
From: [Redacted]
Sent: Wednesday, November 28, 2012 10:11 AM
To: [Redacted]
Subject: RE: L-147 MP [Redacted] --Pipe Specification Discrepancy

Thanks [Reda] Stress corrosion cracking is not something I would expect to find on line 147 in part due to the low temps, and low stresses (high temps are a cause for only one type of SCC). We always point out we've never found it in our bell hole examinations that look for it, nor has it ever been implicated in the failure of any of our transmission lines, but of course for a time dependent event like SCC, past performance is no guarantee of future performance. I would however put SCC in a different bucket than fatigue crack growth and would look at fatigue potential of liquid lines quite differently than gas lines (because there are a lot more pressure cycles in a typical liquid system than in a gas system). Anyway, thanks again for the info. [Red]

From: [Redacted]
Sent: Tuesday, November 27, 2012 6:01 PM
To: [Redacted]
Subject: RE: L-147 MP [Redacted] --Pipe Specification Discrepancy

Bill,
Some of the info is....as follows....

- 2003 On July 30, a Kinder Morgan pipeline in Tucson, Arizona ruptured, and sprayed 10,000 to 19,000 US gallons (72,000 L) of gasoline on five houses under construction, flooding nearby streets. The resulting pipeline closure caused major gas shortages in the state. The failure at first was thought to be from LF-ERW flaws, but tests showed it was due to Stress Corrosion Cracking. A hydrostatic test that was performed on this pipeline after repairs failed again 40 feet (12 m) from the first failure.

From: [Redacted]
Sent: Tuesday, November 27, 2012 5:10 PM
To: [Redacted]
Subject: RE: L-147 MP [Redacted] --Pipe Specification Discrepancy

Still catching up with emails. The papers written by Kiefner that I'm familiar with seem to indicate an almost zero chance of such a failure when the pipe has been tested to 1.5 times the MAOP. Can you steer me to the stuff you are reading? Thanks. Bill

From: [Redacted]
Sent: Saturday, November 17, 2012 11:05 AM
To: [Redacted]
Subject: RE: L-147 MP [Redacted] Pipe Specification Discrepancy

[Redact]

I'm guessing that you did not x-ray anything on this pipe? Did you look for cracks in any way other than visual? Is this hole backfilled?

After thinking about this some more, I have concerns about this pipe. My thought pattern is like this: We are still searching records, but we now believe this is 1929 pipe that was recently tested to just 1.5 times the MAOP in 2011. It is thin wall pipe and now we have found external corrosion on it. Could the recent hydro test contributed to additional

cracking in this pipe and essentially activated a threat? Are we sitting on a San Bruno situation? With fatigue crack growth over many years? Is the pipe cracked and near failure? I don't want to panic people but seems like we should consider this and probably move this pipe up the PSEP priority for replacement.

I know there is industry evidence and discussion of how the hydro testing can activate the cracks and cause failures soon after the hydro testing. I know in theory the 1.5 times the MAOP test pressure should be sufficient, but I believe there is industry evidence that this is not always true.

Let me know your thoughts on this.

Thanks

Redacted

From: Redacted
Sent: Thursday, November 15, 2012 11:23 AM
To: Redacted
Subject: RE: L-147 MP Redacted --Pipe Specification Discrepancy

Redacted

Yes, we confirmed the wall thickness to be 0.250" with an 8-point UT in the area of the fillet weld that was done to install the PLIDCO repair cap. The cause of the leak appeared to be external corrosion from our visual inspection. There was an area of corrosion that appeared to have been repaired in the past with fill-weld metal, I attached two additional photos of that area along with the Preliminary copy of the A-Form, and the ArcMet analysis that ATS performed to produce the In-Service Weld Procedure.

What is your opinion on trying to perform ABI testing to confirm SMYS value on this pipe? Even if the SMYS was determined to be slightly higher than the RUPF value of 33K psi, would that significantly affect any decision making?

Thanks

Scott

From: Redacted
Sent: Thursday, November 15, 2012 11:08 AM
To: Redacted
Subject: RE: L-147 Redacted --Pipe Specification Discrepancy

Two other things. Since our records were wrong on SMYS and seam type, did you happen to confirm the wall thickness? What caused the leak? Thanks Redacted

Roy S. is trying to track down if there are any pics from the Hydrotest. If they have them and I get them, I'll forward them.

From: Redacted
Sent: Thursday, November 15, 2012 7:37 AM
To: Redacted
Subject: RE: L-147 MP Redacted --Pipe Specification Discrepancy

Redacted, I zoomed in and only see one seam.

From: Redacted
Sent: Thursday, November 15, 2012 7:17 AM
To: Redacted
Subject: FW: L-147 MP Redacted --Pipe Specification Discrepancy

I just meant the pipe in the lower right corner of the picture.

From: [Redacted]
Sent: Thursday, November 15, 2012 6:57 AM
To: [Redacted]
Subject: RE: L-147 MP [Redacted] Pipe Specification Discrepancy

[Redac] in the foreground of one of the pix, it appears there are two seams on the pipe. Is that right?

From: [Redacted]
Sent: Wednesday, November 14, 2012 7:27 PM
To: [Redacted]; [Redacted]; [Redacted]; [Redacted]; [Redacted]; [Redacted]; [Redacted]; [Redacted]
[Redacted]; Raymundo, William; [Redacted]; [Redacted] Hogenson, Todd (GT&D); Campbell, Ben (Hydrotest); [Redacted]
Cc: [Redacted]; [Redacted]; [Redacted]; [Redacted]
[Redacted]; [Redacted]; [Redacted]; [Redacted]
Subject: L-147 MP [Redacted] --Pipe Specification Discrepancy
Importance: High

All,

A recent leak repair effort on L-147 at MP 2.2 near the intersection of [Redacted] has revealed pipe specification that are inconsistent with the current data in the PG&E system. The current PFL for L-147 (dated May 2012) and the GIS database currently show the 20" pipeline in this area as 20"OD x 0.250"WT DSAW with a SMYS value of 42,000 psi and a JE = 1.0. We now have visual confirmation that this is AO Smith Type 1 seamed pipe, per the attached photos.

This segment of 20" pipeline was installed and hydrotested in 1957 under GM 136776, and was recently hydrotested with the PSEP effort in October of 2011 under T-43B. L-147 was released from the post-San Bruno "CROP" (Conditional Reduced Operating Pressure) last winter as part of the L-101 restoration effort and pressure was increase to an MOP of 365 psig. L-147 is currently operating at an MOP of 300 psig to allow more operational flexibility on the Peninsula GT System due to the abundance of Clearances this construction season.

Utilizing currently accepted SMYS (33,000 psi) and JE (0.8) values for AO Smith pipe, per the latest version of the "Resolving of Unknown Pipeline Features" document, L-147 will be operating at 55.3% SMYS in a Class 3 HCA at its current MOP of 365 psig. In addition, this pipeline segment was tested to near 600 psig during T-43B, which would have put this segment of the pipeline at greater than 90% SMYS depending on the elevation.

I am unsure of the implications of this discovery, but wanted to be sure all affected groups were notified – MAOP Validation, PFL Build, Integrity Management, Regulatory Compliance, PSEP Pipe Replacement, and Planning. Please contact me for any additional information or questions on this, I'd like to set up a conference call discussion to determine any next steps in addressing the above.

Thank you,

[Redacted]

[Redacted]

Redacted