

Nigerian OSV able to mix it up with the best

Marine services company Awaritse Nigeria Ltd has taken delivery of the Transmix OSV *Prince Job I*, designed and built at the Netherlands' De Hoop shipyard. The vessel will operate in the Chevron oil fields offshore Nigeria.

Prince Job I is 68.45m long and 15.77m wide, resulting in a deadweight of 2,300 tons. Built for worldwide service, the vessel is of DNV GL classification with DP2 notation. The design is based on De Hoop's proven 'KISS' (keep it simple, stupid) philosophy for PSV/OSVs.

The vessel's primary task is to transport contaminated liquids from mixed-use oil pipelines, called transmix, away from offshore production sites. Some liquids (such as contaminated diesel) have an extremely low flash point, so all tanks and pump equipment on board *Prince Job I* comply with DNV GL transmix requirements. As a result, most of the below deck space is given over to a large number of high-capacity tanks. From stern to bow in the centre cargo hold there is one flushing tank, along with two transmix tanks, two fuel oil tanks and six multi-purpose tanks for fuel/mud, fuel/transmix or transmix/brine combinations. The double hull and bottom contain 17 drilling water tanks, and the remainder of the four freshwater, dirty oil, sludge and bilge water tanks are to be found in the fore ship, below the superstructure.

The lines of the hull have been optimised, enhancing the form for fuel efficient operations. The overall result is a transit speed of 11.7 knots, a reduction in fuel consumption and excellent DP capabilities. The DP components are tuned to two tunnel bow and two azimuthing stern thrusters. The generators, for the diesel-electric propulsion and other consumers, are located on the main deck, allowing for larger cargo volumes and easier access for maintenance.

The propulsion system consists of two azimuthing Z-drive thrusters in the stern and two bow thrusters. The stern thrusters are Veth units with fixed pitch propellers operating at variable speed within nozzles.



The propellers, driven by freshwater cooled electro-motors of 900kW each, are capable of producing their maximum thrust throughout a full 360-degree steering range. In the bow, two transverse tunnel thrusters, also delivered by Veth and driven by aircooled e-motors of 450kW each, are fitted. These thrusters, fixed pitch propellers operating at variable speed and controlled by a variable frequency converter, are predominantly used in DP mode and when mooring.

Power generation comprises four diesel alternators, which can be run parallel in any combination. Load sharing is arranged by the power management system. Two of the diesel generator sets are Caterpillar C32 (995kW at 1,800 rev/min), and two are Caterpillar C18 units (570 kW at 1,800 rev/min), all delivered by PON Power. These freshwater-cooled sets are located in the engine room on the main deck in the first superstructure layer.

Electrical power distribution is split into two circuits, fed by 2 x 950kW and 2 x 550kW generator sets, to obtain the redundancy required for DP2 certification. The main distribution power is three-phase 60Hz 480V AC, while all lighting and small consumers are on a 230V AC circuit. The emergency/harbour generator set, an air-cooled Caterpillar C4.4 of 94kW, is located high on top of the wheelhouse deck in its own dedicated compartment.

Above main deck, *Prince Job I* has a 500m² cargo area, rated for 5 tonnes/m². With the accommodation located as far forward as possible, optimum use is made of the unobstructed deck length. For hose handling and loading duties, the OSV is equipped with two Sormec offshore knuckleboom cranes, each of which has a lift capacity of 10 tons with a 15m outreach.

The weather deck is protected by the

forward superstructure, and also features protective cargo rails at the sides. The cargo rails have openings with hose-rollers on port and starboard side in the vicinity of the forward crane for guiding cargo hoses on board. On the aft deck another hose-roller is provided for guiding cargo hoses on board over the stern by means of the aft crane. Three tugger winches are provided behind the superstructure and another two on the aft cargo deck, to assist the crew to operate heavy hoses or gear and for handling deck cargo.

For external fire-fighting, two monitors with a total capacity of 2,400m³/hr are installed forward on the superstructure on D-deck aft. The installation, supplied by FFS, is fed with water from two dedicated electrically driven fi-fi pumps, each with a capacity of 1,530m³. The pumps, water monitors and water spray system are in accordance with DNV GL requirements for FiFi1.

The wheelhouse is separated into two effective bridges: the forward facing part used solely for transit sailing, and the aft facing area where the DP-assisted operations can be controlled. Between the two bridge parts are the radio console, chart table and stairs to lower decks.

The interior is designed to the current standards in the 24/7 offshore industry and provides accommodation for a total of 30 people. Each cabin has access to the internet, radio, television and individually controlled air-conditioning. The crew accommodation is divided into two single-berth, two double-berth and six quadruple-berth cabins. Additionally, the superstructure features a changing room, combined mess and dayrooms, a galley and various freeze/cold provisions stores. The half-height D-deck comprises the air-treatment room and the gyro compartment.

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