

Chevron Australia Pty Ltd Wheatstone Field Development

ARTP E-Series Compensated Tension Lift Frame

ICON Engineering Pty Ltd (ICON) was contracted by Chevron to install, operate and maintain an ICON ARTP E-Series Compensated Tension Lift Frame (CTLF) on the Atwood Osprey semi-submersible drilling rig for the Wheatstone Field Development Project.

The ICON ARTP Tension Frames are a range of coiled tubing lift frames with integrated passive heave compensation systems specifically designed to mitigate risks associated with accidental lock of a rig's primary drill string compensator during subsea well completions, well testing, well interventions and other "locked-to-bottom" operations from floating rigs.

Purpose

The Wheatstone Field Development project included drilling and completing production wells in 110-240 metres water depth. Project risk assessments during the planning phase concluded that accidental failure / lock-up of the rig's primary drill string compensator (active heave drawworks) posed a serious hazard, particularly during flowbacks when hydrocarbons were brought to the surface. The potential consequence of a major accident event was unacceptable.

In order to mitigate this risk as low as reasonably practicable, ICON's ARTP E-series compensated tension lift frame was deployed and used during completions work on all nine wells.

Scope

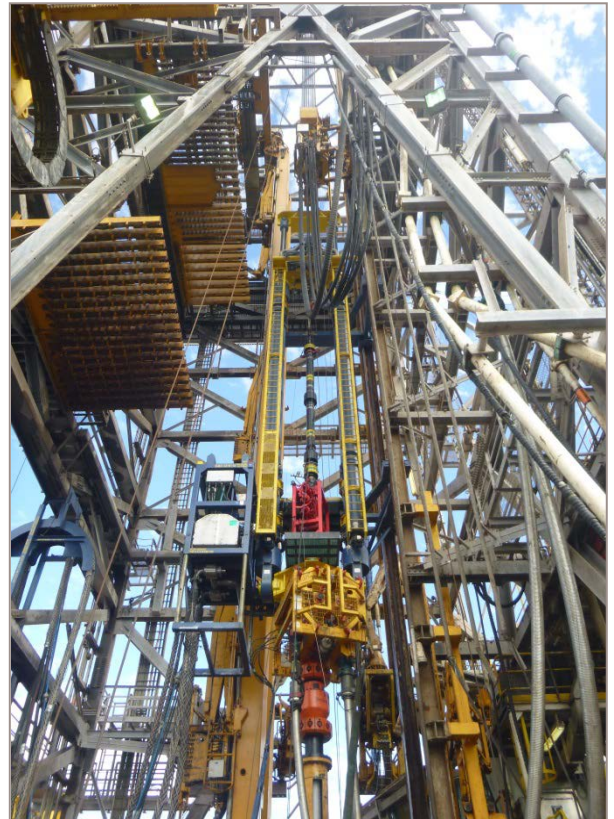
ICON's scope was split in to two phases: 1) equipment preparation and rig interfacing; 2) offshore operations support and equipment maintenance.

The ARTP E-Series was originally designed for another rig, so a rig interfacing scope was required to ensure compatibility with the Atwood Osprey. This included modifying the ARTP dolly guides to suit the rig's dolly track, developing deck layouts and umbilical routing plans, seafastening the deck equipment via an interface grillage, supplying new air hoses, umbilicals and service loops, and tie-in to rig utilities. All deck equipment and umbilicals / hoses were pre-installed and hooked up in advance to save time on critical path.



The ARTP E-Series during rig up in the derrick

The operations and maintenance scope included pre-operations planning, HAZIDs, preparing rig-up and operating procedures, onshore testing of equipment, mobilising equipment offshore, offshore rig-up and operations for all nine well, and routine equipment maintenance.



The ARTP E-Series in operation while conducting flowbacks

Performance and reliability of the ARTP equipment was excellent throughout the entire operations. When providing primary heave compensation, the system delivered very low load variation when compared to the rig's existing active heave drawworks. In total, the ARTP was operational for 1037 hours with only 1 hour of down time.

ICON's offshore team supported the operations around the clock and continually improved work methods to enhance efficiencies. The work was completed with an excellent safety record, with zero incidents.

Basic Equipment Specifications

- 500t load rating, mechanically locked
- 250t load rating compensating
- 250t load rating back up compensator mode
- 10m stroke

The ICON ARTP Tension Frames are available for long or short term rental.