Valemon Platform Tie-in with Double Block and Monitor Isolation Technology

T.D. Williamson’s non-invasive SmartPlug® inline isolation tool is paired with GSM communications system for risk and cost reduction during offshore platform tie-in

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STAVANGER, Norway – April 27, 2015 – Statoil Petroleum AS recently completed a North Sea inline isolation in order to facilitate the tie-in of its new Valemon platform to its Huldra-Heimdal pipeline. Statoil chose SmartPlug® isolation technology, by T.D. Williamson (TDW), to safely isolate the line for 89 days during the operation. Watch how an offshore inline isolation is performed.

Since 2001, the gas and condensate produced from Statoil’s Huldra platform has been shipped to its Heimdal Gas Center through a 22-inch wet gas pipeline extending 150 km (93 mi). To bring its Valemon platform online, Statoil had to decide between constructing an additional 177-km (109-mi) pipeline, running from Valemon to Heimdal, or to lay just a 27-km (16-mi) line from Valemon and tie into the existing Huldra-Heimdal pipeline. They chose the latter.

The tie-in alternative necessitated a fairly complicated isolation operation, for which Statoil turned to TDW. The SmartPlug isolation method provides a proven, double block and monitor isolation that would prevent flooding during the tie-in operation.

"The DNV GL-certified SmartPlug isolation method allowed production from Huldra to continue for an additional five months," says Atle Halvorsen, TDW Project Manager. The line was isolated for 89 days at an average isolation pressure of 84 bar and hydrotested at 174 bar.

In addition to the production gains, this isolation was distinctive for its extensive use of Global System for Mobile Communications (GSM) monitoring. GSM delivered several tangible benefits to Statoil:

- Reliable, real-time, 24-7 monitoring from TDW's Stavanger control center
- Elimination of on-site monitoring personnel and associated platform crew
- Reduced risk and cost associated with on-site personnel

The SmartPlug tool and standard commissioning pigs were fitted with SmartTrack™ transponders that allowed monitoring of the tools through a wide range of communication setups, including cabled, acoustic, radio link, and GSM-based logging.
The SmartPlug tool was monitored by the crew every hour during the tie-in activities and when the pipeline was hydrotested. Six different measurements were taken: the high pressure side of the tool (HP), low pressure side (LP), annulus pressure (AP) between the two isolation plug modules, internal pipeline temperature (Internal), outside temperature (OT), and remote transceiver temperature (RTT) – which monitors the temperature on the seabed.

The greatest advantage of the GSM link was that it allowed for accurate monitoring to continue during the long periods of inactivity – a month or more – between certain phases of the tie-in. Without the GSM link, a one- or two-man crew would have been required during these periods, thus increasing Statoil’s cost for the operation. According to Halvorsen, Huldra is an unmanned platform and monitoring by crew alone would have necessitated deployment of a full supporting platform crew over the course of the operation.

"The sophisticated monitoring techniques developed to complement the SmartPlug isolation technology allowed us to complete a very complicated job in the minimum time necessary and at the lowest cost to Statoil," says Halvorsen.

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About T.D. Williamson

Drawing upon a 95-year history of industry leadership, TDW is a global solutions provider for the owners and operators of pressurized piping systems. TDW delivers a comprehensive portfolio of solutions for onshore and offshore applications, including hot tapping and plugging, pipeline cleaning, integrity inspection, pigging and non-tethered plugging pig technology.

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