] to see if all the information was on the Damage Report, walked toward where the damage occurred, did not smell any gas, and from a distance he saw the ground rod. He went back to his truck that was parked in front of the house and filled out the repair order. He saw [REDACTED] knocking at the door, saw the homeowner across the street wearing black T-shirt and Yoga

pants. In addition, he saw the Distribution crew, [REDACTED] and [REDACTED] arriving in their truck. Furthermore, he moved his truck to the side of the road to give room to the Distribution Crew to park the truck in front of the house.

At 11:52 am – [REDACTED] left the site and the Distribution Crew arrived. [REDACTED] and [REDACTED] parked the truck in front of the house, went to the damage area to assess the situation, and found a ground rod (copper) inserted in the concrete. The only evidence they could see that damaged SCG's facility was the ground rod. They saw no signs of damage nor did they hear or smell gas. They assessed the situation, did not smell or hear natural gas, and decided to break the concrete slab near the ground rod to dig a control hole. [REDACTED] used a jack hammer to break the concrete, [REDACTED] was clearing the broken concrete, and then [REDACTED] went to the truck to grab a bucket to remove the concrete. While removing concrete and dumping them in the truck, he saw a lady crossing his path on the driveway, wearing t-shirt and yoga pants. They used shovels to remove the dirt on both side of the ground rod. The MFRD were standing on an adjacent property overlooking the area while they were working.

Between 11:52 am and 12:05 noon – [REDACTED] was given permission/allowed by MFRD to go back to her home to retrieve her wallet, a diaper bag, and clothig.

At 12:09 pm – An explosion occurred causing the two-story home to collapse and starting a structural fire that burned and leveled the entire house except the west wall to the ground. [REDACTED] was using a shovel to remove dirt and was thrown back against the break wall (two feet back), [REDACTED] was standing a few feet away in the driveway and was thrown east to the next-door property, the fire fighters that were standing nearby were thrown approximately 25 feet away toward the street. [REDACTED] was inside the house when the explosion occurred and ran for her life. [REDACTED] regained his conscious and told a civilian, [REDACTED] who was holding a fire hose trying to put the fire out, that his co-worker was there, and to put water on him so that he can get him away from the fire. [REDACTED] (neighbor) told him that his co-worker was not alive and had expired. Multiple explosions were heard coming from the back of the house. [REDACTED] called dispatch and requested assistance. He saw [REDACTED] and told him that [REDACTED] was in the explosion. [REDACTED] told [REDACTED] that we have to get the gas under control. They brought shovels and started excavating in the street near the main to service connection (Letter "G" means gas that was chiseled on the curb of the sidewalk) to expose the service line and squeeze off the service to stop the flow of gas. [REDACTED] SCG's Supervisor arrived and was informed that [REDACTED] had expired. [REDACTED] talked to [REDACTED] and had him examined by the fire department and both [REDACTED] and [REDACTED] were taken to the hospital for observation. Both were admitted and released the same day.

A few minutes after the explosion, [REDACTED] emerged from the home unharmed and walked out to safety. She had a few minor scratches as the result of falling debris.

At 12:43 pm – A second SCG's Distribution Crew arrived at the scene, exposed the service to main connection.

At 1:13 pm – SCG's crew squeezed off the [REDACTED] service line to stop the flow of gas (under control).

At 1:15 pm – SCG's activated the EOC.

The explosion rocked the neighborhood and caused extensive damage to nearby homes. In addition, there were several people who received minor injuries and were transported to the local hospital and released the same day not requiring overnight hospitalization. Furthermore, the explosion damaged several vehicles including a camper and two SCG's vehicles in close proximity to the explosion.

The injury update thus far includes:

- One SCG's employee was fatally injured-[REDACTED]
- Two SCG's employees were taken to local hospital for observation and were released the same day
- Three fire fighters were admitted to the hospital and were released the same day
- Two HSP employees were taken to the hospital for observation and were released the same day. Recently, one employee was readmitted for additional treatment [REDACTED], the homeowner, was admitted to the hospital and released the same day

After the explosion, a SCG's crew was dispatched, excavated near the main to service connection and squeezed off the [REDACTED] gas service line to stop the flow of gas. On July 16, 2019, SCG's crew abandoned the gas service to the home and capped both ends in accordance with SCG's Gas Standard. In addition, SCG's crew cut-out and removed a two-foot section of pipe at the location where the ground rod struck the [REDACTED] service line including the MSA. Late at night, [REDACTED] [REDACTED]'s body was recovered by MFRD's Deputy Chief David Lantzer and was taken by the coroner office to be examined.

Shortly after the incident, MFRD, SCG's, HSP, met at the Incident Command Post, and discussed what happened. HSP's employee mentioned that he put in the ground rod and damaged the gas service line.

The Murrieta Building and Safety Department conducted a field inspection and red - tagged (hazardous condition do-not enter- structural damage) four houses and yellow tagged (limited access) 13 houses.

The contents were sealed in plastic bag and provided to SCG's Claim Department for custody. Cal-OSHA Bureau of Investigation took custody of the ground rod.

After the incident SCG's crew abandoned one service at the main ( ) one service at the service riser near the MSA, and installed a locking device at two other services.

On July 16, 2019, at 10:25 am, SCG's crew performed a sniff test at ( ) (at the MSA) and the smell of gas was readily detectable.

SCG's main was installed in 1990, ( ) with MAOP ( ) psig and MOP of ( ) psig. The service was installed in 1996, ( ) with MAOP of ( ) psig, and MOP of ( ) psig. According to SCG, a gas leakage survey was completed in May 2018 and no leaks were found. In addition, SCG followed its Gas Standard 184.0245 and conducted leakage migration survey (two block radius) on July 15, 2019, with no gas leaks found.

SED reviewed the hourly consumption of natural gas for ( ) and found it to be consistent (no excessive usage) for the past 15 days prior to the incident.

SED reviewed SCG's OQ's records for ( ) ( ) ( ) ( ) ( ) found their qualification's records to be current, and in compliance.

Caliber Construction and Restoration Inc. cleared all debris from the road and fenced the burned house. Murrieta Public Work installed informational road signs and Murrieta Police Department reopened the street to the general public.

The property was purchased by ( ) and ( ) on June 3, 2019. They moved in on June 19, 2019, with their two children ( ) ( ) and ( ) mother. The family hired Horizon Solar Power to install roof top solar panel and on July 15, 2019, HSP started the construction/installation of the roof top solar panel.

The house was sitting on a six-inch slab foundation with the peripheral portion 25-inches tall (six inches above grade and 19-inches below grade).

On July 16, 2019, SED contacted Dig Alert (Underground Service Alert of Southern California), inquiring about any USA tickets issued in the vicinity of ( ) ( ) Dig Alert searched records from 6/16/2019 through 7/16/2019 and found no USA tickets.

On July 18, 2019, SED interviewed SCG's employees at SCG's facilities located on 25620 Jefferson Ave, Murrieta, CA

On July 20, 2019, SED interviewed ( )

On August 22, 2019, all interested parties met at the site for a joint fire scene examination and excavation. An agreement was reached to come up with a

protocol/procedure, to coordinate resources, and to set a date when the examination/excavation would take place.

On August 18, 2015, City of Murrieta added Chapter 15.62 of the California Government Code, Section 65850.5, Subdivision (g)(1) to the Murrieta Municipal Code that addresses Small Residential Rooftop Solar Systems. The rule requires an application, a permit and, an inspection to be performed when installing a rooftop solar system.

According to Tanya Newport (July 17, 2019), Development Services Technician, City of Murrieta, the department is using State of California Building Code that requires a permit when installing a roof top solar panel on a residential home. There were no records of permit being pulled under [REDACTED] nor under Horizon Solar Power.

California One Call Law Government Code 4216, Section 4216(g) states:

“EXCAVATION” means any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced, by means of tools, equipment, or explosives in any of the following ways: grading, trenching, digging, ditching, drilling, auguring, tunneling, scraping, cable or pipe plowing and driving, or any other way”

California Government Code (CGC) 4216, Section 4216.8(a) and (b) states in part:

This article does not apply to any of the following persons:

(a) An owner of real property who contracts for excavation project on the property, not requiring a permit issued by a state or local agency, with a contractor or subcontractor licensed pursuant to Article 5 (commencing with Section 7065) of Chapter 9 of Division of the Business and Professions Code.

(b) An owner of residential real property, not engaged as a contractor or subcontractor licensed pursuant to article 5 (commencing with Section 7065) of Chapter 9 of Division 3, of the Business and Professions Code, who as part of improving his or her principal residence or appurtenances thereto is performing or having performed excavation work not requiring a permit issued by state or local agency.

California Government Code (CGC) 4216, Section 4216.2(b) states in part:

“Except in an emergency, an excavator planning to conduct an excavation shall notify the appropriate regional notification center of the excavator’s intent to excavate at least two working days, and not more than 14 calendar days, before beginning that excavation. The date of the notification shall not count as part of the two-working-day notice. If an excavator gives less notice than the legal excavation start date and time and the excavation is not an emergency, the regional

notification center will take the information and provide a ticket, but an operator has until the legal excavation start date and time to respond. However, an excavator and an operator may mutually agree to a different notice and start date. The contact information for operators notified shall be available to the excavator.”

Based on Chapter 15.62, City of Murrieta Municipal Code, Horizon Solar Power is required to obtain a permit prior to the installation of rooftop solar system. Because Horizon Solar Power is doing work which requires a permit, the exception in CGC 4216.8(a) does not apply. In addition, Horizon Solar Power’s activities under the definition of “excavation” according to CGC 4216(g), is required to obtain a USA ticket.

1General Order 112-F, Reference Title 49 CFR, Part 192, Section 192.605(a) General states in part:

“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.”

SED Interview of SCG’s employees revealed that the employees failed to adhere and follow the requirement in the following SCG’s Gas Standards:

1.1SCG’s Gas Standard 183.03, Field Guidelines-Emergency Incident

tribution/Customer Service requires the following:

- Section 4.1 addressing public safety, employee safety, protection of property
- Section 4.2 requires SCG’s employee to conduct on site evaluation of potential hazards to life and property resulting from escaping gas.
- Section 4.2.2 requires SCG’s employee to establish communications with fire and/or police departments on the scene as soon as possible.
- Section 4.2.5 requires SCG’s employee to determine if the concentration of escaping gas is sufficient to make ignition a possibility, especially in or under structures, whether from underground migration or air movement, check and monitor perimeter of the area hazard
- Section 4.2.6 requires SCG’s employee to evacuate and restrict people from any hazardous area, particularly buildings, if the concentration of gas indicates ignition is a possibility.
- Section 4.2.13 requires SCG’s employee to maintain surveillance of uncontrolled escaping gas using approved combustible gas indicator to minimize the potential



hazard to the general public until assistance arrives.

- Section 4.3.1 requires SCG's response crew up on arrival at the scene to immediately assess the potential hazards of escaping gas. The response crew leader shall review the status of the incident with the responsible company employee on the scene or perform the action and evaluation.
- Section 4.3.2.3 requires SCG's employee to wear appropriate respiratory protective equipment and Gas Extraction Suit if gas was blowing freely when the crew planning to control the gas at the point of discharge.

1.2SCG's Gas Standard 184.0245 Leak Investigation, requires SCG's employee conducting leak investigation to do the following:

- Section 1.3 requires SCG's employee to immediately conduct an on-site evaluation of hazards in the area.
- Section 4.1.1.1, if customer is not present, SCG's employee is required to leave Form 2001 - Customer Communication Tag – Distribution

1.3SCG's Gas Standard 142.02 Leak Investigation – Customer Service, Section 9.1, requires SCG's Customer Service Field personnel to use a company approved combustible gas indicator device while approaching any gas leak, to both determine and monitor the atmosphere to ensure customer and employee safety

1.4In addition, SED found that SCG's employees failed to communicate (poor communication) with each other, firefighter first responder, evaluate, and monitor site, coordinate/communicate with SCG, address the magnitude of the incident, and the hazardous conditions

Furthermore, SED found that MFRD's firefighters failed to perform their responsibilities:

- 1Ensure public safety
- 2Secure the site
- 3Address the magnitude of the incident
- 4Lack of communication/coordination with SCG
- 5Mitigate and manage risk

SED found that:

- HSP failed to call 811 or contact USA Dig Alert to request for temporary markings of substructures at least 2 days prior to excavation. Therefore, HSP was in violation of California Government Code (CGC) 4216, Section 4216.2(b).
- MFRD failed to perform its responsibilities to ensure public safety, secure the incident site, coordinate/communicate with SCG, address the magnitude of the incident, and mitigate and manage the risk.
- SCG's employees failed to follow and comply with the requirement in SCG's Gas Standards. Therefore, SED found SCG in violation of General Order 112-F,

Reference Title 49 CFR, Part 192, Section 192.605(a).

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

*General Order*

1 GO112F

*GO Rule*

Title 49 CFR, Part 192, Section 192.605(a).

**Conclusion:**

Based on the investigation, SED determined that:

- HSP failed to call 811 or contact USA Dig Alert to request for temporary markings of substructures at least 2 days prior to excavation. Therefore, HSP was in violation of California Government Code (CGC) 4216, Section 4216.2(b).
- MFRD failed to perform its responsibilities to ensure public safety, secure the incident site, coordinate/communicate with SCG, address the magnitude of the incident, and mitigate and manage the risk.
- SCG's employees failed to follow and comply with the requirement in SoCalGas' Gas Standards. Therefore, SED found SCG in violation of General Order 112-F, Reference Title 49 CFR, Part 192, Section 192.605(a).