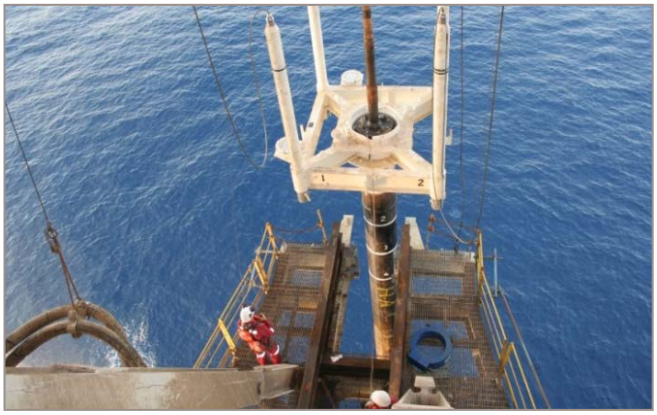
AGR / PUFFIN FIELD DEVELOPMENT
PREMIUM DRILLING 'WILCRAFT', TIMOR SEA
Modifications to Jackup for Subsea Completions.

ICON Engineering was engaged by AGR Asia Pacific as part of the EPPL Puffin field development to engineer modifications and produce procedures to enable high pressure 22" riser and subsea trees to be run from a jackup drilling rig. The rig was the Premium Drilling Wilcraft, a Keppel Fels Mod V – Class B MODU.

Modification Design

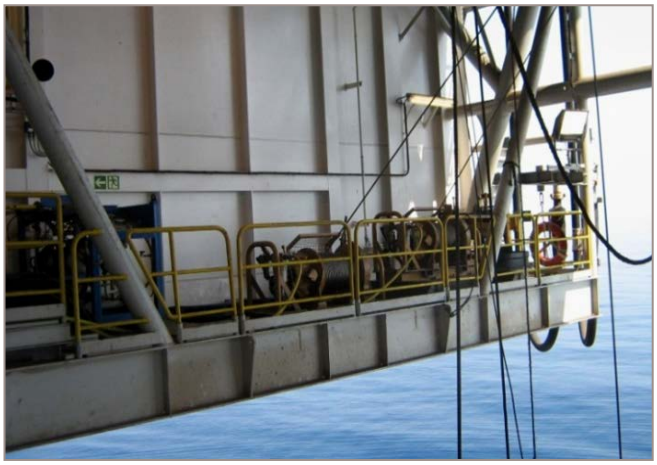
The modifications to the Wilcraft included installation of three guide wire winches on the cantilever cellar deck, and modification to the Texas deck to enable cantilever skidding while 30" casing was fitted to the PGB, to allow the PGB to pass below the Texas deck.



Modifications to Texas deck, guide wires also shown

Padeyes and rigging were installed beneath the drill floor in order to run the guide wires up and out from the cantilever cellar deck down to the Texas deck.

Other modifications included installation of a tubing hanger plinth and installation of spreader beams on the Aft main deck to land out the tree.

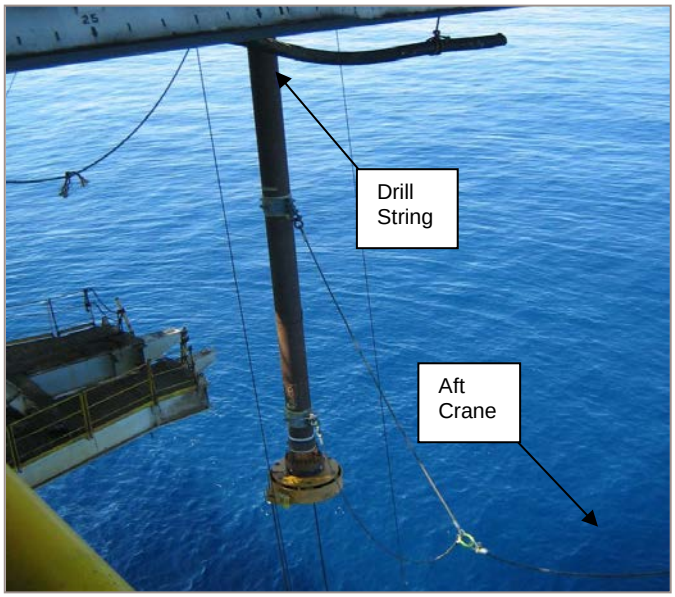


Installation of three guide wire winches - one port, two starboard

Lifting and Handling Procedure Design

Two lifting and handling procedures were developed for handling of the 22" high pressure riser and 35T subsea trees. Each lift presented particular challenges.

Due to geometrical constraints, the 22" HP riser needed to be hand shaken between the Aft crane and the drill string beneath the cantilever deck. Specialised lifting slings and clamps were designed to accomplish this lift.



Handshake lift of 22" HP riser

The subsea tree was lifted from the supply boat using the top drive with the cantilever deck skidded out past well centre. Again, specialised slings and rigging were designed to undertake this lift. The tree was landed out on the main deck below the cantilever on spreader beams.

Lifting of tree from supply boat using top drive

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