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April 14, 2020

Mr. Terence Eng
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 G.O. 112, Operation and Maintenance Inspection of San Diego Gas and Electric Company's (SDG&E) Operation and Maintenance (O&M) Procedures from January 6, 2020 to January 10, 2020. SED staff reviewed SDG&E's written O&M procedures pursuant to G.O. 112-F, Reference Title 49, Code of Federal Regulations (CFR), Parts 191, 192, & 193 and used Pipeline and Hazardous Materials Safety Administration (PHMSA)'s Inspection Assistance (IA) as a reference guide to conduct the inspection.

SED staff identified one probable violation and four 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 blue ink, appearing to read 'Troy A. Bauer', with a stylized flourish at the end.

Troy A. Bauer
Pipeline Safety and Compliance Manager

CC:

Mahmoud Intably, SED
Kan-Wai Tong, SED
Claudia Almengor, SED
Desmond Lew, SED

2020 SDG&E Operation and Maintenance (O&M) Procedures
1/6/2020 to 1/10/2020

Unsatisfactory Results

- 1) SDG&E Gas Standard G8121 Class location - Determination and Changes, Section 3.9 Class Location 4 states:

“A class location unit containing 23 or more buildings with four or more stories above ground”

192.5(b)(4) states:

"Class 4 location is any class location unit where buildings of 4 or more stories are prevalent."

PHMSA provided clarification on the term “prevalent” in PHMSA Interpretation #PI-07-0102:

Q: “If you have 10 buildings along a pipeline, a downtown area for example, and 5 or less of the buildings are four or more stories, would this be defined as prevalent and constitute being a Class 4 location?”

A: “In the example you use, ten buildings in a downtown area with five or more buildings four stories or more would meet the definition of prevalent”

SDG&E’s Gas Standard G8121 requires a minimum of 23 or more buildings with four or more stories above ground to be qualified for Class 4 Location, far exceeding what qualifies as a Class 4 location per the interpretation.

SED found SDG&E’s Gas Standard G8121 failed to address the class location requirements for Class 4 location. Therefore, SED finds SDG&E in violation of the Title 49 CFR, Part 192, Section 192.5(b)(4) for not meeting the intent of the code.

SDG&E Response:

The use of PI-07-0102 as establishing five 4-story buildings as a basis for prevalent in a notice of a probable violation does not recognize the entire interpretation provided by PHMSA. The interpretation offers clarifying language which states “PHMSA does not define ‘prevalent’; nor do we specify the number (or percent) of buildings with four or more stories, that make up a Class 4 location.”

PHMSA attempted to distinguish a site specific example from a common ubiquitous threshold to be used in all applications. Thus as directed by PHMSA, Operators are expected to establish their own rationale for the term that accounts for a variety of scenarios. SDG&E has a methodology and rationale that supports system-wide scenarios and meets the intent of the code, but it recognizes that SED has had concern with this methodology and has previously cited the five 4-story buildings as threshold.

SDG&E sent a proposal to SED on 07/13/2018 incorporating the five 4-story building criteria as a threshold for determining a Class 4 location, and additionally several meetings were conducted to obtain clarity in this area. Through this process SDG&E and SoCalGas observed that the definition of Class 4 varies widely across Gas Operators in the United States, validating that this topic area is not clearly or consistently defined, and as a result is not a simple question to answer. Unfortunately, this open issue that SDG&E and SoCalGas have been working to resolve resulted in a notice of proposed violation.

SDG&E Corrective Actions:

In the absence of clarity from the industry and PHMSA in this gray area of the code, SDG&E and SoCalGas will move forward with adoption of the proposed five 4-story buildings as a threshold for defining a Class 4 location along its Transmission right-of-way, particularly recognizing that this definition will leverage available data sets and existing processes to aid implementation. In addition, based upon SED feedback from a conference call on 4/2/2020, SDG&E and SoCalGas will include in its definition of Class 4 locations, areas where the number of 4-story buildings encompass more than 50% of the total number of buildings in a class location unit. The two new criteria will be incorporated into the Company gas standards and will be implemented this calendar year (2020) as part of the on-going data capture of field conditions. The data capture includes custom flight aerial imagery (which is occurring now), recent field reports and updates from publicly available data sources. The changes from the data capture will be ready for class location analysis in the third quarter of 2020 and will be performed using the new methodology. Any resultant change in maintenance frequency, testing parameters or other remedial actions will begin in 2021. As outlined, this process will take time; should future guidance become available from PHMSA, SDG&E and SoCalGas would welcome the opportunity to further collaborate with SED on this matter.

Concerns

- 2) SDG&E Gas Standard G8605, Request for Pipeline Engineering Assistance", Section 2.3 provides FORM 3222 Design Data Sheet (DDS). Section 2.3.1 and 2.3.2 address Distribution and Transmission responsibilities for preparing and approving FORM 3222. SDG&E Form Instruction Design Data Sheet, Section 3.5 addresses approval of DDS by responsible engineer.

SED noted that Gas Standard 3222, Design Data Sheet (DDS), Section 3.5.1 states, "The Approver must be a knowledgeable and trained engineer, capable of confirming the validity of the selection of all components listed on the DDS. See Table 1 for typical Approvers for each organization".

On November 14, 2018, National Transportation Safety Board released their Safety Recommendation Report, Natural Gas Distribution System Project Development and Review (Urgent), regarding the Merrimack Valley incident on September 13, 2018. In its Engineering Work Package Approval Process section, the report states in part, "The seal of a PE should be required on all public utility engineering plans to reduce the

likelihood of accidents...”. To NiSource, Inc., the corporation Columbia Gas was a subsidiary, NTSB made a safety recommendation stating, "revise the engineering plan and constructability review process [...] to ensure [...] accuracy, completeness, and correctness, and that the documents or plans be sealed by a professional engineer ... (P-18- 006)". Following this recommendation, NiSource, Inc. stated in a response to NTSB on December 14, 2018 that they would comply with and follow NTSB's recommendation regarding sealing relevant construction documents with a professional engineer's seal.

Similar to the Commonwealth of Massachusetts' exemption in their state's licensing laws regarding PE approval for industrial, public utility, and other purposes, the State of California maintains exemptions regarding PE approval for industrial and utility work in the state. The California Business and Professions Code, Section 6704.(a), Defines who may use engineer titles, “In order to safeguard life, health, property, and public welfare, no person shall practice civil, electrical, or mechanical engineering unless appropriately licensed or specifically exempt from licensure under this chapter, and only persons licensed under this chapter shall be entitled to take and use the titles consulting engineer, professional engineer, or registered engineer...”. As a result of the incident, NTSB issued a safety recommendation in their Safety Recommendation Report to "eliminate the professional engineer licensure exemption for public utility work and require a professional engineer’s seal on public utility engineering drawings. (P-18-005)".

While the current text of the State of California's licensure law maintains the aforementioned exemption in the California Business and Profession Code, SED and SDG&E met in 2019 and SDG&E is in the process of implementing the recent Merrimack Valley NTSB Safety Recommendation Report and its findings to augment and enhance design safety oversight. SED is requesting the status of this implementation.

On January 24, 2020, SDG&E provided the following update:

"The Utilities continue to further assess the impact on existing processes and fully support implementation of Professional Engineer oversight, however we still seek further guidance from the SED and the Board on the interpretation of the NTSB/PHMSA recommendations. The Utilities would like to meet and confer with the SED regarding the Professional Engineering review and approval plans proposed in the July 1st letter (attached). We look forward to meeting with the SED to ensure the Utility proposed plans to comply with the recommendations properly align with the SED’s objectives to enhance safety and strengthen our Engineering review and approval protocols."

SED takes NTSB recommendations very seriously and recommends SDG&E to take the necessary steps toward implementing the NTSB recommendations. SED is willing to work with SDG&E diligently toward the implementation of the NTSB recommendations. Therefore, SED expects SDG&E to move expeditiously in implementing the NTSB recommendations including the professional Engineer oversight (approval on plans with PE stamps).

SDG&E Response:

SED's second "Question Text" related to Design of Pipe requested external loading specifications for our pipelines. While SDG&E does have Gas Standards and specifications to address SED's question, it does not appear to be consistent with the "Issue Summary" provided. Therefore, SDG&E provides the following responses to the Issue Summary identified in the concern.

SDG&E appreciates working with the SED on this important effort. We continue to work towards developing policies and procedures that meet the intent of the NTSB recommendation identified by the SED above. In an effort to enhance design safety and engineering oversight, a framework is being established based on sealing and stamping of Issued for Construction (IFC) drawings for the DOT-defined transmission facilities identified below that are developed by internal engineering resources and engineering contractors. At this time, the Design Data Sheet (DDS) is not included in this framework.

- Transmission pipelines
- Complex meter set assemblies
- Non-standard district regulator stations
- Pressure limiting stations
- City gate stations

Currently, workforce plans are being reviewed to determine the internal incremental California licensed Professional Engineering (PE) resources required for implementation. In addition, revisions to work processes, criteria, and Gas Standards are being considered to implement these changes which will take several months to complete. The target date for implementation is first quarter of 2021.

With respect to our engineering contractors, there are negotiated Master Service Agreements in place that predate these new requirements. SDG&E has issued an informal Request for Information (RFI) to assess the impact to project schedules, cost, and resources. This year, new engineering agreements will be negotiated and executed which will include the requirements set forth above.

Regarding SDG&E's DDS Form 3222; SDG&E acknowledges SED's concern, however this document's primary function is to determine and document the appropriate pressure test parameters, durations, and is filed as part of the test record. The design information on a DDS is a subset of the information included in an IFC drawing, which is part of our framework for PE stamping. Further, SDG&E has been proactive on this effort to enhance controls and engineering oversight through the use of preapproved Line Classes for the design of DOT-defined Transmission piping systems, and therefore the DDS is no longer relied upon for the design aspect of a project.

- 3) SDG&E MS 56-40, Material Specifications for Gas Operations, scope covers gray and ductile iron body stopcocks. Section 6.1 allows a seller to provide ductile iron stopcocks manufactured with welding because it does not differentiate between ductile iron and gray iron when special processes are utilized “welding, heat treatment, etc.”. 192.145(d)(2) states the usage of ductile iron stopcocks only if welding is not used as any part of the manufacture process.

SDG&E's current manufacturer of stopcocks, AY McDonald, does not have a welded product.

SED acknowledges that SDG&E's current manufacturer of stopcocks does not utilize welding in its manufacturing process. However, SED recommends SDG&E modify Gas Standard MS 56-40 to clarify and to eliminate the possibility of a manufacturer supplying stopcocks utilizing welding in their manufacturing process.

SDG&E Response:

SDG&E acknowledges SED’s recommendation and the material specification (MSP) 56-40 Stop Cocks, Section 6.1 was modified to clear up any confusion regarding approved manufacturers providing a welded, ductile, iron body meter valve. The updated procedure was published on 03/25/2020.

- 4) SDG&E Gas Standard G7805 - Welding Field Guide, Section 4.4 states in part:

“When welding on any size pipeline operating at greater than 60 psig, the Welding Inspector or equivalent shall be present.”

SDG&E did not define the qualification and the functions required for an "equivalent" Welding Inspector in its Gas standard. SED recommends SDG&E modify Gas Standard G7805 to clearly define the qualification and all functions for the “equivalent” Welding Inspector.

SDG&E Response:

SDG&E acknowledges SED’s recommendation and the Gas Standard G7805 Welding Field Guide was modified to clarify Section 4.4. The updated procedure was published on 04/01/2020.

- 5) SDG&E Gas Standard G8605, Request for Pipeline Engineering Assistance", Section 2.3 provides FORM 3222 Design Data Sheet (DDS). Section 2.3.1 and 2.3.2 address Distribution and Transmission responsibilities for preparing and approving FORM 3222. SDG&E Form Instruction Design Data Sheet, Section 3.5 addresses approval of DDS by responsible engineer.

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SDG&E Response:

Please see response in Concern #2 above.