



Troy A. Bauer
*Pipeline Safety and Compliance
Manager*
555 W. Fifth Street, ML GT11A6
Los Angeles, CA 90013
Phone: 909-376-7208

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Mr. Ken Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
320 W. Fourth Street, Suite 500
Los Angeles, CA 90013

Dear Mr. Bruno:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a G.O. 112, Operation and Maintenance Inspection of Southern California Gas Company's (SoCalGas) G.O. 112-F Operation and Maintenance Inspection of Southern California Gas Company's Leak Survey and Patrolling activities in the Inland South Districts (Inspection Unit) from May 22, 2017 to May 26, 2017. The inspection included a review of the Inspection Unit's leak survey and patrolling records for calendar years 2014 through 2016 and random field inspections of pipeline facilities in the Riverside, Ramona, and Murrieta districts. SED staff also reviewed the Inspection Unit's Operator Qualification records, which included field observation of randomly selected individuals performing covered tasks.

SED staff identified 1 probable violation and 4 recommendations. Attached are Southern California Gas Company's (SoCalGas) written responses.

Please contact Troy A. Bauer at (909) 376-7208 if you have any questions or need additional information.

Sincerely,



Troy A. Bauer

CC:
Willard Lam, SED/GSRB
Kan Wai Tong, SED/GSRB
Matthewson Epuna, SED/GSRB

Summary of Inspection Findings
2017 SoCalGas Inland South Inspection
May 22-26, 2017

I. SED's Identified Probable Violation

1. Title 49 CFR 192, Section 192.605 Procedural manual for operations, maintenance, and emergencies.

§192.605 Procedural manual for operations, maintenance, and emergencies states in part:

“(a) General. Each operator shall prepare and follow for each pipeline, a manual of written procedures for conducting operations and maintenance activities and for emergency response.”

a. SoCalGas Gas Standard 203.016 states in part:

Self-audits are performed for each month that leakage surveys are completed. Self-audits should be completed no later than thirty days after the inspection completion date.

Self-audits shall be retained within the FACT System.

During a review of the inspection unit's records, SED noted that the following leak survey self-audits were not performed.

- Riverside District, February 2014
- Riverside District, November 2016
- Murrieta District, August 2015
- Murrieta District, December 2015

The inspection unit acknowledged this deficiency and will be reporting this non-compliance event. Therefore, SoCalGas is in violation of General Order 112-F, Reference Title 49 CFR, Part 192 §192.605(a).

RESPONSE:

Riverside District

- February 2014 –Leak survey activity was performed in Feb. and a self-audit was conducted within the 30-day period. However, an investigation revealed that the Corona District supervisor who conducted the audit of the Riverside map did so in March, and included the map in March's self-audit documentation in the FACT system, rather than in February's. (see attachment in Appendix).
- November 2016 – SoCalGas contends that no regular leak survey activity was performed during the month therefore no self-audit was required.

Murrieta District

- August 2015 – SoCalGas agrees that leak survey activity was performed in August and there was no self-audit record.
- December 2015 – SoCalGas contends that no regular leak survey activity was performed during the month therefore no self-audit was required.

CORRECTIVE ACTION:

South East (SE) Region Leadership sent correspondence to all Area Managers requiring a review of Gas Standard 203.016 – Leak Survey Self-Audit be conducted with all Field Operations Supervisors and Team Leads. In addition, the South Inland South Area Manager held meetings with his staff where he individually covered the requirements to complete self-audits and to ensure that they are entered into FACT.

SE Region leadership also initiated the auto-creation and scheduling of self-audit monthly reports from DART. The Area Mangers now receive the self-audits automatically on the 8th day of the month to ensure compliance. The auto-creation feature will be shared with North West Region as well to ensure consistency across the organization.

II. Concerns, Recommendations, and Observations Summary

1. During a field visit to 41477 Agean Court in Murrieta on 5/24/2017, SED observed a residential meter set assembly exposed to an area potentially used for vehicle parking. The lawn area in front of the residence was paved over with concrete. This effectively widened their driveway and created the potential for a vehicle to park in front of the meter. SED recommends that SoCalGas install meter protection at this location to minimize the potential for vehicular damage.

RESPONSE:

SoCalGas agrees with SED recommendation and a work order for the installation of a meter guard at the location was created.

Corrective Action

SoCalGas executed work order 540000207240 and installed a meter guard at 41477 Agean Court, Murrieta.

2. On 4/7/2016 SoCalGas discovered a leak on a main near 12233 Swegles Lane in Moreno Valley detailed as “50% w/gas over 2” PE main, 50 ft spread, 28 LEL in water box and 80% LEL in electrical box”. SoCalGas graded the leak as a Code 2 leak and repaired it on 2/14/2017. The applicable SoCalGas Gas Standard, 223.0125 Section 3.3.1. Code 1 Leak Indication, states:

“Examples of Code 1 leaks include, but are not limited to:

...

3.3.1.4. An indication of gas which has migrated into or under a building; or at the outside wall of a building, or where gas would likely migrate to an outside wall of a building.

...

3.3.1.6. A leak with gas indications of 3% gas/air mixture or greater in enclosures containing electrical equipment.”

SED is concerned about SoCalGas’ original grading of the leak as a Code-2, specifically the reported migration into an electrical box. According to the SoCalGas Gas Standard in place at the time, SoCalGas should have graded the leak as a Code-1 leak and initiated the repair immediately. Instead, SoCalGas graded the leak as a Code-2 and repaired the leak

more than 10 months later. Please explain the reason for grading the said leak as a Code 2, and the reason for not following the SoCalGas Gas Standard 223.0125.

RESPONSE:

SoCalGas agrees that pursuant to previous and current versions of Gas Standard 223.0125 – Leakage Classification and Mitigation Schedules, the leak in question should have been classified as a Code 1. Surveyors are required to investigate all leak indications while performing leakage survey to ensure the leak is properly coded. Coding of leaks and Gas Standard 223.0125 are integral aspects to the Leak Survey Training Course conducted by SoCalGas Training and Development at the SoCalGas Pico Rivera facility, and these specific topics are thoroughly covered as part of the course work. The employee who conducted this survey is no longer in Gas Operations and his leakage survey Operator Qualification elements have been revoked.

In addition, SoCalGas Gas System Integrity Staff and Programs group (Gas Standard Owner) will publish a bulletin for review by all Leak Survey Trained employees on the proper coding of leaks.

3. In reviewing SoCalGas’ recently revised 223.0125 Gas Standard (Standard) for leak grading, SED is concerned that guidance listed for Code 1 and Code 2 leaks does not adequately cover critical field conditions. SED created Table 1 below showing the current SoCalGas’ Gas Standard 223.0125 to illustrate the gap (“Gray Area”) between SoCalGas’ Code 1 and Code 2 leak grading guidance.

Table 1. Leak Standard Guidance

% of Lower Explosive Limit (LEL)	Leak <5ft from building/structure, no migration	Leak <5ft from building/structure, with migration
0 < to < 20	Code 2 –	
20 to < 40	<i>A leak with a gas indication of less than 80% LEL near buildings or structures within 5 feet if unpaved that does not qualify as a Code 1 leak and where it is unlikely gas could potentially migrate to the outside wall of a building</i>	Code 1 – <i>Any indication of gas which has migrated into or under a building or tunnel; or at the outside wall of a building, or where gas could potentially migrate to an outside wall of a building.</i>
40 to < 60		
60 to < 80		
80 to 100	[Gray Area]	

Table 1 above illustrates leak conditions in a critical zone of less than 5 unpaved feet from a structure or building. For example, a leak indication of 100% of the LEL is found to be 4 feet from the outside wall of a building. If leak migration is detected, the guidance suggests a Code 1 grade. If leak migration is not detected, the guidance suggests a Code 2

grade, as long as the gas indication is less than 80% of the LEL. Since the example leak has a gas indication of 100% of the LEL with no migration, it falls into the “Gray Area” where it does not qualify as a Code 1 or Code 2 based on the guidance in the Standard. Furthermore, the example leak would technically be a Code 3 grade because it did not qualify as a Code 1 or 2. SED recognizes that SoCalGas relies on the leak surveyor’s judgement for evaluating leaks. However, SED recommends that SoCalGas clarify the Standard to eliminate the “Gray Area” shown in the table above to ensure consistency and avoid confusion.

RESPONSE:

SoCalGas agrees with SED recommendation. To address the “Gray Area” identified by SED, SoCalGas Gas Standard 223.015 – Leakage Classification and Mitigation Schedules, will be revised to provide clarity on the Code 1 requirements for indications of 80% LEL or greater near buildings or structures within 5 feet if unpaved.

The revisions will be communicated through and reinforced via an Information Bulletin

4. SED observed SoCalGas’ personnel performing a leak survey by foot only along the sidewalk areas of a 4-lane heavy traffic corridor because it was too dangerous to reach the main in the middle of the street. SED reminds SoCalGas of the leak survey requirement under 49 CFR §192.723 and the use of leak detection equipment at manholes and cracks in pavement. SED recommends SoCalGas consider using other available resources (such as their Remote Methane Leak Detector or their Optical Methane Detector) if distribution mains are located in areas that prevent safe leak survey by foot.

RESPONSE:

While performing leakage survey over a main that is in the middle of a paved street it is recommended to survey along the curb and gutters. The paved street acts as a membrane, venting gas is detected where the two paving materials (concrete and asphalt) meets. Employees performing leakage survey are required to take atmospheric samples from within manholes when performing leakage survey by using the DP-IR or Gasurveyor PPM.

The OMD and RMLD are Optic based instruments and do not have a pump which does not allow for atmospheric samples to be taken. The OMD is one method of many that SoCalGas uses to complete its required leakage surveys. SoCalGas performs Leakage Surveys per the requirements of 192.723 and GO 112 F. The requirements do not dictate how surveys are to be conducted and leaves those details to individual operators. Per SoCalGas’ standards, various methods of leak detection are used based on public and employee safety, the location of mains and services, and geography.

SoCalGas does use mobile survey with Optical Methane Detectors (OMD) per its policy which states, ” The OMD is to be used to perform leakage survey on buried piping that can be directly driven over with a vehicle equipped with an OMD. Associated services, crossovers and other buried infrastructure that cannot be driven over shall be surveyed using appropriate instrumentation. OMD mobile leak survey is typically used on high pressure and medium

pressure pipelines that have few and/or infrequent taps/services. Any services, taps, or other pressure carrying facilities that are part of the survey work order and are not suitable for survey by OMD must be surveyed with an appropriate device...”

In addition, Operators are required to use leak detection equipment such as the Detecto Pak-Infrared (DP-IR) which are highly sensitive and detect to down to as low as 5PPM above ground. This equipment is specifically designed to test the atmosphere in gas, electric, telephone, sewer, and water system manholes and vaults and at cracks in pavement and sidewalk sand at other locations providing the opportunity for finding gas leaks as required by CFR 192.723 and GO 112 F.

Lastly, searching for leaks with leak detection equipment is only one aspect of performing quality surveys. Operators also must look for dead or dying vegetation and evidence of recent construction, foreign trench marks, pavement cuts, bar holes, etc. and take appropriate actions to identify if gas is indeed leaking in those areas.

SoCalGas is dedicated to continually improving its methods of leak detection and has in fact expanded the use of OMDs and will continue to do so as opportunities are identified.

APPENDIX