UKOPA

United Kingdom Onshore Pipeline Operators' Association

SAFETY ALERT
Salem Pipeline Failure

Issued by PIWG

Pipeline Failure – Salem, PA (USA) April 2016

Incident Description

A 30” diametergas pipeline in Salem PA, exploded in April 2016 resulting in burns to one man (whose home was also destroyed) and scorching of 40 acres of farmland.

An ILI run in 2012 had identified an area of 30% wall-thickness loss (lower than the threshold requiring action). As a result of this, the inspection frequency was reduced to five-yearly. The event occurred four years later.

Root Causes

The corrosion rate in the interim was estimated at 10 – 15% of wall thickness compared to industry expectations of 2 – 3%.

A PHMSA preliminary investigation has suggested corrosion at weld joints contributed to the incident.

Field-applied tape coating at the weld points is thought to have failed.

Local ‘wet-dry’ cycling due to the proximity to a compressor station was also identified as a contributor.

Action Taken

Spectra Energy have reduced the inspection frequency on some sections of lines from 7 years to 3 years and have reduced the threshold for actioning anomolies

Spectra Energy crews are assessing the Penn-Jersey system for any potential issues.

Learning for UKOPA Members

- Integrity of field-jointed coatings is important in maintaining the integrity of the pipeline
- Routine CIPS / DCVG surveys can help to identify degradation in coating systems
- Areas where pipelines could see condensation on the surface due to the internal fluid temperature should be considered in Risk-Based Inspection as having potential to increase corrosion rates

Further information can be found at:

PHMSA Website - https://www.phmsa.dot.gov/pipeline/library/reports/pipeline-failure-investigation-reports

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Adobe Acrobat Document