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December 21, 2018

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

RE: General Order (G.O.) 112-F Comprehensive Operation and Maintenance Inspection of San Diego Gas & Electric Company's South Districts Facility

Dear Mr. Bruno:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a G.O. 112-F, Operation and Maintenance Inspection of San Diego Gas and Electric Company's (SDG&E) South Districts Facility (Inspection Unit) on October 1st through 5th and October 8th through 12th, 2018. The inspection included a review of South Districts' records for the period of 2015 through 2017, as well as field inspections of pipeline facilities in the Metro, Eastern, and Beach Cities 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 3 probable violations and 6 areas of concern and requested a written response indicating measures taken to address those findings. Attached are SDG&E's 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 blue ink, appearing to read 'Troy A. Bauer', is written over a horizontal line.

Troy A. Bauer

CC: Ha Nguyen, SED/GSRB
Kan Wai Tong, SED/GSRB
Claudia Almengor, SED/GSRB

SUMMARY OF INSPECTION FINDINGS

Unsatisfactory Results

Records: Operations & Maintenance (PRR.OM)

Question Text	Do records indicate distribution patrolling was conducted as required?
References	192.603(b) (192.721(a), 192.721(b))
Assets Covered	District South (87075 (46))
Issue Summary	Most of SDG&E's pipeline patrols were completed within the 4 ½ months but two Pipelines 49-17-H and 49-18 (49-17 crossed a highway and Pipeline 49-18 has 3 highway crossings and one rail crossing) were not patrolled within the 4 ½ months compliance window. SDG&E missed the compliance window by one day. Therefore, SDG&E was in violation of G.O. 112-F, Reference Title 49 CFR, Part 192, Section 192.705(b).

Response:

During its records review, SED identified 5 highway or rail crossings in a class 3 area that were not patrolled every 4 ½ months as required resulting in inspections taking place one day late. Pipeline 49-17-H has one highway crossing and Pipeline 49-18 has 3 highway crossings, and one rail crossing. SDG&E's work management system is programmed to generate work orders quarterly with a one-month completion window. However, the assigned second quarter maintenance plans had a systemwide error causing the second quarter's work orders to incorrectly be assigned a 3-month compliance window. SDG&E makes every effort to complete orders early in the compliance window. Despite the incorrect completion window and with the exception of Pipelines 49-17-H and 49-18 railroad and highway crossing orders, all other pipelines and respective crossings subject to second quarter inspections were completed within the required 4 ½ month window.

Corrective Actions:

Compliance Assurance has completed a systemwide correction to the affected maintenance plans for all Pipeline Patrol inspections (ESS ticket INC24828678). Second quarter Pipeline Patrol maintenance plans have been corrected in the work management system and now reflect a one-month compliance window for June inspections.

Pipeline Field Inspection: Pipeline Inspection (Field) (FR.FIELDPIPE)

Question Text	Are pipe, valves, and fittings properly marked for identification?
References	192.63(a) (192.63(b), 192.63(c), 192.63(d))
Assets Covered	District South (87075 (46))
Issue Summary	Regulator Stations have been missing components identification marks. Therefore, SDG&E was in violation of 192.63(a)

Response:

During Regulator Station inspection field observations, it was identified that some equipment was missing position tags. A common cause is position tags may come off when the below grade vaults and equipment are power washed and drained prior to inspection. SDG&E Gas Standard G8159 Distribution Pressure Regulating and Monitoring Station & Vault – Inspection, Maintenance and Settings procedure, Section 6.8. noted “Verify the station piping schematics are correct.” and Section 6.9. “Report discrepancies in piping schematics and station components to Supervisor and take corrective action.” While there has been an expectation to ensure equipment position tags are present, there was no specific guidance in G8159 addressing this requirement.

Corrective Actions:

On 10/25/18, SDG&E management reviewed with the M&R team the expectation that Regulator Station equipment is appropriately tagged, and station schematics are reviewed for accuracy any time a station is visited. Any missing position tags are to be immediately replaced. This session was captured on SDG&E training form 5300.

SDG&E has updated its Gas Standard G8159 Distribution Pressure Regulating and Monitoring Station & Vault – Inspection, Maintenance and Settings procedure section 6 with an additional bullet point specifically addressing position tags. The updated section now reads as follows: *Section 6.8. “Verify all station equipment is properly tagged and replace any missing or damaged tags.” Section 6.9. “Verify the station piping schematics are correct.” Section 6.10. “Report discrepancies in piping schematics and station components to Supervisor and take corrective action.”* The standard has been submitted for the monthly publishing cycle of 1/1/2019.

Additionally, SDG&E has updated SKILLS training and qualification materials to emphasize the requirements set forth by G8159. During the hands on portion of training and qualification, staff will simulate missing position tags to ensure trainees recognize and remedy the condition.

Question Text	Are field or bench tests or inspections of regulating stations, pressure limiting stations or relief devices adequate?
References	192.739(a) (192.739(b))
Assets Covered	District South (87075 (46))
Issue Summary	<p>During SED field observation of a live dual run regulator station 1531 inspection on 10/24/2018, we observed that</p> <ol style="list-style-type: none"> 1. Equipment 101 (Pilot for Monitor Regulator left run) did not lock up and later rebuild the pilot to achieve lock up 2. Equipment 301 & 300 (Pilot and Main Monitor Regulator right run) did not lock up and later rebuild the main body (replaced the diaphragm) to achieve lock up 3. Set points for 201 & 401 adjusted to swap the working and standby runs <p>SDG&E's procedure G8159 Section 6.22 states "Report and give details of any internal inspection and/or repair performed". However, none of the above three conditions documented on the inspection form submitted with work order # 510000613830.</p> <p>Therefore, SDG&E was in violation of 192.605(a) for its failure to follow its own procedure</p>

Response:

Following a live order observation of Regulator Station 1531 on Monday 10/8/18, SED requested a copy of the inspection results. When reviewing the inspection record, SED observed that the appropriate Condition Codes, Activity Codes, Set Points, or inspection Order Comments were not captured as required per standard G8159 Distribution Pressure Regulating and Monitoring Station & Vault – Inspection, Maintenance and Setting procedure.

Corrective Actions:

Work order 510000613830 was updated to capture missing condition codes, activity codes, and setpoints for applicable equipment.

On 10/9/18, management performed a documented counseling session with the employee and supervisor responsible for work order 510000613830 regarding the failure to accurately capture the inspection activities as required in G8159 Distribution Pressure Regulating and Monitoring Station & Vault – Inspection, Maintenance and Settings procedure. Section 6.22 states "Report and give details of any internal inspection and/or repair performed." This requirement was reiterated to the employee and supervisor.

On 10/25/18, SDG&E management reviewed G8159 Distribution Pressure Regulating and Monitoring Station & Vault – Inspection, Maintenance and Settings procedure with all the M&R team. Management emphasized the requirement that Regulator Station attributes, action taken, and final conditions must be clearly and accurately documented on inspection forms. This session was captured on SDG&E training form 5300.

Concerns

Records: Reporting (PRR.REPORT)

Question Text	Have accurate records been maintained documenting mechanical fitting failures that resulted in hazardous leaks?
References	192.1009 (191.12)
Assets Covered	District South (87075 (46))
Issue Summary	We found the attached 17 Code-1 leaks found & repaired in 2017 and noted the leak were found at "Mechanical Fitting" and "Fitting Body or Seals". However, only one leak reported to DOT in your 2018 "Mechanical Fitting Failure Report". Please explain why the other Hazardous leaks at "Fitting Body" were not reported to DOT?

Response:

SDG&E's policies for the identification and reporting of mechanical fitting failures is in accordance with the guidelines provided in Mechanical Fitting Failure Report instructions for Form PHMSA F 7100.1-2.

Of the 17 failures identified, one was reported in the annual DOT report for 2017. That reported failure was positively identified as "Mechanical Fitting (Remarks Required)" on the repair form, being a compression type fitting. The remaining 16 failures were not reported as mechanical fitting failures on the repair forms. These 16 failures do not meet the criteria for a mechanical fitting as described in Mechanical Fitting Failure Report instructions for Form PHMSA F 7100.1-2, as they are joining the two pipelines by means of fusion and not a mechanical joining. The criteria for excluding these 16 failures were also addressed in the January 12th, 2011 "New PHMSA Gas Distribution Annual Report and Mechanical Fitting Failure Report" webinar in question 23.

Records: Operations & Maintenance (PRR.OM)

Question Text	Do records indicate inspection and testing of pressure limiting, relief devices, and pressure regulating stations?
References	192.709(c) (192.739(a), 192.739(b))
Assets Covered	District South (87075 (46))
Issue Summary	<ol style="list-style-type: none"> 1. During a review of some pressure limiting station maintenance records, SED observed a Lock up value which exceeds the maximum limit noted, per Table-A of G8159, without any corrective action documented. 2. During a review some pressure limiting station maintenance record, SED observed in some forms where the unit for "As-Left setting" and "As-Left Lockup recorded as "EA", which stands for "EACH", that needs to be corrected to "PSIG" in the future.

Response:

1. The issue with exceeding allowable lock up ranges reflected in table A of G8159 was primarily with older Fisher 1300 series anti-freeze pilot regulators with nylon seats. For this regulator type, lock-up differentials may be higher than the currently allowable table values. These pilot regulators are not the primary regulators. As anti-freeze pilots are by design subject to high pressure drops, they have higher lock up values. SDG&E is currently re-evaluating the

acceptable lock up range for these regulator types. The manufacturer / vendor has indicated it is common for these regulators to have high lock-ups in this application.

Historically there was no lock up range validation on the mobile regulator station inspection forms. To remedy this, lock up range validation has been implemented into the next mobile inspection form revision currently undergoing testing for an end of first quarter 2019 release. Once updated forms are released, the technicians will not be able to enter a value above the prescribed ranges without supervisory approval.

2. SED observed that on some PDF versions of inspection forms, the unit for "As-Left setting" and "As-Left Lockup" was recorded as "EA," which stands for "EACH," where it should have been "PSIG." This error only occurred on a pdf printout version of the order and does not occur in the SAP work management system inspection record.

It was discovered that the incorrect field for "unit" was mapped to display on the PDF from the measurement point Description field. A batch script was run to correct the issue when future PDF inspection records are generated.

Pipeline Field Inspection: Pipeline Inspection (Field) (FR.FIELDPIPE)

Question Text	Is pipe that is exposed to atmospheric corrosion protected?
References	192.481(b) (192.481(c), 192.479(a), 192.479(b), 192.479(c))
Assets Covered	District South (87075 (46))
Issue Summary	Leak Survey and Patrol crews should notice the AOC condition and take remedial action when performing survey annually.

Response:

During field activities related to cathodic protection test points a meter set at Sea World was discovered with atmospheric corrosion (ACOR) present on the meter set assembly and customer houseline. The meter did not have hazardous levels of corrosion and there were no leaks. The previous Leak Survey order did not identify ACOR on the meter set at this location. The meter was near irrigated vegetation and in vicinity of salt water. CPUC was concerned that the customer is made aware of houseline ACOR (nonhazardous). SDG&E immediately issued a next day order to replace the meter set and notify customer of the houseline condition. Pictures of new the MSA were presented to CPUC on 10/12/18. In addition, SED was provided a screenshot of the completed order stating the customer was made aware of houseline corrosion and agreed to coordinate an outage with SDG&E to make repairs to houseline.

Question Text	Is anomaly remediation and documentation of remediation adequate for all segments?
References	192.487(a) (192.487(b))
Assets Covered	District South (87075 (46))
Issue Summary	<p>1) 3 CPAs (105, 137, & 215) are still out of compliance. These areas were up and down between 2016 and 2018. The last troubleshoot in 2018 showed all are in compliance, but they are down this time</p> <p>2) Three CP-10s found out of compliance during field visit</p> <p><u>Update from SDG&E on 10/12</u></p> <p>215: Drilled and waiting for construction to install new anode bed</p> <p>137: Still troubleshooting</p> <p>105: Fixed the short with cable ground and now is in compliance (-1066 mV)</p> <p>Only one CP 10 at 10299 Thanksgiving Street is pending for new anode installation, the other two re mediated and now in compliance</p>

Response:

CP-Area 105 was found to have an above ground short and remediated prior to audit closure with a documented passing pipe to soil (P/S) read on 10/12/2018. CP- Area 215 was in the process of a new anode bed installation. The anode bed failed 10/10/2017. The area is now passing with documented P/S reads on 10/25/2018. Continuous action is being taken to troubleshoot and remediate CP-Area 137. An update will be sent to SED when the area has been repaired. Two of the three isolated CP 10 locations were remediated prior to audit closure.

The remaining CP 10 location at 10299 Thanksgiving Lane was found to have a broken anode wire and a new anode was installed. A passing P/S read was collected on 10/29/2018.

CP Area	Location	Failing P/S Read (V)	Passing P/S Read (V)
105	TP 22 620 Pomona	-0.558	-1.066
215	TP 6 1414 5 th St E/O "A" Ave.	-.490	-1.578
215	TP 7 1110 5th St W/O "C" Ave	-0.501	-1.238
215	TP 8 901 "C" meter on 9th E/O "C" Ave	-0.506	-1.021
215	TP 9 1634 6th St W/O Glorietta Blvd	-.481	-0.960
CP 10	10299 Thanksgiving Ln	-.659	-1.302

Question Text	Is sampling of combustible gases adequate using an instrument capable of determining the percentage of gas in air at which it becomes readily detectable?
References	192.625(a) (192.625(c), 192.625(d), 192.625(e), 192.625(f))
Assets Covered	District South (87075 (46))
Issue Summary	<p>During a SED field visit of an odorant test site, it was readily detectable the natural gas odor in the ambient air prior to the test. According to SDGE's procedure G8130 for Operation of Odorator,</p> <p>Section 3.2.1 states that "The test area should be sheltered from the wind and void of ambient odors that might interfere with the test."</p> <p>Section 3.2.3 states that "To avoid interference with the test, check for leaks preferably just using the nose to detect natural gas odor (not necessarily soap testing). If natural gas odor is noticed, then fix any leaks. If ambient gas odor cannot be prevented, do not continue with the test."</p>

Response:

This odorant intensity test site was located at the Eastlake Gate Station. The purpose of taking a sample at this location was to ensure adequately odorized gas is fed from the gas transmission line into the distribution supply line network. The technician performed the odorant intensity test at a fitting near equipment which may vent small amounts of gas as a part of normal operation.

On 10/25/18, management conducted a documented review of G8130 Operation of Odorator with M&R staff, emphasizing that they should not conduct the test unless they can prevent ambient gas odor. SDG&E identified an alternate odor test location within the Eastlake Gate Station facility away from equipment which may vent gas as part of normal operation.

Question Text	Is proper inspection and partial operation being performed for each distribution system valve that might be required in an emergency, and prompt remedial action to correct any valves found inoperable?
References	192.747(a) (192.747(b))
Assets Covered	District South (87075 (46))
Issue Summary	<p>During SED field observation of valve 1175 inspection on 10/05, it was found that the valve was very hard to operate even with two people with a help of extension bars. It took more than 10 minutes to move. Previous years inspection also noted "Hard to Operate". SDG&E also documented the 10/05 inspection as "Inoperable Valve" and assigned a temporary Alternative Valve until permanent solution (Reference: Inspection form 10/05/18 and email correspondence on the same day)</p> <p>SED is concerned that, this may not be appropriate during emergency situation in addition to the location of the valve, which is located in the middle of a 4-way street intersection.</p> <p>Therefore, SED recommends SDG&E to look for an Alternative Means of Control for this valve, if possible, or repair the valve for easy operation.</p>

Response:

Valves may at times become hard to operate or inoperable. The hard to operate valves are visited and maintained quarterly. If the condition does not improve with accelerated maintenance and the valve becomes inoperable it is either eliminated, excavated and repaired, or replaced. SDG&E Region Engineering determined that valve 1174 will be used as an alternative means of control to valve 1175. Valve 1174 was last inspected on 12/18/18 without complication. Valve 1175 was again visited on 12/12/18 and when the crew could not readily operate the valve, it was returned to a "Hard to Operate" status. Region Engineering has determined that valve 1175 should be replaced and is currently in the project planning stage.