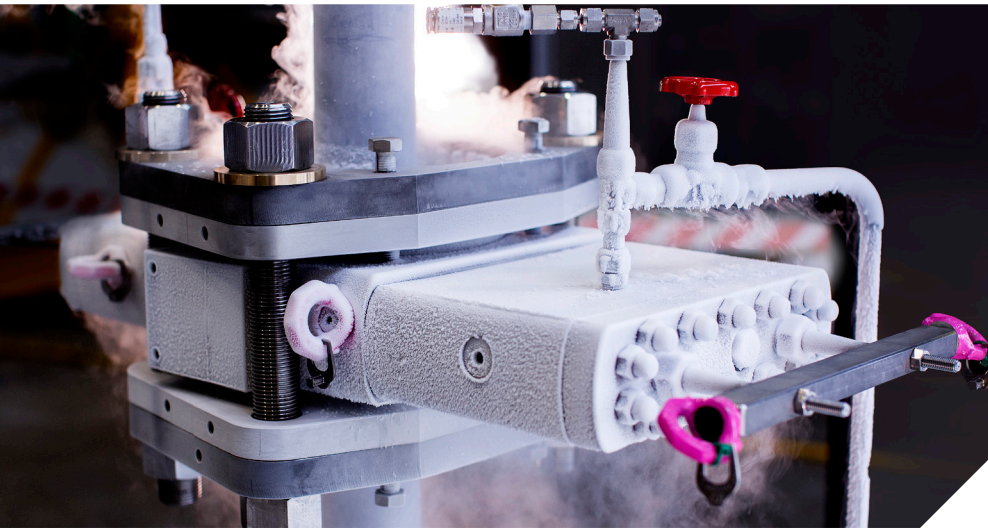


CASE STUDY

CRYOGENIC AOGV'S ELIMINATE FACILITY SHUTDOWN



THE DRAIN LINE FROM THE FLARE KNOCKOUT DRUM ON AN LNG RE-GASIFICATION PLANT NEEDED TO BE REPLACED DURING OPERATION. BY DESIGNING AND MANUFACTURING TWO CRYOGENIC AOGV MECHANICAL ISOLATION TOOLS THE IK-GROUP ENABLED MAINTENANCE AND MODIFICATION TO BE CARRIED OUT ON A COMPLEX FACILITY WITH MANY DEPENDENCIES AND SMALL REDUNDANCIES.

UPTIME WAS SECURED THROUGHOUT THE ENTIRE OPERATION.

THE SITUATION

The operator of a major offshore LNG re-gasification plant needed to perform maintenance which involved replacement of a pipe section. The maintenance location was by the flare knockout drum where the natural gas is cooled down to -162°C . Typically, this type of operation is normally performed using isolation points built into the facility or by shutting down the entire facility.

WHAT WE DID - THE AOGV

IK Group's patented AOGV is a mechanical isolation tool which can set and retract a blind spade in a pair of standard flanges on a pressurised process system. The blind spade or a combination of several spades in different locations can facilitate the replacement of valves and pumps, taking a vessel out temporarily for safe entry and bringing it back on-line whilst the main process is kept in continuous operation.

CHALLENGES

- No suitable isolation valves near the maintenance point.
- Integrity requirements ruled out legacy isolation methods.
- Cryogenic: -162°C .
- Avoid facility shutdown.

RESULTS

- Two flawless isolations performed.
- Zero non-productive time.
- Zero LTI's.
- Saved 14 days' shutdown with an estimated value of \$20M/day



Providing positive isolation, the AOGVs were chosen for installation upstream on a knockout drum nozzle, as well as downstream on a drain line, thereby isolating a section whilst the main process could continue.

TESTING, PLANNING & PREPAIRING





Two 3" ASME Class 150 Cryogenic rated AOGVs were commissioned for the work scope. Working closely with the operator, IK Group planned for site activities including pipe spool and valve replacement whilst the main process was running. Following manufacture, the AOGVs were subject to extensive workshop testing, verified by DNV to ensure regulatory compliance.

Operation planning included logistics, HSE, HAZID, lifting and rigging.

SITE OPERATION

IK-Group's crew mobilised on schedule, enabling a flawless operation during which the AOGVs provided a zero-energy zone, enabling a complete replacement of the pipe spool as well as replacing a valve without any downtime.

RESULTS

-  • **Two flawless isolations performed safely and successfully.**
-  • **Zero non-productive time for the client.**
-  • **Zero LTI's.**
-  • **Saved 14 days' shutdown with an estimated value of \$20M/day.**