

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



April 7, 2022

GI-2022-01-SDG-53-03-04

Mr. Rodger Schwecke  
Senior Vice President and Chief Infrastructure Officer  
San Diego Gas and Electric Company  
555 West 5th Street, GT21C3  
Los Angeles, CA 90013

Dear Mr. Schwecke:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a **General Order (G.O.) 112-F comprehensive and full review and inspection of San Diego Gas and Electric Company (SDG&E)'s Operation and Maintenance Procedures and Emergency Plan (OME Procedures Inspection)** on January 10 through 14 and January 18 through 21, 2022. SED staff reviewed SDG&E's written OME procedures pursuant to G.O. 112-F, Reference Title 49, Code of Federal Regulations (CFR), Parts 191 & 192, and used Pipeline and Hazardous Materials Safety Administration (PHMSA)'s Inspection Assistance (IA) as a reference guide to conduct the inspection.

SED's staff did not identify any violation of G.O. 112-F, Reference Title 49 of CFR, Parts 191 & 192, but noted ten (10) areas of concern within the Transmission and Distribution procedures, which are described in the attached "Post-Inspection Written Preliminary Findings" reports.

Please provide a written response within 30 days of your receipt of this letter indicating the measures taken by SDG&E to address the concerns noted in the "Post-Inspection Written Preliminary Findings".

Thank you for your cooperation in this inspection. If you have any questions, please contact Sann Naing, Senior Utilities Engineer (Specialist), at (213) 266-4723 or by email at sn1@cpuc.ca.gov.

Sincerely,

A handwritten signature in blue ink that reads "Terence Eng".

Terence Eng, P.E.  
Program Manager  
Gas Safety and Reliability Branch  
Safety and Enforcement Division

CC: Sann Naing, SED/GSRB  
Alex Hughes, SoCalGas  
Gwen Marelli, SoCalGas  
Kan Wai Tong, SED/GSRB  
Claudia Almengor, SED/GSRB  
Matthewson Epuna, SED/GSRB

# Post-Inspection Written Preliminary Findings

**Dates of Inspection:** January 10-14 and January 18-21, 2022

**Operator:** SAN DIEGO GAS & ELECTRIC CO

**Operator ID:** 18112 (primary)

**Inspection Systems:** Transmission OME Procedures

**Assets (Unit IDs) with results in this report:** SDG&E's Main Office Inspection - Transmission (88389)

**System Type:** GT

**Inspection Name:** 2022\_SDG&E Transmission OME Procedures

**Lead Inspector:** Sann Naing

**Operator Representative:** Austin Walker

## Unsatisfactory Results

**No Preliminary Findings.**

## Concerns

### Design and Construction: Construction Welding Procedures (DC.WELDPROCEDURE)

Question Title, ID Welding Procedures, DC.WELDPROCEDURE.WELD.P

Question 1. Does the operator have written specifications requiring qualified welding procedures in accordance with 192.225?

References 192.225

Assets Covered SDG&E's Main Office Inspection - Transmission (88389 (53A))

Issue Summary SDG&E Gas Standard (GS) G7803 -General Welding Requirements requires welding on its pipeline to be done by qualified welders using welding procedure specifications (WPS) qualified by SDG&E. However, Section 1.2 of the standard states "API 1104 is typically used to qualify welders and welding procedures for pipeline applications where there is a low exposure to cycling or thermal stresses." On January 13, 2022, SED held a meeting with SDG&E's process owner of this GS, and learned that while the verbiage was accurate, SDG&E's WPSs are qualified by API 1104 as a rule. SED thus recommends SDG&E to strengthen the language in GS G7803 to precisely cite its usage of API 1104 or any other industry standard approved by 49 CFR Part 192 and its particular process to qualify WPSs.

On February 8, 2022, SDG&E provided additional information via an email that stated the GS G7803 is currently undergoing extensive revisions and will review SED recommendations. SED requests SDG&E to elaborate upon its corrective action(s) and outline the key points of its revisions if the updated version has not published.

## Design and Construction: Design of Pipe (DC.DP)

Question Title, ID Steel Pipe Design Factor, DC.DP.PIPEDESFACTOR.P

Question 7. Does the operator have written procedures for determining the Design Factor to be used for steel pipe as required by 192.111?

References 192.111 (192.103, 192.105, 192.107, 192.109, 192.112, 192.115, 192.121, 192.123, 192.125, 192.303, 192.305, 192.307)

Assets Covered SDG&E's Main Office Inspection - Transmission (88389 (53A))

Issue Summary Per review of SDG&E GS G9105 – Design Factors for Steel Piping Systems, SED identified a table within Section 4.2 of the standard (Table 1), which had duplicate lines for "uncased crossing of railroad right of way". The first line referring to this scenario, second in order from the top, had unadjusted design factor values for Class 1 and 2 locations ("0.72", "0.60"). The second line with the correct values can be found on the seventh row (second from the bottom). SDG&E stated the table values will be revised by removing the first entry.

During SED's follow-up correspondence with the SoCalGas' Pipeline Safety Compliance team, SDG&E determined that the duplicate line had been present since 1998 which was when the first Document Library version of the Gas Standard was uploaded digitally. Further review found the duplicate line had been present in GS G9105 since 1992. The current Document Library in use was created in 1998. While this error is present in the current GS, SDG&E stated that the DDS Manager planning tool references the correct derating values during pipe design and construction activities and provided supporting evidence. According to SDG&E this tool was implemented in the mid-1990s. In addition to the DDS Manager, SDG&E also stated that Gas Engineering currently reviews and approves pipeline installations for Part 192 compliance.

SoCalGas completed its revision and removed the erroneous derating factor as of February 2, 2022.

SED accepts SoCalGas' proposed corrective actions. However, SED recommends notifying SDG&E's Integrity Management and other appropriate work groups the possible impact on uncased Class 1 and 2 pipeline crossings with railroad right of way due to this erroneous derating factor in the previous versions of this gas standard. In addition, SED may revisit this matter in subsequent inspections.

## Emergency Preparedness and Response: Emergency Response (EP.ERG)

1) Question Title, ID Emergency Plan Review, EP.ERG.REVIEW.P

Question 1. Does the process include a requirement to review the manual at intervals not exceeding 15 months, but at least once each calendar year?

References 192.605(a)

Assets Covered SDG&E's Main Office Inspection - Transmission (88389 (53A))

Issue Summary a.

Title 49 CFR Part 192, §192.605(a) states in part:

*"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. For transmission lines, the manual must also include procedures for handling abnormal operations. This manual must be reviewed and updated by the operator at intervals not exceeding 15 months, but at least once each calendar year...."*

SDG&E's Gas Emergency Response Plan (ER-1SD), Section 8. Plan Maintenance states:

*"The documents and Company Procedures referenced in Appendix A provided the detailed steps that are followed by Company personnel to meet emergency response requirements that are reviewed each calendar year as part of the Operations and Maintenance plan review."*

SED recommends SDG&E revise this section to be consistent with the language stated in the regulation including “*at intervals not exceeding 15 months, but at least once each calendar year*” to avoid potential misleading and misunderstanding, and to be precise with code language.

On February 8, 2022, SDG&E provided additional information via an email that states it has republished the ER-1SD to include “at intervals not exceeding 15 months, but at least once each calendar year” and provided the revised version. SED has reviewed updated publication and accepts the corrective action that it has articulated and implemented.

SDG&E stated that its GS G8221 - Gas Incident Notification was cancelled, effective 10/19/2020 because processes for incident notifications and reporting is outlined in other applicable standards SDSD1020 - Message Center Reporting (MCR) & G8222 - Pipeline Incident Reports to CPUC and PHMSA; National Transportation Safety Board (NTSB) Accident Investigation.

However, G8221 was referenced in the following current gas standards:

1. G8204 - Emergency Response Procedures for Gas Incidents – Distribution - Last O&M review on 8/22/2021
2. G8202 - Field Guidelines - Emergency Incident Distribution / Customer Service – Last O&M review on 8/22/2021
3. Gas Emergency Response Plan (ER-1SD) - Last O&M review on 10/5/2021

SDG&E must ensure that during its O&M annual reviews, the gas standard procedures are updated as needed providing correct and up-to-date references and information to specific procedures so that its operation locations where operations and maintenance activities are conducted will follow or reference up-to-date procedures when their pipeline system operations and maintenance activities commence.

2) Question Title, ID Emergency Response, EP.ERG.READINESS.P

Question 9. Does the process include procedures for ensuring the availability of personnel, equipment, tools, and materials as needed at the scene of an emergency?

References 192.615(a) (192.615(a)(4))

Assets Covered SDG&E’s Main Office Inspection - Transmission (88389 (53A))

Issue Summary Title 49 CFR Part 192, §192.615 Emergency plans states in part:

*“(a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:*

*“(1)...(4) The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency.”*

SDG&E stated that its GS G8206- Emergency Materials List for Gas Incidents addresses the availability of equipment and tools during emergency response as well. SDG&E also stated that the supporting common document in the OEM that also addresses the availability of equipment and tools is document 06.050-COM - Emergency Materials - Pico Rivera.

SED reviewed both aforementioned documents and found that current verbiage in both documents did not align with §192.615(a)(4) to include equipment and tools as well. The standards mostly address materials, but not the procedures for availability of equipment and tools. SED recommends SDG&E to review its standards that address §192.615(a)(4) and revise them to address the items in the language as prescribed in the code.

## **Maintenance and Operations: Gas Pipeline MAOP (MO.GOMAOP)**

Question Title, ID Normal Operations within MAOP Limits, MO.GOMAOP.MAOPLIMIT.P

Question 2. Does the process include requirements for starting up and shutting down any part of the pipeline in a manner to assure operation with the MAOP limits, plus the build-up allowed for operation of pressure-limiting and control devices?

References 192.605(a) (192.605(b)(5))

Assets Covered SDG&E’s Main Office Inspection - Transmission (88389 (53A))

Issue Summary SDG&E GS G8147 Planning Shutdowns on High Pressure Gas Facilities lists the Title 49 CFR Part 192, §192.605(b)(5) to be the code that impacted the standard (i.e. the standard satisfies this code section).

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

*"... (b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.*

*(1)... (5) Starting up and shutting down any part of the pipeline in a manner designed to assure operation within the MAOP limits prescribed by this part, plus the build-up allowed for operation of pressure-limiting and control devices."*

GS G8147 does not explicitly mention MAOP limits as prescribed by code even though the standard implies the safe shutting down operations for completion. SDG&E should amend this procedure to include the language prescribed by this code to explicitly state that, during starting up and shutting down, the pressure of the pipeline stays within the MAOP limits, plus the build-up allowed for operation of pressure-limiting and control devices if it does not reference any other procedures within its Operations and Maintenance Plan (O&M Plan) that meet these code section requirements.

On February 8, 2022, SDG&E provided additional information via an email that stated the G8147 will be revised and republished on May 1, 2022. SED requests SDG&E to elaborate upon its corrective action(s) and outline the key points of its revisions if the updated version has not been published.

+++

## Post-Inspection Written Preliminary Findings

**Dates of Inspection:** January 10-14 and January 18-21, 2022

**Operator:** SAN DIEGO GAS & ELECTRIC CO

**Operator ID:** 18112 (primary)

**Inspection Systems:** Distribution OME Procedures

**Assets (Unit IDs) with results in this report:** SDG&E's Main Office Inspection - Distribution (88390)

**System Type:** GD

**Inspection Name:** 2022\_SDG&E Distribution OME Procedures

**Lead Inspector:** Sann Naing

**Operator Representative:** Austin Walker

## Unsatisfactory Results

## No Preliminary Findings.

# Concerns

## Assessment and Repair: Repair Criteria (O and M) (AR.RCOM) & Time-Dependent Threats: Internal Corrosion - Preventive Measures (TD.ICP)

Question Title, ID Repair of Corroded Pipe, AR.RCOM.REPAIR.P (also presented in: TD.ICP)

Question 1. Does the process give sufficient guidance for personnel to repair or replace pipe that has corroded to an extent that there is no longer sufficient remaining strength in the pipe wall?

References 192.605(b)(2) (192.487(a), 192.487(b), 192.489(a), 192.489(b), 192.491(c))

Assets Covered SDG&E's Main Office Inspection - Distribution (88390 (53B))

Issue Summary SDG&E GS G8023 - Predicted Failure Pressure Analysis for Corrosion Metal Loss", Section 1.6 states, "distribution pipe ... where uniform corrosion or closely grouped corrosion pitting results in large areas of pipe where the remaining wall thickness is less than 30% nominal wall, should be repaired or replaced". Section 3.9 defines "should" as "a recommendation that is desirable to follow whenever possible. Deviating from the recommendation does not require documentation or approval." and Section 3.8 defines "shall" as "a requirement that must be followed or its exception must be approved and documented in accordance with Section 5 of this standard."

§192.487 states in part:

"...distribution line pipe with a remaining wall thickness less than that required for the MAOP of the pipeline, or a remaining wall thickness less than 30 percent of the nominal wall thickness, must be replaced. However, corroded pipe may be repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe."

SED interprets the particular verbiage, particularly between "should" and "shall", to be less stringent than Part 192 requirements.

On January 21 and February 8, 2022, SDG&E provided additional information via emails that stated the GS G8023 is not applicable for distribution pipelines with a remaining wall thickness less than 30% of the nominal wall and that Section 1.6 will be revised. SDG&E also stated that the reader will be directed to GS G8021- Inspection of Exposed Pipe for remediation guidance.

SED has reviewed SDG&E GS G8021, Section 4.3.1.5.1, which States, "Replace each segment of generally corroded pipe when the depth of the corrosion 70% or more of the nominal wall thickness. See GS G8146, *Replacement Criteria for Distribution Mains and Services.*"

SED accepts SDG&E's corrective plan that it has articulated. However, SED may review the records of the corrective action during future inspections.

## Design and Construction: Construction Welding Procedures (DC.WELDPROCEDURE)

1) Question Title, ID Welding Procedures, DC.WELDPROCEDURE.WELD.P

Question 1. Does the process require welding to be performed by qualified welders using qualified welding procedures and are welding procedures and qualifying tests required to be recorded in detail?

References 192.225(a) (192.225(b))

Assets Covered SDG&E's Main Office Inspection - Distribution (88390 (53B))

Issue Summary SDG&E GS G7803 - General Welding Requirements requires welding on its pipeline to be done by qualified welders using welding procedure specifications (WPS) qualified by SDG&E. However, Section 1.2 of the standard states "API 1104 is typically used to qualify welders and welding

procedures for pipeline applications where there is a low exposure to cycling or thermal stresses." On January 13, 2022, SED held a meeting with SDG&E's process owner of this GS, and learned that while the verbiage was accurate, SDG&E's WPSs are qualified by API 1104 as a rule. SED thus recommends SDG&E to strengthen the language in GS G7803 to precisely cite its usage of API 1104 or any other industry standard approved by 49 CFR Part 192 and its particular process to qualify WPSs.

On February 8, 2022, SDG&E provided additional information via an email that stated the GS G7803 is currently undergoing extensive revisions and will review SED recommendations. SED requests SDG&E to elaborate upon its corrective action(s) and outline the key points of its revisions if the updated version has not published.

2) Question Title, ID Miter joints, DC.WELDPROCEDURE.MITERJOINT.P

Question 4. Does the process prohibit the use of certain miter joints as required by 192.233?

References 192.303 (192.233(a), 192.233(b), 192.233(c))

Assets Covered SDG&E's Main Office Inspection - Distribution (88390 (53B))

Issue Summary SED reviewed SDG&E GS D7303 – General Requirements – Steel Distribution System and G7821 – Angles and Bends in Steel Piping. In D7303, Section 4.4.2, it states in part, "miter joints are permitted on steel mains...". However, G7821 Section 4.4.1 states in part, "... Mitters are not allowed in steel piping."

On February 8, 2022, SDG&E provided additional information via an email that stated the responsible persons for the respective gas standards (D7303 and G7821) are working with the necessary SDG&E work groups in reviewing the gas standards and the gas standards will be reviewed and published to resolve this discrepancy. SED requests SDG&E to elaborate upon its corrective action(s) and outline the key points of its revisions if the updated versions has not published.

## **Emergency Preparedness and Response: Emergency Response (EP.ERG)**

Question Title, ID Emergency Response, EP.ERG.READINESS.P

Question 4. Does the process include procedures for ensuring the availability of personnel, equipment, tools, and materials as needed at the scene of an emergency?

References 192.615(a) (192.615(a)(4))

Assets Covered SDG&E's Main Office Inspection - Distribution (88390 (53B))

Issue Summary Title 49 CFR Part 192, §192.615 Emergency plans states in part:

*"(a) Each operator shall establish written procedures to minimize the hazard resulting from a gas pipeline emergency. At a minimum, the procedures must provide for the following:*

*(1)...(4) The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency."*

SDG&E stated that its GS G8206- Emergency Materials List for Gas Incidents addresses the availability of equipment and tools during emergency response as well. SDG&E also stated that the supporting common document in the Operation Emergency Manual (OEM), 06.050-COM - Emergency Materials - Pico Rivera also addresses the availability of equipment and tools.

SED reviewed both aforementioned documents and found that current verbiage in both documents did not align with §192.615(a)(4) to include equipment and tools as well. The standards mostly address materials, but not the procedures for availability of equipment and tools. SED recommends SDG&E to review its standards that addresses §192.615(a)(4) and revise it to address the items as prescribed in the code.

## **Maintenance and Operations: Gas Pipeline MAOP (MO.GOMAOP)**

Question Title, ID Normal Operations and Maintenance Procedures, MO.GOMAOP.MAOPLIMIT.P

Question 3. Does the process include requirements for starting up and shutting down any part of the pipeline in a manner to assure operation with the MAOP limits, plus the build-up allowed for operation of pressure-limiting and control devices?

References 192.605(a) (192.605(b)(5))

Assets Covered SDG&E's Main Office Inspection - Distribution (88390 (53B))

Issue Summary SDG&E GS - G8147 Planning Shutdowns on High Pressure Gas Facilities lists the Title 49 CFR Part 192, §192.605(b)(5) to be the code that impacted the standard (i.e. the standard satisfies this code section).

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

*"... (b) Maintenance and normal operations. The manual required by paragraph (a) of this section must include procedures for the following, if applicable, to provide safety during maintenance and operations.*

*(1)... (5) Starting up and shutting down any part of the pipeline in a manner designed to assure operation within the MAOP limits prescribed by this part, plus the build-up allowed for operation of pressure-limiting and control devices."*

GS G8147 does not explicitly mention MAOP limits as prescribed by code even though the standard implies the safe shutting down operations for completion. SDG&E should amend this procedure to include the language prescribed by this code to explicitly state that, during starting up and shutting down, the pressure of the pipeline stays within the MAOP limits, plus the build-up allowed for operation of pressure-limiting and control devices if it does not reference any other procedures within its Operations and Maintenance Plan (O&M Plan) that meet these code section requirements.

On February 8, 2022, SDG&E provided additional information via an email that stated that the G8147 will be revised and republished on May 1, 2022. SED requests SDG&E to elaborate upon its corrective action(s) and outline the key points of its revisions if the updated version has not been published.