



Pig Trap Door Seals

Value Tracking Case Study



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Background

The NTS contains 208 pig traps, all holding a volume of gas at line pressure. A failure in the pig trap door seals releases gas into the atmosphere, requiring National Gas Transmission (NGT) to isolate the pig trap to stop emissions while carrying out repairs. Nine failures in the five years from 2008 to 2013 represented an upward trend in door seal failure.

The cause of this upward trend was not fully understood. A previous project looking at improving the overall integrity of pig trap enclosures set the groundwork for this investigation into whether the pig trap elastomer seals were fit for purpose.

What's new?

The project identified the cause and impact of each failure, greatly improving our understanding of how best to manage and maintain pig trap seals. The investigation also pinpointed key recommendations for avoiding future failures, including improvements to the level of training provided to operations staff and updates to maintenance procedures for pig trap door seals.

The benefits

A new pig trap maintenance training package has been developed and successfully implemented. All pipeline and compressor mechanical technicians now complete a standalone Pig Trap Door Seals training module. The module has been embedded into several existing courses including Pigging Operations and Maintenance, and our Engineer Training Programme. Additional pig traps have

been installed at our Training Academy at Eakring to provide participants with a practical, hands-on experience. These modules are available for other gas networks to use. Cadent has held four training sessions to date and feedback has been very positive so far. For example, Glynn Barber, Technical Training Manager, NGGD, said "Providing this hands-on training better equips our employees to maintain and monitor pig trap door seals, reducing the likelihood of failures and improving safety conditions."

In addition to expanding our expertise, changes have also been made to the way we maintain and report pig trap closure conditions. Work procedures and specifications have been updated to facilitate the inspection of pig trap closures and capture detailed information about the condition of the door seal. These new methods of reporting enable defects to be identified and, where necessary, repaired at an earlier stage in the process.

Financial savings

The project is focussed on improving the understanding of pig trap failures for learning and training. In financial terms, costs avoided are equivalent to £10,000 per year, assuming three incidents are avoided per year.

Implementation

Training package rolled out and shared with wider Gas Industry. No pig trap door seal failures have been reported on the NTS following the completion of the project – a reflection of the improvements in the competency, governance and reporting of pig trap closures. Further opportunities to be identified as part of training/ incident review work.

