

Shipyard De Hoop delivers first in a series of ten PSVs to Esnaad

In 2013 Esnaad awarded Shipyard De Hoop with an order for ten state-of-the-art Platform Supply Vessels. Despite the vigorous international competition, De Hoop won the prestigious contract as result of their technically advanced design and competitive terms. Whilst the complete production of the vessels is equally split between the 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 with YN 470, named Esnaad 221, was delivered to Esnaad, the operating company of the ADNOC group, on the 15th of July 2015. 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 is ready to be launched, whereas the block sections of hull number five are being assembled on their second slipway. Furthermore, the steel cutting and construction of the first block sections for the sixth vessel is at an advanced stage.

In meeting ADNOC's aspirations, the Esnaad series of vessels are custom designed to operate at a maximum efficiency and optimised costs, whilst the implications on the environment and mankind is minimised. Although based on previous proven in-house designs, this vessels, having main dimensions of 70.4x15.8metres (L x B), is a next step in the De Hoop PSV-evolution. Representing the optimal use of all thrusters and the effect of a single-thruster failure or worst-case single general failure(s), 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 impressive deadweight of 2050tons at a restricted draught of 4,85m. Most of this hull volume is dedicated to a large number of high-capacity tanks for various dry bulk and liquid cargo's, like brine, cargo fuel oil, drilling water and liquid mud. For keeping the liquid slurry from separating, the liquid mud tanks are equipped with agitators. Furthermore, in the forward hull, where also 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 515sq.m work-cum-cargo deck, which permits large quantities of various offshore requisites of up to five tons per square metre. For loading and unloading duties a fully hydraulic telescopic boom type crane, with a lift capacity of 15tons at 2.5metre or 0.5ton at 25metres outreach is fitted to starboard side.

External fire-fighting tasks are performed with the two remotely controlled monitors on top deck, capable of effectively spraying a water/foam mixture. Furthermore, the PSV is fitted with two six-metre spray booms, enabling 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, whilst at the same time obtaining an economical and environmental superiority. The three main generators, feeding the diesel-electric propulsion units and other consumers, 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 of three tunnel bow and two azimuthing stern thrusters, to achieve high-accuracy station-keeping and allowing for a transit speed of 13.5knots, 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 NOx emission and very favourable fuel consumption at each sailing pattern.

The superstructure offers accommodation to 28 people, all in cabins with en suite bathrooms, individually controlled air treatment units, radio, television and access to internet. The complete accommodation provides a level of comfort, which is well above the current standards in the 24/7 offshore industries.

Principal particulars

Length, over all	: 70.40 m
Length, waterline	: 67.84 m
Length, between perpendiculars	: 65.26 m
Beam, moulded	: 15.77 m
Depth, moulded	: 6.00 m
Draught, summer	: 4.85 m
Speed, max	: 13.5 kn
Complement	: 28 persons

Cargo capacities

Deadweight (T = 4.85m)	: 2050 t
Deadweight (T = 3.70m)	: 1000 t
Deck area	: 515 sq.m

Tank capacities

Fuel oil	: 660 cu.m
Fresh water	: 412 cu.m
Drill water	: 1028 cu.m
Liquid mud / Brine / Fuel oil	: 789 cu.m
Dry bulk	: 202 cu.m
Foam	: 26 cu.m
Dispersant	: 10 cu.m
Lubrication oil	: 10 cu.m
Hydraulic oil	: 4 cu.m
Sewage	: 10 cu.m
Dirty oil / Sludge	: 6 cu.m
Oily bilge water	: 11 cu.m

Propulsion plant

Main power generators	: 4x Wartsila, 1480 kW each
Harbour generator	: 1x M.A.N. of 238kW
Emergency/auxiliary generator	: 1x M.A.N. of 250kW
Stern thrusters	: 2x Schottel azimuthing Z-drive unit, 1250kW each
Bow thrusters	; 3x Schottel tunnel thrusters, 600kW each

Classification

Lloyd Register of Shipping	: X 100 A1, Offshore Supply Ship / Stand-by Ship / Fire-Fighting Ship 1 (2400m ³ /h) WDL (5t/m ²), *IWS, CG, X LMC, UMS, NAV1, IBS, DP(AA), PCR (99)(99), IHM, CAC3, ECO (BWT, CRM, IHM, OW)
Descriptive notation	: Green Passport

ABOUT ADNOC & ESNAAD

Abu Dhabi National Oil Company (ADNOC), established in 1971, operate in all areas of the oil and gas industry in Abu Dhabi. Over the past decades, they have expanded their business activities and enhanced their competitive position. ADNOC have become one of the world's leading oil companies with substantial business interests in upstream and downstream activities, including transportation, shipping, marketing and distribution.

Today, the company manage and oversee the oil production of more than 2.7 million barrels a day, ranking them among the top ten oil and gas companies in the world. The exploration and exploitation have concentrated on realising undiscovered reserves and optimising hydrocarbon recovery by improving reservoir management. ADNOC is committed to sustainable developments, ensuring a harmonious balance between people's needs and Earth's resources, whilst at the same time its track record in HSE sets the standard for the rest of the Arabian Gulf.

ADNOC has 14 subsidiary companies working in the various fields of the oil, gas and petrochemical industry as well as crude oil and gas transportation and services. Esnaad is one of the 100% owned subsidiaries. Esnaad means 'support' or 'service' in Arabic and this is exactly what the company does: support the oil and gas industry. The company operates from the Mussafah Offshore Supply Base, which is strategically located at the industrial hub of Mussafah, approximately 40kilometers by road from the city centre of Abu Dhabi.

ABOUT SHIPYARD DE HOOP

Shipyard De Hoop is a successful Dutch designer and builder of custom-built vessels. Each and every ship that is built is unique, that means no standard processes, but customisation. De Hoop has a positive approach to trends and developments in the industry, allowing them to quickly embrace change and even anticipate future developments.

De Hoop has two shipyards: De Hoop Lobith, in the east of the country, with 135 employees and De Hoop Foxhol, in the north, with 65 employees. The yard offers slipway facilities for vessels up to 200 metres length.

Shipyard De Hoop has an impressive track record in designing and constructing custom-built ships. This includes both seagoing vessels and inland vessels. They have their own design and engineering department, together with all other disciplines to build a complete ship. The company is characterised by its flexibility and quality, whilst offering fast delivery dates at the same time.

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