
From: Evan Vokes
Sent: Friday, October 22, 2010 6:27 PM
To: Veronique Cantin
Cc: Ron Curle; Gerard Lalonde; James Ferguson
Subject: RE: RT vs. AUT suspected crack on SPR 4

Don't mean to cause you grief Veronique
Regardless of what the procedure says, If any of the original taper from the counterbore and taper is left, in fracture mechanics it is a notch or the same as a back bevel.
I do not see why your procedure would leave any evidence of a taper behind.
You could never prove to me that this was not the same as a backbevel so this remains a stress riser and makes it hard to weld etc.
If this is within the calculated tolerances given in the transition specification, it is OK but I am not in favor of this procedure.
If it looks like a duck, it is

Hope this helps
Evan

From: Veronique Cantin
Sent: Friday, October 22, 2010 5:03 PM
To: Evan Vokes
Cc: Ron Curle; Gerard Lalonde
Subject: RE: RT vs. AUT suspected crack on SPR 4

Evan,

Maybe I can clarify this a bit. I worked with Gerard Lalonde, David Taylor and James Ferguson to provide a procedure for use in the field in the cases where counterbore and taper transitions made by fabricators at the ends of our MLV assemblies don't meet the TC mechanical spec.
Bison doesn't allow any backbevel transitions, be it at tie-in or other locations.

Please take a look at the technical clarification we came up with (see attached) and let me know if you have any further concerns.

Regards,

Veronique Cantin
Major Projects
Tel. : 403.920.5923
Cell: 403.585.3169

From: Evan Vokes
Sent: Friday, October 22, 2010 4:13 PM
To: Veronique Cantin
Cc: Ron Curle; 'Rembert.Gomez@universalpegasus.com'; Andre Auger; Gary Herd; Alan Goynes; Rick Ostrom; Salvatore Delisi
Subject: RE: RT vs. AUT suspected crack on SPR 4

Hello Veronique

We need to avoid a weld where that contains the transitions for final transition and we need to avoid backbeveled transitions at all costs.

If I am understanding correctly, if the .650 wall pup with a counterbore is shortened to the back bevel and weld to .514 wall you will have set the conditions for a crack that the counter bore and taper transition is designed to mitigate. You will now have a real chance of a hydrotest failure as; backbevels are hard to weld, the inspection can miss a crack and the valve will apply a bending load to the girth weld. Additionally I don't have the details but I do not think backbevels are permissible for your PHMSA application.

The counterbore makes welding easier but the evidence is that workmanship is likely the problem and the AUT gives evidence that the back walls do not line up.

One likely possibility is that the counterbored end was used as a tie-in which is why the specification prohibits this. (should be a stab-on before welding the lap)

A less frequent possibility is that the counterbore is dramatically off side which would leave a very thin wall on one side. Another occasional problem is that the fabricator has squashed the pipe when rolling the valve but this is measurable before welding.

If would make me happy if we leave enough material on the line pipe side that we can measure the true hi lo on this weld

Regardless the AUT gives evidence that the lineup was poor and likely did not meet API 1104 Section 7.2 on two counts and should have been caught with visual inspection.

I believe the instructions you need to give PG are as follows

Check with UT to ensure you have 3.5" counterbore left. If we are positive we have material, I would recommend that you put the pup in as minimum 3'6" linepipe and weld to the counterbored end first.(known as a stab on) This way you end up with a linepipe to linepipe joint for a lap type weld for the tie-in as per the specification. Please measure counterbore thickness to confirm it is within spec.

If you cut the counterbored pipe end off, you will have to have a pup matching the original heavy wall pup wall thickness with the counterbore to match the linepipe.

A 3'6" linepipe pup will then make the criteria for the tiein weld in the specification. Normally we do not allow pups together but if this is the situation send a RFI and we will give permission.

Thank you
Evan

From: Wise, Ronnie [mailto:RWise@pricegregory.com]

Sent: Friday, October 22, 2010 12:58 PM

To: Veronique Cantin; Gary Herd; Alan Goyne

Cc: Ron Curle; Evan Vokes; 'Rembert.Gomez@universalpegasus.com'; Andre Auger; Gregory, Doug; Roy, Chuck

Subject: Re: RT vs. AUT suspected crack on SPR 4

I believe the valve wall thickness is approximately .650". I believe the pup should be .617 wt with one end counterbored to match the line pipe?

From: Veronique Cantin <veronique_cantin@transcanada.com>

To: Gary Herd <gary_herd@transcanada.com>; Wise, Ronnie; Alan Goyne <alan_goyne@transcanada.com>

Cc: Ron Curle <ron_curle@transcanada.com>; Evan Vokes <evan_vokes@transcanada.com>; Rembert Gomez <Rembert.Gomez@universalpegasus.com>; Andre Auger <andre_auger@transcanada.com>

Sent: Fri Oct 22 13:42:46 2010

Subject: RE: RT vs. AUT suspected crack on SPR 4

Ronnie just pointed out that I didn't get this right. Here is a clarification:

1. For the counterbore and taper transitions at the end of MLV assemblies (when Company instructs Contractor to remove the counterbore due to out-of-spec counterbore thickness):

Follow Technical Clarification TC 044 (latest revision) and remove all counterbore. This should be very clear. Contractor cannot do a tie-in at the transition after the counterbore is removed; 3'6" of 0.514" pipe must be welded on before MLV assembly is installed and before tying in to the pipeline. The entire counterbore must be removed where TC 044 applies, only keeping the backbevel.

2. For any other counterbore and taper transitions (transitions made by Contractor):
Follow typical drawings for transitions and plan to have 4.5" of length for the counterbore. The minimum length to be left after installation into the pipeline is 3.5".

Regards,

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Tel. : 403.920.5923
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From: Veronique Cantin
Sent: Friday, October 22, 2010 12:29 PM
To: Gary Herd; 'Wise, Ronnie'; Alan Goyne
Cc: Ron Curle; Evan Vokes; 'Rembert Gomez'; Andre Auger
Subject: RE: RT vs. AUT suspected crack on SPR 4

Minimum counterbore length required is 3.5" (although typical indicates 4.5") – the extra 1" is meant for cut off after hydrotest, damaged ends, etc.

Regards,

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From: Gary Herd
Sent: Friday, October 22, 2010 12:19 PM
To: Wise, Ronnie; Alan Goyne
Cc: Ron Curle; Evan Vokes; Rembert Gomez; Andre Auger; Veronique Cantin
Subject: FW: RT vs. AUT suspected crack on SPR 4

Ronnie,

There has been exhaustive effort to evaluate this circumstance of the RT vs AUT examination with the end result that the weld is classified as a cut-out.

Alan

Please instruct the field to cold cut 1/2" from the weld, on the valve side, and salvage the ring for further evaluation.

Regards,

Gary

From: Ron Curle
Sent: Thursday, October 21, 2010 12:19 PM

To: Gary Herd

Subject: Fw: RT vs. AUT suspected crack on SPR 4

Gary/ alan

Re: Spread 4 crack suspected on weld beside valve assembly.

Heads Up - we are checking with one more RT expert on the crack call but we are now at the 80% probability the we will be cutting it out.

The weld is back filled and on the side of an assembly (hard point) so a cut probably means digging back 80 feet to get flexibility, two cuts, and weld in a new pup.

Cautions:

1) The weld is on a counter bore and taper and (if we cut) we need to preserve as much of the length of the counter bore as possible <Veronique: please publish minimum length that needs to remain>. Before a cut we should get a hand UT to map the existing counter bore length.

2) This weld cut-out should be sent to the lab since it is a technical discrepancy

Therefore we should plan on using cold-cutters on the valve side if we make the cut.

If we are getting time critical to decide, and can't wait any longer, then cut is the only safe call.

Regards

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