

# Definition of subsea pig launching and receiving capability

## The scope

Jee's client was developing a number of fields in the Mediterranean Sea. As part of this development a new subsea pipeline was to be laid carrying produced gas from two separate wellsites to a tie-in to an existing larger diameter export pipeline. The pipeline system was being designed to accommodate pigging operations at various points through the field life. These pigging operations would require pigs to be both launched and received subsea, using diverless subsea pig traps.

Performing both subsea launching and subsea receiving activities on the same pipeline is very rare during life of field operations (though less so for commissioning) and poses a number of challenges, including the installation/recovery of temporary equipment subsea and the need for expensive vessels to carry out the operation.

## The solution

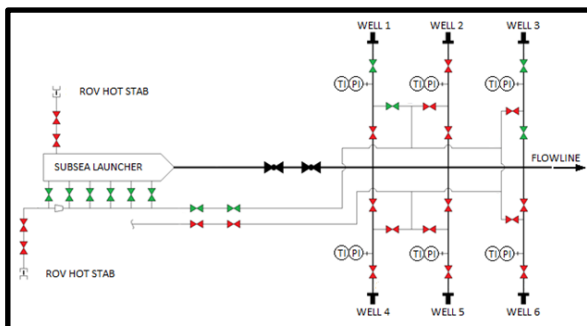
We provided technical assistance to the design and planned operation of the subsea pigging facilities. This included reviewing pig launcher and receiver designs and the base case launching and receiving operational concepts.

We made a number of recommendations for trap design improvement which were then incorporated prior to manufacture. Subsequently, we conducted a feasibility study, concept development and risk assessment for kicking pigs using MEG supplied from the launcher deployment vessel to provide an alternative option to kicking with well gas. The aim of this was to achieve increased control over the pig speed at launch and thus improve data collection at the hot end of the pipeline where the corrosion risk is greatest.

We also developed subsea pig launching and receiving procedures for the programme, and a philosophy for pipeline cleaning and inspection, targeted at mitigating safety and commercial risks and presented the plans at HAZOP, before finalising the documentation with HAZOP recommendations.

## The benefits

The pigging operation requires two vessels, one at each end of the pipeline, as well as reduced production flow. As such, the operation has a significant commercial impact. We helped our client to reduce this impact and optimise the prospective pigging campaigns by minimising the duration of the operation, costs and risk, whilst also improving the chances of a successful campaign.



Schematic of base case subsea launch arrangement