Alex Hughes
Pipeline Safety & Risk Mitigation Manager
1981 W Lugonia Ave -MLREDL1Z
Redlands CA 92374
213-671-1344
AHughes@SoCalGas.com

January 30, 2024

Mr. Mahmoud (Steve) Intably, P.E.,
Program and Project Supervisor, 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. Eng:

The Safety and Enforcement Division (SED) of the California Public Utilities Commission conducted a **General Order 112-F Inspection of the Transmission Integrity Management Program (TIMP) updates** of Southern California Gas Company (SoCalGas) and San Diego Gas and Electric Company (SDG&E) on October 21 through 25, 2024. SED used the Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety's "Inspection Assistant Form" as a reference guide to conduct the inspection. During the inspection, SED reviewed TIMP implementation, changes to the TIMP, and sample TIMP projects conducted in 2023.

SED's staff identified zero (0) probable violation of G.O. 112-F, Reference Title 49 Code of Federal Regulations (CFR), Part 192, and noted nine (9) areas of concern.

Below is SoCalGas and SDG&E's written response.

Please contact Alex Hughes at (213) 671-1344 if you have any questions or need additional information.

Sincerely,

Alex Hughes
Pipeline Safety and Risk Mitigation Manager

CC:
Larry Andrews, SoCalGas
Terrence Eng, GSRB
Kan Wai Tong, GSRB
Randy Holter, GSRB
Gordon Huang, GSRB
Claudia Almengor, GSRB

2024 SoCalGas & SDG&E TIMP Updates Audit Response

Concerns:

Integrity Management : High Consequence Areas (IM.HC)

1. Question Title, ID: IM High Consequence Areas - Potential Impact Radius, IM.HC.HCAPIR.P
   Question: 7. Is the process for defining and applying potential impact radius (PIR) for establishment of high consequence areas consistent with the requirements of 192.903?
   References: 192.903 (192.905(a))
   Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))
   Issue Summary: SoCalGas and SDG&E's TIMP.3 (published on 6/26/2020) Section 2 states, in part: "Section 4 details the determination of the PIR and Potential Impact Circle (PIC)".

   Section 2 should reference Section 5 which is the correct Section instead of referencing Section 4.

   SED requests SoCalGas and SDG&E to revise the last sentence in TIMP.3, Section 2 before Section 2.1 to correctly refer to TIMP.3, Section 5 in their TIMP manual.

Response:

SoCalGas and SDG&E agree with this recommendation. The last sentence in TIMP.3, Section 2. "General" before Section 2.1 has been revised to read as follows "Section 5 details the determination of the PIR and PIC." The updated revision to TIMP.3 has been submitted and is expected to be published during the February 2025 publishing cycle. SED will be notified when the revisions are completed, and the updated copy will be provided to SED in the CPUC Gas Standard Library SharePoint.

Integrity Management : Risk Analysis (IM.RA)

2. Question Title, ID: Risk Analysis - Methodology, IM.RA.RAMETHOD.P
   Question: 2. Does the process include requirements for a risk assessment that considers all of the identified threats for each covered segment, including the requirements of ASME B31.8S-2004 (Section 5) and the need to address potential risk of a compromised operations control system (e.g., cyber-attack)?
   References: 192.907 (192.917(d), 192.917(c))
   Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))
   Issue Summary: SED reviewed SoCalGas and SDG&E's TIMP.5 Threat Identification, Threat Evaluation, And Risk Assessment (published on 10/11/2024) which discusses their threat identification process. Section 3 states both operators use prescriptive-based

integrity management programs and as such includes the nine threat categories outlined by ASME B31.8S-2004 Section 2.2.

Title 49 Code of Federal Regulations (CFR), Part 192, Section 192.917(c) Risk assessment states, in part:

> "An operator must conduct a risk assessment that follows ASME/ANSI B31.8S, section 5, and that analyzes the identified threats and potential consequences of an incident for each covered segment..."

ASME B31.8S-2004 Section 5.7 Characteristics of an Effective Risk Assessment Approach, subsection (d) Predictive Capability states, in part:

> "To be effective, a risk assessment method should be able to identify pipeline integrity threats previously not considered. It shall be able to make use of (or integrate) the data from various pipeline inspections to provide risk estimates that may result from threats that have not been previously recognized as potential problem areas."

Following the Colonial Pipeline cyber-attack in May 2021, PHMSA, the Cybersecurity and Infrastructure Security Agency (CISA), and the Transportation Security Administration (TSA) have engaged with pipeline operators in raising awareness of and importance in addressing the potential risk of compromised operational control systems to pipeline integrity.

The possible threat of cyber-attack is not mentioned nor have justifications for it to be considered not applicable as a threat nor are existent P&M measures (e.g., Sempra corporate IT department measures) present in TIMP.5 and other written process and procedures where appropriate.

SED recommends SoCalGas and SDG&E include references to their efforts in addressing the potential risk of compromised operational control systems.

Response:

SoCalGas & SDG&E prioritize cybersecurity threats holistically across the enterprise and understand that cybersecurity is a highly specialized field which requires continuous effort to address the ever-changing threat landscape. Various cybersecurity technology deployments are utilized to employ a layered security approach to address the many cybersecurity threats that our organizations face. Additionally, we perform several different audits, both internal and external, to understand our security posture and address findings accordingly. As an example, a recent internal audit (24-314 SoCalGas Gas Control SCADA System Cybersecurity) was completed and the report was issued on September 11, 2024; and the last external audit was performed with the Transportation Security Administration on July 18th – July 20th, 2023, with no findings.

SoCalGas and SDG&E agree with this recommendation and will revise TIMP.5 to include references to the enterprise cybersecurity efforts described above. SED will be notified when the revisions are completed, and the updated copy will be provided to SED in the CPUC Gas Standard Library SharePoint.

3. Question Title, ID: Threat Identification, IM.RA.THREATID.P

Question: 5. Does the process include requirements to identify and evaluate all potential threats to each covered pipeline segment?

References: 192.917(a) (192.917(e), 192.913(b)(1))

Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))

Issue Summary: SED reviewed SoCalGas and SDG&E's TIMP.5 Threat Identification, Threat Evaluation, And Risk Assessment (published on 10/11/2024). Section 3 discusses the nine threat categories, cyclic fatigue, and threat interactions as TIMP.4. Section 4 discusses the threat evaluation process and includes into consideration Electric Resistance Welds (ERW) and Manufacturing and Construction defects based on 192.917(e)(2-4).

Title 49 CFR, Part 192, Section 192.917(e)(6) Cracks states:

> "If an operator identifies any crack or crack-like defect (e.g., stress corrosion cracking or other environmentally assisted cracking, seam defects, selective seam weld corrosion, girth weld cracks, hook cracks, and fatigue cracks) on a covered pipeline segment that could adversely affect the integrity of the pipeline, the operator must evaluate, and remediate, as necessary, all pipeline segments (both covered and non-covered) with similar characteristics associated with the crack or crack-like defect. Similar characteristics may include operating and maintenance histories, material properties, and environmental characteristics. An operator must establish a schedule for evaluating, and remediating, as necessary, the similar pipeline segments that is consistent with the operator's established operating and maintenance procedures under this part for testing and repair."

SoCalGas and SDG&E's TIMP.5 does not mention identifying crack or crack-like defects when found as a distinct, specific pipeline threat per §192.917(e)(6). This subsection was introduced by RIN 2137-AE72 (effective 7/1/2020). SoCalGas Gas Standard (GS) 167.0203 and SDG&E GS G8173 (both published on 10/11/2024) Threat Identification recognize cracks and crack-like defects as a threat in Section 1.3.4 and refers to TIMP.10 for further details.

SoCalGas and SDG&E's TIMP.10 (published 2/22/2024) Section 9.4 includes the requirements of §192.917(e)(6) in evaluating and remediating all pipeline segments with similar characteristics and establishing a schedule for remediation following discovery during integrity assessments. However, the procedures should also recognize the presence of cracks as a distinct, specific pipeline threats to the affected pipeline segments comparable to the other threat types addressed in §192.917(e).

Therefore, SED recommends SoCalGas and SDG&E revise TIMP.5 to recognize cracks and crack-like defects as a threat similarly to other threat types addressed in §192.917(e).

Response:
SoCalGas and SDG&E currently identify and evaluate the threat of cracks and crack-like defects within our threat identification, analysis and risk assessment processes; specifically for Manufacturing, Construction, Stress Corrosion Cracking, and Mechanical Damage threats. TIMP.5 will be revised to elaborate on how cracks and crack-like defects are evaluated within these threat categories and to clarify the alignment with §192.917(e). SED will be notified when the revisions are completed, and the updated copy will be provided to SED in the CPUC Gas Standard Library SharePoint.

Integrity Management : Continual Evaluation and Assessment (IM.CA)

4. Question Title, ID: Reassessment Intervals, IM.CA.REASSESSINTERVAL.P

   Question: 2. Is the process for establishing the reassessment intervals consistent with §192.939 and ASME B31.8S-2004?

   References: 192.937(a) (192.939(a), 192.939(b), 192.913(c))

   Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))

   Issue Summary: SoCalGas and SDG&E's TIMP.13 Continual Evaluation (published 6/11/2020), Section 5 discusses establishing reassessment intervals consistent with §192.939 and ASME B31.8S-2004. This TIMP manual chapter also references SoCalGas Gas Standard (GS) 167.0215 (published 10/9/2024) and SDG&E GS G8187 (published 10/17/2024).

   For TIMP.13, Table 5-1 for External Corrosion Direct Assessment (ECDA) should be revised to refer to Table 5-2 of the GS. Table 5-2 has asterisk footnotes which appear to be from the table under §192.939(b)(6). These asterisk footnotes do not appear on TIMP.13. For Section 5, page 8, the top paragraph states:

   > "If a reassessment interval greater than 7 calendar years is established. The Utilities will conduct a Confirmatory Direct Assessment (CDA) within the 7 calendar-year period..."

   Per SED's TIMP Updates inspection discussion with [redacted], SoCalGas and SDG&E confirmed that CDAs are not currently or planned to be used as part of their assessment methodology. TIMP.13 currently omits a CDA because it doesn't link to the prior conditional clause.

   SED recommends SoCalGas and SDG&E to provide clarity and to reword the language for the aforementioned paragraph to better reflect the current process. Additionally, TIMP.13 should also be revised to refer to ASME B31.8S-2018 by the end of the stay of enforcement per PHMSA's Notice of Limited Enforcement Discretion issued on June 20, 2024.

Response:
SoCalGas and SDG&E agree with these recommendations. TIMP.13 has been revised as follows:

1. Update the EDCA section of Table 5.1 to now refer to the re-assessment intervals in Table 5.2.

2. References to ASME B31.8S-2004 are now reflecting the new PHMSA referenced version, “ASME B31.8S-2018”.
3. The portion of Section 5 which discusses the Confirmatory Direct Assessment (CDA) method has been updated to better reflect the current process.

The updated copy is available for review in the CPUC Gas Standard Library SharePoint.

Integrity Management : Preventive and Mitigative Measures (IM.PM)

5. Question Title, ID: P&M Measures - Third Party Damage, IM.PM.PMMTPD.R

   Question: 4. Do records demonstrate that preventive & mitigative measures have been implemented regarding threats due to third party damage as required by the process?

   References: 192.947 (192.917(e)(1), 192.935(b)(1), 192.935(e))

   Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))

   Issue Summary: SED reviewed SoCalGas records related to preventive and mitigative measures associated with threats related to third party damage as required by the process and found to be compliant in part.

   SoCalGas Gas Standard (GS)167.0214, Section 4.8.2.3 states:

   > "Coordination – The Utility is an active participant in the local one call system known as Underground Service Alert South (DigAlert) and Underground Service Alert North (USANorth811)"

   The GS does not define "Utility" in the procedure. For clarity, SED recommends SoCalGas to define “Utility” or state the specific company’s name, where found in the procedures and other documents.

Response:
SoCalGas and SDG&E agree with this recommendation. Gas Standards 167.0214 and G8186 were revised and published on 12/27/2024, to note the appropriate utility in each document in Sections 4.4.5, 4.8.2 and 4.8.8. The updated copy is available for review in the CPUC Gas Standard Library SharePoint.

6. Question Title, ID: P&M Measures - Corrosion, IM.PM.PMCORR.P

   Question: 16. Does the process adequately account for taking required actions to address significant corrosion threats?

   References: 192.933 (192.917(e)(5))

   Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))

   Issue Summary: SED review of SoCalGas Gas Standard (GS) 167.0214 Preventive and Mitigative Measures (published 12/22/2022) found that Section 4.10 states:

"4.10.1 All corrosion anomalies identified during P&M activities will be evaluated per GAS STANDARD 182.0050, “PFP Analysis of Corrosion Metal Loss.

4.10.2 If remediation is required, it shall be performed per GAS STANDARD 167.0236, Analysis of Assessment Findings, and GAS STANDARD 223.0180, Repair of Defects in Steel Pressure Piping."

SDG&E GS G8186 Preventive and Mitigative Measures (published 12/22/2022) Section 4.10 states:

"4.10.1 All corrosion anomalies identified during P&M activities will be evaluated per GAS STANDARD G8023, “PFP Analysis of Corrosion Metal Loss.
4.10.2 If remediation is required, it shall be performed per GAS STANDARD G8166, Analysis of Assessment Findings, and GAS STANDARD T7375, Repair of Transmission Pipelines. "

Title 49 CFR, Part 192, Section 192.917(e)(5) Corrosion states:

"If an operator identifies corrosion on a covered pipeline segment that could adversely affect the integrity of the line (conditions specified in § 192.933), the operator must evaluate and remediate, as necessary, all pipeline segments (both covered and non-covered) with similar material coating and environmental characteristics. An operator must establish a schedule for evaluating and remediating, as necessary, the similar segments that is consistent with the operator's established operating and maintenance procedures under Part 192 for testing and repair."

SED finds the procedures instigate evaluation and remediation towards the identified metal loss due to corrosion based on predicted failure pressure per 192.933(d)(2)(v). However, the processes do not appear to expand evaluating and remediating corrosion to all similar pipeline segments as required under §192.917(e)(5).

SED recommends SoCalGas and SDG&E to revise their respective procedures to require to evaluation and remediation of all pipeline segments with similar material coating and environmental characteristics (e.g., process iterated in TIMP.10).

Response:
SoCalGas and SDG&E agree with this recommendation. TIMP.10 will be revised to require remediation of all similar segment pipelines as required per 49 CFR Section 192.917(e)(5). SED will be notified when the updated version of TIMP.10 is posted to the CPUC Gas Standard Library SharePoint.

Integrity Management : Quality Assurance (IM.QA)

7. Question Title, ID: Personnel Qualification and Training Requirements, IM.QA.IMPERSONNEL.P

   Question: 3. Does the process include requirements to assure personnel involved in the integrity management program are qualified for their assigned responsibilities in accordance with the quality control plan and Part 192?

   References: 192.915(a) (192.915(b), 192.915(c), 192.935(b)(1)(i), 192.907(b), 192.493, 192.710(d), 192 Appendix F, Sect. XIII, XIV)

   Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))

   Issue Summary: SED review of SoCalGas and SDG&E (GS) 167.0236 and SDG&E GS G8166 and found that the procedures do not include requirements to assure personnel involved in the integrity management program are qualified for their assigned responsibilities in accordance with the quality control plan description of the In-Line Inspection (ILI) and RSTRENG/KAPA per 49 CFR 192.915(a) (192.915(b).

   SED recommends that SoCalGas and SDG&E create a written description of the ILI and RSTRENG/KAPA training process and course contents to further detail and integrate their existing practice into their written TIMP plans. This description should include principal topics covered under the training and training criteria (e.g., course/module titles to be completed, number of classes (if applicable), etc.).

Response:

SoCalGas and SDG&E agree with this recommendation. Written descriptions of the ILI and RSTRENG training process containing the items listed by SED will be created and incorporated into the appropriate Gas Standards and/or TIMP chapters. SED will be notified when the revisions are completed, and the updated copy will be provided to SED in the CPUC Gas Standard Library SharePoint.

8. Question Title, ID: Measuring Program Effectiveness, IM.QA.IMPERFEFECTIVE.P

   Question: 9. Does the process for measuring IM program effectiveness include the elements necessary to conduct a meaningful evaluation?

   References: 192.945(a) (192.913(b), 192.951)

   Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))

   Issue Summary: SED reviewed ECDA effectiveness per §192.945(b) as measured under SoCalGas Gas Standard (GS) 167.0209 and SDG&E GS G8179, Section 6.6 and Table 6.3. The performance measures (called performance metrics) include tracking the number of projects found infeasible for ECDA, reprioritizations, effectiveness digs leading to reduced intervals, and procedure exception reports. Data for the performance measures are recorded on Form H (ECDA Performance Report) and reviewed annually by the Pipeline Integrity Engineering Assessment Manager for trends.

   NACESP0502-2010, Section 6.7.3 provides several example criteria for performance measures. Beyond the performance measures listed under §6.7.3.1

which are integrated into the aforementioned table, there are other example criteria under §6.7.3.2 and §6.7.3.3 which are not formally incorporated as ECDA effectiveness measures by SoCalGas and SDG&E. These include tracking the number of miles of pipeline subject to multiple indirect inspections, miles of pipeline subject to each indirect inspection methodology to determine whether ECDA is the most effective, comparison of frequency in immediate and scheduled indications, measures to monitor the extent and severity of corrosion found during direct examination, and the frequency of CP anomalies among pipeline segments.

SED recommends that the Pipeline Integrity group refer to, NACE NACESP0502-2010 Section 6.7 to further detail its choice of NACE NACESP0502-2010, Section 6.7 examples performance measures.

Response:
The criteria noted in Sections 6.7.3.1, 6.7.3.2 and 6.7.3.3 of NACE SP0502-2010 are examples an operator may consider for demonstrating ECDA effectiveness, but their implementation into an ECDA program is not required. However, SoCalGas and SDG&E will review each of them to determine whether any would benefit the effectiveness of the ECDA process and add or revise effectiveness measures as appropriate.

9. Question Title, ID: Performance Metrics, IM.QA.IMPERFMETRIC.P

Question: 11. Does the process to evaluate IM program effectiveness include an adequate set of performance metrics to provide meaningful insight into IM program performance?

References: 192.945(a) (192.913(b), 192.951)

Assets Covered: SoCalGas' Main Office Inspection - Transmission (88388 (40A)), SDG&E's Main Office Inspection - Transmission (88389 (53A))

Issue Summary: SED reviewed SoCalGas and SDG&E's TIMP.17 "Performance Plan" (published 8/14/2024)

Code of Federal Regulation, Part 192, Section 192.945(a) General states:

> "An operator must include in its integrity management program methods to measure whether the program is effective in assessing and evaluating the integrity of each covered pipeline segment and in protecting the high consequence areas. These measures must include the four overall performance measures specified in ASME/ANSI B31.8S (incorporated by reference, *see* § 192.7 of this part), section 9.4, and the specific measures for each identified threat specified in ASME/ANSI B31.8S, Appendix A. An operator must submit the four overall performance measures as part of the annual report required by § 191.17 of this subchapter."

SoCalGas and SDG&E's TIMP.17 "Performance Plan" (published 8/14/2024) §5.2 incorporates these Appendix A performance measures except for ASME B31.8S-2018, A-9.8(d).

A-9.8(d) specifies the number of changes to procedures as a performance measure to the incorrect operations threat.

On October 22, 2024, [redacted] of SoCalGas explained that PHMSA had issued a Stay of Enforcement on RIN 2 procedural changes. Accordingly, the Pipeline Integrity group plans to publish the revised version of TIMP.17 reflecting RIN 2 procedural changes, including the above, by January 2025.

SED recommends SoCalGas and SDG&E's Pipeline Integrity group to follow through with similar revisions across all TIMP-related gas standards and TIMP manual chapters.

Response:
SoCalGas and SDG&E agree with this recommendation. For clarity, the referenced discussion on Oct 22, 2024, between [redacted] and SED regarding "PHMSA had issued a Stay of Enforcement on RIN 2 procedural changes" was in reference to PHMSA's June 20, 2024, publication of the "Notice of limited enforcement discretion regarding the final rule titled 'Pipeline Safety: Periodic updates of regulatory references to technical standards and miscellaneous amendments". The "enforcement discretion" was to grant additional time for utility operators to update their operating procedures with the updated publication dates of the newly adopted technical references by PHMSA.

TIMP.17 has been updated to include the newly added performance measures from ASME B31.8S-2018 in section A-9.8 (d) into TIMP.17 Section 5.2.8. The updated copy is available for review in the CPUC Gas Standard Library SharePoint. Other changes that were impacted by PHMSAs adoption, by reference, of new versions of the technical reference standards have been incorporated into TIMP-related gas standards and TIMP manual chapters.