

Woodside Atwood Eagle drilling rig upgrades

Pressure and Fluids Management System: design, fabrication & installation

Woodside contracted ICON Engineering for the installation of a Pressure and Fluids Management System (PFMS) on the Atwood Eagle drilling rig. The engineering activities included engineering and design of PFMS grillages and skids, structural modifications to existing PFMS units, fabrication, SIT testing assistance, and offshore installation.

The Atwood Eagle was deployed on the North-West Australian shelf to conduct drilling and well test operations on a number of wells over a two year period.

Purpose

The PFMS is a closed-loop, continuous operation which removes unwanted solids and gas from drilling fluids. It is transported in discrete modules and assembled on location.

ICON provided engineering support to modify the existing tank modules, as well as engineering design and fabrication of a new pump skid and degasser support frame. The new design incorporated a stacking arrangement and streamlined pipework that greatly reduced the PFMS footprint and rigup time.

Scope

The project included the project management, engineering, fabrication of steelwork, skids for pumps and degasser frames, transportation and offshore installation.

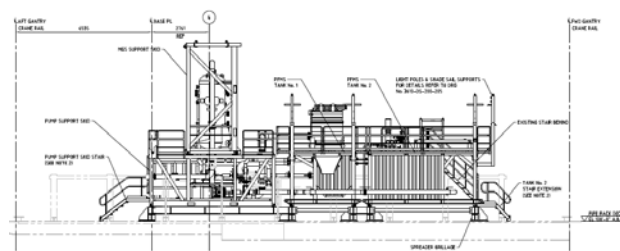


The PFMS installed on the Atwood Eagle

ICON was requested to design, fabricate and install a suitable sea fastening system for use on the Atwood Eagle rig, including spreader beams with removable seafastening.

Existing pump / tank connections and pipework required rerouting or reworking and lighting and access walkways and shade covers were designed for onsite installation and removal.

Load cases and lifting analyses for the pump skid and degasser frame were calculated for sea transport and offshore lift onto the Atwood Eagle.

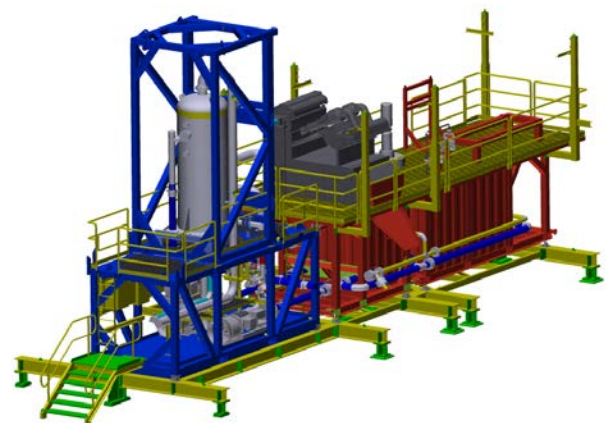


Elevation of final design

Installation of Customised Solutions

One of ICON's specialities is installing large scale equipment onto drilling rigs without the need for expensive shipyard stays or incurring drilling downtime.

The PFMS project required ICON to undertake some significant modifications on the Atwood Eagle to facilitate the installation and subsequent removal of the 3rd-party owned equipment.



3D Model of Modified PFMS system

Project Data

- Weight: 120 tonne
- Width: 5m
- Length: 20m
- Height: 12m