



A  Sempra Energy utility

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October 17, 2016

Elizaveta Malashenko
Director, Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, California 94102

RE: Safety and Enforcement Division's Directive to Southern California Gas Company to conduct Internal Corrosion Threat Assessment on all Aliso Canyon's Injection and Withdrawal Pipelines

Dear Ms. Malashenko:

The Aliso Canyon storage facility is critical to the reliability of natural gas and electricity service in Southern California, and SoCalGas remains committed to providing safe and reliable energy to the millions of Californians who rely on us each day. As directed in your September 20, 2016 letter to Mr. Jimmie Cho, SoCalGas initiated a root cause analysis of the pinhole leak at Ward 3A and conducted an Internal Corrosion Threat Assessment on injection and withdrawal pipelines at the Aliso Canyon Storage Facility. The purpose of this letter is to provide you with an update on the status of the follow-up activities we are undertaking, as described in Section IV of our letter dated September 26, 2016, written in response to SED's Directive for Aliso Canyon.

Status of Follow-Up Work

The following provides a status of each follow-up work item identified in our September 26, 2016 response letter.

Root Cause Analysis of the Pinhole at Ward 3

Det Norske Veritas / Germanischer Lloyd (DNV/GL) continues to make progress toward a finalized Root Cause Analysis (RCA) based on samples of the leak location that have been submitted to DNV/GL laboratories. The original four-week estimate from the time of the on-site inspection is still applicable to allow for all appropriate metallurgical testing to be completed. SoCalGas anticipates that a final report will be available near the end of October.

Examination of Three Additional Withdrawal Lines

SoCalGas identified lines that met the 80% “no flow” condition and reported the available results in the letter response dated September 26, 2016. In that letter, SoCalGas identified three additional withdrawal lines that met the 80% “no flow” condition and were scheduled for ultrasonic testing by SoCalGas. These three additional withdrawal lines were:

1. AMA1BWD (Mission Adrian (MA) – 1A)
2. AGWMA5 (Mission Adrian (MA) – 5A)
3. AGWFF34B (Fernando Fee (FF) – 34B)

SoCalGas committed to completing the assessments for these three lines by today. The results of that testing is as follows:

A total of five locations on these three withdrawal lines were examined. Two withdrawal lines identified for additional work (MA - 1A and FF - 34B) were buried and required excavation. There were three excavations associated with withdrawal line MA – 1A to perform the inspections at the potential low spots, and one excavation associated with FF - 34B. The other withdrawal line (MA – 5A) is aboveground.

All three withdrawal lines were inspected using B-Scan ultrasonic technology along the bottom half of the pipe to detect indications of internal corrosion. SoCalGas also surveyed the full circumference every five feet in order to confirm the average wall thickness of the pipe body. In all cases, the deepest detected wall loss areas are not susceptible to leakage, and remaining strength of the piping demonstrates satisfactory safety factors that are well in excess of minimum code requirements. Table 1 summarizes the B-Scan ultrasonic testing results by identifying the sample locations that had both the lowest safety factor and the deepest pit for each of the withdrawal lines inspected. Although some external anomalies were discovered during the inspection, none of the anomalies impact the integrity of the withdrawal lines.

TABLE 1

Well Name	Line	Location	Sample Point	MAOP (psi)	Diameter (in)	Grade (psi)	Wall Thickness (in)	Least Measured Thickness (in)	Pit Depth (in)	% Wall Loss	Predicted Failure Pressure (psi)	Safety Factor (Predicted Failure Pressure/MAOP)
MA - 5A	AGWMA5		26	710	8.625	42000	0.248	0.215	0.033	13%	2666	3.76
FF34B	AGWFF34B		1	710	4.5	35000	0.281	0.217	0.064	23%	4516	6.36
MA - 1A	AMA1BWD	1	1	710	8.625	35000	0.351	0.226	0.125	36%	2139	3.01

With the conclusion of the direct examination activities described above, all of the pipelines identified as an “80% no flow” condition have been inspected for indications of internal corrosion at low/flat location in the piping similar to that observed at the leak location on the Ward 3 withdrawal line. As stated above, the strength of all sampled piping demonstrates satisfactory safety factors that are well in excess of minimum code requirements, and the deepest detected wall loss areas for each withdrawal line are not susceptible to leakage. With the reporting of these results, SoCalGas considers the directive to inspect withdrawal piping systems with similar potential for internal corrosion as Ward 3 withdrawal piping to be complete.

Notwithstanding these positive test results, as described in our September 26 letter, work continues to proceed on the development and implementation of a comprehensive Underground Storage Corrosion Control Manual as part of the SoCalGas Storage Risk Integrity Management Plan submitted to the California Division of Oil, Gas, and Geothermal Resources in August, 2016. The manual will ultimately provide a structured framework for the corrosion control of all wells, piping, and reservoir within the Gas Storage organization.

Leak Patrol

SoCalGas recently completed a leak patrol and survey of the Aliso Canyon field (July 22, 2016), and we expect to perform additional surveys as part of upcoming efforts to commence re-injection. No indications of leaks were detected in the July survey.

SoCalGas' first priority is safety and SoCalGas has worked diligently to address the directives in your September 20, 2016 letter and validate the integrity of withdrawal lines at the Aliso Canyon storage facility. Results of the pending metallurgical testing will be made available once the results are finalized. Please do not hesitate to contact me if you have any further questions or concerns regarding the pinhole leak in the withdrawal line at Ward 3A.

Sincerely,

A handwritten signature in blue ink that reads "Rodger R. Schwecke". The signature is fluid and cursive, with the first name being the most prominent.

Rodger R. Schwecke
Vice President, Gas Transmission and Storage

cc: Edward Randolph, CPUC, Energy Division, Director
Jimmie Cho, Senior Vice President, Gas Operations & System Integrity
Doug Schneider, Vice President, System Integrity & Asset Management
Dan Skopec, Vice President, Regulatory Affairs