

## SURF INSTALLATION PROJECT COMPLETED AHEAD OF SCHEDULE DURING MONSOON SEASON

InterMoor demonstrated their subsea, umbilicals, risers and flowlines (SURF) capabilities and delivered the installation of a new electric submersible pump (ESP) system on the Mampu-1 floating production storage and offloading (FPSO).

**Project name:** Mampu-1 FPSO ESP Installation

**Location:** AJK Field (168km North-West offshore Bintulu and 30km South-East of Kumang Gas Field)

**Region:** Sarawak, offshore Malaysia

**Client:** MISC Offshore Floating Terminals Dua Ltd (MOFT2), a subsidiary of MISC Berhad

**Work scope:** Project management, engineering and offshore operations for the installation of

- one electric submersible pump (ESP) power generation module on FPSO MAMPU-1
- one chute support structure at the Tarpon platform
- one shelter structure at the Tarpon platform
- install/laying 1.26km of subsea power cable between FPSO MAMPU-1 and Tarpon platform.

### THE PROBLEM

InterMoor was contracted by MOFT2 for the provision of upgrading MAMPU-1 and modification at Anjung Kecil (AJK) wellhead platform offshore installation.

The job was awarded in August 2019 and the vessel mobilization was planned for early November, which gave the project team a limited timeline for the project preparation to ensure offshore readiness for operations. The work also took place in a very congested subsea environment: the ESP module target landing area at MAMPU-1 was surrounded by production piping, existing bulky structures, and supports which allowed for minimal excursions during the lifting. These also restricted any mitigations via protective/bumper frame installations.

Finally, offshore operations had to occur during the high-risk monsoon season in Malaysia.

### THE SOLUTION

Extended working hours were put in place to meet the tight completion target dates.

The engineering team addressed difficult offshore conditions issues by incorporating additional safety factors into their engineering work including factoring in the most drastic weather conditions into the design to cover all possibilities. A tugger winch and tag lines were used in a mandatory fashion to minimize any movement during installation due to offshore conditions such as sea swell, wind, and vessel pitching.

InterMoor also added alternative routes and scenarios to the offshore procedures and manpower during the offshore installation.

They used their long-standing experience with floating assets to ensure careful planning and increased coordination.

### THE RESULT

Several Acteon companies have come together on this project, to provide all necessary work to install the ESP system. Whilst InterMoor provided a single interface engineering and project management team, they also utilised other Acteon group branded service lines, which included UTEC for survey work and Aquatic for flexible laying equipment.

As part of the integrated service, InterMoor also chartered a construction support vessel for the core installation and an anchor-handling tug and barge for the transport of the module and structures. The work was completed ahead of schedule and without any lost time incidents.

We addressed the challenging environmental issues using our long-standing experience with floating assets to ensure careful planning and increased coordination.

