'ESNAAD 221'

FIRST OF DE HOOP'S IMPRESSIVE NEW PSV SERIES

In 2013, Esnaad, part of the Abu Dhabi National Oil Company (ADNOC) group, awarded Dutch builder Shipyard De Hoop with an order for ten state-of-the-art platform supply vessels.

Whilst the complete production of the vessels is equally split between De Hoop's two facilities in Lobith and Foxhol, the delivery is spread over almost two years, with the last PSV to be handed over in 2017. The first vessel, yard number 470, was named 'Esnaad 221' and delivered in late July.

In the meantime, the hull of the second vessel has been launched in Foxhol, whilst the steel hull of the fourth PSV is currently being assembled on their slipway. At the Lobith facilities, the hull of the third vessel has been launched, and the block sections of hull number five are being assembled on their second slipway. The steel cutting and construction of the first block sections for the sixth vessel are also at an advanced stage.

Although based on previous proven in-house designs, the vessels, with main dimensions of 70.4 by 15.8 metres, are a next step in the De Hoop PSV evolution. Representing the optimal use of all thrusters and contingency for a single-thruster failure or worst-case single general failure, the vessel has a DNV Environmental Regularity Number (ERN) score of 99/99/99/98.

The hull form of the PSV, with its specially developed bulbous bow, is optimised to reduce wave resistance. Testament to the optimised cargo volume at the given hull shape, is the resulting deadweight of 2,050 tonnes at a restricted draught of 4.85 metres. Most of this hull volume is dedicated to a large number of high-capacity tanks for various dry bulk and liquid cargoes, like brine, cargo fuel oil, drilling water and liquid mud. In order to keep the liquid slurry from separating, the liquid mud tanks are equipped with agitators. Furthermore, in the forward hull, where the usual fuel oil, fresh water, sewage, sludge and bilge water tanks are integrated, are the foam and dispersant tanks for fire fighting and oil spill rescue actions.

In addition to the liquid cargo, the PSV will transport deck cargo on its 515-square-metre work-cum-cargo deck, which permits large quantities of various offshore requisites of up to five tonnes per square metre. For loading and unloading duties a fully hydraulic telescopic boom type crane, with a lift capacity of 15 tonnes at 2.5 metres or 0.5 tonnes at 25 metres outreach is fitted to starboard side.

External fire-fighting tasks are performed with the two remotely controlled monitors on the top deck, capable of effectively spraying a water/foam mixture. Furthermore, the PSV is fitted with two six-metre spray booms, enabling the crew to apply dispersant to the water surface in case of an oil spill.

In close consultation with the yard, ADNOC opted for diesel-electric propulsion to achieve enhanced flexibility, and an economical and environmentally friendly solution. The three main generators, feeding the diesel-electric propulsion units, are located below deck, in the fore ship underneath the superstructure. This was done to accommodate the preferred generators with the relatively large medium speed engines. The propulsion components comprise three tunnel bow and two azimuthing stern thrusters, to achieve high-accuracy station-keeping and allowing for a transit speed of 13.5 knots, both at the lowest possible power requirements.

The high level of redundancy guarantees the vessel remains fully operational, even with one complete generator set or e-circuit out of service, whilst the power management system arranges the load sharing as such that each set is equally loaded. By configuring optimal combinations of generators for each usage scenario, this system benchmarks an impressively low NO_X emission and very favourable fuel consumption at each sailing pattern.

'Esnaad 221'

SPECIFICATIONS

Type of vessel:	PSV (OSV)
Builder	Shipyard De Hoop, the Netherlands
Owner	Abu Dhabi National Oil Company, UAE
Operator	Esnaad, UAE
Length overall:	70.4 metres
Length waterline:	67.84 metres
Length bp:	65.26 metres
Beam:	15.77 metres
Depth:	6.0 metres
Draught:	4.85 metres
Main deck:	515m²
Deadweight:	2,050 tonnes
Gensets:	3 x 1,480kW
Propulsion:	2 x Schottel Azimuthing Z-drives
Bow thrusters:	3
Speed:	13.5 knots
Crane:	Sormec TL-series
A-frame:	Palfinger
Liferafts:	6
MOB:	SOLAS, 26kW
Lifeboat:	Palfinger FRC
Fuel oil:	660m³
Fresh water:	412m³
Drill water:	1,028m³
Liquid mud/brine/fuel oil:	789m³
Dry bulk:	202m³
Foam:	26m³
Dispersant:	10m³
Lube oil:	10m³
Hydraulic oil:	4m³
Sewage:	10m³
Dirty oil/sludge:	6m³
Oily bilge water:	11m³
Accommodation:	28