From: Evan Vokes
Sent: Sunday, June 07, 2009 11:14 PM
To: David Taylor; Trent Bertholet; Christian Cyrenne; James Ferguson
Cc: Mark Oliphant; John Riley; Doug Harvey
Subject: RE: Flange on 30" Drop out spool C3

I am in Hardisty but I can phone in to a conference call # after 9:00
The best case scenario is if they are forging laps as the heat treatment is would not be a problem. We may need to confirm the nature of the cracks ASAP as forging laps are easier to live with and repair. The best proof is destructive testing which is technically speaking is the best solution but we may need to go in with shear wave UT and see if we can tell if they can characterise the indications. Cracks and Laps are distinctly different in UT.

If it is a heat treatment problem, we have no way of knowing what the material properties are, whereas if it is forging laps we can repair them. I do not think they are forging laps if the three pictures are individual cracks, then every one is adjacent to a bolt hole so three out of three suggests that we have cracks from heat treatment.

if the indication are heat treatment cracks, the quickest easiest solution to deal with the other thirty flanges, will be to immediately check all in-service flanges we can with shearwave UT to ensure we have no further cracked flanges in service. UT is the only NDE method that will give us an acceptable picture of the subsurface without stripping the coating. This will allow us enough time to make a fitness for service assessment if nothing traumatic is found and if all goes well we only have one suspect flange.

Thank you
Evan

From: David Taylor
Sent: Saturday, June 06, 2009 11:05 AM
To: Trent Bertholet; Christian Cyrenne; James Ferguson; Evan Vokes
Cc: Mark Oliphant; John Riley; Doug Harvey
Subject: RE: Flange on 30" Drop out spool C3

I chatted with both Mark and Vern this morning. They will map out the cracks (location and depths) as best they can and produce a rubbing of the stamping. I have asked them to send this to James. This is a critical spool piece that we need to consider all of our options (repair or cut-out) before the final decision is made. In addition we will need to consider what our plan should be for the remaining 30 + flanges which are at both Meikie River and Woodenhouse C/S (100% inspection or audit??).

Christian,
I know you have been in touch with DL Flange already, but we need to push them as well on a resolution. For example if we can repair the cracks what procedure would they accept, what type of heat treatment, inspection, etc.. We also will need the repair history of the forgings (all 30 + of them). We need this by Monday afternoon.

John,
James, Trent and Evan will work together to come up with a resolution for the project. Please keep in mind though the answer may be a replacement flange is necessary. We will meet on Monday morning to start review and laid down and plan of attack.

I will be in on Monday morning, but I have to travel to Kansas City in the afternoon.

If there are any questions please call.

Thank you

Dave

From: Trent Bertholet
Sent: Friday, June 05, 2009 7:16 PM
To: David Taylor
Cc: Mark Oliphant; John Riley
Subject: FW: Flange on 30" Drop out spool C3

Dave,
The issue of this 30" flange is a little more complicated than just replacing it with a new one. The flange is part of the suction side spool that it bolted to the new unit. The new unit was aligned off of this spool; sending the spool to be re-built has the potential to throw the entire unit out of alignment if not built exactly as the original when it is bolted back in place. If this were to happen re-aligning the unit could delay the the Meikle River project 2-3 weeks. I believe the project team is very aware that there may be an integrity issue with the flange but all efforts must be exhausted in proving the flange is not usable before proceeding to scrap it.

Please let me know what may be a good time to give you a call in the morning to discuss further and what options we may have to assist the project group with this.

From: Mark Oliphant
Sent: Fri 05/06/2009 5:28 PM
To: John Riley; Amy Webster
Cc: Trent Bertholet
Subject: RE: Flange on 30" Drop out spool C3

Trent/Amy

Can you give me a call tomorrow please?

Mark Oliphant
Construction Manager
Construction Management Services
TransCanada Pipeline Meikle River Compressor Station
cell (403) 461-2960
Construction Office(780)836-4362

-----Original Message-----
From: John Riley
Sent: Friday, June 05, 2009 5:23 PM
To: Amy Webster; Mark Oliphant
Cc: Trent Bertholet
Subject: Re: Flange on 30" Drop out spool C3

I would like for you two to arrange a conference call or similar with Trent to discuss this issue with the 30" flange(s).

I am not convinced yet that this flange is still not reusable.

Please talk to Trent.

Cheers,

JR

----- Original Message -----
From: Amy Webster
To: John Riley
Sent: Fri Jun 05 17:09:00 2009
Subject: Re: Flange on 30" Drop out spool C3

I am going to talk to Tom Slimmon...he may have some ideas...good weekend JR...

----- Original Message -----
From: John Riley
To: Amy Webster; Vern Hosak; Mark Oliphant
Cc: Christian Cyrenne
Sent: Fri Jun 05 17:04:49 2009
Subject: Re: Flange on 30" Drop out spool C3

Let's not get to excited yet...we still may be able to use this flange.jr

----- Original Message -----
From: Amy Webster
To: John Riley; Vern Hosak; Mark Oliphant
Cc: Christian Cyrenne
Sent: Fri Jun 05 16:55:34 2009
Subject: RE: Flange on 30" Drop out spool C3

I just had a meeting with Procurement.

These flanges were shipped from an approved forging facility in Romania...DL Flange purchased them.

We received 32 flanges (all of which will need to be re inspected and perhaps quarantined) in total.
The major issue is that these flanges passed a third party inspection.
Moody completed the inspection, and OBVIOUSLY missed this crack. We are now stuck with flawed flanges. Procurement is raising the NCR and will follow up as required with DL Flange.

Christian Cyrenne is working getting us a new flange...with some cash upfront we can get the forgings machined in less than two weeks. We will work our hardest to get the flange ASAP.

We will need to send the flange in question to the lab to determine root cause failure.

Call me for more information...
Amy

-----Original Message-----
From: John Riley
Sent: Friday, June 05, 2009 4:12 PM
To: Amy Webster; Vern Hosak; Mark Oliphant
Subject: Re: Flange on 30" Drop out spool C3

Perfect....Not!

How will this now affect the project schedule and where does the re-work take place?

JR

----- Original Message -----
From: Amy Webster
To: John Riley; Vern Hosak
Sent: Fri Jun 05 16:05:52 2009
Subject: FW: Flange on 30" Drop out spool C3

Note remarks from Material Group,

I have also talked with the material group. The problem is we do not know how the cracks were formed, so we do not know the characteristics of the remaining flange material. I am proposing we find a new flange. Recommendation from material engineering is not to use this flange. The vibration from the compressor along with the torque of the bolts may cause failure.

I am investigating the third party inspection and will work with Jason to get a new flange.

Amy

From: Evan Vokes
Sent: Friday, June 05, 2009 3:56 PM
To: Amy Webster
Cc: Trent Bertholet; Michael Martens; Kevin Widenmaier; James Ferguson; Niteesha Edwards
Subject: RE: Flange on 30" Drop out spool C3

Hello Amy

I had talked to Trent about this earlier and recommended that these are most likely quench cracks but we can not be sure. I doubt if they are forging laps. What is really important is that Michael cannot model the effect of the cracks without a large capital/ time expenditure so we do not know what will happen when you tighten the flange. If there is a heat treat problem, the flange might create a problem but we do not know for sure. I would not trust this unless I could confirm that the applied stress would not create a problem.

We know the cracks have propagated through the outer wall and it would be pointless to check the inside of the holes with NDT as no new cracks would open till the pressure comes on.

It is possible that there is someone at TransCanada that has had a positive experience with using the flanges with the cracking through the bolt circle but in the absence of empirical evidence to support putting this into service, I would default to replacement.

Since #900 NPS 30 raised flanges are not unusual or uncommon it would be good to change it if you could. Have it pupped in the fabshop before you ship to site to speed up the welding process.

Have a good day

Evan

From: Michael Martens
Sent: Friday, June 05, 2009 3:32 PM
To: Evan Vokes
Subject: FW: Flange on 30" Drop out spool C3

Sincerely

Michael Martens M.Sc. P.Eng

Mechanical Engineer, Engineering Governance

TransCanada PipeLines Limited

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Tel: 403-920-7238 Cell: 403-835-1541

e-mail: michael_martens@transcanada.com <blocked::BLOCKED::mailto:michael_martens@transcanada.com>

From: Amy Webster
Sent: Friday, June 05, 2009 3:19 PM
To: Michael Martens
Cc: Vern Hosak
Subject: FW: Flange on 30" Drop out spool C3

FYI…

Vern has requested NDT…

From: Vern Hosak
Sent: Friday, June 05, 2009 2:01 PM
To: Trent Bertholet
Cc: Amy Webster; Mark Oliphant; John Riley
Subject: Flange on 30" Drop out spool C3

Hi Trent :

Could you please have a look at these pictures? There seem to be three separate and distinct marks in one of the 30" flanges on a dropout spool for the C3 compressor suction side spool # S-10 on the north end of line C3-30-E1- HG -004-N ,What do you think they could be.

Best regards

Vern Hosack

Mechanical & Welding Inspection

Morning Star Welding Ltd.

Cell 780-940-6038

Fax 780-963-5345

Vern_hosak@transcanada.com