

Isolation valve efforts improve platform performance

INDUSTRY

Oil & gas offshore

LOCATION

North Sea

PROJECT

Long-term mechanical and safety valve management on mature platforms

The challenge

Finding cost-effective ways to maintain the reliability of isolation valves is a critical success factor for mature North Sea platforms. Declining production levels result in valves functioning outside the operating envelope for which they were designed.

And enduring problems of North Sea production – such as sand abrasion of internal components also compromise performance over time. Safety compliance and output have a symbiotic relationship in oil and gas production. It follows that operators need to tackle isolation valve challenges head-on to ensure mature platforms remain profitable.

The solution

Severn is contracted to manage the mechanical and safety valve populations for several North Sea operators. One contract covering a suite of platforms in the Northern North Sea has been held by the Group for 14 years.

The contract involves supervising and implementing refurbishment, repair and testing of pressure relief valves as well as other mechanical and automated valves. Severn works proactively to organise valve surveys during turnarounds as well as managing all offshore mobilisations.

During surveys, details of existing valves are gathered and uploaded to Severn's OVM database; this includes photography and report sheets where appropriate. Valve repair and replacement data is also recorded, creating a detailed picture of overall valve population status.

Analysis of this data reveals which valves are most vulnerable to performance issues or failure, enabling proactive remedial measures to be taken. For instance, having identified that ball valve seat abrasion is a repeat problem, Severn has invested in an extensive stockholding of peek-seated and metal-seated ball valves which are better able to withstand the arduous performance conditions. Having a ready supply in stock ensures they can be despatched to meet rapid turnaround requirements.

The outcome

Outsourcing valve management to an expert third party facilitates a more rationalised and streamlined approach. Severn has created a virtuous cycle of continual performance improvement for this installed base of mechanical and safety valves. The contract was recently extended for a further five years, underlining operator confidence in the Severn team.



Changing production levels bring new technical challenges, but they can be mitigated with intelligent valve management.