

# SUCCESSFUL FPSO MOORING INSTALLATION UNDER TIGHT SCHEDULE

ACTEON

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FOUNDATIONS AND CABLES

## How Acteon companies teamed up to deliver a seamless installation in a challenging environment.

**Project Name:** Promor/PTSC Golden Star FPSO Mooring Installation

**Location:** Vietnam

**Region:** Asia

**Client:** PTSC Offshore Services JSC & Promor

**Work Scope:** Handle and install 9x 72in diameter x 27-35m length mooring piles for the Golden Star FPSO. Hire of Hydraulic Hammer, Stabframe Pile Guide Frame, Internal Lifting Tool, Heave Compensator and Combi Winch.

**Water depth:** 115m

### THE PROBLEM

**Waves/weather and environment:** Installation needed to be completed by Q3 2020 to coincide with the completion and arrival of the FPSO from Malaysia and to avoid the cyclone season in North Asia. Along with this, the tolerance on pile installation was paramount to the success of the project. A maximum tolerance of 1.5 degrees was required by the client with a seabed angle of 3.0 degrees due to the presence of sand ripples/dunes and seabed mounds.

**Global landscape and logistics:** The project also occurred at a time when the world was navigating the effects of Covid-19, and both Acteon and the client were working with ever-changing travel and quarantine restrictions and strict limitations on vessel/equipment/personnel movement.

### THE SOLUTION

**Acteon Foundations and Cables integrated offering:** The global footprint of the Acteon Foundations and Cables segment allowed us to seamlessly make use of MENCK project management, logistics and workshop teams in Singapore, coupled with the overall project and asset management from LDD and LM Handling in the UK and a multi-skilled MENCK and LDD crew mobilised to Vietnam from UK, Singapore and Spain.

**Optimising vessel use:** Restrictions on vessel movement meant that the MENCK logistics team supported the client by consulting suitable vessels in Vietnam and locally overseeing the load-out and offloading processes. The team also took advantage of the modular nature of the larger pieces of equipment by partially dismantling them to allow the client to use a smaller vessel of opportunity. To optimise the use of a smaller vessel, we also introduced a passive heave compensator to the lifting spread to minimise the impact of vessel heave on the hammer and Stabframe placement.

### THE RESULT

Several Acteon branded services came together to deliver a seamless integrated project making use of robust internal

systems, competency frameworks and departmental synergies to provide a one-stop installation service, all in a challenging global environment.

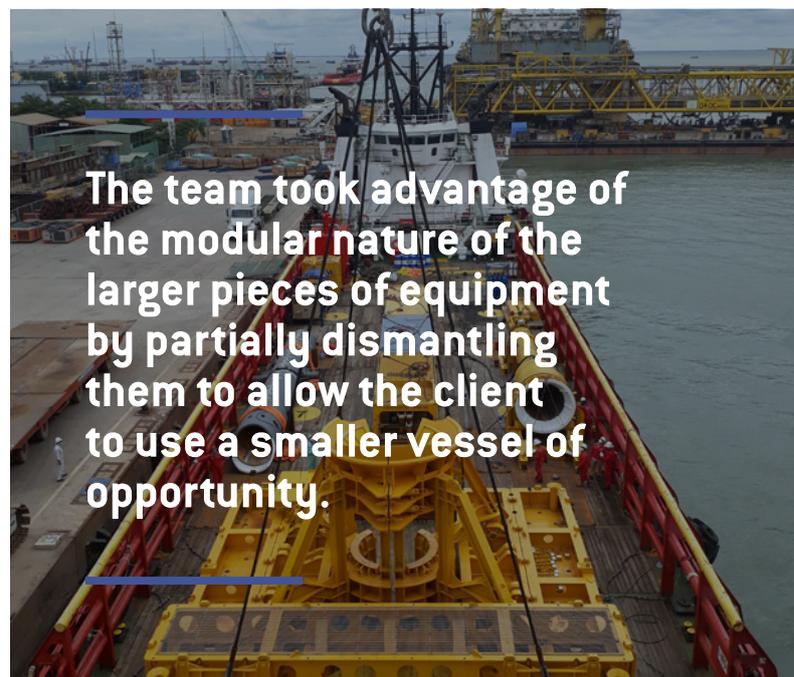
The main contract was held by LM Handling with LDD and MENCK acting as subcontractors allowing a single interface for the client.

Acteon was able to reduce the project's footprint via the use of a smaller vessel of opportunity.

Nick Dale, Managing Director for LDD, says "I am proud of the team for making sure the safety of our staff was put first and ensuring all personnel entered and departed Vietnam safely via Covid-19 controlled quarantine and testing conditions. Given the various challenges, it is an achievement that the project was completed on schedule and before the start of cyclone season without any lost time safety incidents and all piles were installed well within tolerance ranging from 0.3 – 1.0 degrees."

#### Acteon companies involved:

<b>LM Handling</b>	Project lead and supplier of internal lifting tool and Stabframe pile guide frame
<b>LDD</b>	Supplier of the project management team and offshore personnel for LM Handling equipment and preparation of internal lifting tool
<b>MENCK Pte</b>	Logistics and equipment preparation of Stabframe pile guide frame and hydraulic hammer
<b>MENCK GmbH</b>	Driveability analysis and supply of hydraulic hammer
<b>UTEC Geomarine</b>	Stability engineering to define Stabframe pile guide frame operability parameters and setup



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