nationalgrid

Engineering Bulletin 058

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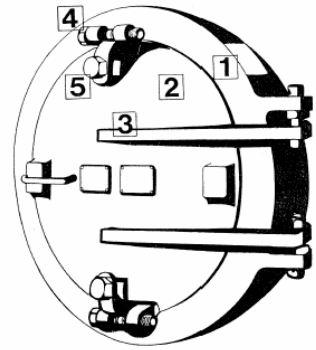
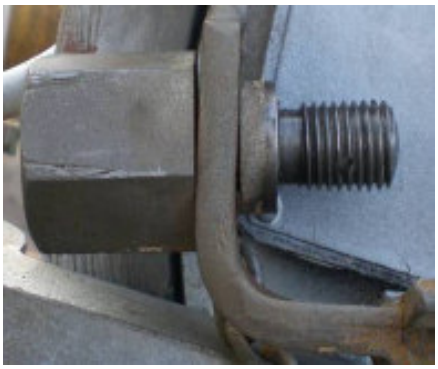
Failure of a bleeder screw on the safety bleeder block of a ring lock closure

Background

During a routine Pressure Systems inspection of a ring lock closure on a high pressure filter, undertaken by an independent network, a bleeder screw was found to be broken across the thread. Other bleeder screws were inspected and showed crackings on the threads.

The bleeder screws are part of the safety bleeder lock, shown as item 5 in the figure - ref GD Engineering operating instructions. Note there are two types of bleeder screws – with cross drilled holes or axial slot. The failures were associated with the drilled hole type, which is no longer manufactured and has been replaced with the slotted type. Before attempting to open the closure, it is important that the vessel is fully depressurised before the two bleeder screws are slackened off, without being removed, so that any residual pressure in the vessel is released through the bleeder screws.





Action

1. For those involved in the inspection and maintenance of ring lock closures on high pressure filters and pig traps, be aware of the potential for bleeder screws to be ejected under pressure if cracked or broken. Avoid standing in line when operating, and as with all activities of this type, ensure full PPE is worn, including safety glasses.
2. Every time the bleeder screws are removed, during routine or non-routine inspection and maintenance, visually inspect the threads of the bleeder screws for any signs of cracking and replace if found to be defective. Ensure that the holes or slots in the bleeder screws are clear and check that the sealing washer is positioned and its contact faces are clean. Do not over-tighten the bleeder screws.
3. Guidance on the operation and maintenance of ring lock closures is available in a video on the Infonet: http://infonetuk/dist_networkstrategy/default.asp?action=readnew&id=1150

For further information regarding this Bulletin please contact your Line Manager or Robert Owen on 07721 748008