[redacted]
Pipeline Safety & Risk Mitigation Manager
1981 W Lugonia Ave MLREDL1Z
Redlands CA 92374
213-671-1344
[redacted]

September 11, 2024

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 (CPUC) submitted the following Notice of Probable Violations (NOPV) for the DOT reportable incident (DOT Initial #1338079) that occurred on June 7, 2022, at [redacted] Telegraph Rd, Commerce, CA,

Below is SoCalGas' written response.

Please contact [redacted] at (213) 671-1344 if you have any questions or need additional information.

Sincerely,

[redacted]
[redacted]
Pipeline Safety and Risk Mitigation Manager

CC:
[redacted], SoCalGas
Mahmoud Intably, GSRB
Kan Wai Tong, GSRB
Gordon Huang, GSRB
Claudia Almengor, GSRB

2022 SoCalGas DOT #1338079 Incident Investigation Response

Notice of Probable Violation:

General Order (G.O.) 112-F, Reference Title 49 Code of Federal Regulations (CFR), Part 192, §192.605 (a) states:

"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 one each calendar year. This manual must be prepared before operations of a pipeline system commence. Appropriate parts of the manual must be kept at locations where operations and maintenance activities are conducted."

SED's investigation found that the incident was caused by a SoCalGas oversight during the planning stages for its nearby pigging operations. SoCalGas' Pipeline Integrity Management planning team originally misidentified the 10-inch tap valve 765-12.36-4 to be in the closed position. Subsequently, the team excluded the 10-inch tap valve in its liquid mitigation planning (to prevent liquid intrusion).

On June 7, 2022, liquid (oil) intruded into pressure regulators at an upstream District Regulating Station (DRS) ID6589P due to shifted liquids. This liquid shift occurred when a SoCalGas In-Line Inspection (ILI)/pigging was in operation on its upstream transmission line, Transmission Line 2000. Pressure regulating equipment (Mooney Flowgrid Regulator, Mooney Series 20 Pilot) at ID6589P malfunctioned due to the liquid intrusion and led to an overpressure event/maximum allowable operating pressure (MAOP) exceedance. The overpressure event combined with a preexisting long term near-neutral stress corrosion cracking (SCC) colony (identified in a post-incident metallurgical analysis) subsequently caused the rupture of an encased segment of the SL 30-02. In total, approximately 11.26 miles of distribution main and services feeding 103 customers were impacted by the incident for approximately 50 hours.

SED finds SoCalGas in violation of GO 112-F, Reference Title 49 CFR, Part 192, §192.605(a) for failing to prepare an adequate written procedure to prevent liquid intrusion into its distribution pipeline prior to its ILI run on its transmission pipeline.

Response:

SoCalGas has been executing its transmission integrity management program (TIMP) for over 20 years. During that time, there have been hundreds of successful inline inspection (ILI) projects covering many thousands of pipeline miles, all of which utilize a comprehensive set of written procedures that conform to SoCalGas' safety and operational requirements. One of the fundamental underlaying tenets of PHMSA's integrity management rule is the need for continual evaluation and improvement; operators are to integrate program improvements and lessons learned to continually enhance their integrity programs. In line with that tenet, SoCalGas's TIMP program has continually evolved and improved

since its inception and SoCalGas is always looking for opportunities for program improvements through internal lessons learned and information received from other operators.

SoCalGas conducted a review of the event that took place on June 7th, 2022. Through the review SoCalGas determined that although there was a liquids mitigation plan in place, changes occurred after the procedure was implemented that were not accounted for, resulting in the incident. As a result, SoCalGas identified opportunities for improvement in our processes as it relates to liquid mitigation for impacted pipeline taps.

Since this incident, SoCalGas has implemented the following enhancements to our pigging procedure and Requests for Engineering Review (RER):

- Enhanced our pigging procedure to formally document liquid mitigation assessments for every pipeline tap within the extents of the inline inspection.
- Incorporated an internal Management of Change process into our pigging procedures which requires impacted stakeholder review and approval when deviations or changes are made to a finalized pigging procedure.
- Revised the submittal process for RERs to include liquid mitigation as part of the system analysis and engineering review process.

Concern:

In addition, SED found that SoCalGas had not assessed the encased segment of its SL 30-02 for SCC since its installation in 1952. SoCalGas failed to identify SCC in its Distribution Integrity Management Program (DIMP) as a threat prior to the incident. Because SoCalGas failed to identify the SCC as a threat, the segment did not require assessment per SoCalGas' procedures. Over time, the segment had developed several colonies of near-neutral pH SCC and eventually ruptured during the incident. To prevent reoccurrence of a similar incident, SED requests SoCalGas to include the SCC as a threat in its DIMP to assess and mitigate all SoCalGas' pipelines that have similar pipeline characteristics, operating conditions and environment, and operating history as SL 30-02.

Response:

SoCalGas' investigation concludes this incident occurred due to the over pressurization of the pipeline and cannot be attributed solely to the presence of stress corrosion cracking (SCC) given that a similar failure would not have reasonably occurred under normal operating conditions. The cause of the over pressurization is summarized in the NOPV response above and SoCalGas has implemented procedural updates described in G20220607-3387-DOT. These procedural updates have been implemented system-wide to prevent recurrence of a similar incident.

In accordance with 49 CFR 192 Subpart P, SoCalGas' DIMP is designed to identify threats and address the risks to the distribution system that may have a material impact on system safety. Identification of threats is based upon operating experience and industry best practice. Accordingly, prior to this occurrence of SCC, SoCalGas's DIMP appropriately did not require identification of such a low likelihood threat and any subsequent assessment activity. While recognizing that SCC was, factually, a contributing factor to this failure, there is a substantial body of work in the industry to support the broad

assertion that, for numerous technical reasons, SCC is a very low risk to distribution pipelines, and, further, that the presence of SCC in this particular set of circumstances is both extremely unlikely and potentially unique. The metallurgical failure report supports these notions in key statements such as the following:

·"*Two aspects of this failure are not typical of external stress corrosion cracking (SCC) of natural gas pipelines. The operating stress of the pipeline is very low, less than 10% of SMYS, and the failure occurred in a casing."*
·*"Probably the most unusual aspect of this SCC failure is the occurrence within a casing. The authors are not aware of any other instances of this occurring."*

Corrective Action:

Notwithstanding the uniqueness of this SCC occurrence, SoCalGas recognizes and agrees that it is prudent to take action to address the integrity of the remaining similar segments of L30-02. When the overpressure occurred, pipelines within Pressure Zone ID# 3023 were potentially affected. Therefore, SoCalGas performed an analysis of pipelines within this Pressure Zone that have similar pipeline characteristics, operating conditions, environment, and operating history as suggested by SED. SoCalGas determined that pipelines having similar environmental conditions are isolated to the cased segments of SL 30-02 and its laterals. Pipe segments that have similar operating conditions and operating history within SL 30-02 are those within Pressure Zone ID# 3023. Within this Pressure Zone, only SL 30-02 and some of its laterals/bypasses have similar pipeline characteristics. The remaining pipelines within this Pressure Zone were installed in 1992. Based on this analysis, the segments that exhibit a similar environment are the twenty-eight (28) cased segments of SL 30-02, three (3) cased segments of SL 30-02-J, one (1) cased segment of SL 30-02-J2, and one (1) cased segment of SL 30-02-E.

SoCalGas has determined that spike hydrostatic pressure testing is the most appropriate assessment method to address the identified segments on SL 30-02 and planning has been initiated toward executing this work.