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Mr. Terence Eng, P.E.  
Program Manager, Gas Safety and Reliability Branch  
Safety and Enforcement Division  
California Public Utilities Commission  
505 Van Ness Ave, 2nd Floor  
San Francisco, CA 94102

Dear Mr. Eng:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a General Order (GO) 112-F Comprehensive Operation and Maintenance Inspection of San Diego Gas & Electric Company's Transmission Facilities in San Diego Area on January 27 through 31, 2020, February 3 through 7, 2020 and February 11 through 13, 2020. The inspection included a review of Inspection Unit's operation and maintenance records for the years 2017 through 2019, and a field inspection of a representative sample of the Inspection Unit's facilities. Also, SED staff reviewed the Inspection Unit's Operator Qualification records, which included field observation of randomly selected individuals performing covered tasks.

SED staff identified two (2) unsatisfactory results and six (6) areas of concern. 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 black ink, appearing to be 'Troy A. Bauer', written over a horizontal line.

Troy A. Bauer  
Pipeline Safety and Compliance Manager

CC:  
Mahmoud Intably, SED  
Kan-Wai Tong, SED  
Gordon Kuo, SED  
Claudia Almengor, SED

**2020 SDG&E Transmission Inspection**  
**1/27/2020 to 2/13/2020**

**Unsatisfactory Results**

- 1) During field inspection on 1/31/2020, SED staff observed and pointed out to an SDG&E technician that vegetation was in contact with aboveground pipeline (span1600-137). SED requested SDG&E to take corrective action to remove the vegetation. On 2/7/2020, SDG&E provided SED with work order #7234583 addressing SED's finding. SED reviewed the work order report including "Bridge and Span Inspection Checklist" and found that under question "Are any foreign objects (fencing, vegetation, etc. in contact with pipe?" the answer was "NO" and then in the comments section it was noted: "removed vegetation".

SDG&E's Gas Standard G8142 "Inspection of Pipelines on Bridges and Spans", Section 2.3. states:

"When any condition is found identified by a "yes" answer on the "Bridge and Span Inspection Checklist", the employee performing the inspection will report the condition to his/her immediate supervisor the same day the condition is discovered."

According to the Gas Standard above, SDGE's technician is required to identify and record the deficiency "As-Found" conditions on the Bridge and Span Inspection Checklist. SED believes that SDG&E's technician should have marked it as "Yes" on the Bridge and Span Inspection Checklist since the condition was "As-Found".

Therefore, SDG&E is in violation of GO 112-F, Reference Title 49 CFR, Part 192, §192.605(a) for failing to follow its Gas Standard G8142 "Inspection of Pipelines on Bridges and Spans".

**SDG&E Response:**

As noted by the SED, the SDG&E employee that visited the site to remediate the condition completed the Inspection Checklist with the "as left" condition, instead of the "as found" condition required by the Gas Standard. The SDG&E employees that conduct this work will be provided with refresher training to remind them that the inspection form is intended to document "as found" conditions as stated in G8142.

2) During SED's record review on 2/11/2020, SED found that Valve ID #6615 (located at Point Loma and Santa Barbara street on line 49-131) had multiple abnormal operation conditions either "hard to operate" or "inoperable" since 10/13/2015 as listed chronologically below.

- ❖ On annual inspection 10/22/2014 - satisfactory
- ❖ On annual inspection 10/13/2015 - inoperable for first time
- ❖ On 5/10/2016 follow up, flushed, found still inoperable
- ❖ On 8/5/2016, a request for engineering review was signed and approved by Engineering division for installation/Replacement.
- ❖ On annual inspection 11/22/2016 - Hard to operate
- ❖ Follow up 1st: 12/29/2016 - flushed - still hard to operate
- ❖ Follow up 2nd: 1/13/2017 - lubed - become inoperable
- ❖ Follow up 3rd: 2/2/2017- lubed - still inoperable for second time
- ❖ On annual inspection 11/29/2017 - flushed - inoperable
- ❖ On annual inspection 9/18/2018 - flushed - Hard to operate
- ❖ Follow up 1st: 12/3/2018 - flushed - Satisfactory
- ❖ Follow up 2nd: 6/26/2019 – satisfactory
- ❖ On annual inspection 10/17/2019 - flushed the valve – inoperable for third time

SDG&E's Gas Standard T8167 Valve Inspection and Maintenance – Transmission, Section 1.2 states:

*"The Transmission District shall take prompt remedial action to repair any Critical Valve found inoperable during the inspection.*

*1.2.1. An alternative valve or valve configuration shall be designated until the inoperable valve is returned to service."*

Based on SED's records review of SDG&E's follow-up actions, it was found that Valve ID #6615 valve was found inoperable on 10/13/2015 for the first time. And Per Section 1.2 "[the] Transmission District" shall take prompt remedial action, designate an alternative valve or valve configuration until the inoperable valve is returned to service. But every time that the valve was found inoperable there was no remedial action to repair, designate alternative valve or valve configuration in place until the inoperable valve is returned to service until now (for past four years and four months). Therefore, SDG&E in violation of GO 112-F, Reference Title 49 CFR, Part 192, §192.605 (a) for failing to follow its Gas Standard T8167 "Valve Inspection and Maintenance – Transmission".

**SDG&E Response:**

The valve, ID #6615, is a distribution valve and falls under standard D8167 requirements not T8167 as noted in the NOPV.

On 6/12/2016 SDG&E Region Engineering designated an 8" non-critical valve @ Venice and Brighton Avenue as an alternate valving option. During the time period when the valve was discovered inoperable, the gas standard D8167, Section 1.8. stated, *"Prompt remedial action must be taken to correct any valve found inoperable, unless the operator designates an alternative valve"*. SDG&E continued to perform regular annual and follow-up inspections of Valve ID# 6615 and the temporary alternate shutdown plan was reevaluated every six months until the replacement was complete, in accordance with D8167. On 6/12/2020 Valve ID# 6615 was removed from service and replaced with a new 8" Valve ID# 42817 on work order 300000219954. In addition, in the spirit of continual improvement, SDG&E has updated its Gas Standard D8167 "Distribution Valves – Operation, Maintenance and Inspection" with additional language specifically addressing a timeline for correcting inoperable valves. The updated section now reads as follows: Section 4.8.8.1. *"Every effort shall be made to correct inoperable valves within 15 months of discovery."* The gas standard was submitted for publishing on 6/01/2020 through the Notice of Publication (NOP) process. Furthermore, SDG&E will update its gas standard D8167 to require Region Engineering to create the temporary alternate shutdown plan as soon as practical, but no later than three business days after notification of the valve being classified as inoperable.

SDG&E would like to point out that during the July 2016 SED inspection/audit of SDG&E South Distribution Area, SDG&E self-reported this valve, ID# 6615, to the SED audit staff as non-compliant. SED listed this valve as an NOPV in the audit letter and in SED's closure letter for that audit, dated July 7, 2017, noted "SED has reviewed SDG&E's response and agrees the proposed corrective actions that were implemented by SDG&E sufficiently addressed the valve inspection error. SED recommends that no fine or penalty be imposed since the violation did not create any hazardous conditions for the public or utility employees. However, reoccurrence of the same violation in the future may result in enforcement action." The issue noted here is not a reoccurrence but rather the same event that has already been identified and addressed in a previous audit.

## Concerns

- 1) Field inspection and partial operation of transmission line valves.
  - I. During field inspection on February 12, 2020, SDG&E crew operated 5 turns to inspect the valve #20408. The crew stated that the valve is a multi-turn ball valve but did not mention it to be a gear-operated valve. In addition, valve characteristics information with SDG&E's valve record form (a copy provided to SED) does not directly state that the valve is a gear-operated or non-gear-operated. In response to SED's clarification data request SDG&E explained as below:
    - a. *If the number "1/4" is present in a "number of turn to fully operate valve" field with a "ball" or "plug" justification in "valve type", it means quarter-turn non-gear operated valve. The inspection of this type of valve should follow the section "4.2.1. Non-Gear operated valve" of the gas standard D8167.*
    - b. *If there is a number other than "1/4" present in a "number of turn to fully operate valve" field with a "ball" or "plug" justification in "valve type", it means a quarter turn gear-operated valve and it should be inspected in accordance with the "Section 4.2.2. Gear Operated" of the gas standard D8167.*
    - c. *If there is a number other than "1/4" present in a "number of turn to fully operate valve" field with a "Mueller curb tee valve" justification in "valve type", it means a multi-turn valve and it should be inspected in accordance with the Section "4.3. OPEN - MULTI TURN Valves" of the gas standard D8167.*

However, those explanations are not included in SDG&E's Gas Standard, D8167, Valve Inspection and Maintenance - Distribution nor in SDG&E's Gas Standard, T8167, Valve Inspection and Maintenance – Transmission. Since the valve inspection procedure for geared operated is different from the non-geared operated valves, it is important to include these procedures in the SDG&E gas standards. Lack of those explanations could prevent SDG&E's crew from performing the adequate inspections on the specific type of valves. Therefore, SED recommends SDG&E clarify this deficiency and add the related procedures to its gas standards.

### **SDG&E Response:**

While SDG&E Gas Standard D8167 "Distribution Valves - Operation, Maintenance and Inspection", Sections 4.2 and 4.3 clarify the procedures for inspection of the specific Quarter Turn Non-Geared Valves, Quarter Turn Gear Operated Valves and Multi-turn Valves, there was no distinction between the specific valve types in Gas Standard D8167 "Distribution Valves - Operation, Maintenance and Inspection" to clearly delineate the difference for each valve type.

SDG&E has updated its Gas Standard D8167 "Distribution Valves - Operation, Maintenance and Inspection" with definitions for Quarter Turn Non-Geared Valves, Quarter Turn Gear Operated Valves and Multi-turn Valves. The updated sections now read as follows: 3.10. *“Quarter Turn Non-Geared Valves” - Any bi-directional valve that can be fully closed or opened by a quarter turn of the disc, plug, ball, or other device that serves to close or open the flow path (ball valves, plug valves, butterfly valves).* 3.11. *“Quarter Turn Gear Operated Valves” – Refers to quarter turn valves where a gear box is installed on stems creating a mechanical advantage in torque and reducing the amount of work needed to close or open the valve.* 3.12. *“Multi-turn Valves” - Refers to valves where the closure member has a linear displacement and can be fully closed or opened by turning its threaded stem multiple times (gate valves, globe valves, needle valves, Mueller Curb Tee valves).*

The gas standard was submitted for publishing on 6/01/2020 through the Notice of Publication process.

With respect to SED’s recommendation to update SDG&E Gas Standard T8167 “Valve Inspection and Maintenance – Transmission”, SDG&E did not identify deficiencies in the Gas Standard in addressing valve type-specific inspections, because the Gas Standard prescribes only general requirements as required for compliance and safety; specific instructions to address specific valve types are found in SDG&E training. Training will be updated to clarify definitions and inspection requirements for both quarter turn gear/non-gear operated valves and multi-turn valves.

- II. During field inspection on February 12, 2020, SED randomly selected valve #20408 to observe the SDG&E crew demonstrating their valve inspection. However, the crew wrongly arrived at valve #40418 instead of valve #20408. When the crew found the valve tag #40418 on the valve in question, they assumed that other crew have applied a wrong tag, attempted to replace the tag and proceed with their inspection. SED staff requested the crew to verify the valve and tag information before proceeding. Upon verification with back office, it was discovered that the tag is a right tag for that valve (valve # 40418), but the crew went to a wrong location.

SED believes that it is very important that field employees to have correct information associated with their assigned valve or location. If they have any confusion or discrepancy, they should not perform any task until a clarification to issue is obtained. Otherwise, employees may use the wrong procedures on the wrong valves during valve inspection and create a safety hazard.

**SDG&E Response:**

SDG&E has updated its Gas Standard D8167 "Distribution Valves - Operation, Maintenance and Inspection" with an additional bullet point specifically addressing any confusion or discrepancy in assigned valve or location on the part of the field employee. The updated section now reads as follows: 4.1.1.

*Check the Gas Geographical Information System (GIS) and SAP records to verify the valve location corresponds with the valve inspection order. If there is a suspected discrepancy, immediately resolve the problem with the responsible supervisor.*

The gas standard was submitted for publishing on 6/01/2020 through the Notice of Publication process.

- III. During our field visit on 2/5/2020, inspecting relief valve with tag number 3012-2320B, it was found that one of 1/2" isolating valve started to leak during lock up read. Please provide us follow up order for valve repair and reperforming the relief valve inspection with new reads.

SDGE provided WO #7234963. The tasks will include replacing of test port valve on RV 3012-2320B-S and retest the RV.

This issue has been resolved and no response from SDG&E is required.

**SDG&E Response:**

As indicated in SED's letter, SDG&E resolved the issue and no response is required.

- IV. Found water/fluid in the vault of valve 631 (on 2/12/2020; also found water/fluid in pressure sending line holes near MLV# 3010-3008 and valve box of 3010-3008 on 1/31/2020.

This issue has been resolved and no response from SDG&E is required.

**SDG&E Response:**

As indicated in SED's letter, SDG&E resolved the issue and no response is required.

- 2) During the field inspection on January 30, 2020, SED observed SDG&E's employee conducting an Optical Methane Detector (OMD) leak survey. The SDG&E's employee was able to cite the driving speed limits and the wind speed limits while performing the OMD survey. However, after reviewing SDG&E Gas standards G8145 and G8138, SED was unable to find such limits addressed in either standard for the application of OMD devices. In addition, according to the OMD User's Manual by Heath Consultants, Chapter I, p.9, Overview, which states in part: "The survey should be conducted at speeds slow enough to allow an adequate sample to be continuously obtained by placement of equipment intake over the most logical venting locations..." Since both high driving speeds and wind speeds can hinder the OMD from detecting the gas, thus rendering the survey ineffective. SED recommends that SDG&E add the limitations of the OMD devices to a gas standard.

**SDG&E Response:**

SDG&E Gas Standards G8145, *Leakage Surveys* and G8138, *Optical Methane Detector Operation and Maintenance* will be revised to provide maximum driving and wind speeds when using the OMD to perform leakage surveys. The changes will be communicated via Information Bulletin through the Notice of Publication process.

- 3) During SED’s record review on 2/13/2020 (below are listed found conditions for valve ID#7059), SED found valve ID #7059 “hard to operate” on 1/29/2018. SDG&E conducted three more quarterly inspections (5/1//2018, 8/28/2018 & 11/5/2018) and found the valve “hard to operate”.

SED reviewed SDG&E’s Gas Standards T8167, *Valve Inspection and Maintenance – Transmission* and D8167 *Valve Inspection and Maintenance – Distribution* and found that Gas Standard T8167 for transmission valve did not address “hard to operate” condition valve while D8167 for distribution valve, Section 4.6.5.1.2.2 states: *“If after 3 consecutive inspections the ‘hard to operate’ condition is not resolved, inform Gas Technical Services – Miramar Region Engineering to replace valve or designate another valve. This could include inactive buried valves that could be refurbished, reactivated, tagged and placed on a maintenance schedule. The ‘hard to operate’ valve will continue to be inspected quarterly until designation or replacement has occurred.”*

- ❖ On annual inspection 2/29/2016 - hard to operate
- ❖ Follow up on 7/26/2016 – satisfactory
- ❖ Follow up on 8/12/2016 – satisfactory
- ❖ On annual inspection 1/31/2017- satisfactory
- ❖ On annual inspection 1/29/2018 – hard to operate
- ❖ Follow up on 5/1//2018 – hard to operate
- ❖ Follow up on 8/28/2018 – hard to operate
- ❖ Follow up on 11/5/2018 – hard to operate
- ❖ On annual inspection 1/7/2019 – satisfactory
- ❖ On annual inspection 1/7/2020 – satisfactory

SED recommends SoCalGas to amend its Gas Standard T8167 to address “Hard to Operate” valves condition in a similar manner that is addressed in D8167, Section 4.6.5.1.2.2. Especially in transmission pipelines “Hard to Operate” valves may cause a delay in valve closure that may impact the environment or the general public.

**SDG&E Response:**

SDG&E will update Gas Standard T8167 - *Valve Inspection and Maintenance – Transmission* to require that operators take prompt remedial action upon discovery of a “hard to operate” valve, and that the plan implementation shall make every effort to not exceed 15 months from the date of discovery of the “hard to operate” condition. This Gas Standard update will follow typical protocol and SDG&E will update SED on the expected completion date of this effort. Also, SDG&E Gas Standard G8113 - *Operator Qualification Program* currently prescribes specific actions to operators who may



encounter “Hard to Operate” conditions upon inspection (Section 2 “Task Specific AOCs and REACTIONS”, under OQ Task 16.02).

SDG&E believes that its proposed changes to Gas Standard T8167, along with the existing Gas Standard G8113, fulfills the SED’s recommendation to address “Hard to Operate” valves in a similar manner to SDG&E Gas Standard D8167, Section 4.6.5.2.5 (formerly Section 4.6.5.1.2.2).

- 4) SED found in previous patrol records that Abnormal Operating Conditions (AOCs) were marked down with the comment "Missing Markers". However, there never was any follow-up noted for these "missing markers" because it is presumed that they were replaced out in the field already, but not noted down. SDG&E explained to SED that it was due to the limitations of the GIS system not having extra options to note whether the markers were replaced immediately or if a follow-up was needed. SDG&E also told SED that the new GIS system has two options for these two situations in order to remedy this situation. However, because of the previous system, there is no guarantee that the markers were ever replaced.

SED was able to review SDG&E procedure G8140, which provided an image of the options given with GIS. SED was able to confirm that there is now a new option to allow for them to note "markers/signs replaced". Thus, if markers are missing and not replaced, it is noted as an "AOC", and if they are replaced it is noted as "markers/signs replaced". This differs from the previous method where missing markers whether they are replaced or not are still marked as AOCs. In both previous and current situations, there is no clear instruction in G8140 as to which boxes need to be marked specifically for these two situations. SED also wishes to prevent a future situation where boxes are marked incorrectly because an employee was following the previous method. SED recommends SDG&E to clarify the instructions on the pipeline patrol procedure noting which box(s) to mark when markers are found missing and replaced or not replaced.

**SDG&E Response:**

SDG&E will address the reporting of missing or damage pipeline markers that are encountered while performing Pipeline Patrol Inspections by revising Gas Standard G8140 “Pipeline Patrol and Unstable Earth Inspections”. Sections 7.7. will be revised to provide clarifications when to select “Markers/Signs Replaced” condition on the “Pipeline Patrol-Segment Condition Reporting” form and when to select “Abnormal Operation Conditions” and enter recommended corrective actions for follow-up orders. An information Bulletin will be published through the Notice of Publication process to communicate the revisions and to reinforce the reporting requirements for missing or damaged pipeline markers that are encountered while performing Pipeline Patrol Inspections.

- 5) During the field inspection on 2/12/20, SED observed a bridge and span that had multiple pipes, a mix of both gas and non-gas pipes. The SDG&E crew used GIS to determine which was the correct pipe noted in the work order in Maximo. However, there is nothing within the bridge and span procedure G8142 to ensure that employees

should check for other pipes when under a wide bridge to prevent them from inspecting only the first pipe they come across. The procedure also does not mention the use of other tools such as GIS or description in the work orders to eliminate the other pipes in order to find the correct pipe to inspect. SED recommends SDG&E add the instructions in its procedures to clarify the methods of proper identifications of its pipelines during the atmospheric corrosion inspections. These instructions can list the tools that can be used, such as GIS, or whatever other methods that can be used to ensure the employee can locate the correct pipe under a bridge with multiple pipes.

**SDG&E Response:**

SDG&E Gas Standard G8142, *Inspection of Pipelines on Bridges and Spans* will be revised to provided field employees with instructions to use GIS maps, curb markings, pipeline markers, etc. when determining the correct pipe under a bridge, when multiple pipes are present. The changes will be published via Information Bulletin through the Notice of Publication process.

- 6) During the field inspection, cathodic protection (CP) point: 3010-50.30-P (visited on 2/5/2020) and CP point 2 (12" box @ Harbison and Division) (visited on 2/12/2020) were found without the point identity tag. It may cause the crew who performs the CP inspection to record inspection results at the wrong locations. SED recommend to add/or replace the missing identity tags.

**SDG&E Response:**

SDG&E placed a tag on the CP Points on 2/7/2020 under Work Order # 7234739.