

ECA to Conduct AUV Autonomous Inspection Sea Trials in the Deepwater GoM

The offshore sea trial using the Alistar 3000 Inspection AUV was designed by BP to evaluate the technology. It will be located in the company's deepwater King Field (1700msw) in the Gulf of Mexico and will comprise the following three levels of trials:

Passive pipeline inspection: Alistar 3000 will locate and follow a pipeline at various altitudes above the pipeline whilst recording video, sonar data and actual position of the flowline.

Active pipeline inspection: Alistar 3000, using on-board sensors that can automatically detect anodes or anomalies whilst tracking the flowline, will actively modify its mission to carry out closer General Visual Inspection (GVI) of the detected features.

Structure inspection: Alistar 3000 will follow the flowline to a pipeline end structure and will process in real time, sensor information to maneuver around the structure to perform a GVI.

The ability to hover and maneuver close to subsea facilities differentiates this from previous commercial AUV inspection capability and will provide a step change in functionality.

The Sea Trial, scheduled for fall 2005, will take approximately two weeks. On completion, the system will be available for extended trials or further capabilities development depending on customer requirements.

Un-tethered operations using an AUV offer advantages over tethered vehicles in many areas of subsea operations, most are derived from the elimination of or minimal need for a surface support vessel. This yields great flexibility in the way subsea operations can be planned and executed as well as an overall cost reduction. Compared to a tethered vehicle, an AUV operation also reduces the topsides installation footprint and overall weight requirements (no umbilical, no TMS, no winch) making installation on a FPSO or host platform much easier. Finally, data quality is also greatly improved by eliminating umbilical induced underwater vehicle perturbation, especially for acoustic data.

Automatic tracking of a flowline, developed by ECA since mid 2004, has become a basic requirement for AUV's. The capability of Alistar 3000 is not limited to the above task and provides a platform for various other AUV applications to survey, inspect and execute autonomous Touchdown Monitoring during pipe lay operations. It offers both independence from survey support vessel and precise positioning using the INS/DVL/USBL filtered AUV navigation system.

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