Pacific Gas and Electric Company®

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Jeff Maltbie
City Manager, San Carlos
600 Elm Street
San Carlos, CA 94070

Dear Mr. Maltbie,

Introduction

Our primary focus is the safe operation of our gas system and PG&E is confident that Line 147 (or "L147") is safe to operate. The line was subjected to a modern pressure test in 2011 and, in fact, the California Public Utilities Commission's ("CPUC's") Safety and Enforcement Division has "emphasized the importance of pressure testing to guard against any record-keeping shortcomings, and agreed that all public safety issues have been addressed by PG&E's operational actions."[1]

Below, we document facts regarding the safety of L147. However, to further reassure the City of San Carlos, subject to operational flexibility that may be required in case of extreme cold weather or other emergency, PG&E will also: 1) proceed to voluntarily implement an immediate pressure reduction of an additional 20% below the already reduced MAOP of 330 psig; 2) continue to evaluate the possibility of any additional pressure reductions that can be implemented without impacting our customers along the Peninsula; 3) continue to work with CPUC on their review and evaluation of L147's fitness for service.

We also want to underscore that the email that was shared by PG&E to the City of San Carlos yesterday demonstrates our safety-first culture. We also had a PG&E technical expert meet with the City Manager yesterday to provide additional context and understanding. We commend the engineer for raising concerns and asking the probing and thought provoking questions reflected in that email. It demonstrates we have open dialogue within the organization and maintain a constant awareness of any potential safety concerns by asking: "Could this be an issue?" "Should we consider doing more?" These types of questions exemplify the "questioning attitude" we strive to foster at PG&E, and which, for example, is widely used in the nuclear industry.

[1] See August 19, 2013 Ruling of Assigned Commissioner and Assigned Administrative Law Judge Directing Pacific Gas and Electric Company to Appear and Show Cause Why All Commission Decisions Authorizing Increased Operating Pressure Should Not Be Stayed Pending Demonstration that Records Are Reliable, at 3-4.

Background and Key Facts

Following the San Bruno accident, PG&E lowered the operating pressure on many pipelines in September 2010 as an interim safety measure. The operating pressure of Line 147 was lowered to 300 psig.

In October of 2011 Line 147 was hydrostatically tested including a spike test to above 600 psig, which would support a maximum allowable operating pressure (MAOP) of above 400 psig. Hydrostatic pressure testing, including a spike test, is widely considered the leading industry standard to ensure the integrity and safe operation of a gas transmission pipeline.

We submitted several binders of information to the CPUC in connection with our request to restore operating pressure on L147 to 365 psig, still below the pre-San Bruno levels. After receiving approval from the CPUC, we increased the operating pressure on L147 as necessary to meet winter load, but kept the operating pressure below the MAOP of 365 psig. On May 24, 2012, we reduced the operating pressure on L147, to below 300 psig. The highest actual operating pressure experienced by Line 147 after issuance of the pressure restoration order was 355.4 psig in May 2012.

Ongoing work to support operations (i.e., leak repair) in October and November 2012 identified discrepancies in the information submitted to support an MAOP of 365 psig for Line 147, previously approved for pressure restoration.

After discovering these issues, the MAOP for Line 147 was reduced to 330 psig. The operating pressure has been at or below 300 psig since May 2012.

The record keeping discrepancies we found do not reflect a safety issue as L147 underwent successful hydrostatic strength tests to a pressure greater than 600 psig. That is more than double the current operating pressure.

This summer we removed the section of pipe that leak to confirm pipe mechanical and metallurgical properties via laboratory work, including a root cause analysis for the leak. That report concluded, in part, that "***[n]o evidence of crack growth during service or hydro testing was detected,***" and that the leak was on base metal, not on a girth weld or the long seam weld. (See Anamet Metallurgical Report, which was previously also provide to the City).

There are numerous white papers by industry experts on the Role of Hydrostatic Testing in assessing the integrity of Pipelines. Hydrostatic testing is universally known and accepted as a means of demonstrating the fitness for service, which is why it has been emphasized by state and federal regulators alike. It does have limitations which are recognized and understood by the team.

Additional Safety Measures

Strength Test
As mentioned, L147 was pressure strength tested to levels above 600 psig, which proves its safety as pressure containing pipe. PG&E has reduced the operating pressure on these lines to below 300 psig, which is well below the MAOP of 330 psig and less than half of the pressure the lines were subject to during the pressure tests

(without even considering the spike tests performed). PG&E has also re-reviewed its pipeline features list for both of these lines since the October 2012 leak was discovered.

Maintenance
PG&E has also continued to patrol and leak survey L147 on a regular basis. For L147, PG&E leak surveyed parts of the line in the San Carlos area (plats that are on semi-annual leak survey) in October 2012, with one plat surveyed again in December 2012 due to vegetation obstructions during the survey in October. All of L147 was surveyed in April 2013.

PG&E ground patrolled L147 in November and December of 2012, as well as every month in 2013, except for September 2013. PG&E has also aerially patrolled Line 147 every month from December 2012 to-date, except for February 2013. PG&E will continue to patrol and monitor these lines and observations for any potential threats to the integrity of the lines.

PG&E also has cathodic protection ("CP") on L147. PG&E inspects its cathodic protection systems using pipe-to-soil reads, and annual rectifier inspections. PG&E performs CP pipe-to-soil inspections on Line 147 in odd-numbered months. Since October 2012, PG&E has performed these inspections in November 2012, and January, March, May, June, July, and September of 2013. The June inspection occurred because a PG&E corrosion mechanic supporting routine CP inspections on the distribution system noticed a signal coming from Line 147, which doesn't usually occur because of insulation between the distribution and transmission CP systems. In this instance, the insulation had been removed or damaged during a regulator station rebuild in the area. The inspection on the distribution CP system revealed two conductive contacts on the system, which interfered with CP on the distribution pipe, and also interfered with the CP on the transmission system due to the lack of insulation. When these two contacts were cleared, the low CP reads on the transmission and distribution CP systems both returned to acceptable levels. PG&E is currently planning the work to re-install or repair the insulation.

Integrity Assessment
PG&E has completed baseline assessments for the portions of Line 147 that are in High Consequence Areas, by performing External Corrosion Direct Assessments in 2004 and/or 2009.

Replacements
A new valve 20 inch valve was installed on Brittan Ave (Line 147) during the 2011 work on the pipeline.

We hope this helps to further assure the City of San Carlos of Line 147's safety and integrity.

Sincerely,

Jesus Soto