

Paradigm Flow Flexi-Coil System

Delivering Outstanding Decommissioning Services

Overview

Two subsea flowlines within a subsea bundle were officially isolated from an old subsea well. However during decommissioning it was discovered that these lines were communicating with the well and pressure had built to 122bar in one line. To continue decommissioning of the platform both lines were required to be flushed to 30ppm and a barrier installed between the well and the platform.

Challenge

As no circulation loop was available the alternative methodology would have required a subsea hot tap into the lines with specialist equipment for breaking into bundles. The intervention would have required a number of weeks of vessel time due to the hot tap, flushing to 30ppm and isolation worksopes required. This was estimated to be likely to cost many millions, especially with the work being required during the stormy winter north sea.

Paradigm's challenge was to rig up where coil cannot be rigged up, run round corners that coil cannot run round, a pump a sealing cement plug where normal cement would not create an isolation.

Solution

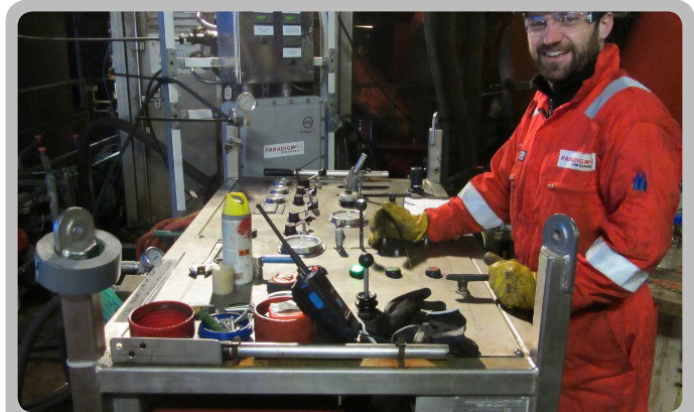
Paradigm's Flexi-Coil system was rigged up on the cellar deck, and run round 450° of corners and out to nearly 900m to the end of both lines. Over a one week period both lines were flushed and isolated, with a thermally swelling cement.

Result

- Two flowlines cleaned to 30 ppm
- Two flowlines isolated from the well and barrier pressure tested
- Client was able to continue with decommission operation on time and under budget

Value to client

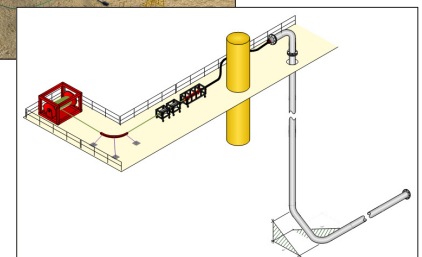
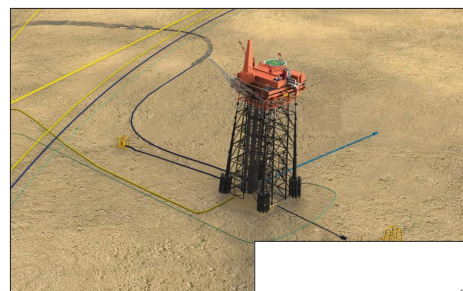
- The client saved approx. \$2 million due to the avoidance of lengthy subsea intervention with a DSV
- Significant reduction in safety and commercial risk



The Flexi-Coil system has been designed with neutrally buoyant flexible pipe, patented cleaning heads and a patented mobile design to allow challenging interventions to be performed.

Main Features / Benefits

- Extremely mobile equipment
- Flexible neutrally buoyant pipe can pass 1000° corners
- Extreme reach 1000° of corners then 10km reach
- Removal of full and partial flow restrictions – in paraffin, hydrate, asphaltene. Sand and scale
- Back to base metal cleaning for inline inspection on risers
- Riser-base gas lift for hydrate remediation and artificial lift
- Flowline decommissioning and plugging



450° Corners Navigated by Flexi-Coil