

# SEMAPHORE

NEWSLETTER OF THE SEA POWER CENTRE - AUSTRALIA

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## AIR WARFARE DESTROYERS AND COMBAT OPERATIONS FROM THE SEA

Several *Semaphore* newsletters in 2003 discussed Australia's needs for major surface combatants and an area air warfare capability.<sup>1</sup> A further review of the Australian Defence Force's (ADF's) rationale for and expectations of the planned Air Warfare Destroyer (AWD) is warranted given the planned selection of a preferred design in mid-2005 and recent public debate for and against this planned combination of capabilities. This newsletter will review the AWD's employment in combat operations from the sea, and particularly in amphibious operations, support to operations on land, and land strike.<sup>2</sup>

Recent Defence policy statements have focussed on the uncertain and unstable global strategic environment and the likelihood that Australia's national interests could be affected by events far from our homeland, which has led to a renewed emphasis on meeting trouble before it reaches our shores. Forces that are not prepared for the most difficult of circumstances cannot defend against modern, high technology weapons and the ADF must therefore be able to prevail in complex, high intensity operations. The most recent capability decisions for the Royal Australian Navy (RAN) have primarily focussed on the acquisition of medium sized aviation capable amphibious ships and very highly capable AWDs. The Australian Government has decided firmly in favour of these amphibious and combatant capabilities, which will allow the ADF to use the sea as the highway that it properly is, rather than the moat that some would perhaps prefer.

These capabilities implement the doctrinal concept of sea control, or the ability to gain and use freedom of action in an area of the sea for one's own purposes, and, if required, to deny the use of that area to an adversary.<sup>3</sup> In today's environment, this requires one to control activities on the sea surface, in the water mass and on the sea bed, in the airspace above the sea, across the electromagnetic spectrum, and over and on nearby coastal land.

The ability to exert sea control was critical to the ADF's success in leading the multi-national force in East Timor. As the then Major General Peter Cosgrove said shortly after the operation:

*'Another military blinding glimpse of the obvious is the utility of sea power in the East Timor operation. The persuasive, intimidatory or deterrent nature of major warships was not to me as the combined joint force commander an incidental, nice to have "add on" but an important indicator of national and international resolve and most reassuring to all of us who relied on sea lifelines.'*<sup>4</sup>

Lessons learned in recent joint amphibious operations such as in East Timor and the Solomon Islands, together with a comprehensive experimentation and analysis

program, have allowed the ADF to develop a very clear picture of future circumstances that will require the exercise of sea control to enable combat operations from the sea. At its maximum, Australia will require the ability to lift, to lodge, to sustain and to withdraw a combined arms battle group consisting of an embarked force of about 2000 personnel, and their vehicles and equipment, wherever the Government determines. The initial lodgement of this force requires a company-strength component to be lifted and landed simultaneously from helicopters, in addition to personnel and equipment landed from amphibious watercraft.

These requirements demand what will be, in global terms, medium-sized but very sophisticated amphibious ships, and an ability independently to protect the substantial embarked force both in transit and in theatre. While it is disembarked, the RAN must also provide fire support, facilities and logistics support to reduce the size of the land force's footprint ashore.

The Defence Capability Plan<sup>5</sup> will provide a balanced ADF force structure of complementary capabilities designed to operate seamlessly as a single force. In combat operations from the sea the AWDs will thus work closely with the RAN's amphibious, hydrographic and mine warfare forces, Army land and aviation forces, and with Airborne Early Warning and Control (AWACS) aircraft, Over the Horizon Radar, tactical and wide-area uninhabited aerial surveillance vehicles, ground-based air defence systems, the planned Joint Strike Fighters, and air to air refuelling aircraft. A combination of these capabilities will provide a continuous, comprehensive and layered air, surface, subsurface and missile defence umbrella around a deployed force.

Last year, the Minister for Defence announced that the AWDs would be fitted with a variant of the US Aegis air warfare system.<sup>6</sup> Not only will this system increase interoperability with our closest ally, but it will also provide the ADF with a sophisticated air defence system able to deal with all projected threats. The Aegis system and its associated weapons and sensors will allow the AWDs to remain well beyond the range of most anti-ship missiles, yet be able to detect and destroy hostile aircraft with no advanced warning to those aircraft that they are being engaged. This makes the AWDs the ideal platform to maintain the continuous sea control necessary to protect the planned amphibious forces and to permit the land forces to achieve their tasks, be they in the approaches to our continent, in our immediate neighbourhood, or in contributions to alliance operations further afield.

Recent criticism of the AWDs has emphasised the role of fighter aircraft in providing maritime air defence. These comments fail to recognise the complexity of area air



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defence, and the broad range of environmental, geographic and threat circumstances which make it difficult, if not foolish, to rely on any single defensive solution.

There is no doubt that fighter aircraft play a fundamental role in air defence; for example, they are extremely valuable as the outer defensive layer of a maritime force. However, they have relatively short endurance and, depending on where the ADF is called to combat, fighter aircraft may not be available when needed or if air bases are denied in the forward operating area. The inherent characteristics of maritime forces permit sustained operations at considerable distances from home. In the absence of the necessary land-based infrastructure to support fighters, the AWDs must be able to provide high-level autonomous air defence for protracted periods through their own long-range air surveillance radars, multi-channel fire control radars and air interceptors, and their closer-range self-defence weapons and counter measures systems.

Where fighter aircraft are available to participate in a joint force, the challenge of countering multiple attacks reinforces the folly of relying on a single solution. Aircraft may not be optimised to defend against particular threats – such as long-range cruise missiles launched from ashore, from ships, submarines and aircraft – and their weapons capacity is limited in comparison to that of ships. Even where both these limitations can be overcome, there is no guarantee that sufficient aircraft would be available to provide the required level of protection – they may well be needed for other tasks, or assigned aircraft may be off-station refuelling or defending against one part of a multiple attack. In these cases, the AWDs must provide an autonomous defensive capability. Where range considerations permit surveillance aircraft such as the AWACS to operate with the maritime force, they will be an integral part of that force with or without fighter cover. This is because the AWACS can operate inside the AWDs' area air defence umbrella whenever a threat to that aircraft is detected.

The other main criticism of the AWDs is that they are bigger and more powerful than the ships they are to replace – the Guided Missile Destroyers (DDGs) and Frigates. Bigger they indeed will be, but this is also a positive which goes beyond the unworthy imputation of Service pomp and pride implied in some criticism. The larger AWDs offer significant advantages over their predecessors: greater range, flexibility, endurance, sea keeping qualities, survivability, and adaptability through modification or upgrade in response to new technology and threats.

The last DDG was decommissioned in 2001. And, while the RAN's frigates have given great service over many years, ships of this size and capability simply cannot provide the sustained area air defence that the ADF now requires. The Anzac class frigates fitted with the Evolved Sea Sparrow missile are capable of self defence against most missile threats, and can defend other ships in very close proximity. However, they do not provide an adequate area air defence umbrella that can protect other high value assets such as amphibious ships, their aircraft and deployed forces, or AWACS. Four of our Adelaide class Guided Missile Frigates (FFGs) are being upgraded with the SM-2 missile to provide an interim solution to the

existing air warfare capability gap. However, even with this enhanced capability, the FFGs are only able to engage two air targets simultaneously, whereas the capability to mount simultaneous multiple aircraft and missile attacks and overwhelm currently available defences has been widely developed. In any case, these ships are aging – the first of the class, HMAS Adelaide, was commissioned in 1980, and they must be replaced over time.

The AWDs will serve Australia for at least three decades, and they will be big and adaptable enough to be modified or upgraded during their service. While an anti-ballistic missile capability is not a current requirement, recent discussion of the AWD's potential in this role is one measure of the adaptability of the overall ship design.

The ubiquity of the AWD's planned capabilities is apparent from this review of its employment in combat operations from the sea. A review of combat operations at sea – such as intelligence collection and surveillance, cover, interdiction of commercial shipping and sealift, maritime strike and interdiction of adversary forces<sup>7</sup> – would demonstrate similarly extensive capabilities essential to a balanced ADF force structure.

Despite the combat power offered by the AWDs, their utility would not be limited exclusively to warfighting. Maintaining a military capability edge also enables the ADF to conduct the more frequent constabulary and diplomatic tasks of potentially lower intensity.<sup>8</sup> Unlike some non-maritime defence systems, naval vessels are also fundamentally flexible in their employment of force, and are able to change roles rapidly across the conflict spectrum, as the operational situation requires. From naval diplomacy to peacetime constabulary duties, to high intensity operations and power projection, the AWD will offer further improvement to the already extensive mission versatility of the current RAN fleet.

*This newsletter is based on elements of the Creswell Oration given on the 104<sup>th</sup> Anniversary of the foundation of the Australian Navy, 1 March 2005, by the Chief of Navy, Vice Admiral C.A. Ritchie, AO, RAN.*

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<sup>1</sup> Sea Power Centre – Australia; *Sea Control and Surface Combatants*, Semaphore issue 1, March 2003; *Why the ADF needs Major Surface Combatants*, Semaphore issue 9, September 2003; *Australia's needs for Maritime Area Air Defence*, Semaphore issue 14, November 2003.

<sup>2</sup> Royal Australian Navy, *Australian Maritime Doctrine*, Defence Publishing Service, Canberra, 2000, pp. 61-4.

<sup>3</sup> Royal Australian Navy, *Australian Maritime Doctrine*, p. 39.

<sup>4</sup> MAJGEN P.J. Cosgrove, AC, MC, 'The ANZAC lecture at Georgetown University, Tuesday 4 April 2000,' *Journal of the Australian Naval Institute*, Vol. 26, No. 2, April/June 2000, p. 9.

<sup>5</sup> Department of Defence, *Defence Capability Plan 2004-2014*, Defence Publishing Service, Canberra, November 2003.

<sup>6</sup> Senator Robert Hill, *Aegis Combat System for Air Warfare Destroyers*, Media Release 158/04, 11 August 2004, online <http://www.minister.defence.gov.au/Hilltpl.cfm?CurrentId=4111> (24 March 2005).

<sup>7</sup> Royal Australian Navy, *Australian Maritime Doctrine*, pp. 56-61.

<sup>8</sup> For example, see MAJGEN P.J. Cosgrove, 'The ANZAC lecture,' *Journal of the Australian Naval Institute*, Vol. 26, No. 2, p. 9.

