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January 26, 2023

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 (G.O.) 112-F Inspection of the Distribution Integrity Management Programs (DIMP) of Southern California Gas Company (SoCalGas) and San Diego Gas and Electric Company (SDG&E) on October 17 through 19, 2023. During the inspection, SED reviewed DIMP implementation, changes to the DIMP, and sample DIMP projects conducted in 2020. In addition, SED followed up on remedial efforts initiated by SoCalGas' & SDG&E's DIMP in response to SED's previous DIMP inspections in 2021 and 2022.

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 six (6) 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,

A handwritten signature in blue ink, appearing to read "Alex Hughes", is written over a light blue grid background.

Alex Hughes
Pipeline Safety and Risk Mitigation Manager

CC:

Larry Andrews, SoCalGas
Mahmoud Intably, SED/GSRB
Kan-Wai Tong, SED/GSRB
Gordon Huang, SED/GSRB
Claudia Almengor, SED/GSRB

2023 SoCalGas and SDG&E DIMP Audit Response

Concern:

Generic Questions : Generic Questions (GENERIC.GENERIC)

1. Question Title, ID	Generic Question, GENERIC.GENERIC.GENPROCEDURE.P
Question	2. Generic question - please provide context in result notes.
References	N/A
Assets Covered	(88391), (88390)
Issue Summary	<p>SED discussed with SoCalGas and SDG&E their progress in addressing items raised in the 2021 and 2022 DIMP inspections. Among other items, SED acknowledged the ongoing research and efforts made by SoCalGas and SDG&E in the following initiatives:</p> <ul style="list-style-type: none"> (i) recording plastic pipe joining information (2021 & 2022) (ii) training improvements for documenting pressure test results (2022) (iii) roles and responsibilities for ensuring Traceable Verifiable and Complete (TVC) pressure test data during closeout (2022) <p>SoCalGas and SDG&E noted that the associated efforts may take additional time to implement or are in the preliminary stages given the scope and stakeholder groups involved. SED acknowledges these ongoing efforts and requests a status update on these initiatives following transmittal of SED's inspection report.</p>

Response & Corrective Actions:

The following are updates to the ongoing research and efforts requested:

- recording plastic pipe joining information (2021 & 2022)
 - As mentioned during the recent DIMP audit, SoCalGas and SDGE are compliant with the 49 CFR codes referenced and believe that this is outside the scope of DIMP. SoCalGas and SDG&E joiners currently initial and date the physical pipe in the ground and the job foreman for the project provides oversight and sign-off. However, SoCalGas and SDG&E continue to explore potential solutions for capturing additional information related to the type of joints and the qualified joiners on gas main projects. It's an industry effort to identify a viable solution, however as with any research effort this could take several years of research and development, resources and considerations, some of which are as follows:

- § Mobile As-Building – SoCalGas and SDG&E are in the process of reviewing real-time, data capture and updated digital solutions such as “Locana®”, “Locusview®”, and “Esri®”. These platforms have the capability to validate Operator Qualifications (OQs), materials, geo-spatial and many other attributes.
 - § McElroy Data Loggers – SoCalGas and SDG&E are developing this technology under RD&D for each type of plastic pipe joining process performed on the system along with validation of OQ.
 - § Opus/FSD – SoCalGas and SDG&E are reviewing new Work Force Management (WFM) solutions with OQ validation integration
- training improvements for documenting pressure test results (2022)
 - SDG&E has updated their training material for documenting pressure test information to include a detailed guideline on how to properly complete the Gas Main/Service Stub Record Form
- roles and responsibilities for ensuring Traceable Verifiable and Complete (TVC) pressure test data during closeout (2022)
 - SDGE has developed a Responsibility matrix for the identified Life of Asset and Supplemental Project Records collected during a Medium Pressure Project. Also, SDGE is in the process of developing the gas standard that outlines records management requirements for medium pressure project closeout.

Gas Distribution Integrity Management: Knowledge of the System (GDIM.KN)

2. Question Title, ID	System Knowledge - Information Needed, GDIM.RA.INFONEEDS.P
Question	3. Do the procedures specify the means to collect the additional information needed to fill gaps due to missing, inaccurate, or incomplete records (e.g., O&M activities, field surveys, One-Call System, etc.)?
References	192.1007(a)(3)
Assets Covered	(88391), (88390)
Issue Summary	Title 49, CFR Part 192, Section 192.1007(a)(3) states: <i>"Identify additional information needed and provide a plan for gaining that information over time through normal activities conducted on the pipeline (for example, design, construction, operations or maintenance activities)."</i>

	<p>SoCalGas/SDG&E Distribution Integrity Management Plan, Part 2 (DIMP.2) - System Knowledge, page 4, Data Management, states: <i>“...the available data will be used to identify threats and to evaluate risk. To the extent possible, this information will be collected as part of normal activities, but if needed, new procedures or activities will be developed and put into practice. Specifically, the existence of undetermined data will drive review and improvement of the data collection processes and documented in the PAAR database.”</i></p> <p>However, these "data collection processes" are not defined or elaborated in its DIMP.2. It is unclear whether these relate to the data repositories mentioned earlier in its DIMP.2 and DIMP.C, data collection through "normal activities", or other sources. SED recommends that SoCalGas and SDG&E revise DIMP.2 to clarify and elaborate its data collection processes mentioned in its DIMP.2.</p>
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Response:

The “data collection processes” refer to the available data being “collected as part of normal activities” in the preceding sentence. Further, SoCalGas/SDGE procedure **DIMP.2**, p. 4 under section Data Integration, refers to procedure **DIMP.C**, *Data Management* that describes the organizations and the sources of the data fields collected and the methods used in detail.

Gas Distribution Integrity Management: Identify Threats (GDIM.TH)

3. Question Title, ID	Identify Threats - Outside Sources, GDIM.RA.OUTSIDESOURCES.P
Question	3. Do the procedures consider, in addition to the operator's own information, data from external sources (e.g. trade associations, government agencies, or other system operators, etc.) to assist in identifying potential threats?
References	192.1007(b)
Assets Covered	(88391), (88390)
Issue Summary	<p>Title 49, CFR Part 192, Section 192.1007(b) states, in part:</p> <p><i>"An operator must consider reasonably available information to identify existing and potential threats."</i></p> <p>SoCalGas/SDG&E Distribution Integrity Management Plan, Part 3 (DIMP.3) - Threat Identification, page 6 states, "Potential threats may be identified during field investigations, from near misses, NTSB Reports, PHMSA Advisory Bulletins, Industry Incidents, and/or M&I activities.". On page 14, records associated with threat identification include "...industry reports that were reviewed to identify new potential threats".</p> <p>Following the 2020 inspection, SED had recommended that SoCalGas and SDG&E include additional available sources of knowledge to identify potential threats from trade associations and other operators. These include</p>

	<p>Gas Piping Technology Committee (GPTC), American Gas Association (AGA), Gas Technology Institute (GTI), Midwest Energy Association (MEA), Southern Gas Association (SGA), Northeast Gas Association (NGA), Western Energy Institute (WEI), other operators' best practices, etc. These sources may present information in the form of conference/workshop presentations, white papers, case studies, etc.</p> <p>Although industry incident reports are a valuable source of industry knowledge, they are not the only ones. SED recommends SoCalGas and SDG&E to consider incorporating these other sources when identifying potential threats. In addition, SED recommends SoCalGas and SDG&E to revise its DIMP.3 to reference other external industry sources used and include recordkeeping requirements for information gained from those sources.</p>
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Response:

SoCalGas and SDG&E currently has a tracker for external and internal knowledge from sources as mentioned by SED (i.e. Gas Piping Technology Committee (GPTC), American Gas Association (AGA), Gas Technology Institute (GTI), Midwest Energy Association (MEA), Southern Gas Association (SGA), Northeast Gas Association (NGA), Western Energy Institute (WEI), other operators' best practices). The tracker was implemented in 2020, following the 2020 SED inspection, and is currently being reviewed annually.

Corrective Actions:

SoCalGas and SDG&E will update DIMP.3 to reference trade associations and other operators as sources to identify potential threats. The Potential Threats section of DIMP.3 will be updated to include the following:

“Supplemental to the data driven known threat identification process; potential threats may be identified during field investigations, from near misses, NTSB Reports, PHMSA Advisory Bulletins, Industry incidents, trade associations, other operators, and/or M&I activities.” Additionally, the Process Management section of DIMP.3 will be updated to include a process to document the annual review of the external and internal knowledge sources tracker.

4. Question Title, ID	Identify Threats - Threats Considered, GDIM.RA.THREATCATEGORIES.P
Question	4. In identifying threats, do the procedures include consideration of all of the required threat categories to each gas distribution pipeline?
References	192.1007(b)
Assets Covered	(88391), (88390)
Issue Summary	SED discussed with SoCalGas and SDG&E about the status, including currently active and near completion, of various Programs/Activities Addressing Risk (PAARs). Beyond the Sewer Lateral Inspection Project (SLIP) and Distribution Risk Evaluation & Monitoring System (DREAMS),

	<p>SoCalGas and SDG&E have initiated other programs to address other threats such as the Daisy Chain Riser Replacement and First Stage Regulation programs. Although SoCalGas and SDG&E are in the process of pursuing and addressing these other identified system-specific threats, SoCalGas/SDG&E Distribution Integrity Management Plan, Part 3 (DIMP.3) - Threat Identification does not discuss or mention these other threats.</p> <p>SED recommends SoCalGas and SDG&E to revise the Potential Threats section of DIMP.3 "Threat Identification" on pages 6 and 7 to reference SoCalGas' and SDG&E's PAARs when addressing these other identified system-specific threats.</p>
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Response:

SoCalGas and SDG&E’s DIMP 5 describes the PAAR database where active and near completion PAARs are held. The PAAR database has been developed to document the relationship between system threats and the program/activity being executed. Additionally, the PAAR database contains performance metric as it relates to individual PAARs. See example below:

<p>Program/Activity</p> <p>Name: Sewer Lateral Inspection Program (SLIP) Description: This program is intended to mitigate risk associated with cross bore conflicts of natural gas services and sewer lines in the Utilities' distribution system. After an extensive records search to identify possible cross bore locations, where trenchless installation of plastic services and small diameter mains was performed, field identification and remediation work is performed. If available maps or drawings and/or property survey suggest the possibility that a cross-bore was possible, arrangements are made to internally inspect the sewer using video camera equipment. If a cross bore is found, arrangements are made to resolve the conflict as quickly as possible. Program/Activity Type: Internally Developed Mitigation Impact: Consequence Schedule Type: Scheduled, Schedule Date: 1/1/2010, Completion Date: 12/31/2024 Data Management Location: SLIP/SAP Database</p>
<p>Performance Metrics</p> <p>Number of Records Researched; Number of Field Inspections Completed; Number of Cross Bores Found</p>
<p>Primary Threats</p> <p>Incorrect Operations Other Outside Force Damage</p>

Corrective Actions:

DIMP.3 will be updated on page 7 to add the following: *“The Utilities have identified a number of interactive threats that are addressed through various programs and activities to address risk (PAAR). The threats addressed through the various PAARs are documented in the PAAR database as described in DIMP.5.”*

Gas Distribution Integrity Management : Evaluate and Rank Risk (GDIM.RR)

5. Question Title, ID	Rank Risk - Methodology, GDIM.RA.RISKRANKING.P
Question	1. Do the procedures contain the method(s) and/or a model used to determine the relative importance of each threat and estimate and rank the risks posed?
References	192.1007(c)
Assets Covered	(88391), (88390)
Issue Summary	<p>Title 49, CFR Part 192, Section 192.1007(c) states, in part: <i>"An operator must evaluate the risks associated with its distribution pipeline. In this evaluation, the operator must determine the relative importance of each threat and estimate and rank the risks posed to its pipeline..."</i></p> <p>SoCalGas/SDG&E Distribution Integrity Management Plan, Part 4 (DIMP.4) - Evaluate and Rank Risk, pages 3 through 8 describe the general methodology of calculating risk, total risk, average risk per leak, use of weight factors, weight factor rationalization, and annual risk ranking validation. The process as outlined in DIMP.4 involves quantitative (pressure, number of repairs) and qualitative data (leak location, leak cause). In addition, a DIMP Risk & Threat Steering Committee composed of relevant subject-matter experts that meet to discuss and coordinate risk ranking, remediation, and threat strategy on an annual basis.</p> <p>However, during the inspection, SoCalGas and SDG&E stated that their Integrity Risk Strategy and Threat & Risk Assessment work groups have transitioned from the weight-based assessment model to their current Quantitative Risk Assessment (QRA) model since 2022. Other procedures such as SoCalGas Gas Standard (GS) 167.0262 and 167.0266 (SDG&E common documents D8141 and G8256 respectively) refer to the new evaluation process. However, this transition nor the QRA model are mentioned or described in DIMP.4.</p> <p>SED requests SoCalGas and SDG&E to explain why the QRA model was not mentioned or described in DIMP.4. In addition, SED recommends SoCalGas and SDG&E to revise its DIMP.4 and related documents where needed to comprehensively describe its current QRA model (i.e., input parameters, risk modelling software, segment definition, input/output data repositories, and other necessary model information).</p>

Response:

SoCalGas and SDG&E’s DIMP 4 describes the Utilities’ risk assessment developed to support the evaluation of the distribution system as a whole and rank threats, while gas procedure 167.0262 SCG/ G8256 SDGE, “Medium Pressure Quantitative Risk Assessment Governance”, describe the Quantitative Risk Assessment (QRA) methodology for medium pressure mains and services as well as the governance and policy around the internal processes implemented to maintain and update the QRA.

Gas Distribution Integrity Management : Measure Performance and Evaluate Effectiveness (GDIM.EV)

6. Question Title, ID	Measure Performance - Measure Effectiveness, GDIM.QA.MEASUREEFFECTIVENESS.P
Question	5. When measures are required to reduce risk, does the plan provide/describe what type and/or what specific performance measures will be used to measure effectiveness?
References	192.1007(e)
Assets Covered	(88391), (88390)
Issue Summary	<p>Title 49, CFR Part 192, Section 192.1007(e) states, in part:</p> <p><i>"(1) Develop and monitor performance measures from an established baseline to evaluate the effectiveness of its IM program. An operator must consider the results of its performance monitoring in periodically re-evaluating the threats and risks. These performance measures must include the following:</i></p> <p><i>"... (vi) Any additional measures the operator determines are needed to evaluate the effectiveness of the operator's IM program in controlling each identified threat."</i></p> <p>SoCalGas/SDG&E Distribution Integrity Management Plan, Part 5 (DIMP.5) - Identify and Implement Measures to Address Risk, page 4 states program/activity-specific performance measures are developed for each Program/Activity to Address Risk (PAAR). These key performance indicators are categorized as leading (quality control) or lagging (quality assurance) indicators to measure performance and proper implementation. DIMP.6 - Measure Performance, Monitor Results, and Evaluate Effectiveness discusses SoCalGas' and SDG&E's methodology to measure performance, monitor results, and evaluate the effectiveness of their DIMP and PAARs in further detail. However, there is no reference or mention of describing said PAAR-specific performance measures or other metrics which assess each program's effectiveness. SED recommends SoCalGas and SDG&E to include references to each PAAR's performance measure and metric as appropriate to each program in DIMP.5 & DIMP.6.</p>

Response:

Please see response to Concern #4.