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12/21/2017

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 San Diego Gas and Electric Company's (SDG&E) in the District North Distribution Region from September 18, 2017 to September 22, 2017. The inspection included a review of the Inspection Unit's records for calendar years 2013 to 2016 and random field inspections of pipeline facilities in the North Coast and Northeast 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 7 recommendations. Attached are San Diego Gas and Electric Company's (SDG&E) written responses.

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

Sincerely,

A handwritten signature in black ink, appearing to be 'Troy A. Bauer', is written over a horizontal line that extends across the page.

Troy A. Bauer

CC:  
Wai Yin (Franky) Chan, SED/GSRB  
Dennis Lee, SED/GSRB  
Kan Wai Tong, SED/GSRB  
Matthewson Epuna, SED/GSRB

**Summary of Inspection Findings  
2017 SDG&E District North Inspection  
Sep 18-22, 2017**

**I. SDG&E's Identified Probable Violation**

On September 5, 2017, SDG&E provided SED its Exception Report, which includes findings in the Inspection Unit. Some of SDG&E's Exception Report findings are violations of SDG&E's standards, and are therefore violations of Title 49 Code of Federal Regulations (CFR), §192.13(c) or §192.605(a). SED is aware that SDG&E corrected some of its findings prior to SED's inspection.

**Title 49 CFR Part 192, Section 192.747(a)**

*“Each valve, the use of which may be necessary for the safe operation of a distribution system, must be checked and serviced at intervals not exceeding 15 months, but at least once each calendar year.”*

On August 9, 2017, SDG&E discovered that a distribution valve in the Inspection Unit was not on an annual maintenance plan. This distribution valve, Valve 20339, is an outlet fire control valve that was installed on August 3, 2012. It was not maintained since installation because it was not added on to an annual maintenance plan. This valve is now added on to an annual inspection plan. When inspected by the Inspection Unit after the discovery, the valve was found to be in satisfactory condition. Since SDG&E did not inspect and maintain the valve for six years, SDG&E is in violation of 192.747(a).

**RESPONSE:**

SDG&E confirms that valve 20339 was not established in the SDG&E SAP work management system as required for a pipeline valve that is on an annual inspection cycle per CFR 192.747(a).

**CORRECTIVE ACTION:**

To mitigate the issue of newly installed valves not being activated in SAP, SDG&E will establish routine SAP-HANA report reviews to verify active valves in the SAP work management system vs. active valves in the SDG&E GIS pipeline mapping system. Additionally, the reports for current active valves in SAP and GIS will be reviewed by Region Engineering (RE) to verify any newly installed valves have been established in both systems.

## II. SED's Identified Probable Violation

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

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

#### 1.1. SDG&E's Gas Standard D7265, Pneumatic Test Requirements for Pipelines Operating at 60 psig or less, states in part:

*“6.1. All the records for pipelines tested at 100 psig shall be retained for the life of the pipeline except for pre-tested pipe, prefabricated meter set assemblies, and prefabricated welded headers to operate at 60 psig or less which shall be retained for five years (Section 5.3 and 5.5). Each record must contain the following information which may be written on the back of the pressure recording chart.*

- *Gas Construction Order number (except for test charts associated with testing pre-tested pipe. The pre-tested pipe will be stored at the District C&O center for use in repairs and has no construction order.)*
- *Date of test*
- *Name of the District C&O Gas Foreman or Regulator Technician (if Pipeline Operations is involved in the test or tie-in).*
- *The name of the authorized SDG&E representative supervising the test. Note – this person's name shall also appear on the completed work order. Refer to Policy statement Section 1.*
- *Test medium used (air, nitrogen, etc.).*
- *Test pressure*
- *Test Duration*
- *Pressure recording charts or the recorded pressure readings*
- *Leaks and failures noted and their disposition...*”

In reviewing the Inspection Unit's medium pressure service installation records, SED discovered that the Inspection Unit did not record some of the required information listed in section 6.1 of SDG&E's Gas Standard D7265, such as the test medium used, the test pressure, and the test duration. Examples of service installation records without the required information are the following with work order numbers: 70432, 70444, 71352, 71428, 71791, 72091, 74241, 75220, 75558, 75573, 129340, 129982, 510000417638, and 127147.

The Inspection Unit indicated that records, i.e. charts, are kept per section 6.1 of the standard with the exception of the spring gauge test, which is one of the two test methods shown in Table 1 of the Gas Standard D7265, and signing off by the installer or Distribution Field Operations Supervisor implies that leak tests have been conducted in accordance with the standard. However, SED's review of the standard did not show that the spring gauge test is being excluded from the requirement in section 6.1. Therefore, the Inspection Unit is in violation of 49 CFR 192.605(a) for failing to follow SDG&E's Gas Standard D7265.

According to the Inspection Unit, SDG&E's current electronic construction work order system (SAP) provides for capturing the test pressure and the test duration but not currently the test medium used. The Inspection Unit has initiated a request to have a test medium field added to its electronic documentation. SED acknowledges the corrective action taken by the Inspection Unit and recommends that the Inspection Unit continues to record the information listed in section 6.1 of SDG&E's Gas Standard D7265 for all test methods.

**RESPONSE:**

After consultation with Region Engineering and review by Gas Engineering Staff, it's been determined that for pressure tests associated with pipelines operating at 60psig or less, "test medium" is not a necessary item to record for tests that require a 15-minute pressure test between 100 and 140psig. Currently SDG&E uses only Nitrogen or Compressed Air to conduct these types of tests.

**CORRECTIVE ACTION:**

SDG&E is reviewing Gas Standard D7265 in its entirety and will make updates as needed. Additionally, SDG&E is reviewing its electronic Construction Planning and Design (CPD) system to make improvements in how and where 15-minute pressure tests are recorded. These updates will make it easier to record and then provide this information on request to SED.

### III. Concerns, Recommendations, and Observations Summary

1. In reviewing the Inspection Unit’s medium pressure service installation records, SED observed that the records lacked detailed information about welding or plastic joining. Without information such as the method used to weld or join the pipes, it is difficult to ensure that proper procedures were followed and qualified personnel performed the work. SED understands that some of the welding or plastic joining information could be documented in other records or interpreted by the nature of the project. However, SED recommends that the Inspection Unit increases the level of detail about welding or plastic joining in its official records that would be presented to SED during its inspection.

**RESPONSE:**

SDG&E will review how and where to best record in the current electronic Construction Planning and Design (CPD) system, the type of construction being performed, i.e. whether the specific job includes welding or poly/plastic fusion. The goal will be to make it easier to provide this information to SED on request for specific work orders.

2. During its field verification, SED requested the Inspection Unit to provide its corrective actions for the following field observations or findings, listed in table 1 below.

**Table 1:** Field Observations and Findings

<b>Location</b>	<b>Observation and Finding</b>	<b>SDG&amp;E’s Corrective Action</b>
4426 Avenida Del Gado, Oceanside	Overgrown vegetation was found.	Contact with the residential customer was made on 10/2/2017 to request vegetation trimming/removal.
1428 Oakcreek Ln, Vista	A small part of the riser was covered by concrete	Service Order 6669237429 was completed on 9/26/2017. Concrete was removed and a soap check found no leaks.
1440 Oakcreek Ln, Vista	Moderate corrosion was found on the riser.	Riser was cleaned up and rewrapped on 9/28/2017.
1475 Oakcreek Ln, Vista	Corrosion was found on the meter.	Service Order 9420329094 was completed on 9/28/2017. Meter and regulator were replaced.
Bridge and Span 55	No access to inspect part of the Bridge and Span 55 because of a locked gate.	SDG&E lock was installed and inspection was completed on 9/28/2017.
9550 Carmel Mountain Road, San Diego	Meter was in contact with dirt.	The meter was cleaned up on 9/22/2017 with dirt under meter and near lock-wing being removed.
Meter #781452 in Vista (near site meet for CP Area 357 Troubleshooting)	Meter was in contact with dirt.	The meter was cleaned up on 9/27/2017 with dirt near the bottom of the meter and around lock-wing being removed.

On a post inspection response dated October 6, 2017, the Inspection Unit provided its corrective actions. This note serves as a record of the observations.

3. During SED's field verification, the Inspection Unit conducted a troubleshooting for station STA 357 because the pipe to soil reads in the area indicated that the cathodic protection (CP) was outside of the tolerance level. According to the post inspection response dated October 6, 2017, the troubleshooting is still ongoing and an update will be provided to SED when the problem is remediated and the station returns to normal operation.

**RESPONSE:**

Continued troubleshooting determined an issue with a bond between stations. Repairs were made and all station reads were recorded as in tolerance on 11/17/2017.

4. During its field verification, SED found that the Inspection Unit personnel did not loosen the main spring case nuts in a crisscross pattern when disassembling the Mooney regulator for maintenance in District Regulator Station 1505. Loosening the main spring case nuts in a crisscross pattern is one of the steps in the disassembly instruction of the manufacturer's manual. In addition, a torque wrench was not used to ensure that the minimum torque value listed in the manufacturer's manual was applied when tightening the main bolts.

According to the post inspection response dated October 6, 2017, the Inspection Unit has consulted with the approved vendor and confirmed that the assembly/disassembly instructions provided on page 14 of the manufacturer's manual, which includes loosening the main spring case nuts in a crisscross pattern and tightening the main bolts with the minimum torque value, are recommendations and not a requirement for the safe and reliable operation of the regulator. Nevertheless, SDG&E will initiate a regulator torque/leak inspection pilot and alternate regulator assembly/disassembly methods will be developed if warranted. Also, SDG&E will continue to emphasize in its training the importance of slowly introducing gas followed by a leak test and then an operational check to ensure the mechanical integrity and safe operation of the regulator post re-assembly. Please provide SED with the detail of SDG&E's regulator torque/leak inspection pilot.

SED acknowledges the actions taken by the Inspection Unit on this matter and recommends SDG&E making the manufacturer's manual readily available for its personnel (e.g., a hardcopy of the manual in the personnel's vehicle, a downloaded version of the manual in the personnel's electronics, etc.) The instructions and guidance in the manual should be available and followed (if applicable) to ensure the correct operations of the equipment and safety of the SDG&E's employees and the public.

**RESPONSE:**

The applicable training module was updated with the correct link to the manufacture's information. A qualification for proper torqueing procedures is being developed and will be implemented in 2018.

5. During SED's field verification, the Inspection Unit performed maintenance for District Regulator Station 1505 and found that the primary run main regulator did not lock up within its specified range and the secondary run monitor regulator did not control and lock up. The Inspection Unit conducted extensive troubleshooting and testing on these two regulators. The personnel replaced the pilot cartridge in the primary run main regulator and the diaphragm and pilot cartridge in the secondary run monitor regulator. After completing the station inspection, the personnel placed the station back into normal operation at approximately 6:00pm on September 21, 2017. This note serves as a record of the observation.
  
6. During its field verification at District Regulator Station 962, SED found atmospheric corrosion on the station's facilities. The last station inspection was completed on April 19, 2017 with no abnormal operating conditions (AOC) noted. According to the post inspection response dated October 6, 2017, the employee, who performed the last inspection, indicated that he believed the atmospheric corrosion conditions had already been turned in. The employee was counseled individually (September 25, 2017) and the entire work group (September 29, 2017) was reminded that any AOC found in the field will be documented and turned in even if it had been previously noted. The Inspection Unit also indicated that the station is scheduled to be sandblasted and recoated in the week of October 2, 2017. Please provide SED with an update on the status of the remediation for the atmospheric corrosion found at the station.

**RESPONSE:**

SDG&E continues to review possible AOC conditions with field employees and reiterates that all abnormal or unacceptable conditions are to be documented when discovered. This is required even if an employee believes the condition has already been turned in for remediation.

7. During its field verification at Odorant Intensity Testing Point 61, SED observed that the Inspection Unit did not determine the odor level at 0.9% gas in air as instructed in SDG&E's Gas Standard G8130 when conducting the odorator test. According to the post inspection response dated October 6, 2017, the Inspection Unit conducted a review of the SDG&E Gas Standard G8130 on 9/29/2017 with employees who would perform odorant testing work orders. The employees were reminded that the odorant testing work order is a two-part test involving initial detectability and the odorant intensity at 0.9% gas in air (1/5<sup>th</sup> of the lower explosive limit).

**RESPONSE:**

In addition to the post inspection review of Gas Standard G8130 with all employees assigned Odorant Inspection work orders, SDG&E is developing a video that can be shown to employees performing these tests that demonstrates the appropriate odorant breakthrough and odorant level at 0.9% gas in air testing processes.