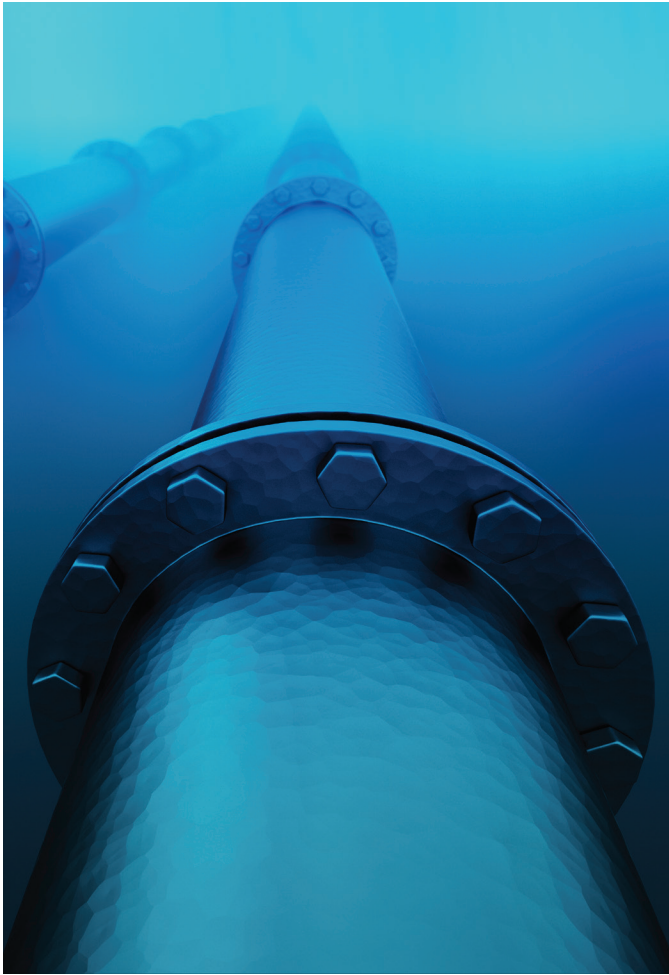


TSEP Western Australia



Overview

Specially-developed subsea machining equipment and tooling was designed and fabricated by TEAM Australia for TSEP, to machine RTJ joints on the new subsea pipeline at 120 metres depth.

Project: Subsea machining equipment developed for 120m depth on new pipeline

Location: Woodside Energy Trunking System Expansion Project (TSEP) North West Coast, Western Australia

TEAM Service: Field Machining

Need and Challenge: Specialist subsea equipment was required to enable 30 inch and 42 inch ANSI RTJ joints to be machined in the event that the flange sealing faces were damaged during the pipeline assembly process, as the spools were brought together on the seabed and the flange studs tensioned.

Solution and Outcome

Specially-developed subsea machining equipment and tooling was designed and fabricated by TEAM Australia for TSEP, to machine RTJ joints on the new subsea pipeline at 120 metres depth.

The equipment was supplied to the Technip-Coflexip Subsea 7 joint venture for the project. Woodside Energy has installed a large diameter multiphase subsea trunkline to increase the production capacity from its gas condensate fields located off the North West coast. The new trunkline extends from the existing onshore facilities near Dampier to the North Rankin 'A' platform located 135km offshore.

TEAM's diver-operated equipment, based on an air-driven machine design and converted to hydraulic drive, was designed and delivered as a contingency measure for the project. The machine used has an operating range from 600mm to 2100mm and weighing 900kg.

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Automatic feeds and various other modifications were carried out to convert the machine from air operation to hydraulic drive, and make it suitable for operation at 120 metres.

Trials of the equipment were undertaken to demonstrate the capabilities and ensure that the requirements were met. Initial workshop trials were carried out on a 42 inch RTJ flange, during which the divers visited the workshop for training on how to assemble, align into position, and operate the equipment, followed by further successful trials in Dampier on the same test flange. During training the divers were successful in setting up the machine to within 0.02mm.

In the event that the equipment was required offshore, TEAM was also contracted to supply personnel who would provide instructions to the divers via video and audio link up.

This work may have been performed by a company subsequently acquired by TEAM.