

# Oceaneering completes subsea electrical backbone repair in Australia

## On-time project delivery eliminates downtime and lost revenue



### Project Overview

An existing producing field in the Bass Strait, Victoria, Australia experienced ongoing electrical faults with previously-installed, non-Oceaneering infrastructure. The field operator was operating with limited redundancy and required capacity for future field expansion.

The client initiated the tender process in late 2018 with a request for a full project scope including the design, fabrication, and testing of subsea structures including an umbilical termination assembly (UTA), electrical distribution units (EDUs), an umbilical termination head (UTH), and mudmats.

## The Oceaneering Solution

Oceaneering combined its experienced local design team with global expertise in our talent pool to design, fabricate, and test the subsea structures in Perth, Australia. Imperative to the project's success was an aggressive schedule that was pursued to minimize the likelihood of unplanned downtime due to electrical faults in the existing subsea infrastructure.



The suite of equipment had to be optimized and cost effective while meeting the client's short lead time. The scope of manufactured products required to repair the faulty electrical system included:

- » 1 Umbilical Termination Assembly supplied with hydraulic tubing
- » 4 Electrical Distribution Units
- » 1 Umbilical Termination Head
- » 8 Mudmats
- » 1 UTH Parking Stand
- » 4 Umbilical Termination Housings.

In addition to the hardware manufacturing scope, Oceaneering was also contracted to assist in the offshore termination of an existing non-Oceaneering umbilical. Oceaneering technicians effectively and successfully terminated the umbilical and interfaced it with the new UTA and UTH.

## Execution Plan

Early November 2018 saw both the project award and project kick-off. The design phase was completed on December 27, 2018. Designing the structures in Perth enabled excellent client interaction throughout the process and enabled the team to achieve the fast track schedule. Fabrication and testing of the structures took place in Perth, Western Australia and was completed at the end of February 2019. The hardware was transported from Oceaneering's world class Jandakot Facility in Western Australia to Portland,



Victoria, Australia during the first week of March 2019.

The offshore campaign to install the hardware commenced the 11th of April and was completed the 8th of May 2019.

## Challenges

The exceptionally tight deadline meant that the lead time to design, fabricate, and test



the subsea structures was very short. This was managed by the client and Oceaneering maintaining excellent communication to maintain their collaborative working relationship. Further complexity was added by the modifications and design revisions introduced during the project's initial phases. The late arrival of some free-issued materials posed obstacles to meeting the delivery deadline and stringent testing specifications left little room for error. Where challenges did present, Oceaneering found solutions and ways of working to meet the clients needs. Successful project execution also required interfacing with multiple stakeholders spread across vastly different geographic locations including the UK, US, Australia, India, and Singapore.

## Project Highlights

In order to successfully repair the existing infrastructure, the termination of an existing umbilical was required. The existing umbilical system, however, was not an Oceaneering system and the client was unable to obtain OEM services for the repair scope. Oceaneering rose to the challenge and conducted a proof-of-concept exercise to terminate a sample umbilical piece onshore. The proof-of-concept exercise involved the following activities:

- » Design and testing of replacement umbilical termination housings  
Mobilizing specialist technicians and tooling from the Oceaneering global talent pool to conduct the proof-of-concept testing
- » Integrating lessons learned from the activity
- » Conducting a hazard identification (HAZID) workshop to identify and mitigate risks during offshore execution  
Completing the umbilical termination offshore and interfacing the umbilical to the new-build UTA and UTH.

## Results

Oceaneering delivered the project on-time, safely, and cost effectively. Excellent client interfacing and leveraging the Oceaneering global talent pool enabled the team to exceed client expectations in project management, delivery, and offshore execution. The successful delivery of the project resulted in a commendation of the highest sorts for Oceaneering and enabled the client to operate with significantly more redundancy and capacity for future expansion.