Australia’s Maritime Doctrine – Part 7

The Republic of Singapore Navy

Project SEA 4414

The Seasprite

The Watson Class Sealift Ship
The Pakistan Navy Type-21 Frigate PNS SHAHBAZ (FFG-106) (ex-HMS ACTIVITY) passes the USS JOHN F. KENNEDY (CV-67) during an ammunition off-load with USS HARRY S. TRUMAN (CVN-75). The CH-60 is one of three helicopters being considered as additional amphibious troop lift helicopters from the Australian Army. However, despite resembling an Army Black Hawk that's where its commonality ends (SSN).
THE NAVY
Volume 65 No. 1

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Front cover: The Singapore corvette RSS VALOUR. RSS VALOUR was the first Victory class corvette to be built in Singapore with the lead vessel being built in Germany. This corvette carries an impressive armament that puts it in the class of a frigate. See our special on the Republic of Singapore Navy on page 3. (Brian Morrison, Warships and Marine Corps Museum, Franklin, Tex.)
DEFENCE AWASH WITH INQUIRIES.

The Department of Defence and the Armed Forces are quite used to inquires into their activities, especially when fault is suspected. In this case, it is some time since they were involved with so many inquiries simultaneously as in the year just past. The Navy, for example, has been digesting the outcome of several internal and external examinations of its Collins-class submarine project; its role in the ‘Children Overboard’ affair ensured publicity for months; an internal review of defence policy in the aftermath of the 2001 terrorist attacks; and a parliamentary committee inquiry into the nation’s Maritime Defence Strategy now underway. In addition the management of the Department has also been under scrutiny all together a stressful period for senior Defence personnel.

With regard to the particular inquiries listed above, major defence projects, not least new ships and aircraft, are almost always the cause of problems — not the carrier but equipment which is to be fitted into the hull or frame and is under constant development. As the armed forces naturally want the latest equipment, any delays or cost overruns are inevitable throwbacks for disarray. During the 10 or more years it may take to design, construct or oversee, to obtain approval and fund and build the ship, aircraft or whatever, it is difficult if not impossible to go back and make any economic sense here. Other than that to remark, Australia’s military history showed the importance of proper scrutiny of defence policy and management arrangements.

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The internal inquiry ordered by the Defence Minister is presently underway.

Geoff Evans

FROM THE CROWN’S NEST

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FROM OUR READERS

If the US can do it, why can’t we?

Dear Editor,

For the past twenty years since the USM allowed a film crew access to the aircraft carrier USS NIMITZ (CVN-68) for the movie, The Final Countdown, Hollywood and the United States military have collaborated on many movie projects. Some movies of real and fictional assistance include Saving Private Ryan, Top Gun, The Hunt For Red October and Black Hawk Down.

This level of cooperation between the military and Hollywood is said not to be available to the Department of Defence, which has an office that both gives permission and then coordinates all film activities that use US military assets, even to the point of assigning advisors to films.

Sometimes the Department of Defence says no, as happened for both Crimson Tide and the sci-fi movie Independence Day, due to stories or lines that were found to be against the military’s interest. When they say yes, however, the results can be very impressive, putting forward a positive image of the US military to the movie going public.

In Australia, there have been many TV mini-series loosely based on the Australian Military, the last one being Change on the ABC. There has not been a major film made about the ADF since The Light Horsemen in the late 1980’s. The last TV series on our military was the ABC series Patrol Boat.

It is not like there are no great stories out there. Our military history has everything from great battles (Elands River in the Boar War,Lon in the Bat War) going through to dangerous missions (HMAS MURCHISON during the Korean War) to heroes (Teddy Sheean, John Collins). They are just as good as stories from overseas and they show Australians at their finest in some of our darkest hours.

The question is, Why can’t we promote our military history through the Australian Film Industry? We know that people are interested in our military with the ever growing resurgence of Anzac Day and the increasing numbers of visitors going through our military museums, there is no doubt of this fact.

There is also the U-571 factor. The movie U-571 caused an uproar from its creation of a fantasy military mission. For Australians the movie was an insult with the real U-571 sunk by 4th Sqn RAAF in 1944. Yet this movie was made and even with a fantasy story scored well at the box office. Movies such as U-571 put forward the belief that America won the war single handed, which was never the case.

A Hollywood movie put out a great military movie, the world watches. Saving Private Ryan was a watershed event for both the American Film Industry and the American public. It showed Americans at their finest at a turning point in history. With a trans border action approach the movie showed the horrors of war. It is now the standard to which all military movies are now judged.

We as a nation have not got nothing to be ashamed of! Australian Military history is just as interesting and poignant as those overseas. We have a world-class film industry here that can do the job (particularly evident with movies such as The Mists and Star Wars being made in Australia). The question is how do we get the ball rolling? How do we get the Australian Film industry interested? Once this question is answered the rest is dealt with.

It is time for the Australian Department of Defence to start generating interest beyond that of issuing press releases on defence projects, not least new ships and aircraft, are almost always the cause of problems — not the carrier but equipment which is to be fitted into the hull or frame and is under constant development. As the armed forces naturally want the latest equipment, any delays or cost overruns are inevitable throwbacks for disarray. During the 10 or more years it may take to design, construct or oversee, to obtain approval and fund and build the ship, aircraft or whatever, it is difficult if not impossible to go back and make any economic sense here. Other than that to remark, Australia’s military history showed the importance of proper scrutiny of defence policy and management arrangements.

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THE REPUBLIC OF SINGAPORE NAVY

The Victory class corvette RSS VALIANT. The Victory class are very well armed ships and have a top speed of 35 knots. (Brian Moreton, Ships & MaritimeCorr. Editor. The Navy)

The navy of the Republic of Singapore (RSN) is one of South East Asia’s most interesting and dynamic. From humble beginnings following independence in 1965, the RSN has grown to a position of control over one of the most important waterways.

Today, the RSN is capable of exerting ‘Sea Control’ over their area of immediate interest and sea denial much further away. With the introduction into Singapore service of four ex-Swedish Navy submarines and the addition of new stealth frigates on order from France the RSN will soon be in a position to exert ‘Sea Dominance’ on, over and under the waters surrounding the Singapore Strait.

Such is the mix of capabilities that the RSN is incorporating that, with the exception of the Japanese Maritime Self Defence Force with their Aegis destroyers and fleets of modern destroyers and submarines, and the overwhelming firepower of the United States Navy, the RSN is on track to become the most powerful navy in the region.

Today’s RSN is based around a core of missile armed fast patrol boats. These vessels are ideal for operations in and around the intensely crowded littoral waters of the Singapore Strait. Small and easily able to disappear amongst the numerous islands, ferries, fishing boats and merchant ships that ply these waters, they are also possessed of potency far outweighing their small size.

The largest and most capable of Singapore’s fleet are the six Victory class corvettes. Displacing 600 tonnes, they are armed with up to eight Harpoon anti-ship missiles, each with range of 130kms and more than capable of seriously damaging a frigate-sized opponent. A recent upgrade to these corvettes has seen a substantial improvement in their self-defence capabilities, with the addition tire vertical launch system Barak surface to air missile launchers to augment the single 76mm dual-purpose super rapid gun and passive defence measures.

The Israeli Barak is designed to be a relatively low-cost point defence missile system to protect ships against both manned aircraft and anti-ship missiles and consequently has a quick reaction time, typically 3 seconds including 0.6 seconds to turn over. The fire-control system is based upon the Elta EL/M-2221GM U-1 and K (20 to 40 GHz) bands and can track the target or targets while controlling two missiles. The system may also be used for controlling guns, possibly with the assistance of a separate ballistic computer.

Upon acquisition of the target by the ship’s search radar, the fire-control radar designates the targets. The system automatically calculates the level of threat from each target, allocates a missile or missiles and automatically launches them. In the anti-ship missile role the Barak leaves the launcher and is turned over towards the target by the thrust vector control system at the base of the missile which is...
One of Singapore’s two Challenger class detail electric class submarines heading to sea. Singapore now has two more Challenger class submarines which are still in the Baltic undergoing trials. (Brian Morrison, Warships & Marine Corps Museum, Franklin, Tas)

The RSN of Tomorrow

For many years it has been apparent that the RSN was seeking a larger more capable vessel to supplement its existing fleet of attack and corvettes. Most observers had expected a larger OPV/corvette design of between 1000 and 1500 tonnes, probably incorporating some measure of stealth technology. In fact Singapore stunned the naval world with the announcement that it would buy six La Fayette-derived stealth frigates from France.

Displacing more than 3300 tonnes, the Singapore, or Delta version of the popular frigates will be armed with an OTO Melara 76-mm super rapid gun, and a mix of anti-aircraft and anti-ship missiles. While exact armaments are still uncertain, it is known that they will be armed with the European anti-aircraft ASTER missile system. The first ship of this class will be completed in France and arrive in Singapore in 2005, while the remaining four ships 2 and 3 will commence construction at the same time in Singapore. All are scheduled to be in service by 2009.

With the capability to operate a medium sized helicopter for over the horizon surveillance and targeting, far superior sea keeping capabilities than their predecessors and a reduced IR, acoustic and electronic signature, the six as yet unnamed frigates will dramatically boost the Republic’s Navy.

Recent announcements of the features of the six frigates reveals that the 110 metre frigates differ in a number of ways from the base line La Fayette class, as operated by France, Taiwan and Saudi Arabia.

The hull design is in most respects similar to the current La Fayette hull design, but the superstructure is substantially different. The superstructure has been reduced and incorporates further shaping to reduce the radar signature of the ship, relative to the preceding class. Parts of the change will have been driven by the RSN’s choice of weapons and
would be potent additions to the RSN’s arsenal. While use of selecting a modern class of submarines to replace them. has always been Singapore policy that these boats were to limitations of the boats due to their age.

Covert surveillance, anti-shipping trials to counter the others capabilities. Thai navies, it will be interesting to see what responses the Singapore and Malacca Straits. In particular the fitting of a EDD low frequency towed sonar array, which would be difficult to operate in the shallow waters of the Strait, but which would be useful for supporting the escort of other ships in the open ocean.

Far surpassing Malaysia’s Lekiu frigates, and emphasising the obsolescence of much of the Indonesian, Philippines and Thai navies it would be interesting to appraise the other ASEAN navies will announce to try and match these new frigates. A mini-arms race may develop, as each tries to counter the other’s capabilities.

The operation of deploying this class of submarines has brought home the many capabilities that an efficient submarine force can offer. Covert surveillance, anti-shipping strikes, special operations and mine-laying operations are just a few of the capabilities available to the RSN, despite the limitations of the boats due to their age.

The Challenger class are all more than 25 years old, and it has always been Singapore policy that these frigates were to replace the currently moribund sub forces (Indonesia), or the revitalisation of their currently moribund sub forces (Indonesia), to match the Singapore capability. Malaysia has already announced the purchase of two of the French/Spanish Scorpene class submarines (see THE NAVY Vol 64, No.4, p 22).

Conclusion

The RSN is the most capable navy in South East Asia. Its potent mix of missile corvettes and submarines, in concert with the surveillance and strike aircraft of the RSAF, can control the waters surrounding Singapore, and allow it to exert control over the length of the Singapore Strait, one of the world’s most vital waterways, and further afield.

The addition of the six stealth frigates, and the anticipated replacements for the Challenger class submarines, will allow the RSN to dominate the waters of its direct interest, and to project that power into surrounding seas.

The Delta class frigates will also provide the RSN with the capability to deploy, not only for further support in the Anzacs, allowing participation in United Nation, sanctioned maritime operations such as the Mission of Relief in the ‘Dish Review’ and 1987 Defense White Paper.

For Australia, the project meant the acquisition of 11 rebuilt Kaman Aerospace International SH-2G(A) Super Seasprite Helicopters primarily for use on the Anzac class frigates, with a simulator and support facilities. Further purchases of up to nine more Seasprites were to occur for the new proposed joint construction project with Malaysia (a Corvette sized Off Shore Patrol Vessel or OPV). The CHS were to replace the current fleet of Fremantle class patrol boats. Later, under a connected project called SEA 1414, the RAN acquired the Kronsberg Defense Penguin MK 2 MOD 7 torpedoes and is able to use a wide range of European ASW technologies would reduce the need for crew numbers and remove some of the obsolete systems and new leaps and bounds to be made within the next 12 months, and a decision within two years after that, by which time the youngest of the Challenger class will be approaching 30 years in service.

The acquisition of the Challenger class, and the expected announcement of their replacements has already stirred other South East Asian states to consider the acquisition of submarine arms (Thailand), or the revitalisation of their currently moribund sub forces (Indonesia), to match the Singapore capability. Malaysia has already announced the purchase of two of the French/Spanish Scorpene class submarines (see THE NAVY Vol 64, No.4, p 22).

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Maverick for anti-ship targets as its Skyhawks also used the missile. Unfortunately New Zealand's Skyhawks have since been decommissioned. However, the contract. As a result, Kaman delivered seven helicopters Sessas for the ANZACs helicopter hangar was designed to accommodate the Anzacs' helicopter. The RNZN views an effective maritime helicopter as an essential addition to the fighting capability of a modern frigate because it enhances the ships ability to defend itself and other shipping against both surface and undersea adversaries. "A naval force without modern helicopter is vulnerable and becomes a liability to our regional allies. A helicopter such as the Super Seasprite increases the surveillance capability of a frigate at least six fold."

Conclusion

The USN no longer operates the Seasprite helicopter with many airframes in long term storage, up for sale or in museums. The Super Seasprite is currently in service with the Navies of Poland and Egypt and may be soon acquired by Colombia, Morocco and Bangladesh. Egypt has recently placed an order with Kaman Aerospace International for additional airframes principally to use in the SAR role

Kiwi Success

Selected by both Australia and New Zealand for service on their new Anzacs, the Seasprites chosen by each nation differ in abilities, systems and weapons. The contract with New Zealand is for four aircraft beginning in 2000. In August 1999, New Zealand announced it would buy a 66th SH-2G. The Royal New Zealand Navy's (RNZN) SH-2Gs will serve aboard their two new Anzac frigates and older Lauder-class frigate.

While awaiting delivery of five brand new build Kaman Seasprites, designated SH-2DHNZ, the RNZN and RNZAF (who will jointly operate the aircraft) will for the interim operate a number of leased and older Seasprites. SH-2F's. This lease period has enabled the RNZN to begin familiarising operations and to maintain the skills of a shipborne helicopter arm rather than have a capability lull or skeleton on with their 32-year-old Westland Wasps.

New Zealand's five new SH-2G(NZ)s will be equipped with Thales APS-1403UT radar, FLIR Systems BAA2 thermal imager and Litton Amacon LR-100 electronic support measures. The aircraft will be armed with two AGM-65 Maverick missiles. The analog cockpit is based on the Litton AGM-119 tactical navigation system.

A leased SH-2G Seasprite flies over the RNZN's last Leander-class frigate. RNZN sold a number of older F model airframes in order to turn on the new type of helicopter and return many helicopter handling skills that may have been lost while waiting for the newer aircraft after their next major overhaul. Westland Wasps were taken out of service.

The problems with the Australia Seasprite began in 1999, when Litton, a major US company tasked with designing software and contracted by Kaman International, abandoned the project. During this time frame, Litton, received a major US project and chose to remove key staff members from the Seasprite Project to work on another newer and larger contract. As a result, Kaman delivered seven helicopters without their control system. Unfortunately, the Australian Defence Material Organisation had not written penalty clauses into the contract thus allowing the software designer to succeed with this action.

It is also speculated that Litton used deficiencies in the contract conditions to successfully abandon its commitment to the RAN Seasprite Project. Litton decided to walk away from the complex SeaSripe software design and integration task and under the contract conditions later won a legal settlement that cost Kaman $32 million. The Australian firm CSC has now been contracted for the task, currently, overdue by more than three years. Six of the 11 airframes have now been delivered but it is expected that they will not be to the RAN contract standard until 2005. The Department of Defence is trying to rework Kaman's contract, despite having already paid out $960 million of the $1 billion budget. Top Defence officials recently informed a Senate hearing that the government was examining suing Kaman for breach of contract and could possibly recover that money however, collective wisdom indicated that we would still "Not end up with the helicopters and would have to start again."

Like the Collins class submarines and the AP-3C Orion aircraft in the ADF inventory, the Seasprites have run into complex technological challenges and cost overruns. Much of this, is linked to the unique requirements placed by the ADF which specifies a variety of roles and systems from its equipment not normally offered by a single initial manufacturer's design. The ADF often seeks to have an integration of cutting edge technologies from a variety of suppliers. While this may result in an overall poor synergy of contract management and compatibility, the upside is that many of the platforms within the ADF inventory have a significantly broad spectrum of capabilities.

The Kaman Seasprite was chosen when the SH-2G moved on Westland's Super Lynx in the Australian and New Zealand competitions, marking the end of Westland's dominance of the low-end naval export market. The deal also dashed Eurocopter's hopes of achieving a real breakthrough in the shipborne helicopter market in the Asia Pacific Rim. Where its Panther/Dauphin and Cougar/Super Puma have failed to find customers. Though it is important to note that Eurocopter has achieved some successes with the sale of its Tiger Armed Reconnaissance Helicopter to the ADF and the establishment of a Brisbane manufacturing and maintenance base for its civilian helicopter market. The Army's Aussie Tiger with its mainly composite construction and folding rotors will see it deploy on ships such as HMAS MANOORA and KANIMBLA in the near future.

Another dilemma remains for the Navy. When the RAN does receive working Seasprites the ships for which they were partially acquired will not exist, i.e. the OPVs. Embarking the fleet of Seasprites on the existing Anzac frigates, while utilizing the aircraft's capabilities, provides less capability to the Anzacs' than a Seahawk could provide. The Seasprites carry an anti-surface missile, the Penguin, originally intended as cover for the now defunct OPV's lack of such a weapon, but the Anzacs already, under SEA 1413 Phase 3, are to receive the Harpoon Block II anti-ship missile. The Seahawks is also cleared for Penguin use too. It should also be noted that the Anzacs' helicopter hangar was designed to accommodate the larger and more capable Seahawks and that the four Anzac currently in service are operating Seasprites quite well.

A SH-2G Seasprite demonstrates its dunking sonar capability. (Kaman)

A SH-2G Seasprite conducting live weapon firing trials of an AGM-65 Maverick missile in the US before delivery. The RNZN opted for the TV guided Maverick for anti-ship targets as its Skyhawk also used the missile. Unfortunately New Zealand's Skyhawks have since been decommissioned. However, the up shot of this is that given the Maverick's original land attack capabilities the BNZ Seasprites is the only naval helicopter in the region able to combat missile threats of land targets. (Kaman)
The Watson class Sealift Ship

By Ian Johnson

USNS WATSON makes a tour during sea trials. The eight-ship Watson class sealift ships are powered by two LM-2500 gas turbines (MSC).

Last year THE NAVY WA based correspondent Ian Johnson was able to tour the US Sealift Command's newest class of ship. The Watson class is a impressive sealift platform and one that RAN planners should not discount too quickly in their upcoming amphibious study because she mounts no weapons. A ship such as this has the capability to transport the Australian Army's 1st Armoured Brigade almost anywhere in the world.

Last year the USNS CHARLTON (T-AKR-314) visited HMAS STIRLING in WA to undergo some scheduled maintenance with the assistance of several Western Australian based companies.

CHARLTON is named after Army Sgt. Cornelius H. Charlton who was posthumously awarded the Medal of Honor for his heroic actions in 1951 near Chipore during the Korean War. The ships of this class are named after Medal of Honor recipients.

CHARLTON is one of 20 large, medium-speed roll-on/roll-off ships that have joined the Military Sealift Command (MSC) fleet since 2002. CHARLTON was delivered to the USN in May 2000 from National Steel and Shipbuilding Company in San Diego who built the ship. Each ship of the class is crewed by 30 civilians employed by Marine Shipping on contract to MSC. Up to 50 military cargo supervisors and be embarked to maintain the equipment on the ship may carry.

At 950 feet (290m) long CHARLTON is nearly the size of a Nimitz class aircraft carrier and can carry over 40,000 tons of military equipment, or 2,280 Holden Commodore station wagons. Weighing over 64,000 tons, fully loaded, the CHARLTON can sail up to a speed of 24 knots. Capable of carrying an entire U.S. Army, the cargo decks are a large vehicles, including 900 plus associated battalion support vehicles. The cargo holds are also equipped with foam fire fighting and de-watering systems.

A list control system provides stability to compensate for the arrangement of the cargo.

Interior ramps between decks ease the traffic flow once cargo is loaded aboard ship. CHARLTON has a viewable stern ramp and a movable ramp that services two side ports. To make it easy to drive vehicles on and off the ship — speeding loading and off-loading. The entire on-load and off-load process of the class can be accomplished in 90 hours or less. CHARLTON is also equipped with two cranes that make it possible for the ship to unload almost anywhere and away from docking facilities. The ship provides self containing roll-on/off (RO-RO) capability and lift-on/off capability. The ship is optimised for roll-on/off operations with all RO-RO decks fixed and a combination of fixed and hinged RO-RO ramps.

The ship is equipped for the following operations: roll-on/off and lift-on/off for transport vehicles and transport containers, for cargo transfer onto a pier and in-stream up to 50 military cargo supervisors and be embarked to maintain the equipment on the ship may carry.

At 950 feet (290m) long CHARLTON is nearly the size of the Australian Army's 1st Armoured Brigade and can carry over 40,000 tons of military equipment, or 2,280 Holden Commodore station wagons. Weighing over 64,000 tons, fully loaded, the CHARLTON can sail up to a speed of 24 knots. Capable of carrying an entire U.S. Army, the cargo decks are large enough to accommodate the largest military vehicles, including 900 plus associated battalion support vehicles. The cargo holds are also equipped with foam fire fighting and de-watering systems.

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The stem ramp of the roll-on/roll-off Watson class sealift ship USNS CHARLTON. The Watson class can be unloaded from full capacity in under 96 hours.

From a control booth all engineering operations are run through touch screen monitors, thus allowing the ship to be run by a very small crew. The ship's environmental controls are also located in engineering.

The crew quarters are spacious with every crewman having his own stove. The ship has a first class galley and a well-stocked gym. There are rooms that can very quickly become berthing for up to 50 military personnel. There is even a lift going from engineering to the bridge that can carry four people.

CHARLTON is based at Diego Garcia in the Indian Ocean as part of the Military Sealift Command's Maritime Pre-Positioning Fleet. These ships carry the equipment for both the U.S. Navy and U.S. Marine Corps, and are ready to be deployed at a moment's notice. The Military Sealift Command is the civilian run arm of the USN and as its name implies it is responsible for the global military seaborne cargo and supply of the US military. The MSC comes under the control of the US Department of Transportation as part of the U.S. Transportation Command (USTRANSCOM) based out of Scott Air Force Base in Illinois.

Although they do not generally conduct port visits, the strategic sealift forces are a big part of the Military Sealift Command and continually conduct exercises with the Navy. The last full deployment of the strategic sealift forces was during Operation Desert Shield/Storm when MSC moved over 1.7 million tons of military cargo and over 10,000 container loads of supplies a month to Saudi Arabia as part of the operation to defend Saudi Arabia and liberate Kuwait. There are three pre-positioning squadrons of MSC, which are based in the Atlantic (1st squadron), Guam (2nd squadron) and Diego Garcia (3rd squadron) who are activated for Operation Desert Shield/Storm, Operation Restore Hope.

From top: USNS CHARLTON in WA undergoing maintenance. The Watson class sealift ships are almost as long as a USN Nimitz class aircraft carrier. Notice the stern of the ship's crane which enable it to offload either in a stream onto landing craft or off onto decks without proper unloading facilities.
Chapter 10
THE CONSTITUENTS OF MARITIME COMBAT FORCES

THE CONSTITUENTS OF MARITIME COMBAT FORCES

The common operating picture that maritime forces work from is known as the wide area picture. This is generally organised by a shore headquarters with real time connections into a variety of intelligence systems and wide area surveillance systems such as JORAN (Jindalee Over the Horizon Radar). The generated picture is up to date, but not real time. Seaborne forces can and do contribute to this wide area picture, as do airborne units. This picture is fundamental to effective operational level command, but its primary use in tactical terms is to focus local surveillance effort and manoeuvre with consideration to adversary positions.

To utilise the wide area picture to its best effect, it is not necessary that all combatant units have access to every aspect, but it is certain essential for the local command platform to possess the computer systems, communications bandwidth and personnel to make full use of the information for their own tactical purposes and to ensure that local forces are operated effectively according to the requirements of the higher command. The requirements for an operation that involves land forces as well as air and seaborne units will be even more demanding. The capabilities of the modern amphibious transports MANOORA and KANIMBLA increase their utility for use by forward deployed elements of a Joint Task Force headquarters.

Information Security and Assurance

Information Security (INFOSEC) and assurance are vital elements of successful C4I. The growing dependence on information and information technology systems creates increased risks if they are not considered. The physical security of systems is only part of the awareness necessary for security, system integrity and survivability. Information operations are a burgeoning area of warfare. They seek to provide effective response to threats ranging from hackers to sophisticated computer experts. Information operations also seek to exploit those areas which may be vulnerable in the adversary.

Spectrum Management

C4 also involves effective management of the components of the electromagnetic spectrum allocated for an operation. Possible sources of interference within the force, and those generated by the force that have the potential to impact on the civil infrastructure require accounting and isolation. Most importantly, bandwidth is itself a scarce commodity which requires careful administration.

Intelligence

Intelligence is vital to maritime operations to give the level of information about the adversary and the operating environment required to ensure the success of the mission and the security of the operation. The development, maintenance and communication of intelligence assessments at the strategic and operational levels are essential for advising commanders of the capability and intentions of adversary forces and other factors affecting the conduct of the operation.

At sea, intelligence reporting from strategic and operational assessment agencies, together with combat information and intelligence from multiple sources, when processed by embarked organic staff contributes to overall force effectiveness and protection.

TASK ORGANISATIONS

The maritime forces available to the ADF represent, within certain limits, a highly effective balance of capabilities. The capabilities of individual platforms are not merely complementary to those of other units but become considerably more effective in combination that they are in isolation. Because of this, maritime forces are generally operated in task organisations. A task organisation is a hierarchy of units. It is based on the Task Force, which is divided and sub-divided into subordinate components which are called Task Groups (TG), Task Units (TU) and Task Elements (TE) respectively. The mission or missions to be accomplished, and the expected threat environment, normally are the primary means by which the composition of particular components is decided.

Not only the composition of the formations but their command can be organised and varied according to the requirements of the job to be done. Components can be
detached or recalled when required. Dormant components can be set up and trained by assigning units from other tasks. Organisation by task also simplifies coalition operations in cases where units of different nations are not familiar with operating with each other. The units to which units are mixed or integrated can easily be varied according to the situation. Organisation by task is a highly flexible system for organising maritime forces and it is used for practically every type of maritime operation in peace or conflict.

PLATFOMS, SYSTEMS AND CAPABILITIES

The following discussion gives a brief description of particular platforms and systems before analysing the primary warfare areas in which they operate. This includes the contributions which air and land forces can make to maritime operations. Effective maritime forces depend upon a balance of capabilities working together. The nature of that balance, of the particular capabilities chosen and the amount of resources allocated to each will depend upon a nation’s strategic situation. However, while it is relatively easy to dispense with a capability, it is by no means easy to acquire or re-discover one. Maritime forces cannot be created overnight and the process of acquiring a new capability extends not only to the acquisition of platforms and systems, but to training and integrated logistic support, in the building of maintenance systems and base facilities and to the development of operating doctrine. Above all, it involves people. In recent years, for example, the RAN has devoted considerable effort to the re-discovery of a serviceable maritime warfare force, a process which has taken the better part of a decade and which is still in train.

**Maritime Air Forces**

The three principal types of maritime helicopters available to the RAN include the Seahawk and Sea Sprite helicopters described below, while the Sea King operates in the organic utility role. Smaller helicopters can also be utilised for shipborne utility operations. Sonar and meteorological data can be transmitted by these methods.

**Frigates and Destroyers**

The RAN currently (at the end of 2002) possesses 10 operational frigates. This force is in transition to a planned force of fourteen Adelaide and Anzac class, a process which should be complete by 2005. All of these ships will carry at least one helicopter. These helicopters, the Seahawk in the Adelaide class and the Sea Sprite in the Anzac class, are organic to the ships and are an extremely important multiplies of their combat capabilities, particularly for surface and underwater warfare. Destroyers and frigates represent the minimum size of surface combatant which possess surveillance and combat capabilities, in all three primary warfare areas (air, surface and underwater) which are capable of sustained independent operations. They would be key elements in any task group that the ADF may deploy for maritime operations. Their flexibility and versatility make these ships platforms of first resort in contingencies throughout the spectrum of conflict.

**Patrol Boats**

The RAN has 15 Freman class patrol boats in service. These 42 metre craft are relatively simple and do not carry sophisticated sensors or weapons for their surveillance and enforcement role. While the question of their replacement is currently under consideration, they represent a viable and highly effective component of Australia’s national surveillance effort. In a major conflict they could contribute significantly to local patrols and surveillance efforts, particularly for inshore and harbour defence. They are also useful to transport and insert small parties of land forces.

**Submarines**

The RAN’s submarine arm consists of a force of six Collins class submarines. These are large, very long range diesel-electric boats equipped with both heavy weight torpedoes and anti-ship missiles. Their qualities of endurance and stealth make them not only extremely useful for intelligence gathering, surveillance and reconnaissance but also primary strike assets for the ADF, both in their own right and as delivery platforms for special forces. In addition to these roles, submarines can also make an extremely effective contribution to other naval combat tasks, such as anti-submarine warfare, coastal and surface warfare. Their potential for blockade and sea denial makes them a formidable asset. Their ‘over-the-horizon’ properties mean that they can operate in hostile air or underwater environments. They will often operate in association with surface task groups, generally well separated in distance but positioned to provide the greatest levels of defensive or offensive support. These operations call for careful cooperation and coordination to ensure that no confusion arises as to the identity of friendly forces, as well as effective communications between ships, aircraft and submarines.

**Mine Warfare and Clearance Diving Forces**

The offensive mine warfare capabilities of the ADF are currently in the form of air dropped mines, while a submarine launched mining capability is under development. Six Huon class boats are critical to the ADF’s capability for this role and are an essential enabler. These units hunt for mines by means of a high definition sonar and remote controlled underwater vehicles. The Huon class also have a limited mine sweeping capability. They are designed to possess the smallest possible acoustic and magnetic signature to reduce their vulnerability to mines activated by these methods. Craft of opportunity, converted tugs, fishing vessels and renders safe of devices, particularly in shallow water and in ports and harbours where traditional minehunting methods are impractical.

The full concept of amphibious forces encompasses not only the ships which provide the lift, but land forces which have been deployed and prepared for such operations. An effective amphibious capability is thus dependent upon not only a very high degree of sustained joint effort in the form of equipment, doctrine and training.

**Amphibious Forces**

The major army formation which is equipped and trained for amphibious operations is 3 Brigade at Townsville. This provides a number of elements, including transport, air, medical and special forces. 3 Brigade maintains a high degree of readiness to respond to contingencies. In the event of a requirement for an amphibious operation, a Landing Force based on 3 Brigade would be task-organised to meet its specific needs. This could also, if the situation required, comprise elements of those forces designated secondary to the ADF amphibious capability. These elements include 1 Brigade, based in Darwin, medium lift helicopters, ground based air defence assets and logistic support elements. These elements are all maintained at high readiness and trained and equipped for amphibious deployment.

The Royal Australian Air Force (RAAF) aerial support would also be an essential requirement for most amphibious operations, whether conducted in conjunction with airforces of other nations or within the Australian theatre. Other forces of special importance could include reconnaissance, air superiority, surveillance, strike and support elements.
**Afloat Support**

Afloat replenishment units represent vital force multipliers, particularly for Australia where practically every conceivable operation must be conducted at considerable distances from shore bases and which will therefore require resupply. The RAN possesses one multipurpose replenishment ship, SUCCESS, which is capable of transferring fuel, water and limited amounts of food, ammunition and stores. There is also one fleet tanker, W.STRALIA, which is designed primarily for the transfer of fuel and water only, although it can also provide small quantities of food and stores. Regularly resupply of fuel is important not only for the endurance of the ships themselves, but for their organic helicopters. Afloat support ships therefore carry separate supplies of both marine and aviation fuel.

**Science**

Because knowledge of the maritime environment is a vital element for success across the spectrum of maritime operations, the Navy possesses hydrographic units which also conduct data collection and research in other areas. The Navy is the national authority charged with carrying out the work required to meet Australia's international commitments within the Australian Area of Charting Responsibility. This is one of the largest in the world. Hydrographic vessels are required to conduct offshore, coastal and inshore work and the RAN's force has been developed to ensure that all these areas are covered.

In addition to the larger hydrographic vessels MELVILLE and LEEWIN, there are four survey motor launches and the Laser Airborne Depth Sounder (LADS) system. More work is conducted by surveying motor boats and shore parties deployed from the hydrographic vessels and other teams are often detached to areas such as the Antarctic to conduct surveys when required. Other units, including combatant forces, regularly collect oceanographic information, which is collated by the Australian Oceanographic Data Centre (AODC).

**Primary Maritime Warfare Areas**

**Air Warfare**

The RAN does not possess aircraft carriers and thus has no capability to deploy organic fixed wing aircraft. This means that the ADF must not only always plan for maritime air warfare on a joint basis but its naval forces must also ensure that they possess the capacity to defend themselves in the absence of fixed wing aircraft. The provision of air cover for seaborne forces is a high demanding task that becomes progressively more difficult as the range between the air base and the theatre of operations increases and which has to be balanced against other tasks. **Combat Air Patrols** (CAP) will be provided by the RAAF's F/A-18 Hornet/F-35 Lightning fighters or, under certain conditions, by the F-111 as Active Air Defence. This will be one part of the Counter Air operation undertaken by the Air Component of the Joint Force, which may also include Offensive Counter Air Activities to reduce the adversary's capacity to control the air. The endurance of F/A-18 CAP on task can be extended by the provision of air-to-air refuelling, which is usually conducted by air intercept controllers (AICS) working in AEW&C and aircraft, when these come into service, or in frigates or destroyers.

The sensors and combat data systems fitted within our frigates mean that these ships are capable of developing and maintaining a local recognised air picture, vital for the detection, identification and targeting of airborne targets. If this picture is not properly maintained then the probability of friendly aircraft being detected and identified is reduced, this in turn, will complicate the task of adversary submarines because they can minimise the time taken to detect and identify mines. Nevertheless, the provision of air cover for adversary submarines whether by means of their radar and infrared systems, or by monitoring the sonobuoys they drop into the sea to detect submarine generated noise. Some sonobuoys can also be used actively, generating a sound signal to echo range on an underwater target. The primary weapon of maritime patrol aircraft will be lightweight torpedoes specially designed for use against submarine targets. Carefully positioned submarines also have considerable ability to detect adversary submarines by listening for their noise on towed sonar arrays. Similar devices being fitted to a number of the RAN's surface combatants, and which also have active hull mounted sonar and carry light weight torpedoes. These systems are primarily intended for self-defence, but may be employed to cover and protect other units when the frigates or destroyers are executing high value or mission essential units such as amphibious forces. In these circumstances, layson defence probably will be the most effective way to ensure that such units are successfully protected. Seabound helicopters possess a variety of sensors, and are also able to deploy sonobuoys and drop light weight torpedoes. They will generally be used by the frigates to investigate and engage an underwater contact while the surface ships remain out of torpedo range. Surface ships can use helicopters as a lightweight torpedo carrier. Defensive minefields are a very useful tool to complicate the task of adversary submarines because they can have a considerable deterrent effect, as well as reducing the areas that require to be searched.

**Undersea Warfare**

Undersea warfare falls into two main categories, anti-submarine operations and mine warfare. Anti-submarine operations are complex, demanding and time consuming, requiring close co-operation of many assets and a very high level of understanding of environmental conditions. The P-3C Orion aircraft are amongst the most effective assets in searching for adversary submarines, whether by means of their radar and infrared systems, or by monitoring the sonobuoys they drop into the sea to detect submarine generated noise. Some sonobuoys can also be used actively, generating a sound signal to echo range on an underwater target. The primary weapon of maritime patrol aircraft will be lightweight torpedoes specially designed for use against submarine targets. Carefully positioned submarines also have considerable ability to detect adversary submarines by listening for their noise on towed sonar arrays. Similar devices being fitted to a number of the RAN's surface combatants, and which also have active hull mounted sonar and carry light weight torpedoes. These systems are primarily intended for self-defence, but may be employed to cover and protect other units when the frigates or destroyers are executing high value or mission essential units such as amphibious forces. In these circumstances, layson defence probably will be the most effective way to ensure that such units are successfully protected. Seabound helicopters possess a variety of sensors, and are also able to deploy sonobuoys and drop light weight torpedoes. They will generally be used by the frigates to investigate and engage an underwater contact while the surface ships remain out of torpedo range. Surface ships can use helicopters as a lightweight torpedo carrier. Defensive minefields are a very useful tool to complicate the task of adversary submarines because they can have a considerable deterrent effect, as well as reducing the areas that require to be searched.

Mines can be cheap and simple enough to be employed by the smallest powers or terrorist groups and represent a formidable challenge for maritime forces. Mine warfare has considerable potential for gaining and maintaining the initiative against an adversary. Preemptive sowing of even a limited number of mines outside its bases or in choke points can prevent its ships from deploying or returning to port and will force it to conduct time consuming and painstaking mine counter measures (MCM). Mine warfare is subject to some ambiguity and restrictions under international law; nevertheless, it has been employed covertly on at least one occasion as a form of maritime terrorism by a nation-state. Mine countermeasures are most effective when forces possess a high degree of understanding of the environment, preferably in the form of route and local surveys which can minimise the time taken to detect and identify mines. MCM operations will be limited to the minimum area required to be made safe to allow some shipping movements to continue and they will be conducted so as to achieve the greatest possible threat reduction in the shortest possible time.

**Interoperability**

As discussed in Chapter One, sharing the same seas, Navies frequently interact with one another and are at ease with the issues involved in international operations. Nevertheless, interoperability cannot be assumed and requires substantial and sustained effort both in terms of common procedures and common communications. The greater the commonality in equipment and methods achieved, the less duplication of resources and the fewer delays there will be in achieving operational results when nations come together in contingencies. Formal alliances are the primary mechanism for achieving interoperability, but other approaches are possible through port visits, passage exercises and other cooperative activities. They can range from regular and highly sophisticated multinational exercises to exchange postings and information exchange agreements. One multi-lateral example of cooperation is the Western Pacific Naval Symposium (WPNS), which brings together regional Navies to discuss matters of mutual interest. Amongst the products of the WPNS is the Code for Unattended Encounters at Sea (CUES), a code of practice for naval units, which include ships conducting routine encounters each other unexpectedly, which provides guidance on manoeuvring and communications.
RAN buys Harpoon Block II

The RAN has signed a contract with Boeing for the purchase of 64 Block II Harpoon missiles. The Harpoon Block II is a significant enhancement for anti-ship operations in the RAN’s fleet. The new Block II Harpoon is an advanced version of the current Block I Harpoon, offering improved range, accuracy, and lethality.

The new Block II Harpoon incorporates technologies from two other existing weapons systems - the GPS correlating landmass and sea data for more accurate targeting, and the Collins class submarine's enhanced stability and maneuverability. The new Harpoon Block II will be used to extend the RAN's submarine and anti-submarine warfare capabilities.

AP-3C accepted

A fleet of upgraded AP-3C Orion aircraft has been delivered to the RAN, allowing them to continue their operations in the second half of 2000. The upgraded AP-3C has improved capabilities in maritime patrol, including an advanced radar system and improved night vision capabilities.

Cracks in Anzacs hulls

Rates on the Anzac-class frigates have been affected by cracks discovered in their hulls. These cracks are affecting the structural integrity of the ships, raising concerns about their continued operation. The RAN is working with shipbuilders to formulate a cure.

Spruance class destroyers for Brazil

Brazil has made an application to purchase Spruance class destroyers from the US Navy. This application is in response to Brazil's increased defense needs.

Flash Traffic

The RAN's new patrol boats will be known as the Armidale class. Defence Minister Robert Hill made the announcement in coincidence with 60th commemoration events of the sinking of the original HMAS ARMIDALE in 1942. The new Block II Harpoon will also be installed on these boats.

Four of the six AP-3Cs that have been delivered to the RAAF. The modification to the RAAF's Orion make them one of the best maritime patrol aircrafts in the world. (RAAF)
An ESSM being launched from a HMAS 29 G plat launcher. The ESSM has performed well in testing with the first one being delivered to the RN in testing from an Astute frigate. (Raytheon)

The exhaust system is currently being redesigned involving the use of titanium alloys, a new ducting and cooling system, and a new flap and control design. This will however, not solve a more structural problem with the exhaust fumes forming around the ship’s deck and bridge wing areas at low speeds and in low winds. It is understood exhaust fume concentrations are sometimes penetrating into the ship’s ventilation system, while the side ducts above the waterline cannot be used if another ship is moored alongside.

F-123 frigates receive silent treatment

Noise problems which have plagued the German Navy’s Type F-123 multipurpose frigates ever since the four ships entered service between 1994-96 have been solved.

The F-123 frigates, a close relative of the Anzac frigate and the new F-124 frigate which is one of the lead contenders for the RAN SEA 4000 program, feature a conventional twin-shaft combined diesel or gas turbine propulsion system comprising two GE LM-2500 gas turbines, two MTU diesels, Reeker-Tacke reduction gearboxes and Sulzer Escher Wysse controllable pitch propellers. Despite being a ‘low-risk’ propulsion design unexpected vibration problems occurred which were finally tracked down to an imbalance of the shafts connecting the diesel engines with the gearbox through a watertight compartment bulkhead. The heavy weight of the shaft led to the elastic rubber parts in the coupling to ‘creep’, which in turn resulted in a ‘noticeable imbalance’ at high speed. The noise created has been described as an earthquake inside the ship that made it impossible to not only locate the type of ship using sonar but also identify the individual ship.

The problem is believed to have been solved by installing a lighter Gessler (Gerzinger Silbert Couple) shaft/coupling assembly made of carbon fiber.

Other problems experienced with the F-123s have involved the diesel generator exhaust ducts located just above the waterline on both sides of the ship. Frequent and expensive repairs have been necessary because of the corrosive mixture of sea water, exhaust gas condensation and carbon particles.

The German Type 123 frigate FGS BRANDENBURG. The F-123 have had some serious problems once launched which are now being addressed. (German Navy)

The exhaust system for the RAN’s new aircraft carriers will have the capability to be fitted with catapults and arresting gear, although they will be built with the ‘ski-ramp’ well-known from the Royal Navy’s current Invincible class carriers for STOVL operations.

The UK is heavily involved in the Joint Strike Fighter project, with Rolls Royce leading the development of the lift system for the STOVL variant. Up to 150 of the aircraft will be acquired by the MoD, in a programme worth up to £10 billion.

The new decommissioned Type 22 Batch 2 frigate HMS SHEFFIELD. It is understood Chile and the UK are in advanced negotiations for Chile to purchase the ship (RN).

HMS SHEFFIELD to Chile?

According to Chilean government sources the Chilean Navy is in advanced negotiations with the UK Ministry of Defence (MoD) for the acquisition of the ex-RN Type 22 Batch 2 frigate HMS SHEFFIELD.

SHEFFIELD was officially decommissioned early from the RN at a ceremony at Devonport, Plymouth, on 14 November 02. She was named after the ill-fated Type 42 destroyer sunk in the Falklands Conflict.

It is understood that the UK MoD has indicated to the Chileans that two RAN Type 23 frigates could become available from 2004 or 2005.

Upon successful conclusion of the negotiations the frigate would be taken to Chile for refit in a local shipyard. The Chilean Navy needs to replace three Pacific-class (former RN County-class) destroyers acquired from the UK in the 1980s, and which are to be paid off in 2004, 2006 and 2007, respectively.

Tenix strengthens its submarine warfare capabilities

Australian Defence contractor Tenix Defence has signed a research

The new decommissioned Type 22 Batch 2 frigate HMS SHEFFIELD. It is understood Chile and the UK are in advanced negotiations for Chile to purchase the ship (RN).
The South African Navy (SAN) has returned its two Daphne-class diesel electric attack submarines (SSKs), UMKHONTO and ASSEGAAL to service following a locally developed Service Life Extension Programme by African Defence Systems.

The two Daphne class diesel electric attack submarines were originally laid down in the late 1960s, and suffered in the wilderness of South Africa’s years of apartheid-related sanctions. Despite constant local efforts to upgrade and maintain the boats, by the early 1990s, the SAN was desperately searching the world for increasingly hard-to-find stocks.

This latest much-needed upgrade has seen UMKHONTO and ASSEGAAL receive a new combat system developed by African Defence Systems, incorporating a new radar and a cylindrical conformal array intercept system. The boats have also been outfitted with new communications and electronic-warfare suites and upgraded Zeiss periscopes.

Their upgraded systems will now afford the SAN a stop-gap force until its two new Type 209 submarines are delivered, starting in 2005. This is crucial not just to maintain a submarine capability, but also to retain operational experience for the SAN crews, as very few small numbers of SAN personnel are trickling through the German Navy’s submarine commander’s course and serving attached to active Type 209 boats.

The SAN is in a good position to further support excellence in technology development. The two Phase I will clear the target as predicted. The test, designated Flight Mission-4 (FM-4), is the seventh consecutive successful missile defense test for Raytheon’s sea-based and ground-based midcourse programs in the past 16 months, continuing to demonstrate Raytheon’s “hit-to-kill” capabilities. In all, Raytheon systems have successfully intercepted 42 of 43 targets through a series of three-dimensional waypoints. Lethality will also be increased with a new insensitive high-explosive blast-warhead. It is not known if a GPS will be fired to enable precision land attack missions as well.

### SM-3 scores, again

A developmental Standard Missile 3 (SM-3), designed to intercept short to medium-range ballistic missile threats in space, is launched from the Pearl Harbor, Hawaii-based USS LARID ERE (CG-70) (USN).

**For the third time this year, a Raytheon Company STANDARD Missile-3 (SM-3) destroyed a ballistic missile target in space during a Nov. 23 Missile Defense Agency (MDA) and U.S. Navy sea-based Aegis Ballistic Missile Defense (BMD) element flight test off the Hawaiian coast.**

**This was a more stressing test of the system than in the previous interceptions, requiring missile launch during the aircraft’s ascent phase (prior to apogee). SM-3 successfully demonstrated airmanship and guidance during the test, by impacting the target as predicted.**

**This test, designated Flight Mission-4 (FM-4), is the seventh consecutive successful missile defense test for Raytheon’s sea-based and ground-based midcourse programs in the past 16 months, continuing to demonstrate Raytheon’s “hit-to-kill” capabilities. In all, Raytheon systems have successfully intercepted 42 of 43 targets through a series of three-dimensional waypoints.**

**Lethality will also be increased with a new insensitive high-explosive blast-warhead. It is not known if a GPS will be fired to enable precision land attack missions as well.**

### Indonesia successfully tests Exocets

The Indonesian Navy has tested its Block 3 Exocet missiles, after three previous Block 2 failures. The missiles were launched from the Indonesian Navy’s light frigate, the KRI Trikora.

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**This test, designated Flight Mission-4 (FM-4), is the seventh consecutive successful missile defense test for Raytheon’s sea-based and ground-based midcourse programs in the past 16 months, continuing to demonstrate Raytheon’s “hit-to-kill” capabilities. In all, Raytheon systems have successfully intercepted 42 of 43 targets through a series of three-dimensional waypoints.**

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### Exocet Block 3 on way

The French Navy (Marine Nationale) has conducted the first firing of the naval version of MBDA’s Aster 15 area defence system from the aircraft carrier Charles de Gaulle in the Mediterranean on 30 October 02.

The Aster 15 missile, was fired from a 4.143m vertical-launch system and intercepted its target at a distance of 6km from the carrier after a nine second flight. The incoming target was a missile fired from a Syrian vertical-launch system.

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carrier in December 2001, before its departure for service in the Arabian Sea in support of the US-led Operation Enduring Freedom. The Aster missile forms part of the Franco-Italian Famille de Système Sol-Air Future programme, which is managed by the European four-nation procurement agency, OCCAR. Apart from the CHARLES DE GAULLE, the Aster 15 will also be fitted to the Franco-Italian horizon anti-aircraft frigate and the RN’s Type 45 destroyers. It is understood Saudi Arabia has also chosen the Aster 15 to equip its Sawari II frigates.

RN task group to visit Down Under

The UK MoD has announced that a Royal Navy Task Group would deploy to the Asia Pacific region in 2003 to take part in exercise Flying Fish, an exercise with the UK’s partners under the Five Power Defence Arrangements with Australia, Malaysia, New Zealand and Singapore. A naval task group is routinely deployed on exercises around the world every three years. The 2003 deployment will be led by the Invincible class aircraft carrier HMS ARK ROYAL and the Type 42 destroyer HMS LIVERPOOL, and the Type 23 class frigate HMS MARLBOROUGH, and the Royal Fleet Auxiliaries FORT VICTORIA and ORANGELEAF. A nuclear powered submarine will also accompany them. The group will visit over 25 allies and partners on route in the Mediterranean, Gulf, Indian Ocean and Pacific, and undertake several training exercises. Exercise Flying Fish itself will commence off Malaysia and Singapore in June 2003.

AUSTAL Joins US firms to develop Focused Mission High-Speed Ship for USN

Austal USA, the Mobile, Alabama-based subsidiary of world-leading aluminium shipbuilder Austal Limited, will team with Bath Iron Works, a subsidiary of General Dynamics, to develop advanced concepts for a Focused Mission High-Speed Ship (FMHSS) for the United States Navy. Austal USA will play an integral part in the study team as one of six consortium selected from 18 proposals to receive US$500,000 grant to develop the concept. Led by Bath Iron Works, the team will also include The Boeing Company, British Aerospace Corporation (BAE), Maritime Applied Physics Corporation, CAE Marine Systems and five other General Dynamics businesses units.

Austal’s Managing Director, Mr Bob McKinnon acknowledged the study as a major development in the medium and long-term prospects for United States military vessels. "We are delighted to be part of such a strong team, but are aware that there is quite a long way to go before a contract is awarded", Mr McKinnon said. He also confirmed that the large commercial vehicle-passenger ferry market remains subdued.

FMHSS is an integrated surface combatant capability envisioned to operating in littoral (coastal) areas against terrorist speed -swarm boats, mines and diesel submarines. It may also be called upon to carry logistics supplies or personnel and equipment. Special Operations Forces and the U.S. Marine Corps, acting in a role similar to the Austal built 101 metre theatre support vessel, "Woodpecker", recently contracted to the U.S. Marine Corps in Okinawa, Japan. The FMHSS will incorporate state-of-the-art, modular mission packages, and a multi-purpose platform design to provide the US Navy with a highly flexible concept for future littoral operations. The mission capability of the FMHSS will play a pivotal role in assuring the access to joint and coalition forces into contested coastal regions around the world.

The team has chosen to base its FMHSS hull design on Austal’s advanced high-speed technology, developed and designed by Austal’s experienced design team located in Western Australia, to create a highly automated ship capable of speeds in excess of 50 knots. Austal’s design offers outstanding efficiency and performance in all-weather conditions, endurance and reliability for sustained independent operations and a high degree of flexibility/adaptability to meet evolving military requirements through open architecture and modular configuration. The system will enable advanced operational concepts such as those employing high speed, enhanced manoeuvre, distributed forces and reduced signatures as well as the ability to efficiently embark from a broad array of aircraft, amphibious, land and marine vehicles.

The team will develop an integrated system that delivers significantly enhanced capabilities to naval, joint and coalition forces operating within the littorals. In defining system design characteristics, the team will address FMHSS integration with FORCEnet, the information network into which the U.S. Navy will integrate sensors, decision aids and weapons, as well as other joint and coalition information networks.

The spectrum of technologies to be employed by the team will include all forms of remotely deployed and operated vehicles, distributed sensors, modular payloads, decision aids, command and control systems, and automation systems as well as advanced propulsion technologies and hull construction materials.

The results of this study will assist the U.S. Navy in defining requirements for the rapidly emerging Littoral Combat Ship (LCS) Program. Between 30 and 60 LCS ships are planned, with construction to commence in 2005. Earlier construction may be required by the U.S. Navy in order to accelerate defence against growing worldwide threats and terrorist operations.

Navy League concerned at air warfare state

At its recent AGM in Canberra the Federal Council of the Navy League of Australia (NLA) has called on the Federal Government to address urgently the need for air warfare destroyers to enable Australian forces deployed abroad, including Army units, to be adequately protected. The Federal Council of the NLA is concerned that while current surface combatants are well suited to low threat situations, the Navy now has a higher level capability. Experience proves there is a clear need for the RAN to have an enhanced air warfare capability. This need can be best met by the acquisition of air warfare destroyers.

The government has itself recognised the need for such ships. It has announced that Australia will acquire more than three air warfare destroyers in its 2000 White Paper. But they are not planned to enter service until 2013-2015. The NLA Federal Council was highly critical of governments past and present for not ensuring this important capability was maintained when the guided missile destroyers PERTH, HOBART and BRISBANE were decommissioned without replacement.

To fill the gap until Australian built air warfare destroyers are delivered and becomes available the NLA recommends that Government obtains some air warfare capable ships, by way of loan or lease, to provide this capability. The League strongly urges the Government to act on this proposal. The alternative is to leave Australian forces without the protection they deserve, and need to complete some missions, for at least the next 10 years.
Observations

By Geoffrey Evans

MARITIME STRATEGY INQUIRY

The Navy League has participated in a number of defence and maritime-related inquiries during the past 25 years and did not hesitate when Parliament’s Joint Standing Committee on Foreign Affairs, Defence & Trade (JSCFAD&T) announced an inquiry into the role of maritime strategy in Australia’s defence policy. A submission was lodged by the end of October and the League has been advised that public hearings will begin in February.

NAVY LEAGUE OF AUSTRALIA SUBMISSION TO THE JOINT PARLIAMENTARY COMMITTEE ON FOREIGN AFFAIRS DEFENCE & TRADE INQUIRY INTO AUSTRALIA’S MARITIME STRATEGY

The Navy League believes it is necessary to refer to the Government’s “November 2000 Defence White Paper” - “Defence 2000 – Our Future Defence Force” - before addressing matters that are subject of the present Inquiry.

Defence White Paper 2000 – Ministerial Endorsement

The Minister’s introduction to the Defence White Paper 2000 claimed that this document has established an historic benchmark for the development of Australia’s defence force. It states that the White Paper sets it apart from its predecessors in three key ways:

• The first is the degree of ministerial involvement.
• The second is the Government’s decision to lay down as the most specific long-term defence funding commitment given by any Australian Government in over 25 years.
• The third is a clear statement of the Government’s requirements of its defence organization.

The League notes the Minister has stated that the White Paper establishes “an historic benchmark for the development of Australia’s defence force”.

Australia’s Strategic Interests

In considering Australia’s strategic interests and objectives the White Paper asserts that the highest priority is accorded to our interests and objectives closest to Australia. It states that:

• Australia’s most important long-term strategic objectives is to ensure the defence of Australia and its direct approaches.
• The second objective is to foster the security of our immediate neighbourhood.
• Our third objective is to work with others to promote stability and cooperation in South East Asia.
• Our fourth objective is to contribute in appropriate ways to maintain strategic stability in the wider Asia Pacific region.
• Our fifth strategic objective is to contribute to the efforts of the international community, especially the United Nations, to uphold global security.

Having addressed these objectives the White Paper states that “we will continue to support the United States in the major role it plays in maintaining and strengthening the global security order. Australia also has a strong interest in non-proliferation regimes that prevent the spread of weapons of mass destruction.”

Australia’s Military Strategy and Priorities

The Defence White Paper, having established Australia’s strategic interests and objectives, comments on Australia’s military strategy and priorities as follows:

• The priority task for ADF is the defence of Australia. This includes self-reliance, control of the sea and air approaches and the ability to attack hostile forces as far from our shores as possible.
• The second priority for the ADF is contributing to the security of our immediate neighbourhood. The capability to help our neighbours would be drawn from the forces we have developed for the defence of Australia.
• The third priority for Australia’s forces is supporting Australia’s wider interests and objectives by being able to contribute effectively to international coalitions of forces to meet crises beyond our immediate neighbourhood. The White Paper states we would do this by contributing to international coalitions, drawing on the forces we develop for higher priority tasks.

Following so closely on the Defence White Paper 2000, the terms of reference for the Joint Standing Committee on Foreign Affairs, Defence and Trade (JSCFAD&T) appear to note Australia’s fundamental strategic interests and objectives, or at least, to raise doubts about the completeness of the White Paper.

That being said, the Navy League supports periodic reviews of defence policy in relation to the defence of Australia, particularly when this has been seen as the consistently highest priority of successive governments. Since the White Paper was published there have been two major events which have relevance to Australia’s fifth strategic policy, namely to contribute to the efforts of the international community, especially the United Nations, to uphold global security. These are the terrorist attacks of 11th September 2001 in New York and the circumstances in Iraq. The former led to the deployment of Australian defence personnel and equipment to Afghanistan and the Arabian Gulf, the latter to consideration of Australia’s possible involvement in military action against Iraq.

The JSCFAD&T Committee, in the preamble to the Terms of Reference (TOR) appears to re-affirm Australia’s “fundamental maritime strategy” requiring the Australian Defence Force (ADF) to “maintain and further develop an integrated and balanced joint force” and the preamble also illuminates the reason for the Inquiry in stating that:

• The inquiry aims to develop a comprehensive understanding of Maritime Strategy and its place within Australia’s broader military strategy and defence policy and;
• Also seeks to understand the implications of a Maritime Strategy for the other tasks set out in the White Paper.

Terms of Reference

While the foregoing rationale for the Inquiry is clear, one might however question whether there is some underlying reason for it, or whether there is now a perception that insufficient study was put into the development of the White Paper. The latter seems unlikely, noting the previous Minister’s perception that the White Paper established an historic benchmark.

The Terms of Reference themselves are of such a broad nature that they give the JSCFAD&T full scope to examine and challenge every aspect of the Defence White Paper, including the long held principle that the first responsibility of Government is the defence of our country and our community from armed attack. Given the findings of the Community Consultative Team (The Peacock Inquiry) that preceded the White Paper it would seem unwise for any Government to change the general order of priority accorded home defence.

The Navy League has contributed a number of inquires into defence and maritime-related matters over the past thirty years. It is well aware of the problems government and security planners have had to face. During the whole of that period “change” and “uncertainty” have been words most often used to describe the difficulties of those charged with the responsibility of ensuring the nation’s security. It is the view of the Navy League that the White Paper, “Defence 2000”, made significant progress in grappling with unknowns of the future.

It is the opinion of the League that, while events overseas during the past 12 or so months have to a degree heightened the uncertainty of forecasting our security needs, the broad thrust of “Defence 2000” remains valid.

Funding

The Committee will be aware that for a number of years money allocated for defence purposes has not kept pace with ever-increasing costs, particularly for equipment but in other areas such as personnel. In publishing “Defence 2000” the Government estimated that defence spending would need to grow by an average of about three percent per annum in real terms over the next decade. Albeit it was acknowledged that such growth is significantly below the average annual growth rate of Australia’s economy over the last two decades. However, the Government did speculate that if our economy grows on average as fast as it has over the last two decades, in 2010 we will be spending about the same proportion of GDP on defence as we are today. That is 1.9%.

The Navy League is deeply concerned that the increased demands placed on the Defence Force since “Defence 2000” was published and the possibility of continued and growing involvement with international coalitions of forces has already made significant progress in grappling with unknowns of the future.

The Navy League strongly recommends the JSCFAD&T acknowledge the increased demands being put on the Defence Force since the White Paper was formulated and include in its report a strong recommendation for additional annual funding.

Other Matters

Maritime Strategy

While the Navy League supports in principle the term “Maritime Strategy” as indicating Australia’s geographic environment, it believes there is some risk this will be narrowly interpreted as restricted to the sea/air gap between North West Australia and the southern limit of the archipelago area to the east. The strategic reality is that should Australia have to defend itself from an external threat, serious consideration would have to be given to operations beyond the sea/air gap. This could involve ground forces, which would need logistic and combat support from both Navy and Air Force operating beyond the southern limits of the Archipelago.
Range of Maritime Activities

The Navy League also wishes to emphasise that a nation's Maritime strategy is not confined solely to military forces but must also include a range of activities associated with the sea. These include merchant shipping-a vital factor in the nation's well-being, shipbuilding and ship repair and maintenance, the fishing industry and policing of adjacent waters.

Evacuation of Australian Nationals

The Navy League does not envisage Australia declaring war on or engaging in a pre-emptive strike against any State in the neighborhood. This is not to say Australia could not become involved in hostile activities instigated by other States, or prostrate a need, in an immediate area, to evacuate Australian nationals in a variety of circumstances.

The 1987 Fijian troubles indicated shortcomings in Australia's ability to evacuate nationals but the conversion of two former USN vessels into multi-purpose ships, the LPAs MANGOORA and KANIMBLA, has improved the RAN's ability to meet this requirement. The League does not discount the importance of the Air Force in evacuating nationals but airfields may not always be available.

Australian Defence Industry

The Navy League is aware that the naval shipbuilding industry has been under review and that proposals have been submitted for consideration by the Government. The League urges only to caution against having a "single entity" with which the Government would deal. Instead the League recommends several "preferred tenderers" with known expertise or experience in the field into which the equipment sought by Defence falls. It will be obvious that shipbuilding is not a self-contained industry as the requirements extend into all types of industry.

Evacuation of Australian Nationals

The Navy League considers a healthy Australian shipping industry to be of vital importance to the nation's well-being and an essential part of a coherent maritime strategy. The League urges the JSCF-IDA to give urgent attention to this matter.

Employment of Naval Forces

The League has some concern about the need for the RAN to have a high operational range of ships must be suspect. With the decommissioning of the RAN's three Guided Missile Destroyers (DDG's) the Navy is now left with no Tier One surface combatant. This weakness is recognised in the White Paper but it would appear that an adequate platform to take Air Defence capable ships will not be available until about the year 2013, this must place undesirable restrictions in the flexibility of our naval forces.

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Atlantic 1942-43, Indian Ocean 1943-44, and also Pacific 1945, taking its tally to seven. All-in-all, they are two of the most informative and thoroughly enjoyable books. Recommended reading, I look forward to the third in the series covering destroyer escorts and frigates.

**Mighty Midgets at War — The Saga of the LCS(L) Ships From Iwo Jima To Vietnam**

By Rhoda R. Reilly

*Hellgate Press 2000*  
Soft Cover, 294 pp Illustrated  
Reviewed by Paul D. Johnston

From Cruiser Trading, 9 Townsend St. Eyvind ACT 2600. Phone orders (02) 6229 2332  
Price: $20.20 +pp when phone ordering

This book is one that you definitely do not judge by its cover or by the introductory paragraph which are both misleading in the terms of the high quality of research and detail. Written in extensive detail the military history of the Mighty Midget LCS begins with the USN and USMC placing pressure upon the US government to design and develop landing craft for amphibious assaults. In a period of American disengagement with Europe and arms limitations, the author notes interestingly that in 1936 Britain and the USA were working cooperatively to design and develop vessels and doctrine for amphibious landings and assaults. As a consequence of this program and the adaptation of several civilian craft designs, the grandfathers of our present concept of LSD, LST and LCT were created. Charged with the landing of infantry these Landing Ships (LSL) and Landing Craft (LC) were designed to traverse the serenely, remain seaworthy, and be able to be beached and to defend themselves against surface, sub surface and air threats. To incorporate these wartime demands the Landing Craft Ship (LCS) was conceived and developed achieving the popular nickname the Mighty Midget. The author’s in-depth research clearly reveals the extensive role and responsibility placed upon LCS crews and of the highly versatile design of the Mighty Midget. The Mighty Midget went on to have a distinguished service role in the Pacific Theatre and provided a variety of tasks such as mine sweeping, troop and vehicle landing, smoke coverage, rocket attack, radar picket, search and rescue and anti-aircraft roles.

The service and resilience of this design saw LCS involved in the Italian and USN service in key Naval battles of World War Two. The eventual retirement of this design was a milestone in itself, when in 1997 Thailand retired its last LCS from service. The author, Reilly, is generous in detail and has no doubt extensively combing the USN National archives and collective memories of those who served to produce Mighty Midgets at War. The illustrations span from the engraving dock to the scrap yard with many others showing the Mighty Midgets in action and the weapons deployed on the LCS as well as those used against them by subsequent enemies.

**The Mighty Midgets at War The Saga of the LCS(L) Ships from Iwo Jima To Vietnam** is a well researched, illustrated history of Naval Maritime design that made a significant contribution across three conflicts and countless skirmishes. It is a simple yet informative writing style and makes this book one worth reading.

**Band of Brothers**

**DVD box collection**

Warner Bros Home Entertainment  
Available in stores now  
Reviewed by James Richards

From Steven Spielberg and Tom Hanks, the creative forces behind *Saving Private Ryan*, comes the powerful ten-episode television epic now available in a boxed set on DVD.

The most expensive mini-series ever made, *Band of Brothers* is the epic true story of elite US parachute unit Easy Company, 506th Regiment, 101st Airborne Division's engagement in World War II. Based on the novel by Stephen Ambrose and taken from interviews with the surviving members of Easy Company, *Band of Brothers* is a ten-part portrayal of a unit's struggle to survive in war-torn Europe while sustaining over 1500 casualties, the largest in US history.

Employing the same cinematic techniques as those used for Spielberg's *Saving Private Ryan*, such as hand-held cameras and drab colour tones of browns and greys, the series' documentary feel vividly captures the confusion and terror of young soldiers dropped behind enemy lines under the harshest of conditions.

Each episode begins with the real life survivors of Easy Company discussing their memories of the story about to be told. These brief minutes of emotional insight remind the audience that what is about to come is grounded in fact, with character names taken from their living counterparts. While dramatic licence has obviously been taken in parts, it is somewhat humbling to hear the survivors talk of their simultaneous terror and excitement of dropping into Normandy and of what to expect, and then to see their story dramatically recreated over the next 9 hours.

We are introduced to the men of Easy Company during their intensive airborne training in the United States and then begin to see that bond that will carry them through the next three years of conflict. From second episode Easy Company is thrown into action, taking a significant role in some of the major offensives of the end of WWII including the Normandy D-Day invasion, "Operation Market Garden", the Battle of the Bulge and the seizure of Hitler's Eagle's Nest at Berchtesgaden.

Visually stunning, each episode is a harrowing experience with the DVD format making excellent use of the dynamic camerawork and perfectly balanced surround sound.

The invasion of Normandy, engagement at Ardennes forest near Bastogne, Belgium and the horrific Cretean encounter are particular standouts for their realism and deeply emotive storytelling. Led by a cast of relative no-names and character actors, *Band of Brothers* succeeds with an ever-changing ensemble committed to strong dialogue and historically accurate action. With almost 60 key roles throughout the ten-part series, there is not a weak link among the cast members, surprising considering at least half of the lead cast are English carrying off US accents.

Although driven by a plot filled with moments of tension and loss, *Band of Brothers* refuses to fall into the melodrama or sob story trap, instead relying upon smart writing and strong visuals to communicate the mix of terror, courage, sacrifice and humanity of the Second World War effort.

Supporting the five discs of the *Band of Brothers* series (two episodes per disc) is a stand-alone special features disc containing an 80-minute documentary profiling the surviving members of Easy Company. Titled *We Stand Alone Together: The Men of Easy Company*, the documentary is a deeply moving examination of the lives of the men of Easy Company, with the survivors talking of how they first learnt of the war, their training, first jump, and their memories good and bad of their numerous conflicts as dramatised in the *Band of Brothers* series.

Using rare archival footage to overlay the interviews, the documentary is an excellent epilogue to the overall ten episode series, showcasing both the talents of the men who survived and the credibility of the film makers who chose to try and tell their story as factually accurate as possible.

*We Stand Alone Together* is a riveting examination of the history of the airborne unit, detailing some of the most savage as well as quiet moments experienced on the front. The documentary should be considered a must for anyone who enjoyed the initial ten episode series or wants to learn of what was then a new and untested type of combat unit. This documentary is in essence the motivation and heart and soul of the *Band of Brothers* epic.

Other special features available on the disc include a 30-minute behind the scenes making of the documentary on the series and a video diary from actor Ron Livingston showcasing the basic training boot camp the actors were forced to endure to ensure they could realistically portray their real life counterparts.

Other special features include a TV special on the series premiere in Normandy and an expanded field guide ‘Who's who’ to the men of Easy Company, identifying each character in the series and giving an outline of their history and involvement in the *Band of Brothers* story.

The quality of the DVD transfer itself is exceptional. Both visual and audio quality is astounding, with each layer of DTS sound spread evenly throughout the surround speakers, with a nice balance for dialogue ensuring everything is crystal clear and easy to hear even during the series’ quietest moments.

Visually, the image is incredibly clean with little bleed, fading, shadows or distortion, even during the night scenes where most films struggle with the DVD format.

The series’ documentary film technique works exceptionally well on the small screen, with the DVD minimising any sense of grain experienced during the recent television broadcast, ensuring a crisp edge to the widescreen format.

Available in one of the more dynamic box set packages in recent years, the overall look and ease of access to the set is commendable and looks good on the shelf.

Overall, the *Band of Brothers* DVD box collection is a resounding success and should be considered a must have for anyone who enjoyed the series or is an avid fan of excellent storytelling and war drama.

Without question, *Band of Brothers* is one of the most successful and resoundingly emotive war stories captured on screen in the past decade.
The strategic background to Australia’s security has changed in recent decades and in some respects become more uncertain. The League believes it is essential that Australia develops capability to defend itself, paying particular attention to maritime defence. Australia is, of geographical necessity, a maritime nation whose prosperity strength and safety depend to a great extent on the security of the surrounding ocean and island areas, and on seaborne trade.

The Navy League:

- Believes Australia can be defended against attack by other than a super or major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication to our allies.
- Supports the ANZUS Treaty and the future reintegration of New Zealand as a full partner.
- Urges a close relationship with the nearer ASEAN countries, PNG and the Island States of the South Pacific.
- Advocates a defence capability which is knowledge-based with a prime consideration given to intelligence, surveillance and reconnaissance.
- Advocates the acquisition of the most modern armaments and sensors to ensure that the ADF maintains some technological advantages over forces in our general area.
- Believes there must be a significant deterrent element in the Australian Defence Force (ADF) capable of powerful retaliation at considerable distances from Australia.
- Believes the ADF must have the capability to protect essential shipping at considerable distances from Australia, as well as in coastal waters.
- Supports the concept of a strong modern Air Force and highly mobile Army, capable of island and jungle warfare as well as the defence of Northern Australia.
- Supports the development of amphibious forces to ensure the security of our offshore territories and to enable assistance to be provided by sea as well as by air to friendly island states in our area.
- Endorses the transfer of responsibility for the co-ordination of Coastal Surveillance to the defence force and the development of the capability for patrol and surveillance of the ocean areas all around the Australian coast and island territories, including the Southern Ocean.
- Advocates measures to foster a build-up of Australian-owned shipping to ensure the carriage of essential cargoes in war.
- Advocates the development of a defence industry supported by strong research and design organisations capable of constructing all needed types of warships and support vessels and of providing systems and sensor integration with through-life support.

As to the RAN, the League:

- Supports the concept of a Navy capable of effective action off both East and West coasts simultaneously and advocates a gradual build up of the Fleet to ensure that, in conjunction with the RAAF, this can be achieved against any force which could be deployed in our general area.
- Is concerned that the offensive and defensive capability of the RAN has decreased markedly in recent decades and that with the paying-off of the DDGs, the Fleet will lack air defence and have a reduced capability for support of ground forces.
- Advocates the very early acquisition of the new destroyers as foreshadowed in the Defence White Paper 2.
- Advocates the acquisition of long-range precision weapons to increase the present limited power projection, support and deterrent capability of the RAN.
- Advocates the acquisition of unmanned surveillance aircraft such as the GLOBAL HAWK primarily for offshore surveillance.
- Advocates the acquisition of sufficient Australian-built afloat support ships to support two naval task forces with such ships having design flexibility and commonality of build.
- Advocates the acquisition at an early date of integrated air power in the fleet to ensure that ADF deployments can be fully defended and supported from the sea.
- Advocates that all Australian warships should be equipped with some form of defence against missiles.
- Advocates that in any future submarine construction program all forms of propulsion be examined with a view to selecting the most advantageous operationally.
- Advocates the acquisition of an additional 2 or 3 updated Collins class submarines.
- Supports the maintenance and continuing development of the mine-countermeasures force and a modern hydrographic/oceanographic capability.
- Supports the maintenance of an enlarged, flexible patrol boat fleet capable of operating in severe sea states.
- Advocates the retention in a Reserve Fleet of Naval vessels of potential value in defence emergency.
- Supports the maintenance of a strong Naval Reserve to help crew vessels and aircraft in reserve, or taken up for service, and for specialised tasks in time of defence emergency.
- Supports the maintenance of a strong Australian Navy Cadets organisation.

The League:

Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in our national defence capability including the required industrial infrastructure.

While recognising current economic problems and budgetary constraints, believes that, given leadership by successive governments, Australia can defend itself in the longer term within acceptable financial, economic and manpower parameters.
The RN frigate HMAS NEWCASTLE on patrol in the Persian Gulf and at speed (RAN)

The RN Type 42 destroyer HMS NOTTINGHAM being raised on the ship lift vessel SWAN for transport back to the UK after the destroyer’s grounding on ‘Wolf Rock’ off Lord Howe island. A damaged section of the bow can be seen just clear of the water. The ship suffered even more damage down the unseen starboard side which very nearly sank her (Chris Sattler)
Proving they are not a spent and rusting force the Russian Navy's Pacific Fleet recently sent the 11,000 tonne Slava class cruiser VARYAG to the Japanese Naval Review in Tokyo Bay. The cruiser is a very powerful ship armed with 16 SS-N-12 'Sandbox' supersonic anti-ship cruise missiles. These missiles have a range of 550kms and a 2,000lb warhead with the ability to be targeted by ship, helicopter or even satellite. She also carries 64 100km range SS-N-6 'Gromble' anti-aircraft missiles and 48 shorter range SA-N-4 'Gecko' for close in missile defence. Apart from more guns, heavyweight torpedos and anti-submarine mortars she has a top speed of 32kts and a range of 7,500nm at 15kts. It is understood that China is interested in buying a partially complete Slava class cruiser currently still under construction in the Black Sea. (Brian Morrison, Warships & Marine Corps Museum, Franklin, Tenn.)
The Navy League of Australia

APPLICATION FOR MEMBERSHIP

HISTORICAL

The Navy League was established in Australia in 1901, initially in the form of small branches of the United Kingdom Navy League (established in 1897) and since 1950 as an autonomous national body headed by a Federal Council consisting of a Federal President and representatives of the six States, the Australian Capital Territory and the Northern Territory.

The Navy League of Australia is now one of a number of independent Navy Leagues formed in countries of the free world to influence public thinking on maritime matters and create interest in the sea.

MEMBERSHIP

Any person with an interest in maritime affairs, or who wishes to acquire an interest in, or knowledge of, maritime affairs and who wishes to support the objectives of the League, is invited to join.

OBJECTIVES

The principal objective of the Navy League of Australia is "The maintenance of the maritime well-being of the Nation" by:

- Keeping before the Australian people the fact that we are a maritime nation and that a strong Navy and a sound maritime industry are indispensable elements of our national well-being and vital to the freedom of Australia.
- Promoting defence self reliance by actively supporting manufacturing, shipping and transport industries.
- Promoting, sponsoring and encouraging the interest of Australian youth in the sea and sea-services, and supporting practical sea training measures.
- Co-operating with other Navy Leagues and sponsoring the exchange of cadets for training purposes.

ACTIVITIES

The Navy League of Australia works towards its objectives in a number of ways:

- By including in its membership leading representatives of the many elements which form the maritime community.
- Through soundly-based contributions by members to journals and newspapers, and other media comment.
- By supporting the Australian Navy Cadets, and assisting in the provision of training facilities.
- By encouraging and supporting visits by recognised world figures such as former United States Chiefs of Naval Operations and Britain's First Sea Lords.
- By publishing The Navy, a quarterly journal reporting on local and overseas maritime happenings, past, present and projected.
- By maintaining contact with serving naval personnel through activities arranged during visits to Australian ports of ships of the Royal Australian and Allied Navies.
- By organizing symposia, ship visits and various other functions of maritime interest throughout the year.

Member participation is encouraged in all these activities.

JOINING THE LEAGUE

To become a Member of The League, simply complete the Application Form below, and post it, together with your first annual subscription of $24.20 (which includes the four quarterly editions of The Navy), to the Hon Secretary of the Division of the Navy League in the State in which you reside, the address of which is as follows:

VICTORIAN DIVISION: PO Box 1303, Box Hill Delivery Centre, Vic 3128.
QUEENSLAND DIVISION: PO Box 1302, Greenslopes Post Shop, Brisbane, Qld 4003.
SOUTH AUSTRALIAN DIVISION: GPO Box 1368, Adelaide, SA 5001.
TASMANIAN DIVISION: GPO Box 1196, Launceston, Tas 7250.
WEST AUSTRALIAN DIVISION: C/- 23 Lawson Road, Alfred Cove, WA 6156.

If you live in the Australian Capital Territory or the Northern Territory, please post the form to the Hon Secretary of the New South Wales or South Australian Division respectively.

Subscriptions are due on 1 July in each year, and your membership will be current to 30 June immediately following the date on which you join the League, except that if your first subscription is received during the period 1 April to 30 June in any year, your initial membership will be extended to 30 June in the following year.

THE NAVY LEAGUE OF AUSTRALIA

Application for Membership

To: The Hon Secretary
The Navy League of Australia
Division

Sir or Madam.

I wish to join the Navy League of Australia, the objectives of which I support, and I enclose a remittance for $24.20 being my first annual subscription to 30 June next.

Name:

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JOIN THE AUSTRALIAN NAVY CADETS

If you are between the ages of 13 and 18 years:

The Australian Navy Cadets provide for the spiritual, social and educational welfare of boys and girls and help to develop them in character, a sense of patriotism, self-reliance, citizenship and discipline.

Uniforms are supplied free of charge.

Cadets are required to produce a certificate from their doctor to confirm they are capable of carrying out the normal duties and activities of the Cadet Units. If injured while on duty, Cadets are considered for payment of compensation.

Parades are normally held during a weekend day or on Friday evening.

The interesting syllabus of training covers a wide sphere and includes seamanship, handling of boats under sail and power, navigation, physical training, rifle shooting, signalling, splicing of ropes, general sporting activities and other varied subjects.

Instructional camps are arranged for Cadets and they are also given opportunities, whenever possible, to undertake training at sea in ships of the Royal Australian Navy.

Cadets, if considering a sea career, are given every assistance to join the Royal Australian Navy or Mercantile Marine, but there is no compulsion to join these Services.

For further information, please contact the Senior Officer in your State, using the addresses provided below:

NEW SOUTH WALES: Cadet Liaison Officer, HMAS Penguin, Middle Head Road, Mosman NSW 2088. Telephone: (02) 9950 0560.

QUEENSLAND: Senior Officer ANC, Naval Support Office, Bulimba Barracks, PO Box 549 Bulimba QLD 4171. Telephone: (07) 3215 3512.

WESTERN AUSTRALIA: Cadet Liaison Officer, HMAS Stirling, PO Box 228, Rockingham WA 6168. Telephone: (08) 9550 0468.

SOUTH AUSTRALIA: Cadet Liaison Officer, Naval Support Office, Keswick Barracks, Anzac Highway, Keswick SA 5035. Telephone (08) 8305 6708.

VICTORIA: HMAS Cerberus, Westernport VIC 3920. Telephone: (03) 5950 7863.

TASMANIA: Cadet Liaison Officer, Naval Support Office, Anglesea Barracks, Locked Bag 3, Hobart TAS 7001. Telephone (03) 6237 7240.

AUSTRALIAN CAPITAL TERRITORY: Commanding Officer, TS Canberra, HMAS Herman, Canberra ACT 2600. Telephone: (02) 6280 2762.

NORTHERN TERRITORY: Cadet Liaison Officer, HMAS Coonawarra, PMB 11, Winnellie NT 0821. Telephone: (08) 8980 4446.

THE NAVY

All enquiries regarding the Navy Magazine, subscriptions and editorial matters should be sent to:

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Australia’s Maritime Doctrine – Part 8

Pride of the Sultan

Aircraft Carrier AUSTRALIA (III)

Commissioning Special

Ship to Ship

Australia’s Leading Naval Magazine Since 1938
The RCN's Upholder class submarine HMCS WINDSOR. Built in Britain for the Royal Navy as HMS UNICORN. HMCS WINDSOR is the second of four Victoria class submarines the Canadian Navy is trying to press into service. However, the RCN is experiencing problems with re-activating the submarines and configuring them for service into the RCN (RCN).

HMAS ANZAC in company with the RN Type 42 Destroyer HMS CARDIFF. Both ships are currently operating in the Persian Gulf enforcing United Nations sanctions on Iraq (IRAN).
THE NAVY
Volume 65 No. 2

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The opinions or assertions expressed in THE NAVY are those of the authors and not necessarily those of the Federal Council of the Navy League of Australia, the Editor of THE NAVY, the RAN or the Department of Defence. The Editor welcomes correspondence, photographs and contributions and will assume that by making submissions, contributors agree that all material may be used free of charge, edited and amended at the Editor’s discretion. No part of this publication may be reproduced without the permission of the Editor.

Front cover: HMAS DARWIN makes her way through the Indian Ocean. It was revealed in the local press that the RAN’s FFG’s fire control system suffers at the hands of poor weather to the point of almost making the ship defenceless to air attack. This coupled with the unacceptable delay in the FFG upgrade program should be ringing alarm bells (RAN).

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Deadline for next edition 5 May, 2003
CRISIS IN THE MIDDLE EAST

When this edition of THE NAVY is published it is possible, indeed likely that Australia will be engaged in hostilities in the Middle East. As this column is prepared several weeks beforehand, the view ahead is obscure to say the least and it is possible to comment only on the scene at the time.

It is fair to say all wars are different; the cause, the way the war is conducted and the weapons used, the extent of hostilities, all may vary, so far as Australia is concerned however, a common factor until the war in Vietnam has been the overwhelmng support of the populace for the armed forces wherever they have been engaged - more often than not a long way from Australia.

Vietnam marked a turning point that seems likely to continue. Supported at first by a majority of Australian attitudes began to change as the purpose of engagement in Vietnam was questioned and following the introduction of national service, the despatch of young National Servicemen to war zone; protesters took to the streets to vent displeasure. A similar change of attitude took place in the United States and in the event both countries withdrew their armed forces.

There can be little doubt that a number of factors influence public thinking about war, not only in Australia but in other democracies. Awareness of the deadly weapons increasingly available, the absence of immunity for civilians and consequential casualties and suffering, increased educational opportunities, allueence, travel and exchanges between nations and not least, the influence of television and its depiction of war - factors tending to make war much less acceptable in democracies now than in the past. Regrettably, not all countries are democracies.

Given changes in attitude and without attempting to guess what decisions will be made concerning Iraq - other than to say it would seem essential for the United Nations Organisation to emerge stronger and not weaker whatever the decisions - the fact remains that Australian sailors, soldiers and airmen are in a potentially dangerous area and they must have the support of the Australian people now and when they return. They deserve no less.

Geoff Evans

FROM OUR READERS

Dear Editor,

As an avid reader of The Navy for many years, I would like to compliment you on publishing the article by Paul Johnston titled - Project SEA 1411 The Kaman Super Seasprite SH-2GAs in the Jan - Mar 03 edition. By drawing a comparison with the New Zealand purchase, we are able to see how unrealistic and wasteful this project has become since inception in 1997. Surely there was provision for updating or termination of the OPV project?

Also, of great concern to me, is the fact that the Project SEA 1411 debacle has not attracted greater national media coverage. After all, a SI billion loss is a national disgrace.

Mr. Johnston correctly points out U-571 was actually sunk by 461 Sdn. RAAF. To further Mr. Johnson's argument, it is interesting to note that the Enigma machine was captured by a Royal Navy taskgroup, not the USN.

Robert Tagyn
Via Email

Dear Editor,

I totally agree with Ian Johnson from WA in Volume 65 No 1. We do need the cooperation of the Australian Armed Forces otherwise a lot of the remarkable stories of our military will remain untold while Hollywoodlaughs all the way to the bank, and into the history books.

Forget about the Yanks winning the war, don't remember the Alamo. The true and heroic accounts of the RAN, RAF and Australian Army need to be told!

Brian Vaughan
Queensland

AUSTRALIAN NAVY PHOTOGRAPHERS

Dear Editor,

A number of Ex-Photographers are attempting to compile a register of those who were involved with the Photographic Branch of the Royal Australian Navy. I believe the Branch, which was part of the Fleet Air Arm, was formed in the late 1940s and although small it did have, at times, up to thirty or more Officers, Sailors and Civilians attached to it.

We have a list from the 1940s held at HMAS. ALBATROSS, which has not been amended or added too. Since then more have passed through the Branch and many ex-members have moved from their original address.

We are seeking the assistance of readers to update this register. I would appreciate being contacted at the addresses below, by anyone who was a member or associated with the Branch. or who know anybody who were.

On the same page we accept that talking of surface forces "practically every conceivable operation must be conducted at considerable distances from shore bases".

I have quoted in previous articles, research undertaken in the early 80s, which indicated that to provide a CAP of two aircraft over the fleet at distance in excess of say 1500 miles from the coastline (and considerably further from an air base), in excess of 50% of our available F/A-18 force would be required to be committed. It has been my understanding that it has long been accepted that the likelihood of making such a commitment, when those aircraft may well be required elsewhere, is remote. When the study was carried out, we possessed 75 of these aircraft; we would now require to commit significantly in excess of 50% of the available force.

As for the F-111's, the numbers speak for themselves. Senior members of Air Force confirmed these concerns 20 years ago.

In the meantime let us accept the fact that the RAAF, with or without air to air refuelling will not be able to carry out the task.

Regards
John Bird
Federal Vice President NLA

The 2003 'King-Hall' Navy History Conference

'The Navy and the Nation'

The third 'King-Hall' Navy History Conference will be held in Canberra on 24-25 July 2003. The conference will run from Thursday 24 July to Friday 25 July at the Telstra Theatre, Australian War Memorial in Canberra.

The conference is being jointly sponsored by the Royal Australian Navy's Sea Power Centre, the School of History, University of New South Wales, Australian Defence Force, and the Australian Naval Institute.

The broad theme of the conference is 'The Navy and the Nation'. It is aimed to bring about a wider understanding of the contribution the Navy has made to national development up to the present and the potential it has to do so in the future.

Some International keynote speakers include Professor George Baer from the US Naval War College, Professor Geoffrey Till from the UK Joint Services Staff College and Commander David Holhs, MBE RN (Rtd) Curator and Deputy Director of the Fleet Air Arm museum at RNAS Yeovilton, UK.

Contact Officer is Mr Dave Griffin on telephone (02) 62662634. Fax (02) 62662782, or on E mail address david.griffin@ch.defence.gov.au
The three new OPVs will be based at Brunei’s main naval base in Muara, in the South China Sea and represent a significant enhancement for a small fleet.

The Royal Brunei Navy

The Royal Brunei Navy has a total personnel strength of 800 staff (including 65 officers) and a Special Combat Squadron of six officers and 114 men for river duties.

The main threat has traditionally come from neighbouring Indonesia, although the Chinese are likely to pose a future concern and Islamic terror groups cannot be discounted as a security headache for the oil-rich sultanate. Britain has strong defence links with Brunei, with a Gurkha infantry battalion and an Army Air Corps helicopter flight permanently stationed there. UK Royal Marines regularly train at the UK’s jungle warfare school in Brunei. The advent of the new corvettes will not doubt lead to regular exercises not only with regional allies, such as Singapore and Malaysia, but also with the RAN, Royal Navy and US Navy. Singapore maintains 500 troops and a helicopter detachment in Brunei.

By 2003 the Royal Brunei Navy will consist of:

- 1 x F2000 corvette.
- 3 x Waspada guided-missile Patrol Craft, armed with Exocet Surface-to-Surface Missiles.
- 3 x Perweza class inshore Patrol Boats.
- 2 x Amphibious Warfare Craft.
- 2 x Landing Craft.
- 17 x Small Armed River Craft (for the Special Combat Squadron).
- 1 x Support Launch, and
- 23 x Marine Police Patrol Boats.

BAE SYSTEMS Marine is completing contractor’s sea trials of NAKHODA RAGAM, the first of a new class of three 95m Offshore Patrol Vessels (OPVs) being built for the Royal Brunei Navy. She is due to sail from Scotland to the Far East by the end of the year.

The ships names are prefixed KDB (as in Kapal Diraja Brunei), which translates as Ship of the Rajah of Brunei). BENDAHARE SAKAM, the second ship of the class, was launched in June 2001. She has completed diesel generator trials in dry dock at BAE SYSTEMS’ Scotstoun yard and is undergoing contractor’s sea trials with delivery in June 2003.

The third and final vessel, named KDB JERAMBAK, was launched in June 2002 and is scheduled to be delivered in December 2003.

A variant of the generic F2000 series corvette design, Royal Brunei Technical Services Sdn Bhd is procuring the ships under a UK/Brunei government-to-government contract signed in January 1998. The design is a reduced version of the Lekiu Class built by the same yard for Malaysia which cost around US $350 million each. With a displacement of approximately 1,500 tons standard and 2,000 tons full load, the new Brunei OPVs have a maximum speed of 30 knots and a range of 5,000 nautical miles at 12 knots.

Endurance will be 14 days and they will have a crew of 62 (including eight officers) and 24 berths for Flag Staff and scientists. They are powered by four Paxman diesels turning two controlled-pitch propellers, and their hulls are fitted with fin stabilisers. One generator is able to meet normal loads. The new ships feature a comprehensive combat system based around the hub of an Alenia Marconi Systems (AMS) NAUTIS II command and fire-control system.

AMS is also supplying AWS-9(3D) E/F-band surveillance and target indication radar and two 1H02SW radar trackers.

The vessels are armed with:

- Eight MBDA MM40 Block 2 Exocet Surface-to-Surface Missiles (SSMs).
- An MBDA Vertical Launch Sea Wolf installation containing 16 Surface-to-Air Missiles (SAMs).
- A single Oto Melara 76/62 Super Rapid gun.
- Two MSI-Defence DS 30B REMSIG guns, and
- A Close-In Weapons System (CIWS).

A flight deck aft provides for the operation of a Seahawk-size helicopter, but there is no hangar facility. Other systems include a Radamec System 2500 electro-optical director and TMS 4130C hull-mounted sonar supplied by Thales Underwater Systems (the sonar incorporates a torpedo warning capability). Thales Sensors is supplying its Cutlass 242 FSM and Scorpion jammer, and Wallop Defence Systems is providing the Super Barracuda decoy system.

The Royal Brunei Navy

The Royal Brunei Navy is up to the task of fully exploiting the capabilities of the new ships. (BAE Systems)
The last few years have seen the Royal Australian Navy venture south into the bleak and storm-swept Southern Ocean on rescue missions and patrolling for illegal fishermen.

It commenced in January, 1996 when the guided-missile frigate HMAS DARWIN, commanded by CMDD Davud Thomas, was crash-sailed from HMAS STIRLING in Western Australia to rescue French yachtswoman Isabelle Autisier from her disabled yacht.

Virtually 12 months to the day, sister-ship HMAS ADELAIDE, commanded by Capt Raydon Gates, also crash-sailed from HMAS STIRLING to rescue a French yachtswoman seeking to deliver mail to the South Sandwich Islands.

The greatest rescues in the annals of maritime history when it successfully rescued two solo yachtsman, Frenchman Thierry Dubois and then Englishman, Tony Bullimore.

Since then the frigate HMAS ANZAC and the guided-missile frigates HMAS NEWCASTLE and HMAS CANBERRA have ventured into the treacherous icy Southern Ocean to patrol, and with some success, apprehend illegal fishermen seeking the highly prized Patagonian Toothfish.

HMAS AUSTRALIA encountered a series of "fronts" in a low pressure system with rising steep, short seas, reaching a maximum height of 8.5 metres necessitating revised ratings in speed, ultimately down to eight knots. Winds of Force 9 were the true wind blowing WSW 34 knots, a motor cutter was employed for gauging out and lowering. By 0700 the wind was SE by West at 22 knots with conditions at Atlas Cove appearing satisfactory from seaward despite the visible approach of a cloudbank from which steady snow was falling.

The cutter was slipped at 0335 and the wave increased further and close in the off the coast of Heard Island was negligible with snow falling. This continued until when the boat returned 0905 during which time two medical officers and some stores had been landed and Dr Udovikoff medevaced.

HMAS AUSTRALIA had seen more action against the Germans, Japanese and Vichy French than any other RAN ship in World War II. She had sustained numerous kamikaze suicide aircraft strikes and gunfire hits as well as surviving numerous aerial attacks, and with some success, apprehend illegal fishermen seeking the highly prized Patagonian Toothfish.
History shows this proved to be the only opportunity in days where the weather abated long enough to allow the boat transfer.

Despite being weakened from his prolonged ordeal, Dr Udovikoff was able to walk to HMAS AUSTRALIA's sick bay with the assistance of two medical officers.

Mission accomplished, HMAS AUSTRALIA, nursing her fuel reserves, rode out several storms as the ship accomplished moderate speeds on the long voyage north to Fremantle where Dr Udovikoff was safely landed.

It is interesting to compare AUSTRALIA's marathon trip south in those early post-war days when the RAN did not possess a replenishment ship and the availability of helicopters.

In his report Capt Oldham spoke of a ship the length of HMAS AUSTRALIA, 630 feet (192.02 metres), being “probably too long to weather Antarctic Seas to the best advantage”.

Capt Oldham's other main concerns were fuel reserves and icing on the ship's superstructure and upper deck, referring to ice forming on the director tower and the top three metres of the non-steaming funnel as well as on the bridge structure, turret faces and guardrails.

HMAS AUSTRALIA resumed her training role with her last major activity being as part of the Royal Escort for the visit of Queen Elizabeth and Prince Philip in 1954. Fittingly referring to ice forming on the director tower and the top three metres of the non-steaming funnel as well as on the bridge structure, turret faces and guardrails.

HMAS AUSTRALIA, 630 feet (192.02 metres), being “probably too long to weather Antarctic Seas to the best advantage”.

Shortly after HMAS AUSTRALIA paid-off on August 31, 1954 for disposal after a distinguished 26 year career and was sold to British Iron & Steel Corporation (Salvage) Ltd on 25 January, 1955.

Two months later on 26 March, 1955 the former flagship was towed out of Port Jackson by the Dutch tug RODE ZEE. Two other tugs joined the tow and, sailing via the Suez Canal, they reached Barrow in Furness in the UK on 5 July.

Dr Udovikoff was safely landed.

This year marks the 20th anniversary of the Australian Government's decision not to replace the aircraft carrier HMAS MELBOURNE. To mark the occasion George Kaplan has cast his eye back to the past and forward to the future to see what might have been had the then Hawke Government taken the other fork in the road, and had the Royal Navy decided to sell HMS INVINCIBLE to the RAN. His analysis is in the form of the future Chief of Navy's speech at HMAS AUSTRALIA's (III) decommissioning. Obviously this article contains some fiction.

‘Ladies and Gentlemen, Distinguished Guests, Shipmates past and present, honoured colleagues, welcome to this momentous and sad day.

Today we gather here to decommission a great warship, the pride of the Royal Australian Navy, the fleet flagship and aircraft carrier, HMAS AUSTRALIA.

For 30 years AUSTRALIA has been an integral part of the fleet, through peace and war, in times of national triumph and natural disaster.

Looking back today, over three decades of valued service, it is hard to believe that there were dissenting voices raised about the purchase of the then HMS INVINCIBLE following her service in the Falklands conflict.

To put those voices into context I hope you will allow me to take you back to those times and walk you through the history of her career in RAN service.

In the early 1980’s the flagship, the aircraft carrier HMAS MELBOURNE was showing her age. A product of the Second World War, the old lady had been extensively upgraded several times to allow her to operate progressively larger, heavier and faster aircraft, but had reached the limits of what could be achieved on a design more than 35 years old.

A search was instituted for a replacement for MELBOURNE, with the Royal Navy’s INVINCIBLE class carrier satisfying the criteria of availability and cost.

Despite a vocal minority within and outside of Defence who saw an aircraft carrier as a nothing more than a symbol of ambition and former glory the requirement was seen as a necessary one in Navy. Despite the objections of those advocates of air power, submarines, missile armed gunboats or any number of other competing pet projects who derided the acquisition as an enormous waste of resources, the decision was made to take up the British Government’s offer to sell HMS INVINCIBLE to Australia.

Following her participation in the Falklands conflict, and not without some arm-twisting on the part of the Australian government on their English counterparts, HMS INVINCIBLE was handed over to the RAN on a bleak winters day at Portsmouth in 1985. I make note of the weather in particular, as it was also the first sea posting for a wet behind the ear midshipman fresh out of HMAS CRESWELL. I was that midshipman, and it marked my first acquaintance with a ship with which I was to remain intimately involved throughout my career.

With appropriate pomp and ceremony the White Ensign, which had flown for five years, was hauled down on HMAS INVINCIBLE and the Australian White Ensign was hoisted on HMAS AUSTRALIA.

The ship that we took delivery of was a different ship in many regards from that which had so triumphantly reclaimed the Falklands three years before. Gone was the Sea Dart missile system, the British radars and ESM, the British messing and berthing systems and most noticeably the Sea Harrier fighter aircraft that had performed so well in 1982.
Following her arrival in Australia in early 1986, HMAS AUSTRALIA soon settled into the routine of exercises and deployments - a top priority which characterised what in retrospect seems a quieter, simpler age, measured against today's times of challenges and confrontation. In particular, she was able to take her place in the Navy's 75th anniversary celebrations as the Fleet Flagship, a role she was to repeat in the Bicentennial Celebrations of 1988.

Numerous RIMPAC and Tandem Thrust exercises had demonstrated the capabilities of a ship of her size and versatility, with up to 600 troops able to be embarked for short periods - and landed in massed helicopter landings, either from her own Sea King helicopters, or embarked Black Hawk and Chinook helicopters.

One lesson that was taken to heart was that no matter how capable AUSTRALIA was as a helicopter carrier, the operation of fixed wing aircraft from AUSTRALIA multiplied her effectiveness and the effectiveness of the fleet many times over.

As a Flag Lieutenant to the then Chief of Naval Staff, I had accompanied him on a visit to AUSTRALIA in company with the Minister for Defence to the waters off Hawaii. The purpose of the trip was to watch a trial in which a squadron of United States Marine Corps AV-8B Harrier aircraft - cross-decked and operated from AUSTRALIA during the RIMPAC 2000 exercise. I note with pleasure the presence within the audience today of US Marine Corp General Chuck Gracignan, the commander of US Marine Corps Aviation, but back then a Marine Corp pilot taking part in the exercise. Chuck and I hit it off rather well, as numerous hangovers acquired during runs ashore in Pearl Harbour will attest. A friendship that I am happy to say continues to this day, as this morning's headline after a late night spent reminiscing will attest.

Chuck succeeded in converting me to the benefits of VSTOL operations from AUSTRALIA, and his squadron's operations made such an impression on both CNS and the defence budget of the time had not been able to stretch to cover the purchase of the Sea Harriers for which the newly commissioned AUSTRALIA had been designed. Thus for the first six years of her RAN service AUSTRALIA operated only helicopters, initially Sea King and Wexes helicopters, the latter eventually replaced by Seahawk helicopters in the late 1980s.

The decision was made that HMAS AUSTRALIA would operate similar equipment to the rest of the existing RAN fleet, hence US radars and electronics replaced the original equipment, while the space made available by the removal of the Sea Dart missile launcher and associated systems allowed additional deck parking space and storage facilities. So successful was this refit that the RN followed suit in the mid-1990s, converting ARK ROYAL, ILLUSTRIOUS and the replacement for INVINCIBLE, INDOMITABLE, to a similar configuration.

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In the Solomon Islands the helicopters of the ship's air group were kept busy collecting foreign nationals from throughout the islands for evacuation in the face of sustained civil unrest.

In Bougainville HMAS AUSTRALIA provided a neutral meeting ground for the various warring factions to meet and try to agree to a return to peace on that divided island. AUSTRALIA returned to the Solomon's again to provide support to peace monitoring forces trying to bridge the gap between hostile segments of the islands populace.

The second Saddam War, popularised by the media as Operation Desert Fox, saw AV-8B Harrier II strike aircraft operating from AUSTRALIA's deck in coalition strikes against Iraqi military targets, in an attempt to force Saddam Hussein to allow UN weapons inspectors free reign to locate and destroy Iraq's weapons of mass destruction.

Once hostilities commenced the air group took part in strikes on Iraqi forces in Southern Iraq, and together with the RAAF aircraft carried out several hundred successful strikes against a wide range of Iraqi military targets during this operation.

In 2005 AUSTRALIA'S crew was urgently recalled to assist in enforcing the UN sanctions. While tensions escalated, AUSTRALIA, together with the frigate's SYDNEY, STUART, PARRAMATTA and NEWCASTLE took part in the blockade of North Korea's West Coast.

In fact AUSTRALIA was the first unit to give warning of a more active North Korean response when one of her Seahawk helicopters detected a North Korean submarine aggressively manoeuvring into a possible firing position on the carrier. AUSTRALIA'S Seahawks actively tracked the Korean submarine for more than 48 hours, while avoiding its own moves towards the Australian task force.

Following the North Korean government's ultimatum to lift sanctions within 72 hours or risk all out war on the Peninsula, AUSTRALIA'S AV-8B II aircraft provided air defence suppression in support of the combined US/South Korean command strike on the North Korean nuclear weapons storage facilities, Operation 'Imperative Eagle'.

During this mission Squadron Leader Colin Wolfe scored the RAAF's first air-to-air kill since the Korean War when several North Korean MiG-23 aircraft attempted to intercept the Australian aircraft.

Meanwhile, RAN Seahawk helicopters from AUSTRALIA and NEWCASTLE were successful in pursuing and damaging the North Korean Romeo-class submarine GREAT LEADER IV as it approached the RAN ships.

In late 2010 the long simmering dispute between the People's Republic of China and numerous other countries over sovereignty of the Spratley island chain boiled over, with Beijing declaring the entire South China Sea to be Chinese territorial waters and threatening ships travelling through the area with unspecified but dire consequences.

The UN Security Council declared that the Chinese action was contrary to international law, and numerous nations despatched naval forces to the area.

AUSTRALIA, leading a major task force, departed for the area and for several months escorted numerous Australian, American and Japanese flagged merchant ships through the area.

This was despite constant and at times dangerous harassment by Chinese submarines, surface ships and aircraft. Several 'near misses' were reported, in a situation which was reminiscent of the Cold War near hostilities at sea between the Soviet Union and the West.

For almost two months the world watched spellbound as naval forces from China on one side, and a host of nations on the other, stared each other down. The embarkation of international television news crews aboard many of the vessels ensured that the world was made aware of the Chinese provocations, and helped ensure that world opinion remained firmly against the Chinese actions.

Together with other task forces from the US, Japan, Singapore, France and the UK, AUSTRALIA and her escorts demonstrated to the Chinese leadership that their actions were not acceptable to the international community.

In late 2010, the Chinese withdrew their ships from the South China Sea, in a signal that they did not want to press the issue.

The use of naval power, carefully employed, had averted a crisis and resulted in a peaceful resolution to the situation.

As part of those sanctions HMAS AUSTRALIA, having recently completed a major refit, led the RAN task force North to assist in enforcing the UN sanctions. While tensions escalated, AUSTRALIA, together with the frigate's SYDNEY, STUART, PARRAMATTA and NEWCASTLE took part in the blockade of North Korea's West Coast.

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For the remainder of the three-month conflict, AUSTRALIA provided close air support strikes to United Nations forces on the West Coast of the peninsula, until the coup in Pyongyang which brought down the Stalinist regime, bringing the war to a close.

In 2003 AUSTRALIA once again despatched to the Persian Gulf. Once hostilities commenced the air group took part in strikes on Iraqi forces in Southern Iraq, and together with the RAAF aircraft provided support to the SAS operations.

Regrettably, two aircraft were lost to Iraqi air defences during these operations, with Flight Lieutenant Damien Johnson killed in action when his AV-8B II was shot down while supporting allied forces engaged in combat with armoured elements of the Iraqi Republican Guard south of Baghdad.

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For the many thousands of sailors, soldiers and airmen who served aboard her, there will always be something special about HMAS AUSTRALIA. She had a reputation as a happy ship, and the years I spent aboard during my career I count as exceedingly happy ones.

I was fortunate to command AUSTRALIA for two and a half years, from 2005 to 2007, and will always see that time in command as one of the highlights of my naval life.

Tomorrow, we will return here to Fleet Base East to commission the new HMAS AUSTRALIA (III), fresh from her delivery voyage from the builders in the United Kingdom, but today we pause to give thanks for a ship which has come to symbolise the Royal Australian Navy, both at home and across the world.

In war and peace, in times of natural disaster and celebration, AUSTRALIA (III) has played a central role, and service she has provided the nation.

Thank you.

Chapter 11
MARITIME CAMPAIGNING
CAMPAIGN PLANNING

The ADF's definition of a campaign is:

"A controlled series of simultaneous or sequential operations designed to achieve an operational commander's objective, normally within a given time and space".

Campaign planning will co-ordinate the actions of air, land, maritime and special forces as well as orchestrating the military effort with the other instruments of national power within the theatre. Campaign planners must consider the strategic end-state, the adversary's critical vulnerabilities. Effective campaign planning requires sweeping vision and understanding of the relationship between strategic, operational, and tactical means. It must account for the adversary's reactions and answer five questions:

1. What military end state will achieve the strategic objectives?
2. What are the risks involved in achieving the desired end state?
3. What are the risks involved in achieving the desired end state?
4. What are the risks involved in achieving the desired end state?
5. How should the assigned forces be employed within given constraints to achieve the end-state?

Campaign plans must be adaptable. They may be phased to allow for the sequential handling of multiple tasks or resource limitations; they may contain a general concept for the entire campaign as well as a specific plan for the campaign's initial incursion. All these things must be taken into account when planning a campaign.

Today we bid farewell to HMAS AUSTRALIA, ringing the curtain down on a illustrious career spanning three and a half decades, one in which she has rendered sterling service to the UK and Australia.
There are many factors which need to be considered in the planning process. Military resources and capabilities are finite and must be concentrated to achieve the aim. The operational planning imperative is to define the sustainability requirements and the trade-offs which will be needed in capability. To achieve this, the demand phase of the sustainment of the mission and the commander’s intent are required. Ideally, there should be unity of command over all resources, including logistic, although it is unlikely that the latter will be achieved at the operational level.

Where command and control arrangements are complex and the reality is that they will be in both joint and combined operations and that there must be close cooperation and coordination of activities to achieve the most efficient use of available assets and accomplish the commander’s aim. It is the principle of cooperation which is the key essential element. Good will and working together can overcome many difficulties in operations.

**CAMPAIGN TEMPO**

The tempo of an operation is the rate at which events are driven. General forces that can maintain high tempo, with fast decision making cycles, can seize the initiative and take advantage of uncertainties to exploit weaknesses of the enemy. Maritime forces are ideally suited to support high tempo operations because of their mobility and flexibility. To achieve this high tempo, the initiative and exploit success, an operational commander must be prepared to decide and make substituting the commander’s tempo to achieve the aim. The operational level commander must also be aware that tempo may be limited, not by the endurance, sustainability, and survivability of the unit, but by the physical endurance of the crew to maintain it.

**DECISIVE POINTS**

In the conduct of a campaign, decision making must be given to identifying an adversary’s critical vulnerabilities and attacking these whilst protecting one’s own. In the maritime environment, although the loss of a nuclear submarine such as a transport ship or amphibious task group may bring with a World War II, the loss of other specific capabilities with the force may create a critical vulnerability and expose the components of units to their own potential of the mission. Indeed the loss of any major combatant may prove to be a decisive point and may affect future missions as it could represent a significant portion of the overall capability of the force. If one’s critical vulnerabilities are crucial to effective offensive and defensive planning, vulnerabilities may include:

- units capable of delivering combat power;
- the will and cohesion of the forces and their commanders;
- command, control and communications capability;
- intelligence, surveillance, and reconnaissance assets;
- access to a host of support for minor warcraft;
- replenishment ships in deployed force;
- air warfare assets, including land-based air呼び;
- endurance of human resources, availability of weapon reloads;
- availability of other vital consumable stores; and
- geography.

It is rarely possible to plan in detail beyond the first phase of a campaign because the outcome of that phase will shape subsequent phases. Part of the planning process must be the consideration of contingencies. Once the plan has been set in motion, the operational level commander must constantly study the unfolding situation, revise, and reorder the plan as necessary. Maintaining flexibility is the key to success. It is essential that concurrent and contingency planning be initiated early in the planning cycle.

**OPERATIONAL CONSIDERATIONS**

Information

The single most important factor in a maritime operation, especially involving diverse joint or combined assets, is information flow, which requires reliable communications. Communication is not only about having radios on correct and agreed frequencies. It involves procedures that all players can use, allowing compatible message and information exchange. Developments in data links and the use of commercially available systems are rapidly reducing the tyranny of distance and increasing the speed with which data can be transferred. This has shifted the emphasis from providing the information, in most instances achievable, to managing the information efficiently. This is increasingly significantly the information available to the commander and the decision-making units, thus improving their awareness of the battlespace and their ability to operate within it. Furthermore, the same developments are increasing the ability of all units to contribute to the understanding of battlespace awareness. Maritime forces can provide considerable real time and near real time input to a joint commander’s operational information and intelligence picture.

Even the smallest warship has at least some interest in what is occurring within a radius of several hundred miles. The area of interest to a task group commander could be as large as the battlespace or the road transport ship or amphibious task group. The force of one’s critical vulnerabilities is crucial to effective offensive and defensive planning. Vulnerabilities may include:

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- geography.

In the event of combined and coalition operations, special equipment fits and the development of agreed procedures may be required to allow the successful integration of all units within a task force. The greater the degree of interoperability, particularly in communications, the less duplication of networks will be required and thus the less demand there will be on the limited bandwidth available.

**Intelligence**

Intelligence provides fundamental information about the adversary and the operating environment which is essential for the success of the campaign. Assessments of the adversary’s capabilities, intentions, and decision-making may mean that they can be worked into the planning process, and such factors as the adversary’s centres of gravity, objectives, and end-states properly understood. Effective mechanisms will be required to ensure that intelligence assessments are developed and communicated at all appropriate levels of command throughout the campaign.

**Navy Forces**

From a naval perspective, the following operational characteristics need to be addressed in developing a maritime campaign concept:

- Units may require several days to deploy to a prospective joint force area of operations (JFAO), depending on distance and resources available.
- Diverse environmental factors require special consideration to deal with the range of bathymetric and meteorological conditions which may be encountered, including suitability of hydrographic data, shallow and confined water operations and climatic variation and meteorological extremes.
- Prolonged, isolated operations will reduce the combat effectiveness of maritime forces through the degradation of personnel and equipment capabilities. Consequently, attention must be given to factors such as forward support, engineering, and personnel and evacuation.
- Damage sustained by a major naval unit may make it necessary to redeploy that unit to a location with a sufficient repair infrastructure. Limited availability of assets and the complexity of some maritime operations will invariably require direct allocation of scarce resources by the campaign commander. For example, the possession by an adversary of just one submarine of relatively limited capability would require an amphibious force to be provided with a comprehensive anti-submarine escort, including surface ships and embarked helicopters, supported by maritime patrol aircraft.

**Air Forces**

It is important to consider issues relating to air forces alongside the seaborne forces when considering force requirements for campaign planning. They may include:

- Range limitations, the availability of air assets, and the endurance of key assets - both land and sea - are critical factors in the operational area, on route to that area and at the operating base - may affect the availability of air support.
- Prolonged high intensity air operations - requires large quantities of aviation fuel and ammunition, which may need to be moved by sea, particularly if the aircraft are working from a forward operating base.
- Fuel used by aircraft in transiting to operations reduces the time available for operational tasking.
- All maritime operations in the campaign commander allocating such scarce resources to high priority tasks.

**Land Forces**

There are also considerations for land forces in relation to maritime campaign planning. The support of Army operations from the sea is affected by the following factors:

- Availability of ships, amphibious and commercial vessels capable of transporting troops and equipment.
- Capacity and configuration of available tonnage - may not be possible to load Army forces or embark on the limited bandwidth available.
- The suitability of hydrographic data, shallow and confined water operations and meteorological extremes.
- The support of Army equipment for sea transport and operations from ships.
- Offensive support resources.
- Endurance of embarked personnel and equipment, especially those who can experience considerable effects on their fitness and battle readiness if matters are not managed carefully.
- Defensive support resources (especially for air warfare).

The news of the RAN's Arctic Damen STEARL while on shelf off Melbourne STEARL has been confirmed and it is now homeported in WA, (The Age).
Maritime support in Army operations can also include support to special forces and naval gunfire support as well as land attack in support of the campaign. Additionally, in a maritime campaign, the Army may be involved in aspects such as logistics—over-the-shore support and the securing of forward bases, for air or naval forces, or to deny such bases to an adversary.

Areas of Operations

One planning tool that can cause considerable difficulties is that of the Joint Force Area of Operations (JFOA). This is fundamentally a land concept that has moved for many good reasons into the joint and combined environment. If such an area, with its associated boundaries, is established, it is vital that it be consistent with the tasks, assets and both primary and secondary roles assigned by the commander. A fundamental consideration in the assignment of Operating Areas is that of sea room—the space required to manoeuvre and engage an adversary whose movement be unrestricted. A balance has to be developed which will not compromise the integrity of the mission or the tactical commander's freedom of action. Maritime Operating Areas will therefore necessarily be large and they must—both for sea and air units—be constructed not to inhibit operations not only in area but also in transit. Maritime operations can be seriously inhibited by constraining sea room.

Rules of Engagement

Rules of Engagement (ROE) are directions to operational and tactical level commanders which delineate the constraints and possible freedoms in the application of force. Consideration of the requirements for ROE must commence at the start of the campaign planning process. They must be established only after a thorough appreciation of the situation has been conducted. The Law of Armed Conflict codifies important principles of international law and national control of military action is a fundamental requirement. At the operational level, that control is exercised through the military chain of command with the promulgation of ROE. Commanders are not permitted to exceed these levels of delegation without higher command approval, but the right of self-defence remains the implicit prerogative of every commanding officer or individual. ROE offer considerable scope to maritime operations through the ability of maritime forces to employ graduated levels of force and response. Contingent ROE which can be acted as situations develop, are an important means of providing flexibility in changing circumstances.

Logistics and Maintenance

Maritime logistics are a fundamental and critical part of the conduct of operations and must be planned accordingly. Although maritime units deploy as self-contained units, they do require regular resupply (every few days) of fuel and every few weeks, of provisions and consumable stores. Ammunition requirements will vary according to consumption rates, but, as an indication, guided missile destroyers on the gunline off Vietnam engaged in near-continuous fire support operations required to reammunition after about three days. Ships endeavour to remain fuelled and stores level practicable levels to maintain the maximum flexibility for tasking.

Deployed units may be resupplied from an amphibious force, or from a Logistic Support Element (LSE) ashore. Generally, the smaller and less sophisticated the ship, the greater its reliance on external support. Some small vessels, such as mine-counter craft or mine warfare units, may require their own dedicated support ships. In any sustained campaign, the LSE will become vital, particularly as it will include a maintenance unit which can assist with maintaining or repairing the equipment which will inevitably become defective with continuous use over time. If the deployment is distant from maritime forces' normal operating bases, then the LSE will require to be forward deployed.

Although built for the purpose ships normally form the core of an amphibious force support: merchant ships can be taken up from trade and adapted very quickly to meet specific naval requirements. The most simple example of this may be the conversion of a freighting oil tanker to include an underway replenishment capability.

Preparations for a Campaign

When mounting the maritime aspects of a campaign, the commander will coordinate all activities to ensure the arrival of the force in theatre at a level of preparedness that will enhance the likelihood of a successful outcome. Elements of preparedness include readiness, response times and sustainability.

The Campaign Itself

There are typically eight stages of a maritime campaign:
- identification of a crisis,
- force generation,
- deployment,
- sea control operations,
- power projection,
- support to operations ashore,
- rotation, and
- withdrawal.

Identification of a Crisis

Initial indications that a crisis is developing will probably come from a variety of sources. Intelligence gathering and analysis can provide warning of changes in operating patterns and exercise programmes and allows for strategic level identification and evaluation of potential crises. Maritime forces operating in international waters can gather a wide variety of useful intelligence and provide a significant surveillance capability—sometimes the only reliable source of evidence, but this critical element in identification and assessment.

Force Generation

The size and composition of the forces required to respond to a crisis will be shaped by:
- government policy objectives and strategic concept,
- understanding of the military conditions for success and end state,
- the likelihood of the threat,
- the forces available and their readiness,
- the time available to respond, and
- the likely duration of a campaign and the rotation of forces to maintain capability.

A robust command control system, together with the potential duration of the campaign, the need to sustain or increase force levels and logistic support arrangements will also have a profound influence on force generation.

Deployment

Deployment to a theatre of operations involves:
- mounting, embarking and sailing the force from home bases;
- the likely duration of the campaign, and
- transit and arrival in the theatre of operations in a posture appropriate to the threat and mission.

Coordination of the deployment will require careful planning and liaison with diplomatic posts, other civil authorities and allied organisations. Force protection must be ensured, including the security of the bases from which the deployment is being mounted. Consideration must be given to local procedures for the use of civil transport. The routing of forces must be carefully organised to ensure security and force protection during transit.

Sea Control Operations

Wherever the freedom of action of the maritime force is challenged and, in particular, as it approaches the area of operations, there will be a requirement to establish levels of sea control to meet specific naval and, where necessary, to sustain or increase force levels. Naval forces must be prepared to sustain the freedom of action of other forces supporting the withdrawal and for the forces being withdrawn. Protection of a withdrawal, like a landing but in reverse, requires the establishment of the necessary levels of sea control.

Conclusion

Maritime, air and land campaigns do not and cannot function wholly in isolation, but must be considered according to the contribution which they can make to the required end state. Furthermore, although a campaign can be considered to be primarily of one environment rather than another, it does not follow—nor will it ever follow in the realities of future warfare—that it will not involve other elements. It is therefore vital for planners to seek to understand all the elements of military force—land, sea, and air—and those if they are to become truly expert in their efficient employment.

Chapter 12

Future Australian Maritime Forces

The Future of Navies

Maritime forces are sensitive to technological change and quick to exploit the opportunities it offers. Maritime warfare has long been a continual seesaw between offense and defence, particularly since the advent at sea of asymmetrical
threats just over a century ago in the form of the self-propelled torpedo and then the submarine. Nevertheless, the thrust of technological development, particularly that related to network concepts, appears to be creating just as many opportunities as obstacles for the future employment of maritime forces and the utility of navies. Some aspects have special significance for Australia as a medium power.

BALANCING PRESENT AND FUTURE

One conundrum is the requirement to balance the allocation of resources between present capability and development for the future. Despite the pace of information system advances and the influence of Moore’s Law (states that computer power will double every 18 months), the development and acquisition of new technology for maritime combat is a relatively protracted process, particularly when compared with the speed at which the strategic environment can change. Furthermore, although platforms (ships) represent a progressively smaller part of the costs of acquisition, their useful lives have been increasing progressively over the past fifty years. This has meant that ships acquired within one strategic context have been utilised under completely different circumstances, often carrying very different weapon and sensor packages than those with which they were first commissioned.

There is no simple division between the force in being, the enhanced force in being and the Navy after next because at any point, the requirement for the employment of maritime combat power may emerge at short notice, and almost certainly at less notice than is required for the acquisition of maritime combat capabilities from scratch, or from a low readiness base. The amount of time required to achieve real capability in maritime warfare has been noted in Chapter 1 of this book. (THE NAVY Vol 65 No1). Medium power Navies in particular must therefore ensure that they maintain appropriate levels of contemporary capability for preparedness while ensuring that they acquire sufficient future capability. This effectively means that naval force development must be regarded as a continuum, rather than a series of distinct steps.

FUTURE TRENDS

The increased effectiveness of communications networks and of long range surveillance systems presents both opportunities and challenges for maritime forces. At the same time as units in all environments are finding it more difficult to remain undetected, they are also more readily able to operate covertly.

The same types of technology which allow the early detection and tracking of surface, air and subsurface units also mean that the same units can maintain battlefield awareness and thus the ability to employ combat capabilities at short notice without the requirement to transmit. The key issue of maritime combat knowledge.

The Revolution in Military Affairs is being driven by the knowledge edge. Information technologies to allow Australia to use its knowledge edge.

THE NAVY

The knowledge edge is also about using that knowledge effectively to make and implement faster and better decisions than the adversary. The desired outcome is decision superiority. A knowledge edge will exist when there is a comparative advantage in those factors that influence decision making and its effective execution.

The knowledge edge is not only technological but has many influences. It relies upon organisational structure and doctrine, and upon properly trained and educated people who have the confidence to work within a culture which fosters initiative and professional mastery. Collectively, these factors place greater emphasis on the non-technological aspects of the knowledge edge.

PEOPLE

People will thus remain the most important factor. Demographics and social change mean that the competition for talented recruits will become increasingly intense. The ADF and the Navy in particular face great challenges in recruiting and retaining the quality of men and women that will be needed. Meeting these challenges will require a process of continual adaptation and improvement that balances the needs of people against the demands of maritime operations. This will be a vital element of the Navy’s plans for the future.

THE SEA, THE LAND AND THE AIR

The Technology in rapidly increasing the potential of warships to provide support to operations ashore as well as to project power against the land in their own right. Networking of warfare systems, particularly in conjunction with airborne assets, means that warships are improving their capacity to look over the horizon and round terrain and to cover inland areas with their air warfare weapons. Co-operative Engagement Capability (CEC) is one approach which, by directly linking and fusing sensor data, promises significant improvements in detection and engagement, particularly when the target is out of sight of the firing platform. Provision guided munitions can be provided on demand and with extreme accuracy many kilometres inland. Unmanned aerial vehicles, some of which can be deployed from ships, show great promise for a wide range of uses, as do unmanned underwater vehicles. Amphibious forces will further exploit the benefits of manoeuvre warfare at sea by conducting amphibious operations from over the horizon, employing organic helicopters and next-generation, high-speed organic and independent landing craft.

All these developments will have effects that will be particularly important for Australia. In times of military conflict, although the tactics may change, the requirement to achieve sea control will remain because there will still be the capacity on the part of adversaries to utilise the new technology to interfere with seaborne communications. And, while the indications are that seaborne transport will become, at least in some areas, much faster, the physics and economics of transportation will still ensure an overwhelming proportion of such activity to go by sea rather than by air.

Another effect is that these developments will maximise the potential of seaborne task groups, working in conjunction with air and land forces, to achieve strategic effects. This will make joint operations even more important for the ADF. Air and land power in our maritime environment will benefit even more from what sea borne power can offer. The ADF will accomplish much when all its components work together.

A 127mm shell from HMAS ARUNTA caught in flight. The Mk-45 Mod 2 127mm gun is currently being deployed by the RAN as a major weapon system.

Conversely, developments in networking and in long range precision delivery of munitions mean that traditional linkages between particular platforms and their combat capabilities will become much weaker. A precision weapon can be fired from a surface ship or a submarine, from a manned or an unmanned aircraft, or from fixed or mobile platforms on land. In these circumstances, the inherent capabilities of platforms will be critical in determining which are most suitable in the future.

All this means that the ADF must work towards the integration of warfare capabilities in all dimensions. The platforms operated by the individual services will contain or be components of joint systems working to achieve integrated effects. At the same time, the enablers for operations, such as C4I, will need to be considered as capabilities which are ubiquitous to all environments and which support the activities of all elements.

THE IMPPLICATIONS FOR A MEDIUM POWER

Maintaining and operating an effective Navy is highly demanding of national industrial and technological capabilities. Keeping up with the application of emerging technology is even more difficult, particularly as it brings with it the prospect of risk and failure.

But properly directed expenditure on Naval systems and platforms can itself encourage industrial growth and technological development, creating additional strengths and opportunities for a nation’s economy. For a smaller nation with limited resources such as Australia, a careful balance will need to be drawn between the achievement of combat power and the development of national industry. This means that choices will need to be made between attempting innovation solely on a national basis, engaging in co-operative development with friendly and allied nations and accepting without substantial modification the systems developed by others. For Australia, this will mean the development of a much more sophisticated approach to the problem of maintaining defence capability than has been required for much of our history. While we were able to rely upon our alliances with the great powers not only as the strategic level, but for much of the infrastructure and innovative effort that modern Navies – and sophisticated combat forces in general - require. This challenge, it should be emphasised, is not only one for the RAN.

NAVY PLANS

The RAN has two plans which together provide the blueprint for the development of the Navy. Both are aligned with higher level Defence Plans and Strategic Guidance. Plan GREEN provides executive authority for management decision making throughout Navy across the five year financial planning and business cycle. It identifies the issues which must be confronted during this period and their implications for Navy’s combat capability and strategic development.

Plan BLUE provides guidance for the directions of Naval sensor development over the next thirty years. It examines a range of issues which will affect the future force. This includes but is not limited to emerging warfare concepts, new technology and personnel issues. It considers major resource issues, including the ways in which national industry can support the transformation of the Navy. It will be the principal mechanism by which the Navy will manage its own development and contribute to the evolution of the future ADF.

The new MEKO X is an air warfare destroyer design. The MEKO X would now have to feature prominently in the RAN’s SEA 4000 study for its future air warfare requirement. The MEKO X has three banks of vertical launch missile systems totalling 132 tubes. It also has two MK-45 Mod 4 guns, 16 390mm multirole torpedoes and two 50mm gun/missile weapon stations. The design incorporates stealth features, phased array radar technology and an electric drive system in the form of two podded electric motors with two propellers each in a push-pull configuration. (MERCNO)
Organisation's (NATO) largest and most system - will be upgraded to take ESSM. The six Adelaide class frigates will be delivered in the ESSM system, which will eventually be fitted to the RAN. Anzac ship to be fitted with the ESSM first firing of the ESSM from a US Navy components of ESSM's guidance manufacturing the computer and other algorithms for the initial phases of thrust vector controller, ESSM's aerodynamic and thrust vectoring performance. This includes the thrust vector controller, aerodynamic surfaces, body strakes and control fins, and guidance and control algorithms for the initial phases of flight. In production, BAE SYSTEMS Australia is also responsible for manufacturing the computers and other components of ESSM's guidance section. This latest missile launch represents a milestone in the evolution of the ESSM program and follows on from the first firing of the ESSM from a US Navy surface combatant, the USS SHOUPI in July 2003 (see Vol 65 No. 1 THE NAVY, p. 19)

HMAS WARRUMGA is the first Anzac class ship to be fitted with the ESSM system, which will eventually be fitted to all of the RAN's Anzac and Adelaide class frigates - 14 ships in total. All the later ships in the Anzac class will be delivered in the ESSM configuration, and the first two ships of the class - which are currently fitted with the Sea Viper system - will be upgraded to take ESSM. The six Adelaide class frigates will be equipped with ESSM under a subcontract to BAE SYSTEMS Australia (which is about 18 months behind schedule). ESSM is the North Atlantic Treaty Organisation's (NATO) largest and most successful co-operative weapons project and is destined to become NATO's next-generation ship self-defence system. Globally, the consortium involves 18 companies across the ten participating nations and is headed by prime contractor Raytheon Systems Company of Tucson Arizona. The $45 billion project, more than 4,000 missiles will be delivered to the ten nations of the ESSM consortium. Production of ESSM is underway and delivery of operational missiles to Consortium nations has commenced. The ESSM provides improved ship self-defence capabilities against faster, lower, smaller and more manoeuvrable anti-ship missile threats as well as increased firepower. The missile has the speed, agility and accuracy to engage threats to the launching vessel at maximum range and in the most challenging conditions. The ten participating countries are Australia, Canada, Denmark, Germany, Greece, the Netherlands, Norway, Spain, Turkey and the United States of America.

TS STURT doubles up in SA

In another keenly contested year, outstanding diligence and results provided a reward to the South Australian Naval cadet unit TS STURT, selected as the State's most meritorious and efficient Naval Cadet Unit for 2002, an award sponsored by the Navy League of Australia. Located in the Riverland of South Australia, the unit is commanded by Lieutenant Tanya Daniels ANC.

At the annual trophy presentation ceremony at Port Adelaide, conducted by Senior Officer Cadets SA, CMDR Sandy Coulson RANR, and with all ANC Units within SA represented, the coveted top prize was announced by Senior Naval Officer Cadets SA CMDR John Parkin ADC RAN.

Major General Darryl Low Choy, AM, MBE, RFD, Director General Australian Defence Force Cadets, (left) presents The Navy League of Australia Award for the best overall grouping of cadets in TS STURT's CO. LEUT Daniels' team at the presence of NLA State President, CMDR Alan Prekset.

HMAS DECHAINEUX Incident

On Wednesday 12 February, 03 HMAS DECHAINEUX was conducting a routine exercise activity off Perth when a sea water hose burst. As a result flooding occurred. The crew immediately implemented the appropriate procedures and the submarine surfaced. It returned safely to base.

Just prior to this presentation, CMDR Parkin announced that Cadet Petty Officer Sarah Gorman from TS STURT had been chosen as the SA 2002 Cadet of the Year. Cadet PO Gorman from Renmark had a very successful year and has decided to join the RAN as a line entry, and with some very good training and background from the ANC. Significantly both the 2001 and 2002 winners of this award have been female cadets and have gone on to join the RAN ranks.

Proposed Merger of Tenix and ADI shipbuilding capabilities

Defense contractors Thales, joint venture owner of ADI Limited, and Tenix have agreed in principle on a proposal to merge the shipbuilding and ship repair capabilities of Tenix and ADI.

The move follows the release of the Defence Naval Shipbuilding and Repair Sector plan last year, and extensive discussion over the past three years of the need to rationalise the Australian naval shipbuilding industry in the face of reduced demand.

The proposal would bring together all current naval shipbuilding, upgrade and repair businesses of both companies. The proposed new company formed from the merger would be majority owned by Tenix. Full details remain confidential pending talks with the Commonwealth Government and Defence Department.

If the merger proceeds, ADI Limited's other joint venture owner, Transfield Holdings, would retain its 50/50 joint venture ownership in the company, subject to requirements of ADI.

Once established, the new company would be a potential bidder for the Australian Submarine Corporation, subject to Commonwealth, Defence Department and mutuality requirements.

The initiative is the first step in creating a long-term and sustainable naval shipbuilding industry, bringing together and enhancing Australia's significant capability in this strategic industry sector.

It would assist the long-term restructuring of the industry, ensure vital support capabilities are maintained and lead to new investment in capability.

It would bring together the financial, technical and prime contracting strengths the Defence Department requires, in a company with unique experience in understanding and working with Defence and the Royal Australian Navy.

The only draw back is that this new company may have a monopoly on the Aust market and thus reduce competition.

Honours, awards, commendations

The following Naval personnel received honours or awards in the Australia Day 2003 Honours list:

- Officer of the Order of Australia (AO)
- RAMD BL Adams, DPE
- RAMD RE Shaiders, VDCF
- Member of the order of Australia (AM)
- CAPT NS Coates, HQST
- CAPT JAP Graham, DPE
- Officer of the Order of Australia (OAM)
- CMDR DL McCourt, HQST
- LEUT GF Williams, MHQ
- LEUT GO Williams, MHQ
- Commander Services (CSSC)
- PRINCHAP ST Hubbard, NHQ
- CAPT CW Thomas, MHQ
- CMDR DJ Hunter, MHQ
- LCDR GW Day, MHQ
- WO PJ Moy, Depsc C&O
- Conspicuous Service Medal (CSM)
- CMDR CJ Churcher, NAVSYSCOM
- CMDR KPN Sharp, DPE
- PO L Mace, MHQ
- Conspicuous Service Cross (CSC)
- LCDR RJ Cull, HQST
- LCDR LA Curac, HQST
- LEUT Hughes, HQST
- CPO MI Harris, HQST
- CPO SK Pokari, HQST
- The Navy League of Australia would like to congratulate those recognised for their efforts.

Gong gonged for SIENV 10 rescues

A Chief of the Defence Force Unit Commendation has gone to the ship's company of patrol boat HMAS WOLLONGONG for its action in saving 162 people from the burning Indonesian vessel SUMBER LESTARI also known as SIENV 10, in November 2001.

The award, signed by CDF, GEN Peter Cosgrove, was presented recently to the company's commanding officer, Commodore Maritime Commander, RAMD Raydon Gates.

The commendation also contained praise for the Australian Customs Vessel ARNHEM BAY.

The award reads, "I commend the officers and ship's company of HMAS WOLLONGONG for their exceptional professionalism and commitment on November 2001 in the boarding and subsequent rescue of personnel from the SUMBER LESTARI known as SIENV 10."

"On Thursday, November 8, the SUMBER LESTARI, a crew of four Indonesians and 160 asylum seekers was intercepted by HMAS WOLLONGONG and ACV ARNHEM BAY and driven to the open Southern Ocean.

"Concerns that the vessel was being sabotaged and that a Safety of Life at Sea situation was developing led to a boarding party from HMAS WOLLONGONG being dispatched to the SUMBER LESTARI.

"On board the ship, the boarding party experienced considerable difficulties including fire which ultimately led to an explosion in the forward hold and panic amongst the crew and passengers.

"GEN Cosgrove's commendation continued, "the action by the boarding party, in taking some time to remove timber boards from the sides of the ship to assist passengers to leave the vessel after it was set on fire, in attempting to cut screws and give them advice in jumping into the water and directing them within the vessel and in attempting to release water and generally save the vessel, demonstrated considerable courage and concern for those onboard."

"These actions combined with the subsequent rescue, in concert with ACV ARNHEM BAY of 162 of the 164 passengers, demonstrated the quick thinking, bravery and dedication of the officers and ship's company of HMAS WOLLONGONG."

"The achievements of the officers and men of the ship's company of HMAS WOLLONGONG were of the highest order and are in keeping with the finest traditions of the Royal Australian Navy and ADI."

By Graham Davis, NAVY NEWS

GLADSTONE makes mileage milestone

HMAS GLADSTONE (LCDR Chris Smith) has steamed 500,000 nautical miles. The second RAN ship to reach this milestone, HMAS WOLLONGONG, also clocked half a million miles during her current patrol in northern Australian waters. This equates to 926,000 kilometres or just over 23 laps of the earth, or to the move and
Coastwatch first spotted the ship, flying an Indonesian flag near Rowley Shoals, 150 nautical miles northwest of Broome on January 3. The craft was under power however, no one was seen on deck.

"No one came out on the bridge to wave," CMDR Greaves told Navy News.

"Just before dawn on Thursday, January 9, 2003 our radar made contact, at the time we were heading into Broome for a logistic port visit."

"We changed course and came up on the ship. Command was showing and no one could be seen. We first thought the crew might have been asleep."

"The trawler was drifting well within the Australian Fishing Zone." CMDR Greaves told Northern News.

He said the ship's batteries were all flat and one fuel tank was empty while there was plenty of fuel in another.

He suggested the vessel, in the absence of her crew may have motored across the ocean until the fuel in the first tank expired. Asked if there was a dash for a rigid launch, CMDR Greaves said "no", the craft may have carried an inflatable rubber dinghy, which may have been used by the occupants to quit the trawler.

A decision was made to tow the ghost ship to Broome and by 9:30am on the Thursday a line had been secured, a steaming party put aboard, and the 150 mile tow begun.

"We rotated the steaming party and made about seven knots to Willie Creek," he said.

"At Willie Creek (the detention area for vessels detained by Australian officials) we anchored for the rest of the night.

"In daylight the AFP, Customs and others came out to inspect the vessel, it was declared a crime scene," he said.

An AFP spokesman said his officers had spent two days inspecting the trawler and found no evidence of foul play.

"His investigators were still to determine how many people had been on board.

HIGH JUMP left Taiwan on October 30. On December 12, the ship's master contacted the owners from the Marshall Islands, later they tried unsuccessfully to contact the captain and then asked the US Coast Guard to keep watch.

"So what happened in the days before December 13 to January 3 when the vessel was more than 3,500 kilometres distant?"

By Graham Davis, VST FWS

STUART takes ghost ship in tow

Commander David Greaves and his ship's company in HMAS STUART have found a MARIE CELESTE like 'ghost ship' hulling in the Indian Ocean. Like the ill fated sailing ship found abandoned and drifting in the Atlantic in 1872 there was no-one aboard the 20 metre long, 150 tonne, long line trawler the HIGH JUMP.

It's thought the Taiwanese owned vessel had a crew of about ten made up of a Taiwanese master and engineer and Indonesian fishing crew. Their whereabouts are the subject of intensive worldwide inquiries which have already led to checks in Taiwan, the Marshall Islands, Indonesia and Australia.

The Fremerclass patrol boat HMAS GLADSTONE. The patrol boat recently clocked up over 500,000 nautical miles. (RAN)
conducting on both ships, including allowed for maintenance work to be done with the help of Western Australian companies. It also gave the 5000 plus sailors more time for R&R after a busy deployment.

Twenty-four aircraft from Carrier Air Wing Fourteen were flown to RAFA Pearce to conduct training at the Lancelin exercise area. One F/A-18C Hornet from VFA-25 'Fist of the Fleet' suffered major damage when it ran off the end of a Pearce runway and through bushland, finally stopping in a puddock next to the RAFA base.

On 16 January 2003 another Los Angeles class submarine, USS HONOLULU (SSN-718) arrived at HMAS STIRLING for a few days of R&R before departing.

On 19 January the USS SHILOH departed Fremantle for the Arabian Sea. As SHILOH sailed out, the Spruance class destroyer USS FLETCHER (DD-992) sailed into Fremantle after time in the Persian Gulf. FLETCHER would be the first ship taking part in the USN's 'Sea Swap' program (see next news item).

On the morning of 20 January the ABRAHAM LINCOLN and her air wing set sail for the Arabian Sea, rendezvousing with other units of the LINCOLN battle group as the threat of war with Iraq grows and the allied military build-up continues.

By Ian Johnson

USN in Western Australia

On 22 December 2002 after a four month tour in the Persian Gulf, the Nimitz class aircraft carrier USS ABRAHAM LINCOLN (CVN-72) departed Fremantle for the Arabian Sea. The Los Angeles class submarine USS CHEYENNE (SSN-773) was also part of the group docked at HMNZ STIRLING. What started as a four-day visit to Perth for nearly 6000 sailors stretched into six days as the ships remained over Christmas. Security was tight and there were no public tours on these ships.

With the LINCOLN as part of Carrier Air Wing Fourteen (FA-115 'Eagles') the first F/A-18E Super Hornet squadron to deploy overseas.

After the group's departure on December 28 the ships were headed home when the threat of war with Iraq grew. Orders arrived from Washington for the LINCOLN group to remain in the region, extending their deployment from six to nine months. Shortly after permission was received from the Australian Government for the LINCOLN and SHILOH to return to Fremantle on 6 January 2003 for a fifteen day visit.

A well-accomplished return visit allowed for maintenance work to be conducted on both ships, including refuelling the LINCOLN's flight deck, well worn after 4 months of flight operations in the Gulf. This work was done with the help of Western Australian companies. It also gave the 5000 plus sailors more time for R&R after a busy deployment.

The rather unique design from Thales which has won the RAN's CVF carrier project (Thales) resources of industry, the MoD has decided to draw upon Thales' strength in a three way alliance that will clearly mean substantial work for Thales in the UK. This decision represents a major step forward for Thales Plc and cements the company's position as the second largest defence contractor in the UK. The decision is a huge success for Thales as a prime contractor. By contributing at the highest level to the most important aircraft carrier programme ever developed in Europe, it confirms our global strategy by enhancing our prime contractor capabilities, said Chairman & CEO Denis Ranque. "We are extremely proud to be chosen as the Key Supplier in this new Alliance and that the Thales' design has been selected as the basis for this key military asset. Our part in this programme will represent one of the most important contracts ever won in the history of Thales, and in particular the most important in the last ten years." Thales is the major systems supplier to the Royal Navy. Along with electronic warfare, communications and radar, Thales systems are at the heart of the UK's naval capability. Thales also provides sonar and periscopes for all submarines. The company is the UK's second largest defence contractor, having been a supplier to the MoD since before the First World War.

Austral unvels patrol
boat contender

Western Australian shipbuilder Austal Ships has released the first images of the design it has submitted for the tender for the Royal Australian Navy's new Armidale class patrol boats. The high performance vessels form the nucleus of a modern, capable yet affordable solution to Australia's maritime patrol requirements.

This solution draws on the complementary strengths and skills of Austral, Australia's largest shipbuilder, and Defence Maritime Services (DMS), an established provider of logistic and technical support to the RAN with a proven track record and solid corporate backing. The team's proposal offers substantial savings compared with current Defence Procurement budgets and historical in-service support costs, resulting in significantly lower total lifecycle costs.

The successful outcomes of the RAN's Port Services and Support Craft (PSSC) contract demonstrates DMS ability to provide tremendous value in delivering the through-life support required by the panel boat project. In fact, a review of DMS performance by the Department of Finance has established that Navy is obtaining 125% of value for $75% of the cost against the previous internal baseline which means substantial work for Thales in the UK. This decision represents a major step forward for Thales Plc and cements the company's position as the second largest defence contractor in the UK. The decision is a huge success for Thales as a prime contractor. By contributing at the highest level to the most important aircraft carrier programme ever developed in Europe, it confirms our global strategy by enhancing our prime contractor capabilities, said Chairman & CEO Denis Ranque. "We are extremely proud to be chosen as the Key Supplier in this new Alliance and that the Thales' design has been selected as the basis for this key military asset. Our part in this programme will represent one of the most important contracts ever won in the history of Thales, and in particular the most important in the last ten years." Thales is the major systems supplier to the Royal Navy. Along with electronic warfare, communications and radar, Thales systems are at the heart of the UK's naval capability. Thales also provides sonar and periscopes for all submarines. The company is the UK's second largest defence contractor, having been a supplier to the MoD since before the First World War.

Austal's proposal for the RAN's new Armidale class patrol boat.
Recognising that both steel and aluminium have potential benefits in patrol boat construction, Austal produced mock-hull designs in both materials and compared their relative merits in detail. These studies showed that the two designs have approximately equal build costs, however, the aluminium variant uses 21% less fuel. Combined with lower maintenance costs, this has resulted in significantly lower through-life expenditure.

Developed over a two-year period and based on the vast accumulated experience of Austal and DMS in vessel design, construction, operation and support, the 56 metre aluminium monohull design has been fully optimized for the RAN's requirements - both operational and budgetary - for long-term performance and reliability.

"Embracing technology that is proven, up-to-date and widely applied, the Austal patrol boat is a thoroughly modern vessel that is operator friendly, reliable and easy to maintain throughout its life," said Austal Ships' Military Projects Manager, Mr Kim Gillis. Recognising that crew fatigue and other morale factors are potentially major inhibitors of operational performance, considerable attention has been given to crew comfort issues.

"Extensive testing has proved the design's excellent seawaterkeeping qualities and that the aluminium hull is slightly superior to the steel design in this regard," Mr Gillis said. The vessel's Australian-designed and manufactured motion control system also contributes to substantially improved ship operability as well as increasing safety and reducing crew fatigue by eliminating excessive ship motion.

All onboard systems conform to Defence quality requirements and are straightforward to operate and maintain. System reliability and supportability is enhanced through carefully planned system hand-over and by maximum use of readily-available commercial equipment.

With Austal's extensive modern shipbuilding facilities and large, skilled workforce and DMS' established presence in all Australian Navy ports including the patrol boat bases in Cairns and Darwin, this commercially focused partnership is ready to respond to the start of the project as soon as the contract is awarded.

**Wedgegot gets closer**

Northrop Grumman Corporation has completed initial testing of the first production Multirole Electronically Scanned Array (MESA) radar antenna for Australia's Wedgetail airborne early warning and control (AEW&C) aircraft.

The MESA antenna exploits leading-edge technology by combining two side-looking phased arrays with an innovative end-firing 'top hat' antenna that emits and shapes a beam in the fore and aft directions. This combination makes MESA the first airborne surveillance radar that provides a 360-degree airmacht scan with mechanical rotation of a radar dish.

Designed under contract to The Boeing Company for the Australian Defence Force (ADF), the MESA will be integrated into a modified Boeing 737-700 aircraft. The first of these platforms rolled out of the factory line in October 2002 at the company's Renton, Wash., facility in the U.S. The ADF has purchased a total of four aircraft.

Attached to the top section of the fuselage, the MESA antenna is constructed of ultralight material. It is state-of-the-art performance at a fraction of current system weights, thereby allowing additional time on station for the aircraft. MESA will provide multiple surveillance applications, using pulse doppler radar forms for air search and pulse forms for maritime surface search.

It also will provide in the same aperture an integrated civil and military identification friend-or-foe (IFF) capability.

The RAAF's first Wedgetail aircraft were coming out of Boeing's Washington facility. The phased array radar has been successfully tested and will be integrated onto the aircraft later this year. (RAAF)

The first production MESA antenna was rolled out of Northrop Grumman's Baltimore, Md., facility, where it is to undergo initial system testing. A second antenna will be delivered later this spring. Main system integration testing will begin in late 2003 and continue through 2005. The first flight of a MESA-equipped 737-700 is scheduled for early 2004, with major integration flight testing to follow.

Northrop Grumman will also supply prime contractor Boeing with the electronics for the MESA radar and IFF, the power supply systems, and the radar software, parts of which are supplied by its Australian industry partners, Tenix Pty Ltd., Adelaide; Cables Pty Ltd., East Bentleigh, Victoria; and Thycyn Pty Ltd., Melbourne.

**AN UNUSUAL APPROACH TO WAR**

It must be assumed the purpose of publicity given to the massing of armed forces close to Iraq has been to persuade President Saddam Hussein of the futility of resisting demands that he should surrender the weapons of mass destruction he is believed to possess.

Even so the publicity at times seems to have been carried to an unusual extent, especially to anyone who has lived through or taken part in 20th century wars. Formal 'farewell' ceremonies for sailors, soldiers and airmen as they depart for battle are, by comparison, relatively trivial.

This observer seems that too many national leaders have painted themselves - and their countries - into a corner and extrication without loss of face by one or another will be difficult if war is to be averted.

**FOREIGN POLICY, TRADE AND DEFENCE**

It hardly needs to be stated that foreign, trade and defence policies are closely linked and so this writer was pleased to receive from the Department of Foreign Affairs and Trade a copy of "Advancing the National Interest", the Government's second White Paper on foreign and trade policy. Defence policy was outlined in the Defence 2000 White Paper and is currently under review as a consequence of terrorist activities during the last eighteen months and rather surprisingly, a Parliamentary committee is conducting a public examination of a comprehensive defence policy - a maritime strategy - at the same time.

Advancing the National Interest is a comprehensive document detailing Australia's relations with countries, large and small, in every part of the world. The United States is seen as the most powerful military and economic power and avowed to pre-eminence into the foreseeable future; with an economy accounting for 33% of global GDP and defence expenditure more than five times greater than any other nation (in fact more than the next ten defence spending nations combined), this is not surprising and has no doubt strengthened the resolve of successive governments to seek the closest possible relations with that country.

While stressing the pre-eminence of the United States, the White Paper by no means overlooks Australia's geographical situation and the importance of its relations with the diverse range of countries that constitute Asia. Australia now has a major economic interest in Asia and its markets in 2002.
PRODUCT REVIEW

Sailors in Slouch Hats.

From a sea of memories recorded by the Men of 42 Australian Landing Craft Company, RAE, AIF. Edited by W W Rice. Published by Hospersen Press PTA. Price £2.20

168pp. illustrated. Reviewed by Ian Johnson

Sailors in Slouch Hats is the wartime reminiscences of the men of 42 Australian Landing Craft Company, RAE, AIF during World War II. From their role in Operation Peron in June 1945, Sailors in Slouch Hats tells of the battle of Bougainville from a soldier's point of view as well as the unit's beginnings in 1943 as the Army formed the 42 Australian Landing Craft Company for use in amphibious landing operations in the Pacific.

More a collection of personal stories than an official history, General Peter Cosgrove AC MC said of Sailors in Slouch Hats... "...a stirring and fitting tribute to the magnificent soldiers who risked and often gave their lives in Operation Peron in 1945."

An interesting read and an insight into an Army Water unit during WWII. Available from Hospersen Press at www.hospersenpress.com or PO Box 317 Victoria Park WA 6069 Ph (08) 9362 5955

Naval Weapons Of World War Two

By John Campbell

Written by one who experienced at first hand that reality.

Naval Weapons Of World War Two is an absorbing and fitting tribute to the magnificent soldiers who risked and often gave their lives in Operation Peron in 1945.

By John Campbell

Naval Weapons Of World War Two

The much-feared Japanese 34.9-inch/9cm Type 93 'Long Lance' torpedoes started in 1933 and entering production in 1935 was a far superior torpedoe to anything else in the world at that time. The devastation it caused with its range early in the Pacific War was well documented.

Allied forces had nothing to compete with these powerful weapons which basically doubled their torpedoes in all aspects of capability, speed, range and warhead.

These 'Long Lance' torpedoes had an incredible range of 43,700 yards/40,000 metres at a speed of 36-38 knots or alternatively a range of 21,900 yards/20,000 metres at 45-50 knots and carried an explosive warhead of 1,900 lb/940 kg. For example the variety of large and heavy warhead of 1,720 lb/780 kg with a maximum range of 32,800 yards/30,000 metres at a speed of 36-38 knots.

One can only marvel at the many hundreds of hours which went into developing a book of this magnitude which is a fitting memory to the late John Campbell. Most highly recommended.

Lost Subs: From the Hunley to the Kursk,
The greatest submarines ever lost - and found.

By Spencer Dunmore

The 1943 Model 3 version had a much larger and heavier underwater depth charge Mk IV(78) 2048lb/929 kg. at the enemy juggernaut.

She fired some 384 shells from her main armament, each weighing 2640lb/1199 kg. at the enemy juggernaut.

Spencer Dunmore follows the course of submarine history from the American Civil War to the sinking of the Russian nuclear submarine KURSK which imploded after collision with an underwater mine.

Ammunition Performance with Kursk and other submarines.

Ammunition Performance with Kursk and other submarines. Written by one who experienced at first hand that reality.

The 114 Kamikaze aircraft which fell to 40mm Bofors guns in the Battle of Kursk, 1943. All the Exocet attacks are included, culminating with the loss of HMS GLAMORGAN in the Falklands Conflict in 1982, told by her Navigating Officer.

HMS GLAMORGAN, Admiral Woodward's flagship until HERMES arrived in Ascension, was in the thick of the fighting throughout the conflict. Her role for most of the time was that of an expendable escort, and she was to face the full wrath of the enemy - and the elements - in the South Atlantic.

Incorporating vivid eyewitness accounts written at the time and illustrated with many previously unpublished photographs, the book also portrays the daily life of an escort, under wartime conditions and describes only too clearly the tension, fear, storm, cold, disaster and sorrow which were so close at hand, though incidents of humour and moments of reflection serve to lighten the tone.

An interesting fact arriving from the book was the use of the RN's Lynx helicopters off Port Stanley. These aircraft were fitted with large radar reflectors and would approach the coast at around 5-10 knots to try and lure the Argentinians into believing this was a ship about to conduct shore bombardment and entice the Argentines to fire their land based Exocets, which they were not intended to deploy to the islands.

Another tale details the intelligence gained on an Argentine plan to mingle one of its British made Type 42 destroyers within the RN Task Force on a suicide mission to get the carriers, instead of the conventional Argentine ships transited along their coast so close to avoid RN nuclear powered submarines that the ship earmarked for the mission ran aground and was unable to proceed.

While attacking the enemy, GLAMORGAN faced missiles, bombs, shells and rockets. Personal accounts recall these attacks, and other operations including the Pebble Island raid which GLAMORGAN supported. All the Exocet attacks on the Battle Group are included, culminating with the desperate fight to save the ship, which came perilously close to sinking with all after the dramatic rescue success by those who lost shipmates brings home the gruesome reality of war.

The book also deals with the futuristic nuclear submarine SCORPION, which imploded after being rammed by its bow by a shelf aground and was unable to proceed.

Lost Subs: From the Hunley to the Kursk, The greatest submarines ever lost - and found.

By Spencer Dunmore

Written by one who experienced at first hand that reality.
The strategic background to Australia’s security has changed in recent decades and in some respects become more uncertain. The League believes it is essential that Australia develops capability to defend itself, paying particular attention to maritime defence. Australia is, of geographical necessity, a maritime nation whose prosperity, strength and safety depend to a great extent on the security of the surrounding ocean and island areas, and on seaborne trade.

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INCAT in the Gulf. Two of the Tasmanian company’s High Speed Catamarans on lease to the U.S. Navy and U.S. Army sit together pier side under the watchful eye of both the U.S. and Kuwaiti harbour patrol. From left, the USN’s Joint Venture (HSV-XI) and the US Army’s Spearhead (TSV-IX). The vessel’s impressive speed can move troops and equipment into a theatre of operations quicker than currently used military transport vehicles. The ability to carry such loads is a considerable savings in both time and money when compared to using military and commercial aircraft. Operation Enduring Freedom is the first time the craft have been deployed together in support of military operations. USN
An aerial photo of the UN Security Council Coalition ships (from left to right) HMAS DARWIN, the USS Arleigh Burke class destroyer USS PAUL HAMILTON, the Spruance class destroyer USS FLETCHER, HMAS ANZAC and the British Royal Navy Type 42 destroyer HMS CARDIFF. The Security Council Coalition ships are conducting Maritime Interdiction Operations (MIO) against Iraq to not only stop Iraq selling more oil than it is allowed although it is allowed to sell as much oil as it likes in exchange for food and medicine but to also stop banned goods from entering Iraq that it could use for weapons manufacturing (DSS)