PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

September 29, 2017

Jimmie Cho, Senior Vice President
Gas Operations and System Integrity
Southern California Gas Company
555 West 5th Street, GT21C3
Los Angeles, CA 90013

GI-2017-05-
SCG-63-02C

Subject: General Order (G.O.) 112-F Operation and Maintenance Inspection of Southern California Gas Company's Leak Survey and Patrolling Program in the Inland South Districts

Dear Mr. Cho:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a G.O. 112-F Operation and Maintenance Inspection of Southern California Gas Company's (SCG) Leak Survey and Patrolling activities in the Inland South Districts (Inspection Unit) on May 22-26, 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 one probable violation of G.O. 112, Reference Title 49 Code of Federal Regulations (CFR), Part 192. SED also made four recommendations / concerns. This is described in the "Summary of Inspection Findings", which is enclosed with this letter.

Please provide a written response within 30 days of receipt of this letter indicating any updates or corrective actions taken by SCG.

If you have any questions, please contact Willard Lam, at (415) 703-1327.

Sincerely,

Kenneth A. Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division

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

Summary of Inspection Findings
2017 SCG 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. SCG 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, SCG is in violation of General Order112-F, Reference Title 49 CFR, Part 192 §192.605(a).

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 SCG install meter protection at this location to minimize the potential for vehicular damage.

2. On 4/7/2016, SCG 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". SCG graded the leak as a Code 2 leak and repaired it on 2/14/2017. The applicable SCG 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 SCG's original grading of the leak as a Code-2, specifically the reported migration into an electrical box. According to the SCG Gas Standard in place at the time, SCG should have graded the leak as a Code-1 leak and initiated the repair immediately. Instead, SCG 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 SCG Gas Standard 223.0125.

3. In reviewing SCG's 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 SCG Gas Standard 223.0125 to illustrate the gap ("Gray Area") between SCG's Code 1 and Code 2 leak grading guidance.

Table 1. Leak Standard Guidance

<table>
<tr><th>% of Lower Explosive Limit (LEL)</th><th>Leak <5ft from building/structure, no migration</th><th>Leak <5ft from building/structure, with migration</th></tr>
<tr><td>0 < to < 20</td><td rowspan="4">Code 2 –

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</td><td rowspan="5">Code 1 –

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.</td></tr>
<tr><td>20 to < 40</td></tr>
<tr><td>40 to < 60</td></tr>
<tr><td>60 to < 80</td></tr>
<tr><td>80 to 100</td><td>[Gray Area]</td></tr>
</table>

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 SCG relies on the leak surveyor's judgement for evaluating leaks. However, SED recommends that SCG clarify the Standard to eliminate the "Gray Area" shown in the table above to ensure consistency and avoid confusion.

4. SED observed SCG's 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 SCG 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 SCG 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.