

Armidale-class OPV

By MIKE BROWN

ABA refurbishes Royal Australian Navy fleet of patrol vessels

Queensland-based boat builder Aluminium Boats Australia (ABA) has recently undertaken the refurbishment and re-powering of a fifth Royal Australian Navy Armidale-class offshore patrol vessel.

Austral initially built and delivered the Armidale-class vessels in the mid-2000s. The all-aluminium vessels measure 56.8 metres in length, with a beam of 9.7 metres and a draught of 2.7 metres. Twin MTU 4000-series engines power the vessels, each rated at 4,642kW and providing a cruising speed of 25 knots and a range of 3,500 nautical miles.

ABA was selected to carry out the docking work by DMS Maritime, the in-service support contractor to the Defence Material Organisation. According to ABA general manager Tommy Ericson, the Armidale refurbishment contract was a key part of the shipbuilder's development strategy, which sought to increase its defence capability and diversify its portfolio. Having completed the refurbishing of four consecutive Armidale-class vessels in 2013, the contract now accounts for around 25 per cent of ABA's business.

Each vessel undergoes a thorough refurbishment and re-power. The MTU 4000-series main engines and gearboxes are changed out and replaced. DMS maintains

stocks of replacement engines and sends the removed units to MTU's Sydney branch for rebuilding and refurbishing. The vessel's generators are also removed, overhauled and refitted.

Additional refurbishments include between 50 or 60 overboard valves being stripped and checked along with all the various systems' pipe-work. All on-board systems are then overhauled to a planned maintenance regime, and the hull and other systems are carefully inspected to a physical audit routine. The docking also incorporates re-coating of the hull and, in some cases, the superstructures as required.

In addition to maintenance and refurbishing, several fleet improvement upgrades are also being put into effect. These upgrades arise from either a combination of DMO or Royal Australian Navy requirements, DMS-instigated changes resulting from logistic engineering analysis, or ABA's own suggestions. These rigorous and formal changes include upgrades to electronics, lighting and communication systems.

The current docking schedule for the OPV fleet adheres to the 2.5-year DNV classification survey cycle, with each docking occurring after approximately 15,000 man-hours. According to ABA, the work schedule is meticulous and completed within a tight timeframe to ensure there

are no delays to the operational availability of each vessel. Three hours after arrival at the ABA shipyard, the OPV is placed on blocks in the fit-out hall – a large structure that can house two Armidale vessels simultaneously. With the work carried out in a secure, undercover facility, the schedule is not beholden to the weather.

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Core components of ABA's refurbishing program for the Armidale-class included hull and superstructure recoating, electronics upgrades, and fitting of new lighting systems

Armidale-class OPVs	
SPECIFICATIONS	
Type of vessel:	Offshore patrol vessel
Flag:	Australia
In survey to:	DNV
Builder:	Austral, Western Australia
Owner/operator:	Royal Australian Navy
Refitting and maintenance:	Aluminium Boats Australia, Queensland
Construction material:	Aluminium
Displacement:	300 tonnes
Length:	56.8 metres
Beam:	9.7 metres
Draught:	2.7 metres
Main engines:	2 x MTU 4000 16V; each 4,642kW
Propellers:	2 x FPP
Cruising speed:	25 knots
Range:	3,000nm
Endurance:	21 days (standard), 42 days (maximum)
Sensors:	Bridgemaster E surface search
Other electronics:	Prism III radar warning system, Toplite electro-optical detection system, Warrlock direction finding system
Armament:	2 x 12.7mm machine guns, 25mm M242 Bushmaster autocannon
Rescue boats:	2 x 7.2-metre Zodiac RHIBs
Crew:	21 (standard), 29 (max) 