Creating a new incident alert

Authors to this website hereby grant to Step Change in Safety a non-exclusice irrevocable license to reproduce, distribute, communicate to the public or adapt by whatever means but not in any way misrepresent the whole or any part of the content provided by the authors. Authors also agree that the content provided by them may be used by user of the Step Change in Safety website in accordance with the general terms of use of the website.

☒ I agree to the above conditions

Record Number:

Alert Title:

Failure of temporary repair

Summary: *

After applying a certified wrap as a temporary repair to a vent line from a gas compressor, it was noticed 9 days after it's application that gas had begun to weep from the repair site past the wrap.

Incident consequences (potential or actual): *

Hydrocarbon Release

Location Type: *

Fixed Installation

Generic Activity: *

Production Operations

Cause of accident or incident: *

Uncontrolled release of a flammable gas or liquid

Priority Areas:
Click the most relevant Step Priority bar below and drag to drop. Arrange others in descending order of importance or remove.

RHRR

POS

AI

LCC

Incident Date: *

01/06/2012

Specific Equipment:

Gas Compressor

Description of what happened:

Ice formation was reported on the 3rd stage relief line on the associated gas compressor. A pinhole leak was found and a wrap temporary repair was effected, following Technical Authroity approval. The wrap was applied by a specialist vendor.

Approximately 9 days later a smell of gas (confirmed using 'snoop') was picked up at the wrap repair. Bubbling & discolouration of the wrap was also noticed suggesting the wrap had failed.

Lessons Learnt:

The cause of the wrap failure was initially thought to be insufficient curing time of the resin, however following further analysis it was established that the surface temperature of the pipework during application of the wrap was too low leading to a lack of adhesion between the wrap material/resin and the pipework. It was also considered that inadequate pressure being applied during the wrap application contributed to the premature failure of the repair which was identified as a contributory factor.

The lesson learnt is to always ensure the pipe having the wrap applied is brought up to the correct temperature, as per manufacturers guidance prior to application of the wrap.

Recommendations: *

A method statement for the application and quality assurance of each temporary repair shall be available. This shall include, but not be limited to, acceptable environmental conditions for application, acceptable surface temperature ranges, surface preparation requirements, wrap lay up procedure and curing procedure and controls. No deviation from this method statement shall be allowed without prior recourse to the repair vendor. Where required additional heat sources such as heat blankets can be utilised to bring pipework surface temperatures within the required range. This should be included as part of the repair application method statement.

Maintain strict adherence to the specification, design, application and close out (including acceptance by the duty holder) of any designed composite repair.

Use of heat blankets in all Temporary Repair situations is recommended to ensure the pipework is up to recommended temperature before application.

Information Source:

PFM

Company Reference:

Task Description (a simple description of the task being performed): *

Routine operations

Contact Details: *

Nikki Morris, HSSE Coordinator, PFM, 01224 247611

* These fields are required

Priority areas:

- RHRR – Recognise hazards & reduce risks
- POS – Personal ownership for safety
- AI – Asset integrity
- LCC – Leadership and involvement at all levels