



## PROJECT BRIEF

A valve pit at an onshore processing facility contains the shore valves and associated piping and instrumentation systems to receive sour well fluids transported from an offshore field via a 12-inch pipeline. HSE studies have established that there is a risk of hydrocarbon / toxic release from the valves and flanged piping connections in the pit which presents a credible threat to a nearby accommodation camp. Consequently, utilisation of the camp is restricted.

To address the threat a solution is needed that will contain any leaks from the valves and flange connections sited in the pit. This would manage the HSE risk down to an acceptable level commensurate with the Operator's standards. The option of replacing the flanged shore valves with welded models was considered but discounted. This would eliminate potential leak sources at the principal 12-inch flange connections, but a sizeable number of 2-inch branch and instrument connections would remain. More importantly, a lengthy shutdown of the offshore field would be needed to undertake the necessary equipment modifications.

## SRJ SOLUTION

The selected solution comprised a combination of bespoke clamps and enclosures to cater for the variety of equipment (and potential leak sources) in the pit, including:

- Three main 12-inch shore valves and their flange connections
- Eight off 2-inch valves installed on the pressurisation bypass and drain lines, and their associated flange connections
- Seven off 2-inch pressure transmitter piping branches incorporating diaphragm seals and flushing stalks

Sixty-nine clamps and enclosures were involved in total. These were all designed to be installed, and then injected with a suitable leak sealing compound, whilst the plant remained fully operational.

## LOCAL DELIVERY WITH EURO MECHANICAL



The solution was provided and implemented by a joint project team comprising SRJ Technologies and Euro Mechanical. SRJ Technologies were responsible for scoping and evaluating an initial laser scan survey of the valve pit, design engineering of the clamps and enclosures, and for oversight and quality assurance of their manufacture. Euro Mechanical were responsible for overall project management, painting of the clamps and enclosures post manufacture to agreed specifications, delivery logistics, and all aspects of the works at site regarding installation and sealant injection.

## DELIVERED VALUE



### IMPROVED SAFETY

The use of bespoke clamps and enclosures provided a practical and expedient solution to mitigating multitude of different leak sources in the valve pit.

It reduced the threat from toxic gas dispersion down to the levels acceptable for usage restrictions at the nearby populated camp to be lifted.



### UNINTERRUPTED PRODUCTION

Implementation of the solution was realised without any interruption to prevailing production operations at the facility thereby delivering significant savings for the Client.



### RETAINED OPERABILITY

Customised designs provided effective leak source encapsulation without adversely impacting plant operability or the ability to carry out routine maintenance e.g., the periodic flushing of pressure transmitter instrumentation diaphragm seals.