

Conductor Supported Platform Decommissioning

Project Overview

In late 2016, Oceanearing completed a five conductor platform decommissioning project off the coast of Malaysia. The project scope included offshore and onshore project management, ROV services, tooling, and personnel.

The Oceanearing Solution

The customer wanted one contractor to provide ROV and tooling equipment. By selecting Oceanearing as the provider of both ROV and tooling services, we were able to save the customer money and time. The customer could interface with one point of contact to effectively reduce project management time. Oceanearing was able to provide experienced and qualified personnel with proven equipment. Our services met the customer's needs and focused on a mutual priority of completing the decommissioning activities safely and to their required schedule.



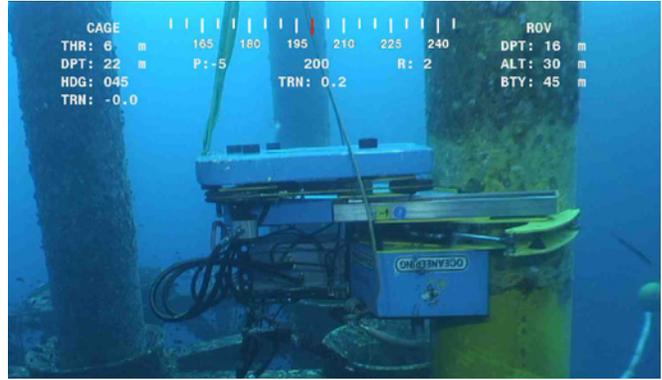
Execution Plan

The customer had a short window to mobilize and prepare for the project. Due to the quick turnaround, identification and provision of personnel and equipment was supported by our global presence.

Pre-mobilization, Oceaneering provided the customer with ROV deck layout drawings, technical support for simultaneous operations (SIMOPS) with divers, and offshore procedures. An Oceaneering engineering team also completed all of the required conductor lifting calculations, ensuring they met the most current API and NORSOK lifting Standards.

Equipment that wasn't already in country was transported from Australia, Norway, and the USA to identified mobilization points. Personnel were mobilized from Aberdeen, Singapore, and Australia.

The final mobilization points for Oceaneering ROV and Service, Technology, and Rentals equipment were Batam and Singapore, respectively. Oceaneering was able to move and reconfigure equipment, test, and mobilize in less than three weeks.



The five conductor platform decommissioning scope included:

- » Platform Removal
- » Drill lifting and anti stripping holes for each conductor section
- » Installation of the conductor lifting equipment
- » Sectioning/Cutting of the Conductors Subsea
- » Marine Growth Removal
- » Conductor Dredging to perform Below Mudline Cuts
- » Retrieval of the Conductor Sections

The conductors that were cut and retrieved consisted of 1-3 casing strings with and without cement.

	Conductor 1	Conductor 2	Conductor 3	Conductor 4	Conductor 5
Casings	13 3/8 in, 36 in	13 3/8 in, 36 in	13 3/8 in, 36 in	9 5/8 in, 13 3/8 in, 36 in	36 in
Uncemented Cuts	2	2	3	3	3
Cemented Cuts	1	1	0	0	0
Average Cemented Cut time	2.5 hours	2.5 hours			
Average Uncemented Cut Time	6-8 hours	6-8 hours	6-8 hours	6-8 hours	2 hours

To enable retrieval of the conductors, holes were drilled through each casing using an Oceaneering dual drilling machine. Anti-stripping and lifting pins were then installed with diver support. Oceaneering completed calculations to determine the quantity of holes and spacing required based on the length, weight, number of casings, and casing sizes of each of the conductors. Holes for lifting were drilled topside and subsea.

Each conductor was cut into three sections. All cuts were made subsea with an Oceaneering diamond wire saw. Successful installation of the diamond wire saw and dual drilling machine required marine growth removal for the tool to fit flush to the pipe. An Oceaneering high volume marine growth removal package was used to jet marine growth and provide perpendicular fit between the tool and the conductor.



The final cuts made to each conductor were a meter below the mudline. To make a below-mudline cut, conical dredging had to be performed around each conductor. A 12 inch dredge was used to remove the soil and displace it away from the conductor.

Equipment Highlights

Tooling equipment used to complete the job included a 12 in dredge, diamond wire saw, dual drilling machine, high volume marine growth removal package (diesel-generated high pressure water pumps, high pressure hose reel, diver operated jetting wand, ROV-operated jetting wand), and conductor lifting and retrieval equipment.

Challenges

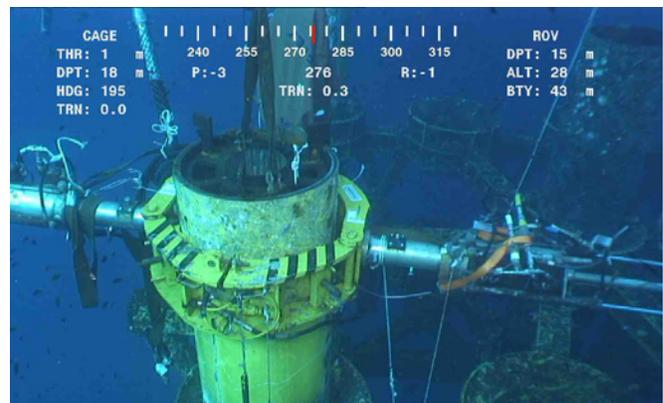
Several challenges were faced and overcome during the project. The project required significant mobilization of globally dispersed equipment and personnel. Not only did we have a global effort to mobilize, but we had a short window to arrange and complete these operations.

Oceaneering is a market leader in decommissioning. However, this was our first conductor retrieval project in the Asia region. Lessons learned and best practice operations were quickly implemented to ensure the equipment performed at its maximum potential.

This project required Oceaneering to drill and cut through uncemented casings. Uncemented casings cause vibration, excess movement, and unwanted loads on the equipment during drilling and cutting operations. With experienced personnel, we were able to make in situ decisions that led to successful cuts and drilled holes.

Results

Oceaneering successfully cut and retrieved all of the conductor sections. Although the project saw several challenges including inclement weather and unplanned conditions, Oceaneering was able to support and help complete the project.





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