

Goodbye the RAN 'Destroyer', A tribute to HMAS BRISBANE and the DDGs

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THE NAVY



The Magazine of the Navy League of Australia

*Maritime Contribution to
Joint Operations, RN style*

The Creswell Operation

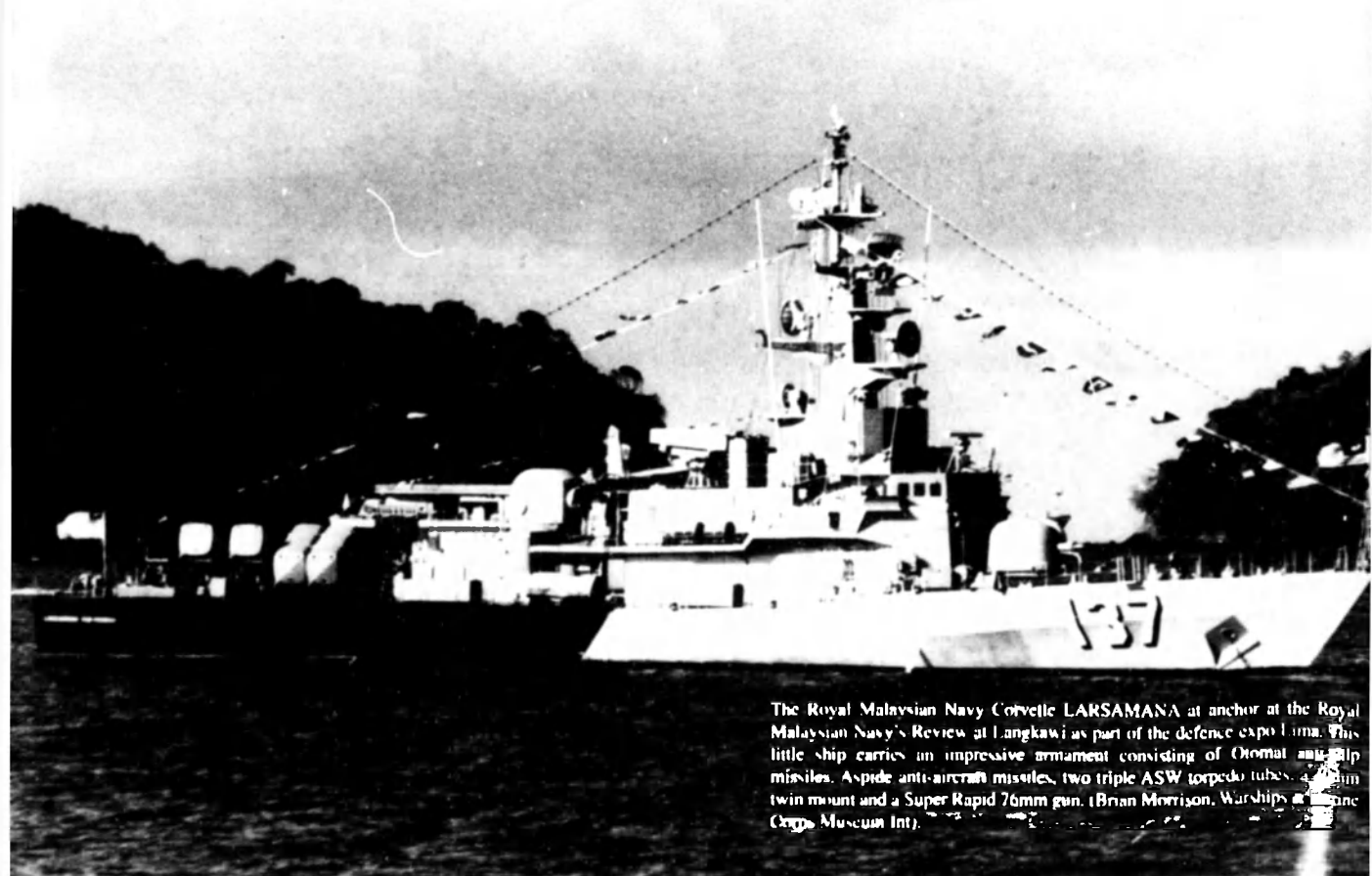
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Doctrine - Part 3*

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The Royal Malaysian Navy FFG LEKHE at anchor in the Royal Malaysian Navy's Review at Langkawi as part of the defence expo Lima. The RMN can expect to take advantage of the upgrades the RN is doing to the vertical launched Sea Wolf as installed on this class (see Flash Traffic this edition). (Brian Morrison, Warships & marine Corps Museum Int).



The Royal Malaysian Navy Corvette LARSAMANA at anchor at the Royal Malaysian Navy's Review at Langkawi as part of the defence expo Lima. This little ship carries an impressive armament consisting of Otomat anti-ship missiles, Aspide anti-aircraft missiles, two triple ASW torpedo tubes, a 100mm twin mount and a Super Rapid 76mm gun. (Brian Morrison, Warships & marine Corps Museum Int).

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Front cover: The sun sets on HMAS BRISBANE and with it, the end of an era for the RAN. (John Mortimer)

The Navy

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Coalition remains in office

Following the re-election of the Howard government in November it could be assumed the Defence White Paper released twelve months earlier – *Defence 2000: Our Future Defence Force* – will continue to guide defence planners: several events however, one quite unexpected, could alter priorities or vary the timing of approved projects.

The unexpected event was the devastating attack by terrorists on two well known symbols of American power and influence – the World Trade Centre in New York and the Pentagon in Washington. Linked, but only indirectly, was the anticipated arrival of “boat people” off northern Australia seeking asylum and a government decision to deny them entry. The decision, a surprise to most citizens but supported by a majority, was made prior to the terrorist attacks.

The two events placed a considerable strain on the ADF, particularly on the Navy which became involved with both local and overseas happenings within a short space of time: Navy was required to send its principle warships for policing duties in northern waters as well as abroad to the Middle East. Accepting that ADF personnel serving afloat or on land in the Middle East were to receive

additional allowances and that the increased use of costly defence assets, e.g. keeping ships at sea for longer periods, flying personnel and equipment hither and thither, involves greater than normal or planned expenditure, it stands to reason budgets must be re-assessed. It will be interesting to see which department of state pays for the increased activities of Australia's defence force.

A continuing worry for the Defence Department – and for Australia – fortunately recognised in the Defence White Paper, are demographic changes forecast to reduce the size of the age-group from which the ADF recruits its future sailors, soldiers and airmen. This is a problem not confined to Australia but extends to most Western countries that rely on volunteers to man their defence forces.

It is possible, seemingly never-ending advances in technology will mean fewer and fewer personnel will be required; even so, unlike aircraft without pilots (UAVs) it is hard to visualise ships without sailors – avoiding collisions in confined waters, being berthed and secured to buoys etc. all by remote control. Virtually certain, the proportion of women in the defence force (at present about 15%) will increase, no doubt to the regret of the more ‘chivalrous’ members of the community.

By Geoffrey Evans

THE NAVY LEAGUE OF AUSTRALIA – NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that an Extraordinary General Meeting of The Navy League of Australia will be held at 7th Floor 175 Macquarie Street, Sydney, on Monday 4 February 2002 at 5.30 pm for the purpose of considering and if thought fit passing the following resolution as a special resolution:

RESOLUTION: That the Articles of Association be amended by inserting the following new Article 193A:

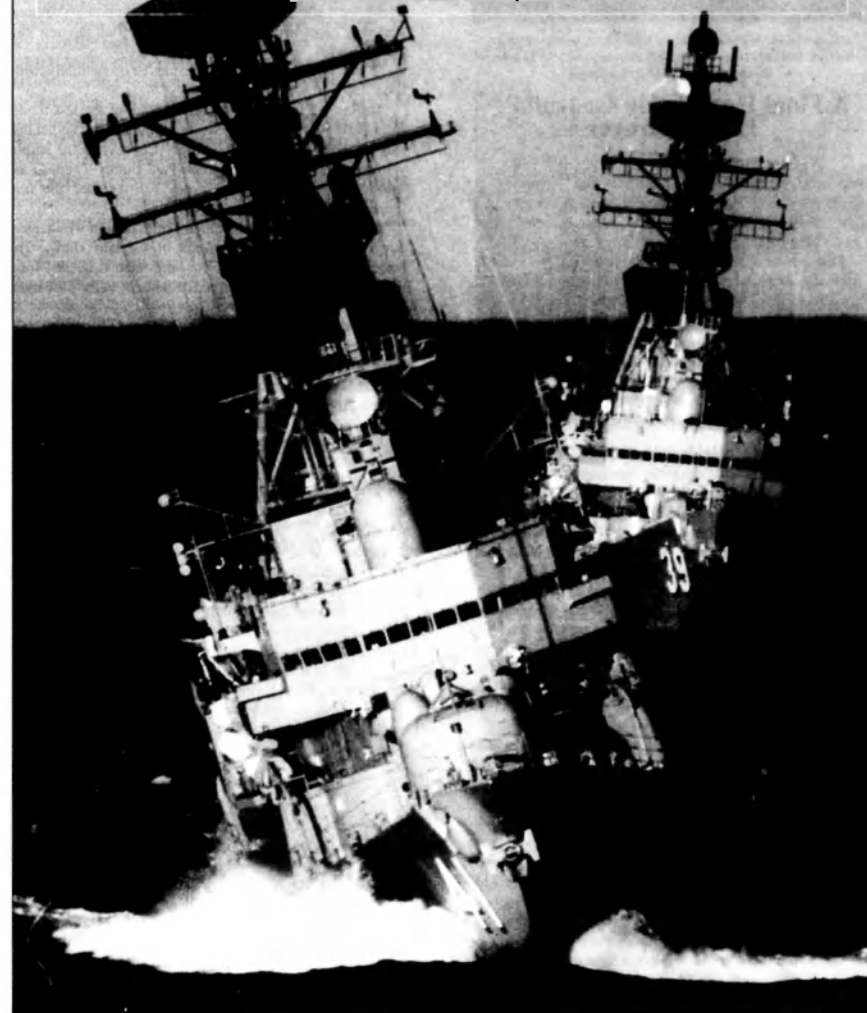
193A Special Purpose Branches of the League

Where in any particular city or town in Australia there is formed an association (whether incorporated or unincorporated) the principal purpose of which is the support of an Australian Navy Cadet Unit (“Unit”) in that city or town, that association may apply to the Executive Committee of the Division responsible for the State or Territory in which the city or town is located (the “Responsible Executive Committee”) for a special purpose accreditation (“Special Purpose Accreditation”) as a Branch of the League and the following provisions shall apply:

- the Responsible Executive Committee shall make such enquiries as in its absolute discretion it deems necessary to satisfy itself as to the merits of the application for Special Purpose Accreditation as a Branch;
- if the Responsible Executive Committee shall in its absolute discretion consent to the Special Purpose Accreditation it shall thereupon request the Federal Council to issue a Certificate of Accreditation to the relevant Branch which shall be in such form as the Federal Council shall from time to time determine;
- the Federal Council may in its absolute discretion determine at any time to withdraw a Special Purpose Accreditation;
- a Branch of the League accredited under this Article (an “Accredited Branch”) shall upon its accreditation furnish to the Federal Council a signed acknowledgement of the conditions applicable to the accreditation in such form as the Federal Council shall from time to time in its absolute discretion determine;
- any Accredited Branch shall be entitled to call itself a Branch of the League provided the Branch title includes the name of the city or town in which the Accredited Branch is located or, if there is more than one Branch in that city or town, another identifying feature such as the name of the Unit. The name of the Accredited Branch shall be subject to the prior approval of the Federal Council;
- an Accredited Branch shall not form part of the corporate structure of the League, its assets or liabilities (if any) shall not form part of the assets or liabilities of the League and the Memorandum and Articles of Association of the League shall not apply to it except to the extent of the provisions of this Article 193A;
- the committee of an Accredited Branch shall regulate its own affairs subject to its conforming in all respects with the provisions of this Article 193A and the conditions issued by the Federal Council pursuant to paragraph (d);
- an Accredited Branch shall not be entitled to enter into contracts nor make any binding commitment in the name of the League, nor hold itself out as being part of the corporate structure of the League. Any attempt to do so is hereby expressly forbidden;
- an Accredited Branch shall not do any act, nor make any statement which may or may be likely to bring the name of the League into disrepute;
- individual or corporate membership of an Accredited Branch does not thereby confer upon such individual or corporation membership of the League. Members of an Accredited Branch are, however, encouraged to become members of the League in their own right;
- each accredited Branch shall furnish to its Responsible Executive Committee in each calendar year an annual report showing the work done by the Accredited Branch in support of its Unit during the 12 months preceding the date of the report;
- each Accredited Branch shall furnish to its Responsible Executive Committee in each calendar year a certified statement of the accounts of the Branch for the 12 months preceding the date of the statement;
- each Accredited Branch shall pay to its Responsible Executive Committee within 3 months after 31 March in each year a contribution made up of:
 - such sum for the supply of The Navy to the Accredited Branch as may be determined from time to time by the Federal Council; and
 - such sum by way of an Accredited Branch administration fee as may be determined by the Federal Council based on the number of members of the Accredited Branch from time to time; and
- the provisions of Articles 44 (a), 44 (e) 65, 68, 72, 111, 114, 137-193, 172, 175 and 200 shall not apply to Accredited Branches

Goodbye the RAN ‘Destroyer’, A tribute to HMAS BRISBANE and the DDGs

Contributions by Raveenn Carroll, Vice Admiral David Shackleton, RAN,
and CAPT Peter Jones, RAN



HMAS BRISBANE and HOBART at sea. The three RAN DDGs will go down in naval history as amongst the best ships the RAN ever owned. One will note from this image that the DDGs were not fitted with stabilisers, much to the displeasure of their crews. (RAN)



HMAS BRISBANE heading for sea from her homeport in Sydney Harbour. BRISBANE served the RAN extremely well for 34 years, serving in two wars (John Mortimer)

A Final Hurrah for Australia's Last Destroyer

By Raveena Carroll, Defence Public Affairs

With a tremendous sense of pride and camaraderie, members of the HMAS BRISBANE Association marched along the wharf and stopped before their beloved 'Steel Cat', where they gave her a heartfelt hurrah.

That informal tribute marked the start of the ceremony on Friday, 19 October 2001, during which the last of the Royal Australian Navy's DDGs, HMAS BRISBANE, was decommissioned at Fleet Base East in Sydney.

BRISBANE's 300 crew stood proud aboard the ship as official guests, the Governor General, His Excellency the Reverend Dr Peter Hollingworth, the Honourable Minister for Defence, Peter Reith MP and Chief of Navy, Vice Admiral David Shackleton, spoke about her history and achievements.

During her 34 years of service, BRISBANE won numerous awards including the Australian Meritorious Unit Citation for service in the 1991 Gulf War and the Duke of Gloucester Cup in 1971, 1980 and 1996.

Dr Hollingworth acknowledged the contribution of the guided missile destroyer to the nation and the Navy, but said people were her greatest asset.

"While I speak in terms of the ship and its life, in reality it is all the people involved with BRISBANE who imbued her with the spirit for which she became well known," Dr Hollingworth said.

Commissioned in 1967, BRISBANE was the last of three DDGs built for the RAN in Michigan, USA. The others, PERTH and HOBART, were decommissioned in 1999 and 2000 respectively.

The last Commanding Officer of BRISBANE, Captain Campbell Darby, said it was an honour and privilege to be the last Commanding Officer of a DDG.

"A large number of people, both service and civilian, have imbued in BRISBANE a strong and positive spirit that has never waned," CAPT Darby said.

"It has contributed to shaping attitudes in the region and nationally, and shaped the lives of many thousands of young Australians by instilling in them skills, confidence and leadership ability to make their way both inside the ADF and in the broader Australian community.

"I am sure the spirit of this great ship will live on and

continue to reflect the spirit and ethos of the Navy."

BRISBANE was the last RAN ship in commission to have served in two wars, Vietnam and the Gulf War, and was the last ship to have fired her guns in anger. She was also the last steam powered ship in the RAN.

CAPT Darby said the crew of BRISBANE had demonstrated great professionalism and loyalty during his 22 months as CO and that they, and the previous crew, would never forget the ship's many quirks.

"The continuous and sickly 35 degree plus rolls as a way of checking securing arrangements.

"The harmonic vibration at speeds of 17-18 knots which were always an excuse to go faster, and the standing start drag races which successfully saw off all the new gas turbine ships.

"I am sure the stories will expand exponentially with time," he said.

During the ceremony, a lantern holding the last flame from BRISBANE's boilers was presented to the launching lady of the ship, Lady Mavis Mary Chaney, by the ship's youngest crew member, Seaman Paul Smith. Then, in an emotional moment, Lady Chaney extinguished the last flame ever from a DDG.

Moments later, the Australian White Ensign was hauled down and placed in the hands of Captain Darby. He marched off BRISBANE for the last time as four RNZAF A-4K Skyhawks paid tribute in a fly-past over the ship.

And then, with the White Ensign handed into the safe custody of the Maritime Commander, under the gaze of the Chief of the Defence Force, the parade marched past and BRISBANE's service to the Royal Australian Navy was complete.

Message from the Bridge

Chief of Navy, Vice Admiral Shackleton, a former Commanding Officer of HMAS BRISBANE (1991 - 1992), gave an address at the decommissioning of HMAS BRISBANE which is reproduced below:

"To those of you who want to drive a Ferrari. This (looking at the DDG BRISBANE) is a grey Ferrari. In 1991 this was my grey Ferrari. 75,000 shaft horsepower, four boilers on line and humming - a truly unforgettable experience - the magnificent stokers.

But the real heart of every ship is the people. None more so than DDG people and the DDG family.

Today we are decommissioning a ship - not just any ship. But, we are certainly not decommissioning the spirit of these magnificent ships that have been such a beacon to showing the way to the Navy of the future. One that is modern and capable. To be a good friend or a terrible foe. One that always puts us in the position of being a Navy to be reckoned with. Any time, anywhere.

BRISBANE is one of the longest serving ships in this Navy's proud history. With her decommissioning we celebrate 34 years of her meritorious service. And in so doing reunite generations of DDG people and mark the transition point to a Navy which has greatly benefited from the opportunities our far-sighted forefathers gave us.

The DDG's fundamentally changed the RAN. They

were the first, post Second World War ships that the Navy bought that had real grunt. They had a missile system that worked; they had guns that were accurate and hit the target, they had sonar that worried submariners. And they travelled at a real destroyer speed.

And their men were made of the same high tensile steel as their hulls. Real ships by any measure.

The DDG's have operated throughout Australian waters and oceans of the world. And on occasion also had the good fortune to visit many other locations. Some exotic, some not so exotic. Personally, I always wanted to run out of fuel in Tahiti - sadly this didn't happen.

BRISBANE always served the Navy well. Be it war or peace. When cyclone Tracey hit Darwin, both HMAS BRISBANE and HOBART participated in the clean up. BRISBANE's ship's company laboured for thousands of hours: clearing, cleaning, repairing and rebuilding the flattened city. Often working themselves to complete exhaustion. But probably the biggest highlight of that event was HMAS BETANO returning in early January, 1975 with 500,000 cans of beer!

Twenty years after Vietnam, and in a different hemisphere, BRISBANE went to war again when she participated in the UN sponsored liberation of Kuwait. The Gulf War.

In doing so, she forged her own place in the annals of Australia's history, earning a meritorious unit citation and the battle honour 'Kuwait'. Her Commanding Officer at that time was Rear Admiral Chris Ritchie. I took over from him on her later return to Australia.

As those who have served in BRISBANE can attest, she is a special ship. The Maritime Commander, Rear Admiral Geoff Smith is also a graduate of HMAS BRISBANE school for flag officer training and development. And there are many other graduates. Admiral Barrie, our present Chief of the Defence Force, is amongst them.

But, it is her ship's company that has always set BRISBANE apart. It says something for us all, that the sailors of this ship have been led by 28 commanding officers. But, more to the point, should I say that the sailors



The White Ensign is lowered for the last time aboard HMAS BRISBANE. (Brian Morrison, Warships & Marine Corps Museum Int)

that trained them have produced no less than 13 officers of flag rank. To those sailors, I thank you for the way in which you have helped me and my predecessors, and many successors to come, be worthy of the extraordinary privilege of leading some of the finest people in this country, the people of the Royal Australian Navy. The Navy is forever in your debt.

I offer my humble thanks to all those who have served in, or been associated with the Guided Missile Destroyers, especially the 'Steel Cat'.

Minister - can I please have another garage full of grey Ferraris?"



HMAS BRISBANE at sea. She was the last steam powered ship in RAN service and was affectionately known as the 'The Steel Cat'. (RAN)

Why did we buy the DDGs?

By Captain Peter Jones, RAN

With the decommissioning of HMAS BRISBANE, the RAN's last Charles F. Adams (Perth) class destroyer, THE NAVY looks back at why the RAN chose this class of ship and the options it was faced with. The DDGs were a first for the RAN in many ways. They were first major units of the RAN to be built in the US - Bay City Michigan, the first RAN ships to be built 182 metres above sea level and the first to be launched sideways. They also started their careers in fresh water.

The acquisition by the RAN of three Charles F. Adams class guided-missile destroyers (DDGs) from the United States in the 1960s has been seen by many as one of the most successful acquisitions in post-war RAN history. These ships introduced into the RAN new technologies that had a significant impact both on operations and capability.

This subject may be approached from a number of levels and the pioneering work on the DDG acquisition was undertaken by Dr Roy Wallace with his 1980 PhD thesis entitled 'The Australian Purchase of Three United States Guided Missile Destroyers: A Study of the Defence Aspect of Australian-American Relations'. As the title of this work suggests, it examined primarily the implications of the sale on Australia-US relations. This paper will concentrate on the effect these ships had on the RAN. In researching this paper I had access to the Naval Board





The three Perth (AKA Charles F. Adams) class destroyers in formation. From L. to R. HMA Ships: PERTH, HOBART (fitted with two Mk-15 Phalanx) and BRISBANE. The DDGs service to the RAN was not confined to their physical presence in the ADF order of battle. They were instrumental in bringing the RAN into realm of modern naval weapons and systems. (RAN)

minutes of the day as well as classified Navy Office files dealing with the acquisition.

Before discussing the impact the Charles F. Adams class destroyers had on the RAN it is important to look at the state of the RAN in the late 1950s and examine the reasons for their acquisition. In 1960 the RAN consisted of the following operational-major fleet units:

- The light aircraft carrier MELBOURNE with the 21st Carrier Air Group consisting of Sea Venom fighters and Gannet ASW aircraft;
- Three Daring class destroyers;
- Two older Battle class destroyers; and,
- Three Q class ASW frigates (ex-WW II destroyers).

A modest building program of four Type 12 ASW frigates was under way. These ships were to introduce the Ikara anti-submarine (ASW) missile and the Seacat short range surface-to-air missile.

Looking forward to the 1960s, Australia faced a major defence re-equipment programme. Amongst the individual projects were the RAAF's Canberra bomber replacement, the US F-111 (TFX) and, for the RAN, replacements for the present generation carrier aircraft. The Chief of Naval Staff at the time was Vice Admiral Sir Henry Burrell. Sir Henry enjoyed a good working relationship with his American counterpart the Chief of Naval Operations (CNO) Admiral Arleigh Burke. This relationship was an important factor not only for the DDG acquisition but for the immediate future of the Fleet Air Arm (FAA). In May 1959, Burrell wrote to Burke and stated:

We in Australia are having to face up to the need for a big re-equipment programme and the number one problem from the Navy's point of view is whether our Fleet Air Arm continues after 1963-64 when our Sea Venoms and Gannets reach the end of their road. The first question which has to be answered is "can we afford it?" and that is being thrashed out at present. If the answer which I hope to have from the Government in July is that we can, then we hope to find a suitable aircraft (at a price we can pay) and a carrier to put it in as our MELBOURNE won't be able to take any new generation aircraft.

The appreciation at the time was that the aircraft

replacement also involved a replacement for MELBOURNE. This made the re-equipment program even more of a fiscal burden. In December 1959, the Menzies government announced that the FAA would be disbanded in 1963. Even before the official decision Admiral Burrell had initiated informal enquiries with the RN and the USN about Surface-to-Air Guided Weapon (SAGW) Escorts. Following the FAA decision Admiral Burrell wrote a confidential minute to the Secretary of the Department of the Navy, Mr Thomas Hawkins, which stated *"the need for SAGW ships in the RAN is urgent as we will have no effective air defence for the Fleet, other than close range weapons, from the time our fighters phase out in 1963"*.

The effective replacement of the Sea Venoms by SAGW ships was ultimately represented in a requirement for 50% of all escorts to be fitted with SAGW.

On 8 January 1960 Admiral Burrell and the Third Naval Member, Rear Admiral H.E. Urquhart, left Australia and visited the United Kingdom, Canada and the United States to study possible designs. In an interview with the *Sydney Morning Herald*, Admiral Burrell stated his belief that the SAGW ships should be built in Australia and cited the success of the Daring class program as proof of Australia's capabilities. The primary aim of the Canadian leg was to be briefed on RCN progress with helicopter operations from frigates. In 1957 the Canadians began helicopter trials off the frigate HMCS BUCKINGHAM. The RAN was interested in the feasibility of operating helicopters from the new destroyers because, although the primary mission of the new destroyers was to provide air defence to the fleet, these ships would also operate in a Navy without a carrier.

The Contenders

The three contenders for the contract were the Royal Navy's 6,000 ton County class, the US Navy's 4,500 ton Charles F. Adams class destroyer and the smaller 3,400 ton Brooke class frigate.



HMAS PERTH as seen through the periscope of a submarine (RAN)

The County Class

At the time of Burrell's fact-finding tour, the lead ship of the County class, DEVONSHIRE, was still six months from launch. The Counties were the Royal Navy's first purpose-built missile ships and were designed around the Seaslug surface-to-air missile. This large beam-riding missile had its genesis as far back as October 1945. Serious design work on this missile did not begin, however, until 1950 and was to continue through to the start of the next decade. The main features of the County design were:

- The Seaslug missile system with one channel of fire;
- Secondary surface-to-air missile armament of two quad Seacats;
- Gun armament two twin 4.5-inch Mk-6 semi-automatic mounts;
- A first-generation automated combat data system (ADA);
- Flight deck and hangar for one Wessex helicopter;
- Combination gas turbine and steam propulsion; and
- Flagship facilities.

The Charles F. Adams Class

The lead ship of this American class was commissioned in September of 1960. These ships were the first guided-missile destroyers purpose-built by the USN and attracted considerable priority in the naval building program. The primary armament of this class was the Tartar semi-active missile. Dr Norman Friedman relates that *"The need for missile ships was so urgent that Tartar DDGs were ordered before Tartar itself had flown in any form"*. The main features of the Charles F. Adams class design were:

- The Tartar SAM missile which had two channels of fire;
- The radar suite which included the AN-SPS 52 three-dimensional radar;
- The gun armament of two 5-inch Mark 42 automatic



HMAS PERTH with two of the world's most recognisable landmarks in the background. PERTH was the first DDG for the RAN and the first US ship. She commissioned in 1965 and paid off in 1999. (RAN)



HMAS HOBART executing a high speed turn. Note the two Mk-15 Phalanx systems mounted amidships. All the DDGs were fitted for Phalanx after the 1991 Gulf War and shared use of the actual weapon mounts (RAN)

- guns; and
- A two-tier anti-submarine armament of the medium-range ASROC missile and close-range torpedoes.

The Brooke Class

The US Navy also offered the RAN the Tartar equipped Brooke class. A major drawback of this class was that the lead ship was not to be laid down until December 1962. The main features of the Brooke design were:

- Tartar system with a lightweight 16-round launcher (vice 40-rounds in Charles F. Adams) with only a single channel of fire;
- One single 38 calibre 5-inch semi-automatic gun;
- AN/SPS-52 three-dimensional radar;
- Flight deck/hangar for a light helicopter of the DASH ASW drone type;
- The new long-range AN/SQS 26 sonar; and
- Single-shaft and speed of 27 knots.

Related Matters

Before examining the subsequent decision-making process it is relevant to touch on two other related aspects of the US proposal. First, the US Government offered an interest free loan for the purchase of the SAGW ships. The eventual price of the Charles F. Adams was US\$90 million for the initial two ships (including ammunition, spares and training). The initial repayment, however, amounted to only US\$1.5 million with the other repayments paid over eight years. The cost of the County class ships without the added advantage of the interest-free loan was still 15% higher than the Charles F. Adams design.

The second aspect was US Navy's search for a site somewhere in the Indian or Pacific Oceans for a submarine VLF communications station. Admiral Burrell was a keen supporter of an Australian location for this station. The perceived advantages of this siting were:



HMAS HOBART entering Sydney Harbour. She was commissioned in 1965 and paid off in 2000. She did three tours off Vietnam. During one of these tours she was the RAN's first and only victim of a missile strike when a US F-4 mistook her for a North Vietnamese vessel (RAN).

- The forging of closer defence ties with Australia's major ally;
- SAGW escorts communications benefits for the RAN; and
- Financial off-sets for future procurements of US weaponry.

Results of the Inspection Tour

Admiral Burrell's inspection tour showed the superiority of the Tartar missile over Seaslug, and the 5-inch/54 gun system over the 4.5-inch gun. The RAN subsequently approached the RN to incorporate the Tartar missile and 5-inch guns into the County design. The First Lord of the Admiralty, Lord Jellicoe, told the House of Lords: "Unfortunately, the design effort required of the Admiralty would have caused an unacceptable delay of two or three years in the development of the Royal Navy projects".

The British, contender for the RAN SAGW ship therefore was to be the standard Seaslug County.

The Missile Comparison

The relative effectiveness of Tartar and Seaslug was of central importance to the destroyer selection process. With the benefit of hindsight it can be seen that the RAN made the right decision. Seaslug was succeeded by a Mark II version which received only limited modernisation throughout its operational life. The increasingly scarce British research and development (R&D) resources were diverted to the succeeding Seadart system which entered service in 1973. Tartar on the other hand received substantial improvements before being superseded by the Standard SM-1MR missile which importantly was compatible with the Tartar launcher.

The RAN's selection of the Tartar missile was by present standards based on incomplete if not sketchy information. The Australian Naval Attache in Washington was furnished with a hit probability of 85% for a single missile. Within some quarters of the RAN this figure,

without provision of any trials data, was regarded "with great scepticism".

Tartar in fact was experiencing serious performance and serviceability problems. In February 1961, USS CHARLES F. ADAMS completed the Tartar technical evaluation but failed the subsequent operational evaluation in November of that year. In 1962 a sample of six Charles F. Adams ships reported a Tartar serviceability of only 30%. Finally a 1963 draft Presidential Memorandum on Fleet Air Defence listed the single-shot capabilities of Tartar as only 0.40.

The reasons for these problems go back to Tartar's origin. Development of Tartar commenced in 1955 to meet an urgent USN requirement for a SAM suitable for destroyers and frigates. In May 1957 work began on an improved Tartar, this was 15 months before the first Tartar missile was even fired at China Lake test range. In 1959 the USN approved a Tartar Reliability Improvement Program or TRIP to increase Tartar's range.

Although such a rapid development program was outwardly impressive when combined with the other 'T' missiles, Terrier and Talos, not to mention the future Typhon, the overall picture was one of a myriad of expensive and complicated projects which could not be properly managed. In 1962 Admiral Burke declared a



HMAS HOBART flanked by snow at the builders wharf in Bay City Michigan. The DDGs were not only the first US designed and built ships for the RAN but also the first to be built 182 metres above sea level and the first to be launched sideways. They also started their careers in fresh water (RAN via Dr Tome Frame)

'holiday' from all performance extension programs and a 'get well' program was instigated. The TRIP program was to eventually form the basis of the Standard SM-1MR missile.

Although the RAN may not have been aware of the Tartar's problems, they were no doubt very much aware of the sheer scale of the US Navy's missile program. Dr Norman Friedman estimates that by 1962 the United States investment, in 1962 dollars, was US\$4.4 billion in ship and missile construction and another US\$2 billion in associated R&D. This, if for no other reason, should have been sufficient grounds to select Tartar over Seaslug.

The Decision

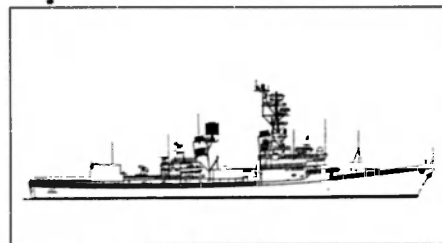
On 29 June 1961 the Minister for Defence, Mr A. G. Townley, announced the selection of the Charles F. Adams class for the RAN's new SAGW destroyers. The details of the RAN variant of the Charles F. Adams class was still to be finalised. Indeed Cabinet gave the Minister of Defence discretion to amend the order to include major modifications to the design. This modification was known as Suggestion B and will be covered shortly. From examination of relevant files it is apparent that Navy Office was preoccupied from at least December 1960, on what Charles F. Adams variant would be sought. Before the possible Charles F. Adams options the reasons for the class's selection will be examined.

Following the public announcement of the Cabinet decision the Minister of the Navy, Senator John Gorton, stated "The main reason we bought from the United States was that Britain has no guided missile destroyers of this kind developed to this stage".

This comment was valid in two ways. Firstly, the Charles F. Adams were destined to enter service two years and two months ahead of HMS DEVONSHIRE, and second, the missile technology of the Tartar system was superior. The reason given in the accompanying press reports was that the Charles F. Adams class possessed the range and air-conditioning suitable for Pacific operations. The range of the Counties in service was in fact to be greater than the Charles F. Adams. The elimination of the



HMAS HOBART firing her two 5-inch guns in anger on the gun line in South Vietnam. It was reported that troops ashore welcomed HOBART's accurate fire support (RAN)



Suggestion B, the helicopter equipped version Delta of the DDGs was very nearly accepted into the RAN. Had it been then the RAN would have retained an at sea helicopter capability during the interval between the carrier MELBOURNE's decommissioning and the arrival of the Seahawk. It is also very possible that the FFGs would have entered service with a helicopter given DDG use

Brooke class was based on:

- The larger outfit of Tartar missiles and additional channel of fire of the Charles F. Adams;
- The newer propulsion plant of the Brooke class and its use of diesel fuel posed both a technical risk and an additional logistic burden on the RAN; and
- By the time the first RAN ship would enter service the USS CHARLES F. ADAMS would have been in commission for about five years and most of the inevitable teething problems would have been addressed.

Variants of the Charles F. Adams Design

One of the most fascinating aspects of the DDG acquisition is the different Charles F. Adams variants considered. Dr Wallace in his thesis outlined five proposed variants of the Charles F. Adams design:

- Version Alpha was the DDG-20 variant with the single arm Mk-13 Tartar launcher and how mounted sonar.
- Version Bravo was Version Alpha with Ikara replacing ASROC.
- Version Charlie was Version Alpha with Ikara replacing ASROC and the inclusion of the AN/SOS-35 variable depth sonar.
- Version Delta, a more ambitious version, incorporated the following: (1). Ikara instead of ASROC; (2). AN/SQS-35 VDS; and (3). Removal of the aft 5-inch gun mount and provision of a flight deck and single or twin hangar for a Wessex helicopter. The Tartar launcher would be resited in place of the aft 5-inch gun. This version also included something that would have heightened any DDG sailor - stabilisers.
- Version Echo was the most ambitious version which incorporated the systems of Version Delta but involved the removal of one engine and one funnel. This redesign which would have allowed more extensive helicopter handling and stowage arrangements. Recent examination of Navy Office files has shed more light on these proposals.



The Fitting of Ikara

The RAN was naturally keen to fit Ikara in place of ASROC not only in terms of selecting the indigenous system but also because of its potential all-round superiority. This was potential because Ikara in 1960 was still under development and did not go to sea until HMAS STUART commissioned in 1963. This created a dilemma for the RAN and a cut-off date of 22 May 1961, was set for the concept of Ikara to be proved. If a decision on Ikara could not be made then ASROC would then have been selected for the DDGs.

The incorporation of Ikara into the Charles F. Adams's design received considerable attention in both Australia and the USA. At one stage it was planned to fit Ikara down aft because it was feared that the eventual position between the funnels would not provide sufficient magazine space and top weight margins.

Suggestion B

The helicopter equipped Version Delta, was the popular choice of Navy Office right up to the 29 June 1961. This version had actually two variants: Suggestion A which had a twin hangar and Suggestion B which had only a single hangar. In March 1961, Cabinet approved Suggestion B if it was structurally feasible. It was accepted that VDS might have to be excluded. A Navy Office study was initiated to ascertain the feasibility of Wessex operations off the Charles F. Adams.

The final selection of Version Bravo was effectively settled on 29 June 1961. On that day Admiral Burrell wrote a minute to the Minister of the Navy Senator Gorton, which recommended that the Bravo Version be accepted rather than Suggestion B. Before examining Burrell's rationale it is relevant to quote part of the Defence Minister's statement on purchasing the new destroyers. The Charles F. Adams "can guard against air attacks, is equipped with the latest devices for detecting and destroying submarines, and is equally effective in surface engagements and shore bombardment".

Admiral Burrell's reasons for recommending against Suggestion B were

- The "strategic situation had worsened".
- This situation made it necessary to retain the second 5-inch gun; and
- The inevitable construction delays with Suggestion B were unacceptable.

The strategic situation mentioned was, according to Wallace, the Confrontation crisis with Indonesia. At the time of the DDG decision the Soviet Navy was training an Indonesian crew to man the Sverdlov class cruiser IRIAN. This ship arrived in Indonesia in October 1962, to join a Navy that included five Skory class destroyers. While the validity of Burrell's recommendation is not questioned, it is interesting to consider the important implications the selection of Suggestion B would have had. Some of the effects would have been:

- The RAN would not have been deprived of anti-submarine helicopters at sea from the loss of the MELBOURNE in 1982 until the introduction of the Seahawk helicopter.
- The RAN's anti-submarine capability would have been further enhanced by the introduction of a modern variable depth sonar in the form of the SOS 15; and
- The RAN FFG-7 class ships would have most likely been modified in construction to operate the same helicopter as the DDG and would not have spent up to one third of their operational lives without an anti-submarine helicopter.

The effect on the RAN's current operational capability would have been nothing short of profound.

The Third DDG

On 22 January 1963, it was announced that a third DDG would be built. The purchase of a third ship allowed for one DDG to be always fully operational and also was another step towards the goal of 50% of escorts being fitted with a medium range SAGW. In order to meet the 50% figure it was planned that HMAS VOYAGER would be fitted with Tartar. Following her tragic loss, among the options were a fourth Charles F. Adams or a Brooke class.

The eventual replacement were two additional River class frigates (Swan and Torrens) with HMS DUCHESS as an interim replacement. A fourth DDG was subsequently sought in 1965 to boost escort numbers with the projected return of HMAS DUCHESS in 1968, but this proposal was rejected by cabinet.

The Impact of the DDGs

The impact of the DDGs on the RAN has been considerable and is a large subject in itself. Relevant to their impact was the change of fortunes of the Fleet Air Arm. The Sea Venom fighters were retained in service until 1967 when they were replaced by the Skyhawk fighter. In operational terms the Charles F. Adams class ships:

- Provided the Fleet with a viable defence against jet aircraft and the first generation of anti-ship missiles;

- Introduced modern long-range radars essential for anti-air warfare. This considerably increased the capabilities of organic air-defence provided by HMAS MELBOURNE;

- Increased the operational efficiency of the RAN by the exposure to USN exercise and training facilities, tactics and procedures. It should be noted here that the RAN did not adopt USN practices wholesale but rather modified those appropriate to suit the RAN's British derived organisation;

- Introduced a myriad of modern communications, damage control, gunnery and ASW equipment; and

- Introduced the concept of a modern computer-based logistic support system to the RAN.

Other effects of the DDGs on the RAN are slightly less tangible. As has been the Indian experience with the introduction of Soviet ships into a British originated Fleet, there developed in the RAN almost two Navies. On one side were the DDGs known as the "upperware ships" with their crews conversant not only in USN procedures but also the considerable jargon needed to crew a US built ship. On the other side was the rest of the Fleet on the "steel ships". It would be wrong to overemphasise this split, but it was evident. The division disappeared slowly with crew changes and personnel acceptance of the DDG as a vital element of the Fleet.

The DDGs – Negative Aspects

Although the DDGs have been extremely successful ships in service there have been a number of longer term penalties incurred with their acquisition. This is a largely unexplored area of academic research and evidence is largely circumstantial. For that reason this article will only flag the following points worthy of future exploration:

- The DDGs ended the post-war practice of building destroyers in Australia. In so doing this introduced a boom or bust cycle into Australian shipbuilding;
- The DDG increased the number of overseas weapon systems in the RAN;
- From the time of the DDGs commissioning Australia did not produce another naval weapons system, despite Ikara's success; and
- The DDGs introduced a second (albeit superior) logistic support system which added considerably to Fleet operating costs.

The announcement that the DDGs would be constructed outside Australia was adversely received by some sections of the Australian community and, of course, the trade unions. Senator Gorton defended the decision by pointing to the construction period of over nine years for one of the Daring class destroyers and estimated that construction of a DDG in Australia would take over ten years.

In 1960 Australia was faced with the requirement to rebuild the RAN to operate in the missile age with scarce fiscal resources. The situation which faced Senator Gorton and his naval staff can be compared with that faced by the RAN today. The acquisition of the three DDGs was achieved through a combination of high-level consultations, personal connections, and a pervading sense of urgency. The small band of senior officers involved in the project, supported by Senator Gorton, relied on their professional judgment supplemented by "a feeling in the water" where the former fell short. The well-intentioned hindrances of large project offices, exhaustive evaluations and the committee system, were but a feature of future construction programs.

(this article was first published as a chapter in 1991 book, 'Reflections on the RAN' by T.R. Frame, J.V.P. Goldrick & P.D. Jones.)

CAPTION: Greyhounds of the sea, no longer. From L to R HMA Ships HOBART, PERTH and BRISBANE



The Creswell Oration



By CDRE Jim Dickson, AM, MBE, RAN (Rtd)

On Friday 10 September 2001, 100 guests of the Navy League's Victorian Division heard CDRE Jim Dickson AM, MBE, RAN (Rtd) give the inaugural Australian Navy Foundation Day address, herein known as 'The Creswell Oration'. CDRE Dickson's speech to the audience told of how the Australian Navy is actually 100-years-old and that its birth was not when the term 'Royal' was added to the name.

The sea was a lifeline for the nation a century ago, the maritime environment far better known and understood than it is today and the Navy, its guardian and protector, appreciated, respected and supported in a way it is hard for Australians of today to realise. The sea was the key to international power and influence.



CDRE Jim Dickson, AM, MBE, RAN (Rtd) gave the Navy League's inaugural Creswell Oration.

Notwithstanding the paucity of men-o-war, the Navy was the primary instrument of defence, a fact recognised by populace and politicians (how times have changed).

So, what did Australia have by way of maritime defence assets in 1901? Not much. New South Wales had two decrepit second-class torpedo boats. Victoria had the CERBERUS and five torpedo boats. South Australia had the cruiser PROTECTOR and one torpedo boat. Queensland had two gun boats, one torpedo boat and a picket boat. From the earliest days of settlement Britain accepted responsibility for safeguarding the nation's (and British) interests. The Colonies viewed this with different perspectives and some States, particularly Victoria, made provision for their own maritime forces to cope with localised contingencies.

On 1 March 1901, the Australian Commonwealth Defence Act was passed, transferring the several colonial naval forces and establishments to the Commonwealth.

It was not long before differences in attitude began to emerge between the Federal Parliament and Great Britain over the direction naval affairs should take.

My interpretation from readings of the history of this period is that Britain was keen to retain control and was happy as long as Australia developed a Navy which was a microcosm of the RN, whereas even in these early days,

there were those here who wanted Australia to develop an independent stance. In British eyes Australian branches of the Royal Naval Reserve should be formed. Recruits to the permanent force would do their new entry training in HMS PSYCHE and their advanced training in HMS CHALLENGER before being drafted to ships of the Commonwealth Naval Forces.

The Commonwealth Defence Act 1903, came into operation on 1 March 1904, and Australian Commonwealth Naval Forces were administered by the Commonwealth collectively. The various Naval Brigades were disbanded and a Commonwealth Naval Forces Militia, forerunner of the RANR, was born.

A 1905 Act allowed the establishment of an Australian Naval Board of Administration with Captain W. R. Creswell as Director. It had central command and control of the 12 ageing Australian naval force vessels. Captain Creswell proposed a local squadron of three 3,000 ton cruiser/destroyers, 16 destroyers and 13 torpedo boats within five years, plus the manufacture of the necessary munitions in Australia.

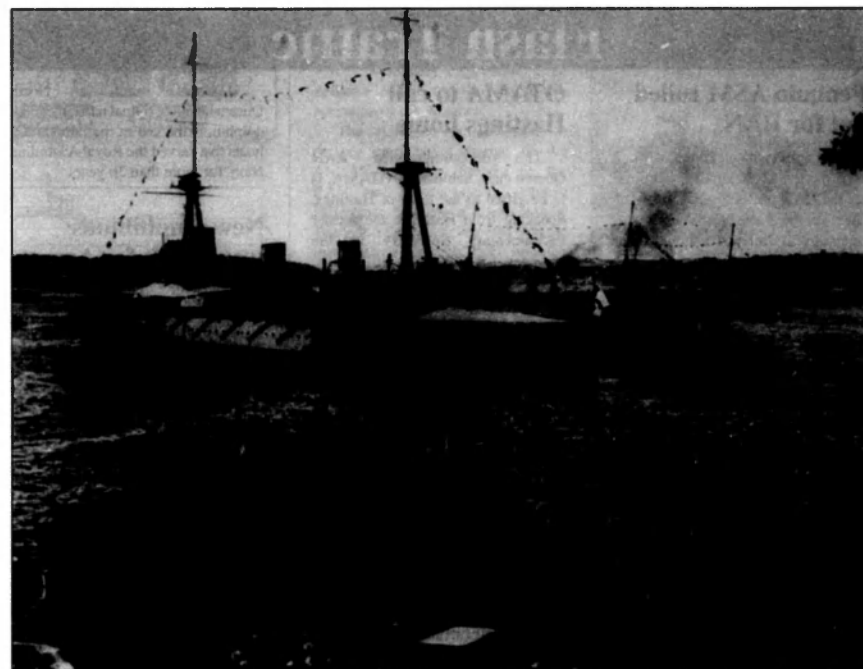
Some politicians of vision, notably Alfred Deakin and Andrew Fisher, supported Creswell in his desire to establish a naval force independent of the Royal Navy, able to safeguard the Commonwealth's interests in its own right. Others were happy to leave the responsibility to the Royal Navy and see the Commonwealth's meagre economic resources used for the development of matters other than defence. It is interesting to note that New South Wales, which had always enjoyed protection from the Royal Navy, was very happy to continue to rely on the mother Navy.

In 1907, Creswell submitted revised proposals for a flotilla of nine first class torpedo boats and six submarines but could not get the Australian Government to agree although Prime Minister Deakin put aside sufficient funds to build the boats if and when parliament finally agreed.

In 1908, Andrew Fisher replaced Alfred Deakin as Prime Minister and ordered the first two destroyers built in England, CNS PARRAMATTA and YARRA, which arrived in Australia in 1910. In the following year His Majesty King George V consented to naval forces of Canada and Australia having the prefix Royal.

That Australia moved with increased momentum from 1911 onwards proved very fortuitous – but it in no way justifies the fact that the years of frustrating endeavour between 1901 and 1911 have been virtually banished from the nation's naval history.

Alfred Deakin and Andrew Fisher, Prime Ministers several times in the first decade of the Commonwealth, were both very strong advocates of the development of an independent national defence capability (i.e. what we now call self-reliance).



The Battlecruiser HMAS AUSTRALIA in Sydney Harbour for the first time. Many believe that the conferring of the title 'Royal' to the Australian Navy was actually its birth date. However, this view of history is changing.

At the time of Federation, William Rooke Creswell, was Naval Commandant of Queensland yet as early as 1899 he had gone on record advocating the centralising of the States Naval Brigades under a national authority. He grew in influence and gave frequent voice to his opinions in the early years of Federation. One can only look back with awe and amazement that one man could survive for 14 years the innumerable changes of political masters and the bureaucratic in-fighting which must have attended the nation's early years as the competing factions jostled for a share of the meagre resources available. When he retired in 1919, after eight years as the Royal Australian Navy's first chief of Naval Staff, he had set the Navy on a very firm course. Photos and images of Rear Admiral Creswell portray him as severe and autocratic, but Australia owes a great deal to this man who has been seriously 'under-celebrated' by the service to which he gave so much.

It can hardly be regarded as surprising if Australians do not generally know that their Navy is 100-years-old in 2001. For the service has been less than vigorous in making this fact known and I think it is likely that many of those, interested in such matters, see this year as its 90th birthday. How and why has this come about? I suggest there are several reasons.

First, the silent service syndrome was a very real factor in days gone by.

Secondly, the Australian Navy aped its parent unbelievably for the first-half of last century – well into the 1950s. It is only when one grows up and realises the opportunities missed that one reflects on how idiotic it all was.

Thirdly, by the last-quarter of the 20th century there was a need to take every opportunity to gather publicity wherever one could. This was one factor which led to the concept of the fleet review in Sydney Harbour in 1986, billed and put before the public as the 75th Anniversary for the RAN.

This belief that the Australian Navy's history began in 1911, as well as being inaccurate and misleading, is in my view an insult to those who laid the foundations of the service from 1901 through 1910 and fought the bureaucratic battles which enabled the service to play the significant part it did in World War I, which broke out so soon thereafter.

Of the Navy's effort in that conflict, Billy Hughes, the then Prime Minister, said that "but for the Navy, the great cities of Australia would have been reduced to ruins, coastwise shipping sunk and communications with the outside world cut off."

(a full version of this speech is available from the NLA Web page: www.netspace.net.au/~navyleag).

Flash Traffic

Penguin ASM rolled out for RAN

The first operational Penguin Mk 2 Mod 7 Anti-Ship Missiles acquired for the RAN under Project Sea 1414 have been delivered to the RAN at a ceremony at Defence Establishment Orchard Hills, NSW.

The Penguin Missile will be fitted to the RAN's Super Seasprite helicopters, and will act as a significant offensive weapon for the ANZAC class of ships.

Delivery of the missiles is expected to be completed by September 2003.



A Penguin Mk 2 Mod 7 Anti-Ship Missile. The Penguin missile will fill a void in the family of RAN weapon systems, particularly in the tough littoral environment, not seen since the loss of the fixed wing Fleet Air Arm (Mark Schweikert)

Commander Australian Naval Aviation Group, Commodore Keith Eames CSC, said the Navy was looking forward to having the capability provided by the Penguin Mk 2 Mod 7 Missile.

"It will be effective and potent across all the areas of RAN operations. The fact that we can target the missile, and 'fire and forget', as the jargon goes, from a range in excess of 30 kms makes it extremely valuable and desirable to our aircrew.

"Weapons with the degree of sophistication in the Penguin, able to be launched from a low speed launch vehicle such as a helicopter, with the range and hitting power that this missile has, are few and far between.

"Coupled with performance that is optimised for a countermeasure-rich littoral environment, it is clear that the RAN has acquired an outstanding new capability".

OTAMA to call Hastings home

The decommissioned RAN Oberon class Submarine, OTAMA, is to be gifted to the town of Hastings. Speaking from Hastings, the former Parliamentary Secretary to the Minister for Defence, Dr Nelson, recognised the 'passionate enthusiasm' of the Western Port Oberon Association, which had been supported by a detailed three-volume submission. The Association will pay \$50,000 for the submarine.

Although Hastings was the only bidder for this remarkable piece of Australian naval history, it was subjected to rigorous examination by a panel within Defence, headed by Commodore Denis Mole, a former Captain of OTAMA.

"I can think of no finer place for it to be displayed for the education and enjoyment of future generations of Australians" he said.

"In this centenary of federation year, it is appropriate that \$500,000 of Defence federation funds be committed to this project as a means of preserving Australia's finest submarine heritage in a community that has worked so hard to acquire it", said Dr Nelson.

Dr Nelson said that \$500,000 will be granted to the Western Port Oberon Association to assist it with the considerable costs of towing OTAMA from HMAS STERLING in Western Australia and moving it onto its waterfront land-based display.

Mr Max Bryant, President of the Western Port Oberon Association, received from Dr Nelson OTAMA's Bell and Clinometer as the first symbolic handing over. The submarine will be the centrepiece of a Naval Memorial Park.

"Securing OTAMA has given Hastings the centrepiece for a world class tourist attraction", said Mr Bryant. "It will not only ensure the memory of HMAS OTAMA will be preserved but will create significant employment and business opportunities in the Hastings area in addition to increasing tourism on the Mornington Peninsula".

OTAMA, with a North Queensland Aboriginal name meaning dolphin, is the last of the famous 'O' boats that served the Royal Australian Navy for more than 30 years.

New amphibious watercraft for Army

Newcastle shipbuilder ADI Limited has been selected as the preferred tenderer to build six Amphibious Watercraft for the Australian Army.

The acquisition and set up cost of the project is approximately \$30 million dollars. The through life support costs will be an additional \$15 million dollars (approx). The project will create 40 jobs in the Newcastle area.

The Watercraft are lightweight, but extremely strong, vessels powered by two diesel engines and waterjet propulsion.

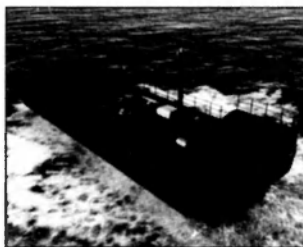
They will be carried on the decks of the RAN's transport ships HMAS MANOORA and KANIMBLA.

The Watercraft will provide the Australian Army with an important new capacity to move tanks, vehicles, soldiers and supplies to a beach in a significantly shorter time than can presently be achieved.

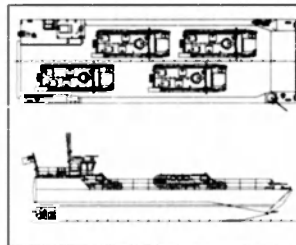
ADI tendered its own design of an aluminium Watercraft which was a clear winner, with its very large carrying capacity and shallow draught.

Defence and ADI will now enter into contract negotiations to finalise the contract.

The first Amphibious Watercraft will enter service in early 2003.



Newcastle shipbuilder ADI Limited has been selected as the preferred tenderer to build six Amphibious Watercraft for the Australian Army. (ADI)



Two line drawing views of ADI's successful watercraft vessel for the RAN. The four vehicles depicted are the Army's Bushranger armoured vehicle, also made by ADI. (ADI)

Greece frigate transfer deal completed

Greece has taken over a fifth Kortenaer-class frigate from the Netherlands under USS38m agreement signed in Athens in June of last year.

The transfer of the ship, the former HrMs PIETER FLORISZ (F-826), includes a training and spare parts package (incorporating at least one spare Rolls-Royce Tyne gas turbine engine). It brings the total of Kortenaer-class frigates operated by the Hellenic Navy (HN) to seven (two vessels were procured new back in 1980-81).

The ex-Netherlands ship, to be renamed HS BOUBOLINA, is to arrive in Greece by the end of this year.

ANZAC Class in-service enhancements formalised

The Australian Government, Tenix Defence Systems and Saab Systems have signed the ANZAC Ship Alliance Contract to provide for in-service enhancements to the ANZAC Class. Ten Anzac Class frigates have been ordered, eight for Australia and two for New Zealand.

Under a Master Alliance Agreement the three participants will form a joint Alliance Management Team which will be eventually collocated in Western Australia with the ANZAC Ship System Project

Office. An Alliance General Manager will be ultimately responsible to an Alliance Board for the day-to-day operation of the Alliance.

The Alliance is designed to deliver responsive change to the ANZAC Class as directed by the RAN, and to consistently achieve better than business as usual results. Tenix and Saab were selected to enter the Alliance through their ongoing commitment to the ANZAC Ship build project and their current activity under the respective Platform and Combat System In-Service Support Contracts.

Individual projects will be developed under separate Project Alliance Agreements having the same basic terms and conditions as the Master Alliance Agreement. Initial tasks, which will be managed by the Alliance, include the Underwater and Surface Warfighting Upgrade Project (USWUP), communications projects and other platform and combat system tasks directed by the RAN. Once approved, the Alliance will also manage the ANZAC Ship Anti-Ship Missile Defence (ASMD) upgrades foreshadowed in the Defence 2000 White Paper.

F-124 SACHSEN at Sea

After the successful testing of navigation systems off Helgoland, the first-of-class F-124 frigate, SACHSEN, continues her yard trials in the Skagerrak.

The yard trial comprises an extensive programme with a main focus on the marine equipment. In addition, first tests of the command and weapons control system are being carried out.

Besides the propulsion plant, most of the other marine systems have been successfully tested. During the testing of the command and weapons control system - using Tornado fighters and helicopters of the Federal German Navy - the newly developed long-range radar SMART-L reliably detected numerous air targets within a radius of 400 km and the newly developed APAR radar produced excellent results as well.



The first-of-class F-124 frigate, SACHSEN, on sea trials. The new air warfare frigate employs the newly developed long-range radar SMART-L and APAR radar and is a likely contender for the RAN's SEA 4000 project.

Around 250 men are on board including the yard's crew, representatives of the acceptance commission and 53 sailors of the first crew of the SACHSEN who are familiarising themselves with the ship in the course of the trials.

With a displacement of 5,600 tonnes, the largest combat vessel of the Federal German Navy, SACHSEN has attracted much interest from both German and foreign Navies.

USS COLE afloat again

The USS COLE (DDG-67) has been re-launched at the Northrop Grumman Corporation's Pascagoula shipyard in the US.

The USS COLE, crippled in a terrorist attack in the Port of Aden, Yemen, on Oct. 12, 2000, returned to her construction shipyard on the deck of the Norwegian heavy lift ship BLUE MARLIN in December 2000 (see THE NAVY Vol 61 No.4). It was moved onto land in January into a construction bay near where it was originally built.

Capt. Philip N. Johnson, USN, supervisor of Shipbuilding, Pascagoula, said that work to date aboard the USS COLE has consisted of more than 550 tons of steel structural repairs to replace the damaged area's exterior plating. He added that the re-launching of COLE represents completion of all structural repairs and restoration.

Other completed work includes the replacement of damaged and unserviceable equipment, and removal, evaluation and re-certification of critical systems such as shafting and propellers. The repair process is moving along as scheduled.



The repaired and re-fitted USS COLE. Her return to service, particularly in the Middle East, will serve as a demonstration of US pride and resolve against terrorism. (USN)

Following the re-launch, work will be completed on component system assemblies, alignment of machinery, energising, testing and alignment of all systems, and completion of logistics and supply support outfitting. USS COLE will then be turned over to the crew for training and re-certification.

COLE is expected to return for duty at her homeport and with the fleet by April 2002.

Taiwan announces order for Kidd-class

The Republic of China (Taiwan) has formally announced its intention to accept the four US Kidd-class guided-missile destroyers (DDG) offered by the US.

The decision still requires ratification by the legislative Taiwanese Yuan, but it is unlikely the decision will be reversed. The DDGs are likely to be delivered within three years once the procurement process has been completed, with funding fitting the 2003 budget.

Minister of National Defence Wu Shih-wen said the Kidd was evaluated from the viewpoints of national combat strategy - including the "offshore engagement" policy, threats from mainland China, logistical demand and efficiency. Their acquisition partially responds to the threatened cross-Strait military imbalance, which some analysts predict after 2005. Training requirements for 339 personnel per ship, plus maintenance costs, are

likely to be very expensive at a time when Taiwan is suffering from a serious financial downturn. This has prompted criticism of costly military procurements among some legislators.

The Minister of National Defence is also faced with considering where to berth the ships, which are far bigger than other vessels in the Taiwanese fleet. Taipei announced in April 01 plans to expand Tsingyong Naval Base to accommodate large destroyers although the ports at Suao, Makung and Keelung already have this capacity.

The Minister of National Defence sees the Kidd as a counter to mainland Chinese threats of a naval blockade or an amphibious invasion.

Taiwan is also pushing the USA for the right to build the eight diesel submarines the US Department of Defense promised to deliver, according to the Taipei Times newspaper.

However, many within the defence industry in Taiwan have strong reservations that state-run China Shipbuilding Corp (CSBC) has the capability to build a highly complex platform. Besides the USA, no other country has agreed to provide diesel submarines to Taiwan.

China's extra Sovremennys in jeopardy

Problems are threatening China's proposed acquisition of two additional

Sovremenny-class destroyers from Russia to supplement the two existing ships.

Beijing signed a contract in September 1996 for two Sovremenny destroyers, the first of which was delivered in February 2000 and the second a year later. These were unfinished hulls originally laid down at the North Yard in St Petersburg in the late 1980s, and some sources suggest that deleted Russian units of the class may have been cannibalised for some equipment.

Talks involving a second batch of two Sovremennys for the Chinese People's Liberation Army/Naval (PLAN) became known two years ago (see *THE NAVY* Vol 62 No.3). These have yet to produce any result, although negotiations over the first contract were protracted.

Sources familiar with Russia's shipbuilding industry say the delay reflects technical problems rather than any disagreement over cost, financing or weapons fit. Moscow is unable to build new vessels of this type, and China is hesitating to obtain second-hand ships.

Russia built 17 Sovremenny-class destroyers for its own use, including 14 of the Type 956 model and three of the Type 956A model. Seven remain operational, including the three Type 956A, and 10 have been decommissioned or are non-operational. One other hull sits unfinished. The first Type 956 destroyer was commissioned in 1980 and the first Type 956A in 1993, but China's preference is for a newer design.

First Super Hornet delivered

Boeing has delivered its first full-rate production F/A-18E/F Super Hornet to the US Navy. It is the first to be equipped with the Joint Helmet-Mounted Cueing System, which allows aircrew to visually guide weapons and sensors. The system also enables users to track and attack targets more quickly.

Dutch destroyer DE RUYTER decommissioned

The Royal Netherlands Navy (RNLN) decommissioned its flagship HrMs DE RUYTER (F 806) on 3 October 2001. The ceremony marked the end of active service for the two distinctive-looking 4,500-tonne Tromp-class guided missile frigates (HrMs TROMP and DE RUYTER), which were affectionately called the 'Kojak class' because of the characteristic radome that covered the massive 3D 'Broomstick' air surveillance radars designed by Signaal (now Thales Naval Nederland) in the early 1970s.

TROMP (which was paid off last year), DE RUYTER and two Kortenaar-class frigates will be replaced by four 6,000-tonne LCF-type air defence and command frigates named DE ZEVEN PROVINCIE, TROMP, DE RUYTER and EVERTSEN. The first of these is now on sea trials and is due to be commissioned in March 2002.

A buyer for the two Dutch air defence ships is still being sought.



The Dutch decommissioned flagship HrMs DE RUYTER. A buyer for HrMs DE RUYTER and her sister TROMP, both air defence ships, is still being sought.

Russia eyes Ukraine cruiser

Russia is reported to be looking to buy the Project 1164 cruiser UKRAINA, currently lying unfinished at the 61 Kommuna shipyard in Mykolayiv, Ukraine. The ship is 95% complete, but the Ukrainian Ministry of Defence is



The Ukraine Slava class cruiser UKRAINA, on sea trials during the mid 90s.

unable to find the remaining US\$28 million required to finish construction.

Laid down in 1983 for the then Soviet Navy, UKRAINA (ex-ADMIRAL LOBOV) is the fourth Project 1164 Slava-class cruiser to be built at the 61 Kommuna yard. Of its three sister ships, MOSKVA (ex-SLAVA) is flagship of the Russian Black Sea Fleet, MARSHAL USTINOV serves with the Northern Fleet, and VARYAG (ex-CHERVONA UKRAINA) with the Pacific Fleet.

Although launched in 1990, UKRAINA's fitting out has been protracted as a result of disputes over the division of the former Soviet Black Sea Fleet between Russia and Ukraine, and latterly by Ukraine's inability to fund the vessel's completion (the ship was in fact transferred to Russia in 1995 but then taken back by Ukraine in early 1999). Shipyard managers at 61 Kommuna insist the ship will not be sold. Chief designer Mykhaylo Zhelo said that the Ukrainian Government had made a commitment to UKRAINA's completion, and that talk of the ship being sold was just rumours.

However, the mayor of Mykolayiv, Volodymyr Chayka, who recently returned from a visit to Moscow, claimed that the Russian Government was seriously considering the purchase of the UKRAINA. Chayka added that the cruiser's role as a major blue water combatant is not consistent with the 'regional containment and peacekeeping' role for which Ukraine's forces are being geared.

Royal Malaysian Navy orders Sea Skua

Matra BAe Dynamics (MBDA) has been awarded a contract by the government of Malaysia to supply the Sea Skua anti-ship missile system.

The missile systems will be introduced into service on the Royal Malaysian Navy's six Agusta Westland Super Lynx helicopters to be deployed from the Lekiu class frigates, recently delivered to the Royal Malaysian Navy by BAE Systems.

Sea Skua is an advanced all-weather day/night sea-skimming anti-ship missile system currently in service with the RN and a number of other navies throughout the world, including Brazil, Germany, Kuwait, South Korea and Turkey.

With its semi-active radar homing capability, Sea Skua has demonstrated a very high hit probability, reliability and low life-cycle costs in operational service with the Royal Navy.

Lightweight and easy to use, helicopter-launched Sea Skua, together with Super Lynx, provides a highly credible capability for the Royal Malaysian Navy's new frigates and is proven to be ideally suited to operations in both open oceans and littoral waters. The Super Lynx can carry a number of these missiles and can fire them either individually or rapidly in a ripple salvo.

The launch helicopter radar detects, tracks and illuminates the target and the aircrew need only select the target and the terminal sea-skimming altitude. Thereafter the missile automatically locks on to the selected target and requires no further aircrew intervention after launch. The system combines highly accurate guidance with devastating terminal effects.

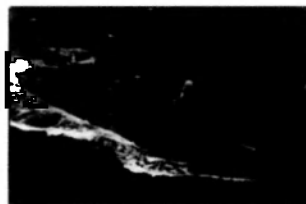
Seawolf missile to be updated

The RN will spend approximately £600 million (US\$850m) on enhancements to the Vertical Launch Seawolf point-defence missile

systems aboard its Type 23 frigates under a series of interrelated efforts. These include the mid-life update (MLU) contract awarded last year, the purchase of additional (Block II) rounds and updates to the associated shipboard systems.

The Mk4 Seawolf Enhanced Low-Level (SWELL) dual-mode (radar/infrared) fuze is due to enter service this year. The MLU includes improvements to the tracker radar processing and the addition of an electro-optical (EO) tracking channel, both of which are intended to enhance performance against low-level targets. Alenia Marconi Systems is integrating the EO channel, using sensors supplied by SAGEM.

Block II missiles, due for service entry in 2004-05, will have essentially the same performance as Block I rounds with the dual-mode fuze. Several obsolescent components are being replaced, however, and the missiles will be very much cheaper



HMAS ADELAIDE is one of three RAN frigates assigned to the war on terror.

to manufacture. Component and subsystem miniaturisation will also provide the potential for substantial manoeuvrability improvements and new payloads.

ADF joins War On Terror

Three RAN frigates, one LPA and assigned flights of Seahawk and Sea King helicopters are just part of the ADF's contribution to the War on Terror as a result of the vicious attack on the US in September of last year.

Surprisingly, the RAN is by far the largest contributor of personnel and equipment to the war with three warships and LPA plus Seahawk and



HMAS KANIMBLA a few weeks before her departure for the Middle East. Her role is yet to be defined (Brian Morrison, Warships & Marine Corps Museum Int)

Sea King helicopters and their crews.

HMAS SYDNEY is already on patrol in the Persian Gulf to enforce UN sanctions against Iraq.

HMAS KANIMBLA and ADELAIDE, are also in theatre somewhere in the Indian Ocean.

At the time of printing the identity of the third frigate and her departure date were yet to be finalised.

The Prime Minister, Mr Howard announced the RAN's Middle East commitments on October 17.

Around 1,550 ADF personnel in total are involved.

Approximately 900 of them are from the RAN.

Mr Howard told the nation, "the Governments of Australia and the United States have consulted further about our commitment to support the international coalition against terrorism.

He continued, "Australian forces will operate under Australian national command and in support of the coalition, and in operational taskings will be placed under the operational control of the appropriate coalition commander for agreed tasks.

"I wish to confirm that the Government has decided to make



The RAAF has deployed two B-707 aerial refuelling tankers and four F/A-18 Hornets. Some however, will be joining the front line battle (RAAF)

available to the coalition by deploying overseas the following military forces:



The RAAF has also deployed two P-3C Orions to the War on Terror. What their role will be in what is shaping up as a land war is unknown.

- Two RAAF Orions.
- Australian special forces detachment in conjunction with coalition force commanders.
- Two RAAF 707 air-to-air refuellers.

"In addition we will continue to maintain the presence of one guided missile frigate to support the Multinational Interception Force implementing UN Security Council resolutions.

"It is possible that, after consultation, the tasks assigned to HMAS SYDNEY may extend beyond the current interdiction duties.

The Prime Minister said that the four RAAF Hornets provided will conduct air defence support for coalition forces based in the Indian Ocean.

"These deployments, in addition to our current operations in East Timor and elsewhere, will add to the operational tempo of the Australian Defence Force but I am satisfied, on the advice of the Chief of the Defence Force, that the deployments are within the capability of the ADF without jeopardising the capabilities required for other tasks," Mr Howard said.

Canada contributes to War on Terror

As part of Canada's contribution, Maritime Forces Pacific has been tasked to provide HMCS VANCOUVER with an air detachment from 443 Sqn to join a United States Navy Battlegroup.

Canada will also send four other warships in addition to HMCS HALIFAX, currently operating with NATO. This will be an East Coast Task Group consisting of one frigate, one destroyer and one replenishment ship including air detachments. HMCS HALIFAX is being withdrawn from NATO standing force Atlantic and ordered to the Persian Gulf. In addition, Canada will contribute two C-130 Hercules aircraft, two aurora surveillance aircraft and one Airbus. The total Canadian contribution will be approx 2000 personnel.

US Navy drops DD-21, announces new programme

The US Navy will issue a revised Request for Proposal (RFP) for the Future Surface Combatant Program. Formerly known as DD-21, the programme will now be called 'DD(X)' to reflect the programme purpose more accurately, which is to produce a family of advanced technology surface combatants, not a single ship class.

The US Deputy Secretary of Defense, Paul Wolfowitz, approved the revised programme focus and reaffirmed the Department's support for the Future Surface Combatant Program.

"President Bush has made transformation of the Department of Defense a high priority. Through DD(X), the Navy has charted a course to transformation that will provide capability across the full spectrum of naval warfare. The Navy's strategy supports assured access to littoral regions and also develops the capability to defeat the air and missile defence threats the nation's naval forces will face in the future."

US Under Secretary of Defense for Acquisition, Technology and Logistics, Pete Aldridge, said that

"the new programme focus and new RFP would enable the Navy to fully leverage the great work already done by the two industry teams, continue risk mitigation measures and permit appropriate spiral development of technology and engineering to support a range of future surface ships

to meet our Nation's maritime requirements well into the 21st century. The DD(X) programme will be the technology driver for the surface fleet of the future".

"With the approval of this strategy, the Navy has defined its surface combatant roadmap for the future in a manner which ensures all maritime missions can be accomplished. Through DD(X), we are taking a significant step toward providing improved combat capability for our Sailors and Marines," said Navy Secretary Gordon England.

Chief of Naval Operations ADM Vern Clark said the DD(X) programme reflects an awareness that effectively defeating future threats, while accomplishing naval missions, will require a range of naval capabilities and different surface platforms.

"One size fits all will not work on the future battlefield," Clark said. "We must continue to exploit the robust R&D effort made on DD-21 even as we focus our research and technology funding of other approaches such as the Littoral Combat Ship concept".

The DD(X) programme will provide a baseline for spiral development of the DD(X) and the future cruiser or 'CG(X)' with emphasis on common hullform and technology development. The Navy will use the advanced technology and networking capabilities from DD(X) and CG(X) in the development of the Littoral Combat Ship with the objective being a survivable, capable near-land platform to deal with threats of the 21st century. The intent is to innovatively combine the transformational technologies developed in the DD(X) programme with the many ongoing R&D efforts involving mission focused surface ships to produce a state-of-the-art surface combatant to defeat adversary attempts to deny access for US forces.

The revision of the programme is based on the Navy's continued careful examination of DD-21 as it reached the source selection milestone this past spring. At that time, the Navy delayed the down-select decision between the two competing DD-21 teams in order to take advantage of ongoing reviews being conducted in

the Department of Defense, including the Quadrennial Defense Review.

US approves Harpoon Block II to UAE

The US Department of Defense has approved the sale of 12 Boeing RGM-84L Harpoon Block II anti-ship missiles (see *THE NAVY* Vol 63 No 4) to the United Arab Emirates (UAE). The deal, worth about US\$40 million, would be conducted under the DoD's Foreign Military Sales programme. The missiles will equip the UAE's two Kortenaer-class frigates, ABU DHABI and AL-EMIRAT

India to lease 'Backfire'

The Indian Navy (IN) is to lease four Russian aircraft to counter neighbouring Pakistan's P-3C Orion and Atlantique 1 maritime patrol aircraft and to bolster its assets in the Indian Ocean region.

The Indian Government is also negotiating with Russia to upgrade its eight Tu-142M (Bear-F) maritime patrol aircraft by equipping them with anti-ship missiles, advanced navigation equipment and an electronic warfare system that would link each aircraft with the country's proposed nuclear command centre. The Tu-142s are likely to be fitted with the Sea Dragon anti-ship warfare system, anti-submarine missiles and the GOES 321 day/night pilot and observation system. The contract is estimated to be worth US\$500 million.

Defence Minister George Fernandes said India might soon finalise the purchase of the 44,500-tonne Soviet-built aircraft carrier ADMIRAL GORSHKOV, being offered for the price of its refit estimated at around US\$740 million. India had signed an agreement for the carrier during Russian President Vladimir Putin's visit in 2000 but bureaucratic delays and price negotiations delayed the final agreement (Jane's Defence Weekly 11 October, 2000).

Fernandes said Russia is India's most reliable ally since it provided vital equipment during the 1999 border war with Pakistan in Kashmir.

Protection for RN sunken warships

The Protection of Military Remains Act was passed in 1986. But its application to wrecks and sea graves has not previously been enforced. Following extensive consultation with both veterans' associations and the diving community, some wrecks will be designated Controlled Sites, with all diving prohibited without a specific licence, or Protected Places, where diving will be permitted but on a strict "Do Not Touch" basis.

An initial sixteen wrecks, in waters under UK jurisdiction, will be designated Controlled Sites and five in International Waters will be



The Type 21 frigate HMS ARDENT sunk in San Carlos after being hit by multiple bombs and rockets on 21 May 1982 off the Falklands. 22 lives were lost. Her current resting site will be given protection under the UK Military Remains Act of 1986. The application of the Act to cover wrecks and sea graves has not previously been enforced.



HMS ROYAL OAK was sunk at anchor in Scapa Flow on 14 October 1939 by U-47 with the loss of 833 lives. She too is to be protected from artefact hunters.

The sixteen wrecks to be designated as Controlled Sites are:

- **HMS A7.** One of the first class of Royal Navy submarines, she failed to surface during a dive in Whitland Bay on 16 January 1914. All 11 aboard were lost.
- **HMS AFFRAY.** A submarine lost to an unknown accident in 1951 off the Isle of Wight, with all 75 crew.
- **HMS BULWARK.** A battleship, she blew up at anchor at Sheerness on 26 November 1914, with the loss of 730. Faulty ammunition is believed to have been responsible.
- **HMS DASHER.** An escort carrier, she was lost 27 March 1943, after an accident caused a catastrophic fuel explosion during operational training in the Clyde. 379 lost their lives.

- HMS EXMOUTH. A destroyer, sunk by a U-boat in the Moray Firth on 21 January 1940, with the loss of 189 lives.

- HMS FORMIDABLE, A battleship, sunk off Devon with the loss of 547 men, by a U-boat on 30 December 1914.

- HMS H5. Sunk in collision on 6 March 1918, off Anglesey. Those lost included a US naval officer.

- **HMS HAMPSHIRE.** An armoured cruiser, sunk by mine 5 June 1916, off Scapa Flow whilst taking Lord Kitchener to a meeting in Russia. He was among the 650 who were lost.

- **HMS NATAL.** An armoured cruiser which blew up in Cromarty Harbour with the loss of 421 officers and men, after a fire spread to a magazine.
 - **HMS ROYAL OAK.** A battleship, sunk at anchor in Scapa Flow on 14 October 1939, by U-47 with the loss of 833 lives.
 - **HMS VANGUARD.** A battleship, she blew up on 9 July 1917, at Scapa Flow. There were only three survivors from the 670 aboard. The cause of the blast was never ascertained.
 - **HMS SHEFFIELD.** A Type 42 destroyer, hit by an Exocet missile on 4 May 1982, off the Falklands, twenty losing their lives. The ship finally sank on 9 May 1982.
 - **HMS COVENTRY.** A Type 42 destroyer, sunk by bombs off Pebble Island in the Falklands on 25 May 1982. Nineteen lives lost.
 - **HMS ANTELOPE.** A Type 21 frigate, hit by bombs on 23 May 1982, in San Carlos Water, Falklands. The bombs failed to explode on impact, but one detonated whilst being defused. Two lives were lost.
 - **HMS ARDENT.** A Type 21 frigate, sunk after being hit by multiple bombs and rockets on 21 May 1982, off the Falklands. 22 lives were lost.
 - **A German U-boat.** The German Government has been invited to nominate a U-boat sunk in British waters to be classified as a Controlled Site.
- The five wrecks to be designated Protected Places are:
- **RFA SIR GALAHAD.** A Royal Fleet Auxiliary landing ship, hit by air attack off Fitzroy in the Falklands on 8 June 1982, with the loss of 50 lives.
 - **HMS GLOUCESTER.** A cruiser sunk off Crete on 22 May 1941 by dive-bombers with the loss of 736.
 - **HMS HOOD.** Battlecruiser, famously destroyed in action against BISMARCK and PRINZ EUGEN in the Denmark Straits on 24 May 1941. 1,418 lost, only three crew members surviving.

- HMS PRINCE OF WALES. Battleship, sunk by Japanese aircraft off Malaysia on 10 December 1941.
- HMS REPULSE. Battlecruiser, sunk in company with PRINCE OF WALES.

Lockheed Martin team gets JSF contract, F-35 to fly

Lockheed Martin and its partners Northrop Grumman and BAE SYSTEMS have won the Multinational JSF contract beating a rival team headed by Boeing. The Pentagon announced that the team's X-35 would be the chosen design for the next stage of the JSF programme, designated System Development and Demonstration (SDD), in a contract worth US\$19 billion. All told the programme is valued at around US\$225 billion. The first F-35 should roll off the production line and into service in 2008.

The programme will deliver a number of variants of the basic airframe. These consist of a conventional take off and landing aircraft, a controlled take off and landing and a vertical/short take off and landing variant. Customers include the USAF, USN USMC, RN and RAF. The F-35 will replace F-16, A-10, F/A-18 (except the F/F model), AV-8B, Sea Harrier and the GR5/7 Harrier.



A cut-away of the STOVL version of the newly named F-35.

In a further, contractual announcement the Pentagon revealed that Pratt & Whitney have been engaged in a US\$4 billion process to develop the F135 propulsion system for the JSF. A second contract is soon to be signed for a separate team from General Electric and Rolls-Royce. The two teams will develop, in competition, engines that can be interchangeable for all JSF variants.

The JSF represents the future of the manned fighter internationally. In addition to the USA/UK contribution, Denmark, Norway, the Netherlands, Canada and Italy are on board as co-operative partners, with Singapore, Turkey and Israel as foreign military sales agents.

US Navy Remembers

A father wrote to the US Navy asking them to remember his daughter. Colleen Ann Meehan Barkow, who died in the World Trade



Lockheed Martin has won the JSE competition with its X-35 entrant now known as the F-35. (USAF)

Center on September 11, 2001. The US Navy did. The crew of the aircraft carrier **CARL VINSON** wrote her name on a laser-guided bomb before it scored a bull's-eye on an enemy target in Afghanistan. The ship's public affairs officer e-mailed the father a note and a picture of the signed ordinance.

(From the Washington Times,
November 2, 2001, Pg. 10)



"To Osama Bin Laden with love. Signed US Navy" (USN)

STENNIS CBG enroute to Operation Enduring Freedom

The USS JOHN C. STENNIS aircraft carrier battle group has deployed in support of Operation Enduring Freedom.

The US National Command Authority has accelerated the deployment, originally scheduled to begin in January of 2002, as part of efforts to manage long-term participation of naval forces in the global war on terrorism. The ability to deploy to points around the globe on short notice highlights the inherent flexibility of naval forces. The US Navy has played a central role in Enduring Freedom since the operation began. Naval forces will remain on station as long as their power projection capabilities are required.

The Stennis battle group deployment involves 10 ships and submarines, over 80 tactical aircraft and approximately 8,500 Sailors and Marines.

Ships and submarines in the battle group are:

USS JOHN C. STENNIS (CVN 74). USS PORT ROYAL (CG 73). USS LAKE CHAMPLAIN (CG 57).

USS DECATUR (DDG 73), USS ELLIOT (DD 967), USS JARVIS (FFG 31), HMCS VANCOUVER (FFH 331), USS JEFFERSON CITY (SSN 759), USS SALT LAKE CITY (SSN 716), USS BRIDGE (AOE-6)

It can be expected that the deployed RAN units, HMAS KANIMBLA, SYDNEY and ADELAIDE will work in conjunction with the STENNIS CBG from time to time.

ANZAC earns high praise

Senior United States defence officials have given HMAS ANZAC the highest praise for her commitment and professionalism during her time in the Gulf since July 01.

General Franks, Commander in Chief, United States Central Command, said "ANZAC is uniquely versatile and well-versed in all facets of boardings. Her performance contributed directly and substantially to 268 sanctioned boardings and record lows for oil smuggling.

"ANZAC's successful execution of every assigned mission during this deployment was due in a large part to unparalleled allegiance, steadfast devotion to assigned duties and responsibilities, and the superb combat readiness of the Royal Australian Navy".

Vice Admiral Moore, Commander United States 5th Fleet, said "I salute ANZAC's hard work, dedication, and selfless service. It has been an honour and a pleasure serving beside the professionals in HMAS ANZAC".

"ANZAC's superb combat readiness and outstanding performance exemplified the historic traditions of the Royal Australian Navy".

The guided missile frigate HMAS SYDNEY has already replaced ANZAC in the Gulf and commenced operations enforcing sanctions against Iraq.

Navy League Meets

On Friday 16 November 2001, the Navy League's State and Federal executives met in Canberra for the League's Annual General Meeting. The AGM started with an interesting

brief by the Chief of Navy, Vice Admiral David Shackleton and a number of his senior staff, about the state of the RAN today and its future. After that was done it was down to business with State Presidents/representatives giving reports on their State's activities for the past year.

The next day saw a number of motions discussed. The League's Policy Statement (located at the end of every issue of *THE NAVY*) was altered to recognise the need for organic fleet air defence, capable sea going patrol boats and Precision Guided Munitions. A further motion saw League support for the acquisition of the Global Hawk UAV for maritime surveillance tasks. The NSW Division also tabled a motion to alter the League's constitution regarding 'Branch' status. This was unresolved and is the subject of a special meeting in Sydney on 4 February 2002 (see page 2 this edition for details).

THE NAVY's manager, Mr Otto Albert, reported that the magazine was going from strength to strength but expressed concern about this financial year's advertising revenue declining sharply.



HMAS ANZAC stopping a vessel suspected of carrying oil from Iraq in contravention of UN sanctions. ANZAC has earned high praise from the US for her efforts in the Persian Gulf. (RAN)

Observations

By Geoffrey Evans

COASTWATCH AND THE REFUGEES

In the light of the Howard government's re-election in November it is unlikely the present surveillance/interdiction arrangements – a senior RAN officer seconded from Defence to co-ordinate operations under the administrative umbrella of the Customs Department – will undergo major change in the foreseeable future; after all, the Howard government brought Coastwatch into being. It may however, be better resourced as a result of changes in the Government's refugee policy, introduced prior to the election.

A policy of denying access to the Australian mainland to people fleeing their homelands for whatever reason and approaching the country in small vessels was introduced in August 2001; prior to this decision so-called "boat people" were intercepted by RAN or Customs patrol boats and escorted to Darwin or some other North Australian port where they were landed and despatched to centres where their claims for residence in Australia were processed.

The new policy required intercepting vessels to send incoming refugee carrying craft, fishing boats and the like, back whence they came; this was often not possible due to either the unseaworthiness of the craft or the refusal of their crews to obey orders to 'turn around'. Some sank or were disabled.

Obviously patrol boats with their small crews and limited facilities were ill-equipped to provide boarding parties or rescue and accommodate (in some cases) hundreds of refugees from sinking vessels. Even the 44,000 dwt container ship TAMPA with a relatively small crew and restricted living facilities, was quite unsuited to cope for a prolonged period with the several hundred people it had saved from drowning when their vessel started to sink. In the circumstances the Master and crew of TAMPA deserve high praise for their actions.

In the event the flexibility of Coastwatch and its links with the RAN enabled the Navy's larger ships – frigates and in particular the LPA MANOORA – to be despatched to northern waters to enforce the Government's new policy. Even so warships are not equipped to deal with large numbers, including women and children, for lengthy periods and uncertainty concerning a destination where the boatpeople could be processed did not help those at sea.

At the time of writing the duration of the Navy's principle ships involvement in policing duties is not known, at least not to the Australian public; there can be no doubt however, that together with the decision to send several RAN ships to the Middle East following the September 11 terrorist attacks on New York and Washington, a considerable logistical strain was imposed on the Royal Australian Navy.

SAILORS IN DISGUISE

One of the regrettable consequences of terrorist attacks in the United States was an instruction to ADF personnel not to wear uniforms in public. A similar instruction was in force for a short time during the Gulf War.

So far as the writer recalls, at no stage during World War II were Australian servicemen and women stopped from wearing uniform – indeed it was considered something to be proud of and encouraged.

It is a sad commentary on the way divisions have been allowed to develop between differing cultures and religions, between rich and poor countries, the haves and have-nots, to the extent that a country like Australia, once considered relatively isolated and with an essentially cohesive population, must hide a section of the community – the Armed Forces – to avoid provocation and possible harm to members of an honourable profession.

"Globalisation" has not been entirely beneficial!

BACK ISSUES

THE NAVY

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Maritime Contribution to Joint Operations RN style



A landing craft lands on an Omani beach during the Anglo-Omani Exercise Saif Sareea (Swift Sword) and disgorges its load of Royal Marine Commandos. (RN)

As the Royal Navy's Maritime Contribution to Joint Operations (MCJO) concept receives its baptism of fire in the campaign against global terrorism, Iain Ballantyne explains how it works. Iain was able to witness MCJO first hand during the Anglo-Omani Exercise Saif Sareea (Swift Sword) and was in Arabia when the US Navy and Royal Navy unleashed their first bombardments on targets in Afghanistan.

Few, if any, Gulf region allies have felt able to allow British and American aircraft to participate in direct military action against Afghanistan by flying from their soil. With no substantial facilities on land in the Gulf, for either aircraft or ground troops to launch attacks from, maritime power was the only option in the opening phase of the campaign. By a strange coincidence, the largest deployment of British naval power since the Falklands War was already headed for the Arabian Sea off Oman before the September 11 attack on New York and Washington DC. The main aim of such a large British naval deployment was to prove that MCJO could work in a demanding operational environment – that is, somewhere that British forces might well have to go to war for real. Of course when planning for the deployment started in 1997, no one could have imagined kamikaze airliner attacks sparking a major war several hundred kilometres north of Oman. As it was, Saif Sareea took place without any disruption. The Royal Navy's 3 Commando Brigade Royal Marines and the British Army's 4th Armoured Brigade conducted desert war games alongside Omani troops and tanks while British jets and aircraft from the host country flew support missions.

The most significant aspect of the exercise was of course the deployment of around 30 British warships to waters off Oman. This enabled the UK to switch from mock combat to the real thing fairly easily.

Two submarines originally scheduled to participate in Saif Sareea – the attack boats HMS TRAFALGAR and HMS SUPERB – were diverted to active operations. Trafalgar joined sister vessel HMS TRIUMPH in

unleashing Tomahawk Land Attack Missiles (TLAMs) at targets in Afghanistan during the first wave of Anglo-US strikes on October 7. Six days later both submarines fired more cruise missiles at a rapidly diminishing list of suitable targets.

On October 26, 2001, the UK Government confirmed that a substantial portion of the naval task force sent to the Arabian Sea would be staying behind after the conclusion of Saif Sareea in mid-November. The full details of the British force being made available for action in Afghanistan were given by Armed Forces Minister, Adam Ingram, in a House of Commons statement. He explained that 200 Royal Marines from 40 Commando would be based on the assault ship HMS FEARLESS. Mr Ingram said that the carrier HMS ILLUSTRIOUS would also stay. She would land her Harrier jets to take aboard Commando Helicopter Force helicopters and RAF Chinooks suitable for flying missions into Afghanistan. One of the TLAM-armed submarines would remain in the region, ready to fire again if need be. Also in the naval force would be the destroyer HMS SOUTHAMPTON and frigate HMS CORNWALL, together with seven Royal Fleet Auxiliary support ships. Mr Ingram described the 40 Commando Marines as "the lead elements of an immediately available force to help support operations." He went on: "The remainder of 40 Commando – in the region of 400 men – will return to the United Kingdom, but will be held at a high readiness to return to the Theatre should our operational needs make that necessary. This arrangement will also permit us to rotate companies aboard ship and so guarantee the whole Commando remains fresh and fully



The large UK fleet on its way to Oman for the Anglo-Omani Exercise Saif Sareea (Swift Sword). Missing from the 'group portrait' are two frigates and two SSNs. This is the largest fleet to set sail from the UK since the Falklands War in 1982. (RN)

prepared for operations." The total UK contribution was in excess of 4,000 men and women, including the crews of naval vessels and those flying and supporting RAF aircraft in theatre. Mr Ingram did not mention the Special Forces contribution, as it is not UK Government policy to comment on their operations. However, the Armed Forces Minister did tell MPs: "The House will recognise that the deployment of our Armed Forces is a grave step. We do it in the confident knowledge that by doing so we can depend upon them to make a difference. Our Armed Forces are special and we are deservedly proud of them. We ask a lot from them and they will not let us down."

Before the Cold War ended a decade ago the primary focus of British naval forces was countering the threat posed by Soviet submarines. The chilly waters of the Atlantic contained the key patrol zones and the Greenland-Iceland-UK (GIUK) Gap was the funnel through which the Russian submarines had to flow.

To find, fix and (should the Cold War turn hot) kill Soviet submarines, the Royal Navy was centred on Anti-Submarine Warfare (ASW) task groups led by Invincible class aircraft carriers. The frigates of the fleet were tasked with finding the Russian threat using sophisticated sensors to snoop on communications traffic and powerful sonars to pinpoint submarines in the depths. Helicopters carried by both the frigates and the carriers then fixed the enemy and, if the dreaded day ever came, killed them with their torpedoes and depth charges. Air defence, to ensure roving Russian maritime attack aircraft could not get close enough to fire sea-skimming missiles at the ASW task groups, was provided by Type 42 air defence destroyers and small numbers of Sea Harrier fighters based on the carriers.

Operating solo beyond the task groups were the nuclear-powered attack submarines – the hunter-killers – pursuing a hidden war that is to this day still cloaked in secrecy. Far from hitting land targets as they do today, the attack boats concentrated on remaining unseen and unheard. They tracked Russian submarines and surface ships, ready to destroy them, if necessary, before disappearing into the blackness again. No one in the Royal Navy's surface task groups knew where their own boats were, the submarine community being an operational law unto itself.

During the Cold War, the Royal Navy's sea soldiers, – the Royal Marines – were charged with securing NATO's frozen northern flank, spending their winters learning to live and fight in the wastelands of Arctic Norway. The Royal Navy's life was therefore fixed; its horizons reduced to the north Atlantic and Norway.

Meanwhile the Army and the Royal Air Force concentrated on countering the main threat posed by the Russians and their allies – massive Warsaw Pact armoured forces concentrated in central Europe.

The invasion of the Falkland Islands by Argentina in the spring of 1982 had provided a diversion into an expeditionary warfare. It gave the Royal Marines a chance to spearhead a real land battle and, with the sinking of the BELGRANO, had proved British submarines were as lethal as ever. The attrition rate among British surface ships was as severe as WW II, so it was just as well the conflict lasted only a few months. The Falklands War was a brief diversion that was soon forgotten and the Royal Navy returned to its standoff with the Russians. The UK's Navy took some consolation from the victory over Argentina, in that it proved British sea power could still have global reach. But, it was the hammers of desperate East Berliners that changed everything.

Within a few years of the Berlin wall being knocked down, the Warsaw Pact had gone and the Russian Navy's submarines and warships were almost all confined to port, rotting at their moorings through lack of money to properly maintain them or send them to sea. Suddenly the Royal Navy's main mission looked rather forlorn, with the RAF and Army similarly bereft of an opponent to justify their existence. Then, in August 1990, Iraq invaded Kuwait.

Some believed the subsequent victory in the Gulf, that saw Saddam's troops booted out of Kuwait by an American-led coalition, heralded the establishment of a New World Order. In reality it was the uncorking of the bottle, letting an evil genie loose to spread a New World Disorder. Far-sighted senior officers in the Royal Navy recognised that the key to defence of the United Kingdom, her best interests worldwide and those of the international community, had to be sea power and a new strategic concept was needed. How had the Gulf War demonstrated that? Firstly, the arena of conflict was far from home shores, in a region where, since Britain's withdrawal from east of Suez in the 1960s, there was no established UK military presence. The only way to transfer massive armoured forces from Germany to Arabia was by sea and they also had to be sustained by maritime supply lines stretching 4,000 miles back to Europe.

During the conflict, the Royal Navy played a significant part in destroying the small Iraqi Navy, cleared coastal minefields under fire and saved an American battleship by shooting down an enemy anti-ship missile. But, the British fleet could only watch in wonder as the



HMS ILLUSTRIOUS in the Arabian Sea. ILLUSTRIOUS has had her Sea Dart launcher and fire control radars removed to allow more deck parking for aircraft and stores, equipment and ordnance for the RAF GR-7 detachment that now usually embarks. The modifications allow the ship to operate up to 16 Harriers of different varieties. (Iain Ballantyne)



Two RAF GR-7 ground attack Harriers coming into land on board HMS ILLUSTRIOUS for the Anglo Omani Exercise Saif Sareea (Swift Sword). Saif Sareea (Swift Sword) successfully tested the RN's concept of maritime support to joint operations. (Iain Ballantyne)

United States Navy unleashed its huge firepower. Submarines and surface warships fired swarms of cruise missiles and strike jets were launched from massive aircraft carriers. Similarly, American amphibious warfare vessels poised off Kuwait – assault carriers and landing ships carrying thousands of US Marines – also impressed the Royal Navy. A major reason Saddam's forces in Kuwait were caught napping by the Allied ground offensive from Saudi Arabia was his generals watching the sea, anxiously waiting for a massive D-Day-style invasion by US Marines. It never came, but the mere threat of it contributed greatly to Allied victory.

Within a few years of Operation Desert Storm liberating Kuwait, the Royal Navy had acquired Tomahawk cruise missiles for its submarines. That acquisition was the key stone in the foundations for MCJO. By the end of the 1990s, the British had begun a massive regeneration of their amphibious warfare capability by bringing a new helicopter carrier into service and ordering construction of a whole range of landing ships. The Royal Marines found their unit firepower increased, their mobility broadened and they got back in the business of living and operating from ships belonging to a new combat formation called the Amphibious Ready Group (ARG). The scale of winter deployments to Norway was scaled back and Royal Marines were now more likely to go ashore in the jungles of West Africa and deserts of the Middle East than into the Arctic wasteland of NATO's northern flank. The Strategic Defence Review of 1998 confirmed the major revolution in British naval affairs. The UK's defence strategy was now maritime-based and SDR stated that, by 2015, the Royal Navy should have two new 50,000 tonnes super-carriers capable of carrying up to 50 aircraft (most of them Joint Strike Fighters). Crucially, SDR clearly stated that all three armed forces would make use of the Royal Navy's platforms (its ships) for operations around the globe. Post-SDR, RAF heavy-lift Chinooks have become a familiar sight on the flight decks of Royal Navy (RN)



In a further display of jointness, a RAF CH-47 Chinook heavy lift helicopter lifts off the deck of HMS OCEAN with a Type 22 batch 3 frigate in the distance. RAF and Army helicopters and personnel regularly deploy to the carrier HMS OCEAN. (Iain Ballantyne)

carriers and one day the Army's Apache gunship will also fly from the same ships. But, one of the most radical changes brought about by SDR has been the merging of the RAF's and RN's Harrier jets. The new Joint Force Harrier operates RAF Harrier GR-7 strike jets alongside Fleet Air



A Royal Marine Sea King Commando helicopter passes HMS ILLUSTRIOUS in the Arabian Sea. On her deck are three Sea King helicopters and five RAF GR-7 and six RN FA-2 Hornets. (Iain Ballantyne)

Arm Sea Harrier FA-2 fighters on a regular basis. The GR-7s are highly capable ground-attack aircraft proved in action during the Kosovo campaign, while the FA-2s have been equipped with new radar and new air-to-air missiles that make them formidable fighters. To accommodate the new joint air groups, the three Invincible class carriers – INVINCIBLE, ILLUSTRIOUS and ARK ROYAL – have been rebuilt. ARK ROYAL is the latest to undergo the conversion and is just re-entering service with the front line fleet. She will carry the first operational Merlin squadron. The carrier rebuilds have included nearly 200 tonnes of new steel being put into the ships along with revamped command and control facilities and improved accommodation for the crews. The most important change has been the removal of the carriers' Sea Dart air-defence systems to make room for dedicated munitions spaces and engineering stores for embarked RAF Harriers. This has also enabled an expansion in the flight-deck area to better accommodate up to 16 GR-7s and FA-2s. The number of Anti-Submarine Warfare helicopters embarked on the carriers has been reduced, although those carried by Royal Fleet Auxiliary support ships in any task group have been boosted.

Much of the thinking behind MCJO is merely a reflection of some simple truths about the world in the 21st century.

Most operations will inevitably be conducted within striking distance of naval-led joint forces, as most of the world's population, the majority of its capital cities, and nearly all major centres of international trade and military power, are found within 100 miles of the sea. Trade routes and sites of natural resources converge in the most intense areas of human activity in the coastal regions, which are otherwise known as the littorals. The UK Government document outlining SDR stated: "In future, littoral operations and force projection, for which maritime forces are well suited, will be our primary focus."

Attempts by the UK Treasury to cancel, or scale down Exercise Saif Sareea, to save money were strongly resisted by the Royal Navy's senior officers. Oman also let it be known that calling the exercise off would be considered a mortal insult. As a demonstration of power projection 8,000 miles from home, Saif Sareea was MCJO's graduation ceremony.

Aside from nearly 30 naval vessels being the biggest RN deployment since the Falklands War, the UK's commando brigade had not deployed in such strength in the Gulf region since 1991. In 2001 the brigade was based at Camp Fairburn, about 70 miles inland from the Gulf of Oman and conditions in the desert were harsh, to say the least. Temperatures during the day frequently peaked at 50 degrees centigrade. Seven litres of water was needed per man each day to ensure full fighting efficiency and the commandos were also surviving on rations. A 6am

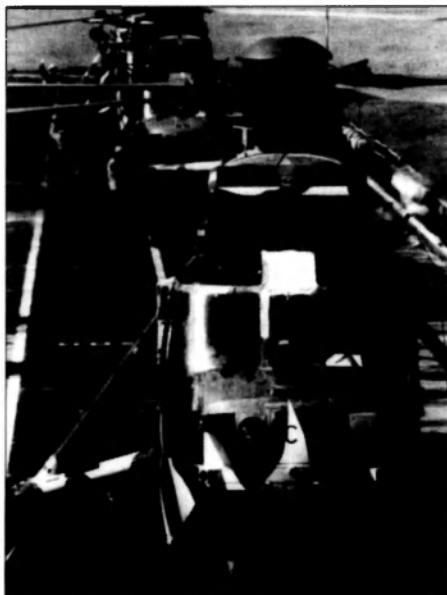
breakfast could consist of a bar of chocolate – early morning was the only time when it was solid enough to eat – oatmeal biscuits, plus a healthy helping of boil-in-the-bag burgers and beans or meatballs and pasta. Between midday and 3pm, the work rate slowed down even for super fit Royal Marines and they generally took a siesta. Heat exhaustion and sunstroke was the main enemy no matter what time of day or night, as temperatures after sunset rarely dipped below 30 degrees. The brigade's commanding officer, Brigadier Roger Lane, observed that it was all worthwhile: "You have to do this for real – you cannot use a simulator." In the early stages of the exercise the Brigadier was hedging his bets about whether or not his troops might be diverted to action in Afghanistan. When asked about the chances of them going he said: "The exercise will proceed, and conclude, as planned." Brigadier Lane did agree that the Royal Marines have experienced their fair share of terrorism – Northern Ireland in particular – but that the attacks on America were beyond anyone's experience. "We have been in the counter-terrorism game for many years and have seen some horrific incidents," said Brigadier Lane. "But, of course, none of us has ever seen anything of the scale and audacity of the attack that was inflicted on the USA."

The brigade's Commando Helicopter Force (CHF) was deployed ashore to Camp Fairburn's airstrip, which had been specially created for the exercise by Army engineers. It was predominantly occupied by the Sea King MK-4s of 845 and 846 Naval Air Squadron (NAS) and the Gazelle AH-1s and Lynx AH-7s of 847 NAS. The CHF aircraft arrived in the Middle East aboard HMS OCEAN, which was also home to two RAF Chinooks that were frequent visitors to the airstrip. The extreme operating conditions really took their toll on the helicopters, with an average of 15 hours of maintenance needed for each hour of flying. The dust of the Omani desert got everywhere – attracted to oil-covered parts like glue – and the rotor blades of the helicopters had their edges covered in special tape to reduce wear and tear.



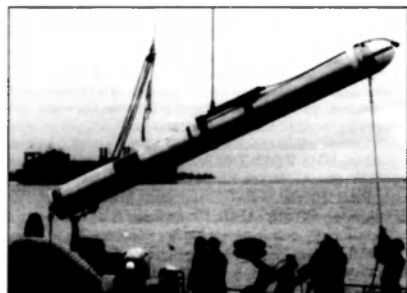
The heat and dust of the Omani desert were tough on personnel and machinery however, the UK force was able to demonstrate the advantages of jointness. Here a Royal Marine Sea King Commando helicopter lifts off after delivering an L-118 105mm Howitzer. (Iain Ballantyne)

At sea HMS ILLUSTRIOUS operated her full air group of ASW and AEW Sea Kings, Sea Harrier FA-2 fighters and RAF Harrier GR-7 strike jets. The carrier's Air Engineering Officer (AEO), Commander Tim Davies said of conditions: "Since deploying for the exercise in early September we have been conducting intensive air operations. Preparation for flying usually starts at 7.30am and everything finishes somewhere between 9.30pm and 10.00pm. It is pretty demanding, especially as the Sea Harrier was conceived for operations in the more temperate European climate."



At the conclusion of the Anglo-Omani Exercise Saif Sareea (Swift Sword) ILLUSTRIOUS, and several other ships, remained on station in the Arabian Sea to join the war on terrorism. For this role ILLUSTRIOUS disembarked her air group to a land base in order to take on the role of Royal Marine helicopter assault ship. Here four Royal Marine Sea King Commando helicopters arrive on ILLUSTRIOUS to support Special Forces missions inside Afghanistan. (RN)

The commander of British naval forces involved in Saif Sareea was Rear Admiral James Burnell-Nugent, a veteran of two tense deployments to the Gulf in the late 1990s as captain of the carrier HMS INVINCIBLE. "Yes, this deployment is a superb showcase for MCJO," he agreed, when interviewed aboard HMS ILLUSTRIOUS. "Navies have a crucial contribution to make in shaping events on land. The Royal Navy no longer just roams the seas looking for fights with other Navies. Certainly in terms of deploying a task force 4,000 miles from home, with all the key strike elements of MCJO in place – airpower,



A submarine launched encapsulated Tomahawk Land Attack Cruise Missile (TLAM) is loaded onto an RN SSN at Diego Garcia for more strike missions into Afghanistan

amphibious warfare units and nuclear submarines – Saif Sareea has been a great success. The attacks against America did make everyone in the task force sharpen up. But, the gathering of US Navy power in these waters has impinged on the exercise only with regard to American aircraft movements through the areas where we are operating with Omani forces."

Together with sister ship HMS INTREPID, now retired from service, HMS FEARLESS was crucial to British victory in the Falklands War 20 years ago – today she could be vital to success in the war against terrorism. The decision to use the 36-year-old assault ship as the launch platform for action against Afghanistan by British commando forces, gives the old lady, an unexpected MCJO starring role in the twilight of her career. Only a year ago HMS FEARLESS suffered a severe engine room fire that could easily have destroyed her. But luck, together with swift and efficient damage control, saved her. Returning to Portsmouth Naval Base, she underwent major repairs and was returned to service not long before leaving for Saif Sareea. "It was really coming down to the wire to get her out here," said her commanding officer, Captain Tom Cunningham. "It involved a lot of hard work by the ship's crew and Fleet Support Limited who carried out the repairs."



Just astern and to ILLUSTRIOUS's port is the 36-year-old veteran LPD HMS FEARLESS. Her communications and command facilities meant she remained behind after the Anglo-Omani Exercise Saif Sareea (Swift Sword) to act as the command ship for British land operations in Afghanistan. (RN)

FEARLESS is packed with modern command and control equipment, which is why she is the flagship of the UK's Amphibious Ready Group. She is due to run on in service until 2003 when the new state-of-the-art assault ship HMS ALBION will replace her. HMS OCEAN, the new helicopter carrier that is the ARG's other principal vessel, has returned to the UK for scheduled maintenance and may come back to relieve FEARLESS in the New Year. The 200 Royal Marines commandos that have been put aboard the assault ship as the spearhead of the UK's overt contribution to any raids into Afghanistan were due to be ready for action at the end of last month (November). Like other key Royal Navy commanders in the region for Saif Sareea, Commander Amphibious Task Group (COMATG), Commodore Jamie Miller, has found himself switching easily from pretend warfare to preparing for the real thing. "We always expect the unexpected," he said when interviewed aboard Fearless during the exercise. "UK armed forces are very highly trained and flexible. They are ready to do anything that is asked of them, from fighting to providing humanitarian aid." That flexibility, and the MCJO concept that frames it, are obviously now being put to the test as the US-led coalition heads into a potentially treacherous winter war in Afghanistan.

Australia's Maritime Doctrine Part 3

In part 3 of our presentation of the RAN's new Maritime Doctrine we detail Chapter 5 on Maritime Strategic Concepts. The document was written by the Seapower Centre and is reproduced in *THE NAVY*, with the Centre's approval, given its importance to readers of *THE NAVY*, Australians and to the Navy League in general.

Chapter 5 MARITIME STRATEGIC CONCEPTS

THE ORIGINS OF MARITIME STRATEGIC THOUGHT

The development of strategic theory for maritime warfare was a phenomenon of the late nineteenth century. The motivations of many of the early theorists are the subject of continuing scholarly debate. What is certain is that they were influenced by the land oriented works on the study of war by Carl von Clausewitz and Antoine Henri de Jomini (1779-1869) and that their efforts collectively produced a systematic approach to explaining and understanding the workings of maritime strategy. The most important early actors in this process were the British historian Sir John Knox Laughton (1830-1915) and the naval officer and analyst Vice Admiral Philip Colomb (1831-1899). Their work was considerably extended by Rear Admiral Alfred Thayer Mahan (1840-1914) of the United States Navy in his seminal book *The Influence of Sea Power upon History 1660-1783*, which sought to analyse the relative success of France and Britain in exploiting sea power during their long contest for supremacy in the seventeenth and eighteenth centuries. Mahan's efforts were followed by Sir Julian Corbett (1854-1922) and Admiral Sir Herbert Richmond (1871-1946), as well as the French strategist Admiral Raoul Castex (1878-1968).



The FFG HMAS CANBERRA. With the decommissioning of the DDGs the FFGs take on the role of the RAN's capital ships. However, with the impending upgrade they will be well able to not only supplement the DDGs capability but provide a greater level of sea control. (RAN)

Command of the Sea

A modern analyst has noted that all these commentators were interested in war and they were concerned with dominance. They were acutely conscious of the historical advantages that lay with the utilisation of the sea to further national power. One of the first products of their thought was the concept of command of the sea, which was considered to be the principal objective of naval forces operating in a maritime campaign. This is defined as the possession of such a degree of superiority that one's own operations are unchallenged by the adversary, while the latter is incapable of utilising the sea to any degree.

Command of the sea was theoretically achievable through the complete destruction or neutralisation of the adversary's forces, but it was a concept that, however historically valid, became increasingly unrealistic when naval forces were being faced by a range of asymmetric threats brought about by technological innovations such as the mine, the torpedo, the submarine and the aircraft. Furthermore, attempting to command the sea carried the risk of dissipating resources by a failure to recognise that the sea, unlike the land, was a dynamic medium and that the value of maritime operations was in relation to the use of the sea for movement and not for possession of the sea itself. Julian Corbett, in particular, recognised these dilemmas. He pointed out that all naval conflict was fundamentally about the control of communications. With this in mind, Corbett qualified the concept of command of the sea, a process which led in the 1970s to the development of the contemporary term sea control.

Sea Control

Control of the sea can be limited in place and in time and the required extent is determined by the task to be done. Sea control is defined as that condition which exists when one has freedom of action to use an area of sea for one's own purposes for a period of time and, if required, deny its use to an opponent. The state includes the air space above and the water mass and seabed below as well as the electromagnetic spectrum. To an increasing degree, it also includes consideration of space-based assets.

Sea Denial

Given that some maritime powers might have as their aim the prevention of the use of the sea against them, a related concept evolved in the form of denial of the sea, or sea denial. This is defined as that condition which exists when an adversary is denied the ability to use an area of sea for his own purposes for a period of time. Clearly, a nation may conduct sea denial operations in one area, while undertaking sea control in another, so sea denial is an aspect of sea control rather than an entirely separate concept. Nevertheless, it can take many forms, from the maintenance of a blockade of enemy forces, through the operation of exclusion zones to campaigns against an adversary's trade or logistic systems.



Submarines provide sea denial as well as a means of gathering intelligence. They are extremely useful but have limitations.

Force in Being

An important variation of the concept of sea denial is that of the force in being, a term derived from the historical concept of the fleet in being. By avoiding a head-on confrontation with a larger force and preserving its maritime strength, the weaker power may limit the capabilities of the stronger power by forcing the latter to divert its own forces to contain the force in being, or to provide additional protection for its vulnerabilities.

SEA CONTROL AND THE SPECTRUM OF CONFLICT

The ability to ensure sea control will be needed across the complete spectrum of conflict. This is the key theme enunciated by the most thoughtful of modern maritime strategists. Much of their work has focused on the utility of Navies across the spectrum of conflict and their ideas are explored further in Chapter Seven.

One of their judgements is that sea control may be required in circumstances other than conflict between nation states. For example, sea control measures may well prove necessary to prevent pirates from interfering with the flow of merchant shipping. The forces required to exercise control of the sea are not easily prescribed, but it will generally take the application of high technology capabilities to be successful. What is certain is that the nature of the threat as much as the overall task defines the forces which will be employed. In any event, sea control operations will be required whenever Australia's national freedom of action at sea is threatened.

Risk

The essential difference for military planners between control and command of the sea is that the achievement of control does not exclude outright the existence of risk. Despite the advances of technology, the maritime environment is one that favours the covert. The degree of control needed must depend upon the level of risk acceptable in the context of the task required to be done. At times, that risk may be very high and there may be many assets lost or damaged in achieving an objective.

This is an important point. Ships and aircraft must be regarded as tools for the operational commander that can be risked and lost in battle. While ships and their crews cannot be wasted, preservation of material and personnel must not become priorities that obscure strategic goals.

Navies which have proved themselves risk averse in their employment have not enjoyed any degree of success, either at the tactical level or, most critically, in the operational and strategic contributions they have been able to make. Unlike land warfare, there is at the tactical level no inherent advantage for the defence over the offence in sea combat, although this relationship becomes more complex in the littoral environment. In maritime combat, it is axiomatic that defence exists to buy time for the offence to perform and be effective.

SEA LINES OF COMMUNICATION

Sea control will be an essential element, whether as object or precondition, of almost any conceivable campaign or operation which will be mounted by Australian forces, whether acting unilaterally or in coalition. This requirement can be described as the protection of sea lines of communication or SLOCs. In many circumstances, sea control will be pre-existent, but it is important that its status not be uncritically assumed.

Furthermore, SLOCs do not have a physical existence and their defence must be considered only in terms of the ships which use them. Such protective processes, except in regard to facilities such as ports and harbours and smaller and more confined focal areas and choke points, are inherently dynamic, in contrast to the fixed defensive methods which may apply to lines of communication on land, such as roads and railways, and to air fields and bases. There are no lines on the sea.

Australia's sea communications have two important vulnerabilities. The first is that shipping moving to and from our trading partners in East Asia must pass through many archipelagic choke points to reach its destinations. The only alternative is to divert through much longer, time and fuel consuming deep ocean routes. The second is that shipping in the Indian and Pacific Oceans can be identified from some distance away as being bound only for Australia or New Zealand.



The Fremantle class patrol boat has utility over a very small section of the spectrum of conflict given its small size and limited armament however, patrol boats do provide a wide range of capabilities to a Navy short of war. (RAN)

THE SEA THE LAND AND THE AIR

The steady blurring of the boundaries between environments and the accompanying drive towards the integration of all elements of combat power has led to the concept of battlespace dominance. The idea of the battlespace incorporates both space and the electro-magnetic spectrum. The attainment of sea control is the necessary maritime component of battlespace dominance.

Maritime Power Projection

A contemporary maritime strategist has summed up this reality: 'Navies fight at sea only for the strategic effect they can secure ashore, where people live'. Some of the activities which take place in maritime conflict may be only indirectly linked with effects on the shore but, sooner

or later, that link is established and a terrestrial result accomplished. Sea control, once achieved, establishes the environment for more direct efforts in relation to the land. Maritime forces can shape, influence and control this environment, as well as deliver combat force ashore if necessary. The delivery of force from the sea is defined as maritime power projection and can take the form of the landing of amphibious or special forces or the delivery of seaborne land forces, or bombardment by guided or unguided weapons from seaborne platforms. Their covert nature means that submarines can play an important part in the projection of maritime power. In the Australian national context, attacks by organic aircraft will not normally be a component of maritime power projection, but naval forces can be expected to act in close concert with air forces to project power. Australian forces may also operate in a combined context with allied aircraft carrier forces. In these ways, they can play an integral part of the air campaign, a part which may expand in the future with new technology seaborne weapons such as long-range land attack cruise missiles.



HMAS ANZAC at sea. Although the class weaponry is limited for the moment, planned upgrades will see the class becoming a vital part of the RAN's ability to provide Australia with sea control. (RAN)

Maritime power projection has utility in the degree to which force can be implied or threatened, as well as asserted. It is thus a tool applicable across a range of contingencies and conflicts. Maritime power projection forces can be despatched at an early stage of a crisis to give a clear signal of resolve and they can remain poised for long periods with the ability to react at short notice. The sophistication with which maritime power projection can be exercised gives great strategic advantage to those skilled in its application.

CONTEMPORARY DEVELOPMENTS AND CLASSICAL MARITIME STRATEGY

Two key developments are having profound influences on contemporary strategic concepts. It is important, however, particularly for smaller powers with unique requirements such as Australia, that the differing nature of those developments be clearly understood, even if their effects appear similar.

The first is the way in which technology is increasing the ability of seaborne forces to influence events on land and in the air. This is not only concerned with the development of extended range projectiles, such as cruise missiles and guided munitions, which can be fired from ships. It also has its origins in the prospects for passing over the slow and difficult terrain of the shore in amphibious operations by the use of hovercraft and tilt rotor aircraft to deliver ground forces well inland in a battle ready state. Given the other inherent advantages of seaborne power, particularly its mobility in mass, these

increases in reach mean that naval and amphibious forces have new utility in a wide range of situations. Both aspects are also closely tied into the development of much improved battlespace management systems and the way in which seaborne units are increasingly able to 'view' and intervene in the land and land-air battles despite intervening terrain.

This new potential for seaborne forces needs to be balanced against the improvements in surveillance and anti-ship weapon systems which pose challenges for surface units. The effective use of seaborne forces in a threat environment will require a careful assessment of the adversary and the balancing of offensive and defensive capabilities.

This means integrating not only the efforts of the ships themselves but the activities of intelligence, surveillance and airborne platforms in particular.

The second development is the end of the Cold War and the collapse of the Soviet Navy as an effective blue water force. The result of the demise of the primary rival against which the United States and NATO Navies were matched has been that the USN in particular, but also the major Navies of Western Europe, now operate in an environment in which they effectively enjoy maritime supremacy. This situation is one that has not applied since the late 1870s and the Pax Britannica. It means that the USN is in a position to assume the existence of sea control as a given as part of its drive to achieving battlespace dominance to the extent that it is effectively in command of the sea. It can therefore concentrate on projecting power from the sea with little need to divert resources towards the protection of maritime communications. This concentration on expeditionary warfare has been the focus of a succession of the strategic documents which began with *From the Sea: Preparing the Naval Service for the 21st century* in 1992 and in the United States Navy's series of doctrinal publications, led by NDP 1: *Naval Warfare* (1994). Similar concepts, adapted and modified for their circumstances, have been taken up by the United Kingdom and are laid out in the latest (second) edition of BR 1806: *British Maritime Doctrine* (1999). These documents recognise strategic realities, but they are realities which may well change at some point in the future with the growth of other maritime powers whose interests are not those of the United States or the West.

THE AUSTRALIAN CONTEXT

Australia's maritime strategic requirements are closely tied up with the concepts of sea control and of sea denial. Many of the ideas centred on 'defence of the sea air gap' to the north of Australia which were articulated in the mid-1980s are based on denial of the maritime approaches to any would-be aggressor. But, because Australia is an island continent fundamentally dependent upon the sea for communications and because it exists within a region which as an entity is equally dependent upon the sea, it is control of the sea which more closely bears upon our national situation, whether the context is defensive or offensive.

For Australia, apart from the issues of cost and scale, the contemporary strategic context is even less clear than the technological one. Our region includes a large number of nations with significant maritime and air capability and it would be extremely unwise to make the assumption that the preconditions for sea control will exist whatever the strategic situation. Thus, while we may adopt and benefit from much of the work being done in the United States and Europe, it will be necessary for Australia to maintain in the immediate future a greater focus on fundamental issues such as sea control including control of the air at the same time as we seek to increase our ability to directly influence events on land.

PRODUCT REVIEW

The Fourth Ally: The Dutch forces in Australia in WWII.

By Doug Hurst
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Doug Hurst tells the story of the Dutch contribution to the war in the Pacific theatre. Using the stories of former Dutch servicemen, Hurst weaves together the story of the Netherlands armed forces from the pre-war years of 1938-39 through the immediate post-war period of 1945-1948. The author attempts to cover the entire range of the Dutch contribution to the Allied cause but the emphasis is mostly on aviation and naval units. Dutch land forces were virtually non-existent in Australia because so few soldiers had been evacuated from the NEI. While units of the Royal Netherlands Navy are mentioned throughout the story, the

Dutch squadrons within the Royal Australian Air Force are clearly the focus of Hurst's story. (The author is a former RAAF officer). Also included in the story are the sailors of the Dutch shipping company KPM (Koninklijke Paketvaart-Maatschappij) who with other Allied merchant mariners played a crucial role in the Allied victory.

The Fourth Ally is not an exhaustive study of the role of Dutch forces in the Pacific theatre during World War II. The author acknowledges this, stating that he was attempting to make known the story of Dutch Australians, not to write an official campaign history. This he does capably, interspersing anecdotes and pictures from Dutch servicemen with an explanation of the larger campaigns of the war. The selection of which personal stories to include seems to be determined by who the author had met among the former Dutch servicemen. Instead of tracking down one or more servicemen from each Dutch ship or squadron and then combining their stories, the author seems to have based his book on the stories of those former servicemen he knows in Australia. This process produced a somewhat representative story but certainly not a comprehensive treatment of the experiences of Dutch service personnel. Among the approximately twenty men who shared their wartime experiences with Hurst are marines from the light cruiser TROMP, an officer from the submarine K-15, numerous pilots and aircrew from the air service of the Netherlands East Indies Army, and several men who fought in the army or marines in the post-war struggle against the Indonesian nationalists.

There are two topics that come out in Hurst's treatment of the topic that have not appeared to my knowledge in other English-language sources that address the Dutch armed forces during World War II. The first is the difference of attitude and experience of personnel who were from the NEI as opposed to the Netherlands proper. Hurst indicates (p. 54) that men from the NEI had a different view on colonial social structures than European Dutch. NEI Dutch were also more likely to recognise that Dutch control over the islands was likely to change as a result of the war. The second is the issue of ethnicity in the Dutch armed forces (pp. 74-76). The units that escaped to Australia included Dutchmen from both Europe and the NEI, men of mixed European and Indonesian origin, and native Indonesians. Many of the Indonesian men wished to return to the islands, seeing the war as lost, and some Australian and American officials initially objected to these ethnically diverse units out of racial prejudice. The inclusion of these two issues is noteworthy and will appeal to any reader with an interest in military sociology.

One topic covered by the book that seemed to fall outside the declared scope of the book is the post-war struggle by the Dutch to reassume control over the islands. While some of the Dutch aviation units needed to regain control over the NEI were based in Australia and needed Australian logistical support, the majority of the Dutch armed forces were in the islands and under British strategic direction. The experiences of Dutch men who served in the army or marines are certainly interesting but they appear to

fall outside of the time frame of the story (World War II) and the location of the story (Australia). The book would be more effective if it dispensed with the post-war chapters and instead more thoroughly covered the wartime experiences of Dutch personnel resident in Australia.

The strengths of this book are several. First, the subject is one that has yet to be covered adequately in English so this book is a useful addition to the literature. Second, the use of personal stories and pictures gives the book a flavour that is lacking in conventional military history writing. Third, the book is well illustrated with 71 black and white photographs plus six maps and four other illustrations. Fourth, the story is easy to follow and smoothly expressed, again something not always found in books on military topics.

The book also has several weaknesses. First, the book overemphasises the role of the aviation units incorporated within the RAAF (such as 18 Squadron) and neglects some of the naval units, specifically the surface ships and submarines based at Fremantle. Second, with just a few exceptions, the author does not indicate the source of arguments about the direction of the war or statistics on forces involved. Third, the bibliography lacks many published sources that a reader can use to check the author's account or read further on the subject. Those published sources that are included often lack a complete citation. Fourth, some minor errors relating to naval forces slipped through the editing process such as claiming that the light cruiser TROMP could steam at 40 knots (p. 16), referring to the ships of the U.S. Navy's 58th Destroyer Division as torpedo boats (p. 29), referring to the anti-aircraft cruiser HEEMSKERCK as a destroyer (p. 68), and giving the name of the Royal Navy's Eastern Fleet commander, Admiral Sir James Somerville, as Summerville (p. 122).

In summary, The Fourth Ally is an interesting, highly readable account of an aspect of World War II that has not been told before. For readers whose interest in naval history is more general, this book will be a pleasant read.

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This limited edition copyright First Day Cover (FDC) cover celebrates the Australian Navy's Centenary, Captain William Creswell as the "Father of the Navy" and Williamstown as its birthplace.

200 copyright numbered covers were postmarked and a limited number set aside for readers of "THE NAVY" to acquire. These will be held until 7th February 2002 after which they will be offered to the general public.

Battleship

Video Documentary by: The Discovery Channel

Price: \$24.20 + PP

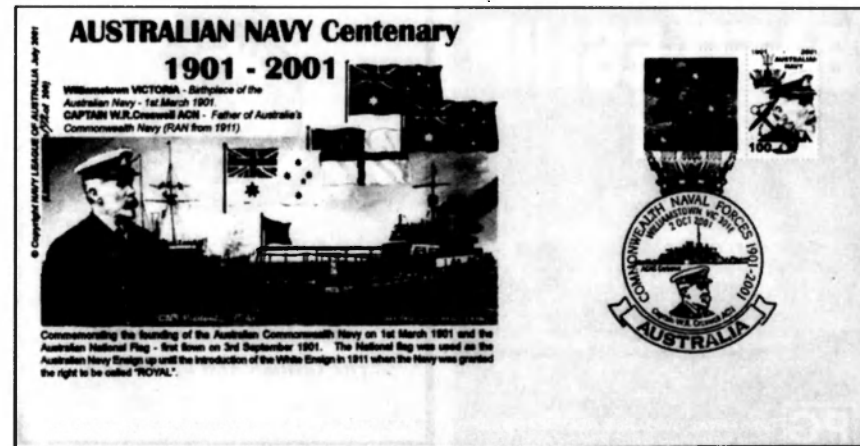
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The video documentary 'Battleship' is one of the more interesting documentaries on this subject to date, and there have been a few. Produced by the Discovery Channel, this 1 hour 38 minute documentary has some remarkable footage of battleships over the past 100 years. Footage includes: the Iowa's performing in Desert Storm; GRAF SPEE in the 'Battle of the River Plate'; the RN attack on the French fleet, during and after, in the North African port of Mer El Kabir during WW II; the ubiquitous Pearl Harbor war footage; YAMATO on her suicide mission, as well as supporting computer generated imagery.

One of the interesting stories from the documentary was the arrival of the USS NORTH CAROLINA in Pearl Harbor on 11 July 1942. NORTH CAROLINA was the first Battleship to be produced by the US in over 18 years and was a great morale boost to the 1,000's of people working around the clock to get the sunken battleship fleet back into service. Great cheers went up all over the harbour despite NORTH CAROLINA's 16-inch guns not having seen action.

Some fascinating and rare footage shown in the documentary concerns the building of the Iowa. This shows the fitting out of one of the battleships in colour.

The documentary's coverage of the battle of Savo Island, while brief, only covers US ships and not for instance the loss of the Australian Cruiser CANBERRA, which is a little

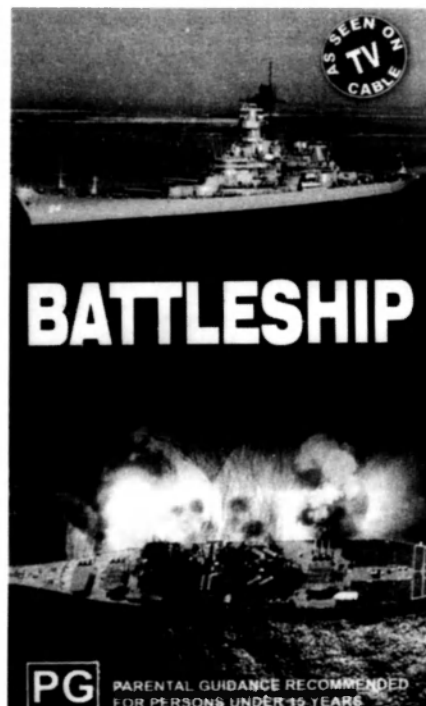
disappointing but somewhat expected for US war documentaries of late.

Notable historians interviewed for this documentary include Eric Grove, Jon Suminda, Paul Stilwell and Andrew Gordon who add immeasurably to the documentaries insights on these giants of the sea. Interviews were also held with Pearl Harbor survivors, former Captains of the Iowa and one of the three survivors of the HMS HOOD disaster.

The documentary takes one on an extraordinary journey inside a surviving battleship, USS NORTH CAROLINA, which has been preserved as a monument to battleship crews and as a museum. The head curator of this floating battleship museum demonstrates how the giant 16-inch guns were able to fire accurately via a crude analogue computer generating gunnery solutions, how the crew loaded and fired the 16-inch guns as well as what life was like aboard.

Battleship is narrated by Hal Halbrook who played the villain in the Dirty Harry movie 'The Enforcer' and 'Fleisch II'. The documentary's narrative tends to lose its appeal towards the end of the video by the authors trying to 'over emotionalise' and personify the battleship. Some viewers could also be left somewhat confused by the 'flexible' use of past, present and future tense in the narratives text. It also focuses on US battleships more than it needs to making this documentary rather long however, it still produces enough on others such as HOOD, PRINCE OF WALES, BISMARCK and DREADNOUGHT to be worthwhile.

Despite the criticisms this documentary is thoroughly recommended to add to the collection.



Join The Navy League of Australia.
See centre section for how.



The Australian Navy League,
since 1900 it has remained
'The Civilian Arm of the RAN'.

Hatch, Match & Dispatch

Hatch

NUSHIP RANKIN

Rankin files in

Last Collins Class tastes salt for the first time

With an explosion of champagne, the sixth and final Collins Class submarine was launched on a sparkling future with the RAN.

The daughter of Robert "Oscar" Rankin after whom the submarine is named, Ms Patricia Rankin, performed the launching ceremony at Osborne, South Australia, just three days before the federal election.

Ms Rankin travelled from Canada to represent her mother, Mrs Molly McLean, from Queensland, who was unable to attend through ill health.

In front of a crowd of nearly 500 guests, she pushed a button to release the bottle of bubbly onto Rankin's fin.

The Australian Submarine Corporation (ASC) and Navy had previously ensured that the bottle exploded with a shower of champagne by a quick spot weld on the structure and a judicious grinding of the bottle.

Because the submarines are, as Hans Ohff, CEO of the Australian Submarine Corporation, put it "too delicate a piece of machinery to be launched at speed down the slipway", the Rankin was already bobbing gently in the water for the launch.

Guests at the launch included federal, state and local politicians, senior Navy personnel including Chief of Navy, VADM David Shackleton, ASC senior personnel and corporation workers, a handful of veterans who had served with LCDR Robert "Oscar" Rankin aboard the sloop HMAS YARRA, and a crowd of cameramen and reporters.

Mr Ohff welcomed the audience to the ASC dockyard at Osborne and thanked the 7,500 workers involved in building the RANKIN.

Chairman of the Australian Submarine Corporation, Mr John Prescott, said the building of Australia's six Collins class submarines was a project which ranked in size with the North West Shelf Gas Project, and the Snowy Mountains Scheme.

He welcomed the federal government's decision to award the contract for support and maintenance of the submarines to the South Australian yard, and said that ASC would seek to broaden and deepen the capabilities of the very fine boats it had built.

"We're proud that these submarines have been named after people who showed real heroism."

Premier of South Australia, Rob Kerin said the Collins class of boats was remarkable for its stealth, deep diving and endurance capabilities.

He praised the mechanical, electrical and software engineering which had gone into the design and manufacture of the submarines, and wished fair weather, fair seas and the best of good fortune to those who sailed in RANKIN.

It was revealed at the launch that the Hong Kong Police, the Malaysian and Thai navies had all placed orders with ASC recently after being impressed with the outcomes of the submarine project.

The outgoing Minister for Defence, Peter Reith, told guests that the Collins Class submarines would keep Australia at the

forefront of world class submarine technology.

"There has been some controversy surrounding this project, but the problems have been overcome.

"By 2007, we will have six fully operational submarines once the combat systems have been replaced.

"This project is a testament to our capacity as a people to meet challenges, and I congratulate you all."

Guests retired to a reception in ASC's workshop after the official launch, the Chief of Navy gave a toast to the new submarine, and newly appointed Commanding Officer of RANKIN, LCDR Doug Theobald presented Ms Rankin with HMAS RANKIN's ship's crest.

By Anna Marsden (NAVY NEWS)



NUSHIP RANKIN is lowered into the salt water for the first time. RANKIN is the last Collins class submarine to be built for the RAN. (RAN)

Dispatch

HMAS BRISBANE

(See beginning of edition)

BRISBANE's last message

SUBJ: BRISBANE FINAL ENTRY

1. ON ENTRY TO SYDNEY 09220Z OCT 01 BRISBANES FINAL SEATIME COMPLETES.
2. FOUR BOILERS AVAILABLE, GUNS UP AND READY FOR FIRE IF NEEDED. STILL AIMING FOR HIGHER THINGS AND READY UNTIL THE END.
3. BIG WHEELS HAVE STOPPED TURNING PROUD MARYS SPIRIT KEEPS ON BURNING END.

BRISBANE will live on at the Australian War Memorial who recently took delivery of the DDG's Bridge, Mk-13 missile launcher and a propeller. It is hoped they will go on display sometime in the next five years.

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 the GLOBAL HAWK unmanned surveillance aircraft 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.

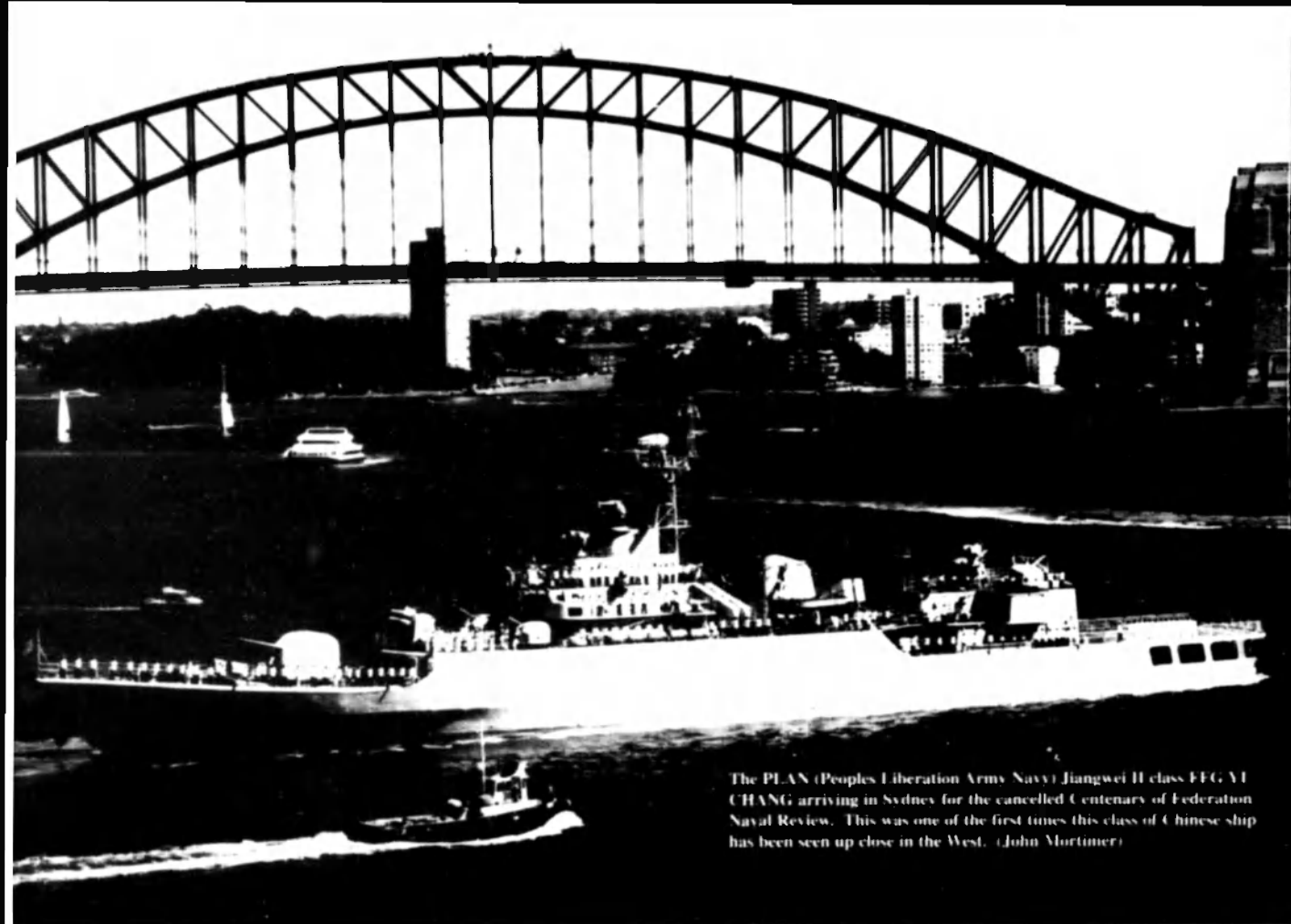
While recognising current economic problems and budgetary constraints, believes that, given leadership by successive governments, Australia can defend itself in the longer term within acceptable financial, economic and manpower parameters.



'Going, Going ...'. Australia's first US designed and built DDG, PERTH, slips below the waves to provide an underwater dive attraction and economic wind fall for Albany, WA. The ship sits upright on the bottom with the top of her mast exposed above the water. (RAN)



HMAS ANZAC with HMAS SYDNEY astern. SYDNEY is currently operating in the Persian Gulf enforcing sanctions against Iraq after replacing ANZAC in the same role. (RAN)



The PLAN (Peoples Liberation Army Navy) Jiangwei II class FFG Y1 CHANG arriving in Sydney for the cancelled Centenary of Federation Naval Review. This was one of the first times this class of Chinese ship has been seen up close in the West. (John Mortimer)



One from the archives. This photo was taken in the late 1950's from Taronga Park Zoo in Sydney and shows, amongst others, the carrier SYDNEY however, the rest of this 'Athol Bay flotilla' remains a mystery that *THE NAVY* is hoping its readers can solve? Also note the blue colour of the harbour which many believe has since changed to a darker tone due to increased traffic and environmental degradation. (Ossie Farren)



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.

The Navy League of Australia cordially invites you to join us in what we believe to be an important national task.

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 organising 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 are as follows:

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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:

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The RAN and Air Warfare Destroyers

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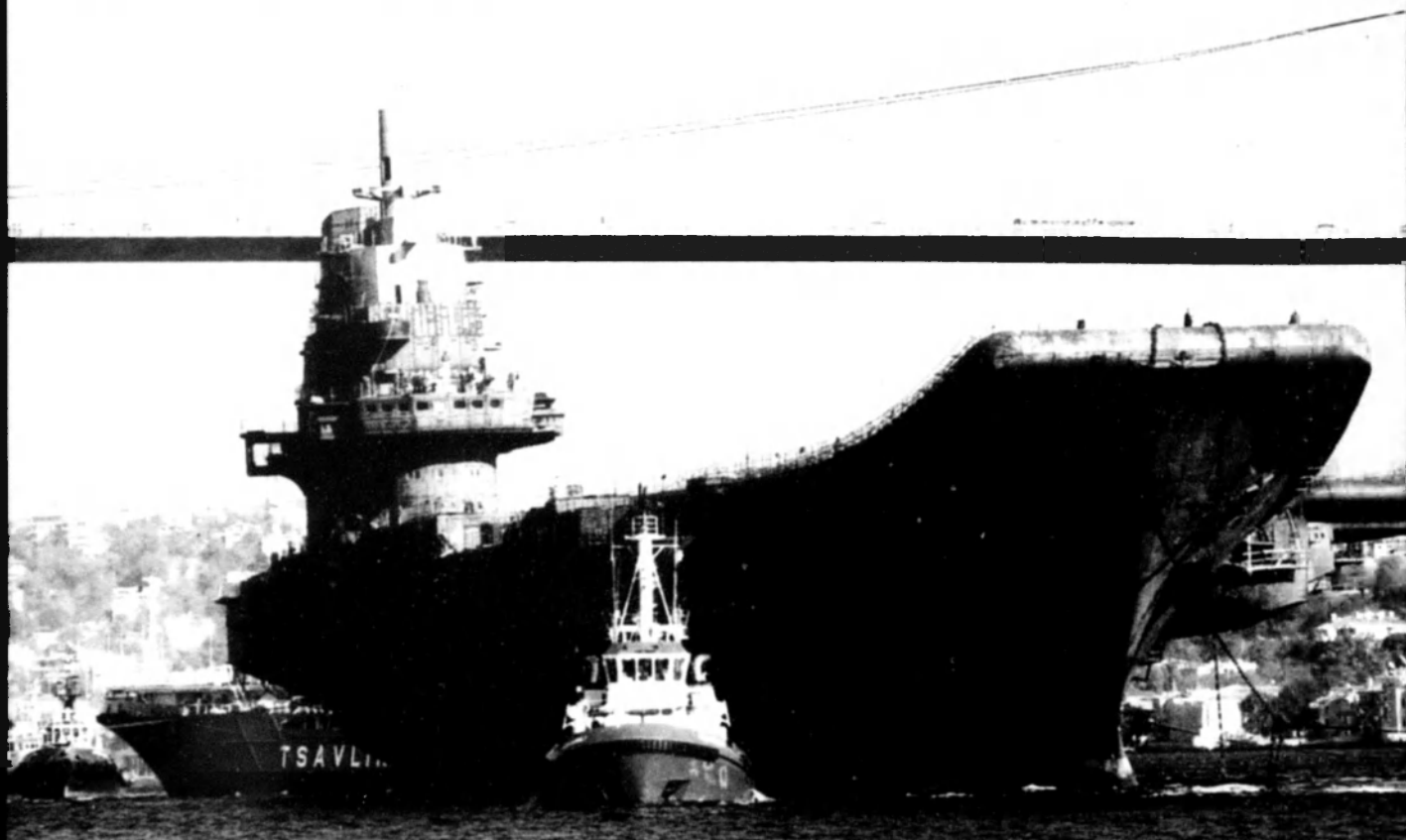
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02

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The ex-Soviet aircraft carrier VARYAG is carefully manoeuvred down the Bosphorus from the Black to the Aegean Sea and then on to China, November 2001. See page 7 for details. (Serhat Guvenc)



IZAR's first F-100 air defence frigate ALVARO DE BAZAN on sea trials (see Flash Traffic p15). The F-100 would have to be considered a strong favourite to win the RAN's SEA 4000 air warfare destroyer project. (IZAR)

THE NAVY

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Front cover: An RAN Seakawk attempting to land on an FFG in rough weather. (RAN)

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FROM THE CROW'S NEST

NAVY CULTURE – NO NEED FOR CHANGE

From time to time it is asserted by assorted officials that the "culture" in one or other of the Armed Forces needs to be changed. This usually happens when reports of some misdemeanour by Service personnel appear in the media.

Assuming that "culture", in the sense used, means moral discipline and training rather than artistic development, a lengthy association with the Navy leads the writer to believe the calls for change are unwarranted.

An overwhelming majority of sailors are and always have been normal, healthy young people who, at sea, are attached to their ship and take pride in its competitive achievements. Most Commanding Officers enjoy the respect and loyalty of

their Ship's Company. If a 'bad apple' turns up the person soon becomes known and will be discharged sooner rather than later.

It should perhaps be remarked that one change in particular in modern Navies was the decision to send women to sea in warships, this introduced a factor "old Navy" personnel did not have to consider: It can however, be assumed female personnel develop the same sense of pride and loyalty as their male counterparts.

Pride and loyalty are features of generations of Australians who have served the Navy and their country well. It seems to the writer a culture to be encouraged rather than changed.

Geoffrey Evans

FROM OUR READERS

Dear Editor

I would like to comment on the 'Observations – by Geoffrey Evans' on page 23 of Vol 64 No.1, article about 'Sailors in Disguise'.

Thankyou for having the guts to publicise this fact. I felt disgusted with Defence issuing this order. As a serving soldier of the Australian Regular Army – how shocked was I when informed that I could not leave the barracks in uniform or wear my uniform outside of the barracks in the performance of my duty. This similar order was also given to all ADF members during the Gulf War.

This order was clouded with references to the safety of ADF members in Public. What a load of 'Codswallop', this order was politically motivated to protect the Government's PR image and had little to do with safety of Defence Personnel.

This order lets other countries know that they can embarrass the ADF on their 'doorstep'. The Government makes the ADF run away to barracks and hide until safe to come out. We should be showing the world and Australians that we are not scared by threats of terrorism.

How many countries of the world use these tactics? Engage local citizens or plant them to protest outside of Defence Establishments. Recruiting Centres and Defence related organizations knowing that the ADF will retreat. How many times have you seen the Recruiting Staff on the TV news hiding behind 'poster boards' or in an office because they can't be seen on TV, because Defence has threatened any member with disciplinary action if they say or do anything? In fact Wormald Security deals with these situations more than the ADF does, because they and companies like them guard these building and organizations. However, is it Wormald Security that will deploy to the next Australian/UN hotspot? I don't think so. It will be 18-year-old "Johnny or Jane" ADF member that will. Will they have the training, restraint and PR knowledge to deal with this situation?

We should be using this PR situation to our advantage. We should be exposing our Defence Personnel to this type of 'warfare', the PR war, the warfare of the 21st Century. Public opinion, world support and perception has more to do today with winning a war than any weapons platform, money or

defence policy. Lets use these PR events to train our ADF members in how to win the PR war and not be scared by it

Dealing with the PR war requires different sets of skills. In the PR war, our people can no longer use lethal force to annihilate the enemy. The soldier who fights the PR war needs, restraint, control and PR training. One wrong move by that Defence person, may sway public opinion more than any terrorist attack ever could.

Lets seize the PR battle before it seizes us.

Name withheld at the Editor's discretion.

Sir,

After several perusals of the photo on the back page of issue Jan/Mar 2002 the following may recall other readers to name the ships.

On the extreme left of the photo is the stern of a salvage tug RESERVE then on the port side of HOBART is a boom defence vessel (Bar Class?) HOBART, on the starboard side is ARUNTA on her starboard side is a Bay class frigate with a River class frigate on her starboard side. Fwd of HOBART looks like a River class frigate then to the right BATAAN and WARRAMUNGA with TOBRUK on the starboard side of the WARRAMUNGA. At SYDNEY's bow are three Bathurst class minesweeper/corvettes and in the middle, fwd of ARUNTA another Bathurst class. The Merchantman in the background appears to belong to the Pacific Steam Navigation Co.

A very interesting and comprehensive article by CAPT Peter Jones, RAN, whom I knew as a young LEUT on YARRA in 84/85.

Hope this will bring back some memories

Yours Ave,

H. Peter Kunnegiesser (ex WOCOXN), LEUT ANC,
Commanding Officer, T.S. Krait.

Many thanks to all the people who contributed to this puzzle and the efforts they made to explain where each ship was located in the bay.

Editor

The RAN and Air Warfare Destroyers



HMAS HOBART at the entrance to Sydney Harbour on a particularly rough day. HOBART and her sisters PERTH and BRISBANE have now all retired from RAN service. This is the first time since 1911 that the RAN has been without a destroyer class. (RAN)

Following on the demise of the Carrier force in the early 1980s, the further major reduction in the offensive and defensive capability of the RAN last year with the withdrawal from service of the three aged but still next most powerful units – the Guided Missile Destroyers (DDGs) – leaves the Navy seriously unbalanced and in need of urgent enhancement.

A close look at the state of the RAN, including its severe manpower problem, seems to be of national importance.

True, indeed, the Government has indicated in its White Paper, *Defence 2000*, its future intention to replace the capability represented by these old ships by the construction of at least three Air Warfare Destroyers (AWDs). However, on current announced plans the first of these would not commission for about 12 or more years.

Much can happen in this time and the question must be asked whether the nation should take the risk in the meantime with a severely run down Navy?

We have seen in recent years the sudden eruptions, with little warning, of the Gulf War, East Timor and now the war in Afghanistan. In all of these situations Australia has been involved, taking a leading part in the East Timor operations.

The Navy has been in the forefront of Australian participation and has not always been equipped adequately for the tasks required, and there has always been the possibility of escalation to a more serious level of operations.

In the Gulf War we saw the unseemly and time-consuming scramble to fit several ships with some form of close-in defence against missiles even though this threat had been present at sea for many decades.

Recently in the war in Afghanistan, possessing neither aircraft nor cruise missiles, our ships could not take part in the main allied offensive action and were – apart from political considerations, taking over some comparatively minor duties, and giving support to the very small army deployment – largely irrelevant.

The world strategic situation is changing quite rapidly and, as ever, it is not possible to see far into the future and certainly not as far as the time when, under current plans, we may see the AWD enter service.

We are fortunate indeed that in the current Afghan crisis the major powers are aligned in their approach to terrorism, and we must hope that this general co-operation will continue. However, there are huge areas of uncertainty as the new global economic and strategic alignments unfold.

The Middle East and the India/Pakistan flashpoints remain. In the NW Pacific the world's super power – the US, the rising economic and military power – China, the slowly-recovering former super-power – Russia, and the world's second greatest economic power – Japan, face each other. And next to powerful South Korea in the geographic central area of this power vortex sits the unstable and unpredictable North Korea. Japan, despite its economic woes, is slowly taking a role in world affairs commensurate with its economic power and has put out feelers to gauge reaction to extend its reach with exercises in the South China Sea, a move which may not be entirely welcome in East Asia.

The tensions in this area including over sea boundaries, disputed islands, trade, spy ships, maritime and air incidents, claims in the South China Seas, and Taiwan, have been well managed for several decades, but who can predict with confidence what will happen in the future?

While we might hope to avoid involvement in any major eruption in the area, historically for varying reasons, this has not always been an option for our Governments.



HMAS BRISBANE leading the FFG HMAS DARWIN. With the retirement of the DDGs, without replacement, the FFGs now take on the mantle and responsibility of the RAN's capital ships and prime air warfare assets. A task for which they were not designed for (RAN)

So it would seem that a modern well-equipped and capable ADF is as much in Australia's interest as it has ever been. Given our geographic position a major element of our ability to defend ourselves or to contribute to an allied effort will be the capability of the Navy.

Without the DDGs the RAN, while well-equipped for the movement and logistic support of modest ground forces, can no longer provide area air defence or a significant level of gunfire support for deployed ground forces, nor can it provide adequate Fleet defence.

While the six new Collins class submarines are proving to be most effective in their roles, the surface fleet, so relevant in all situations, is now poorly armed. The new Anzac class frigates and the older Adelaide class guided missile frigates (FFGs) (when they are updated in the next few years) will provide an effective small frigate/escort force but without any long range punch.

The new mine-clearance vessels form a very effective core force for their role and the survey vessels are in good shape. Likewise the transport ships MANOORA, KANIMBLA and TOBRUK give Australia a useful force for the transport and logistic support of a modest overseas or coastal deployment. However, one of the two fleet tankers and the entire patrol boat force require very early replacement. A most concerning aspect is that about 70% of all surface ships in the Australian Navy are either unarmed or fitted with ancient pre-WWII designed Bofors guns without any fire control equipment. Given the very small number of well-equipped escort vessels and the huge diversity of tasks requiring their presence, in any serious war there would be little chance of providing escorts for many of these poorly armed vessels. They would be at serious risk facing almost any form of maritime attack. Painting them grey is hardly an effective defence, and there is a morale aspect for crews which must not be overlooked.

It would seem from the above that a major programme to increase the effectiveness and deterrent value of the RAN is of national importance. Part of such a programme must include the early provision of the projected AWDs.

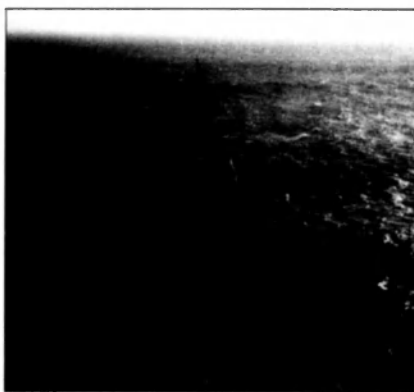
What now, in layman's terms, are the broad likely requirements for an AWD in our environment in the early 21st century?

We would suggest something along the following lines:

- A ship capable of operating effectively in all weather conditions from the tropics to the sub-Antarctic with a range of 6,000 nautical miles or more, a maximum speed of 30kts plus and the following characteristics/capabilities:

- Long-range area air defence with appropriate detection and control systems and missiles;
- Anti-submarine action with detection and delivery systems for appropriate weapons including torpedoes;
- Operating two helicopters equipped with air to surface missiles, torpedoes and ASW equipment together with equipment for reconnaissance and ship missile control;
- Long-range cruise-missile (such as Tomahawk) for strike against both land and ship targets
- Operating UAVs;
- At least one, preferably two medium gun systems capable of firing extended range ammunition against ship or land targets;
- A hull size and design allowing for major equipment additions and alterations during the life-time of the vessel, including at least one major modernisation;
- Robust design to ensure a reasonable chance of survival after receiving action damage and to reduce damage to vital areas, equipment and personnel;
- Self-defence against missile, torpedo and mine attack;
- Low ship signature against all detection systems both above and below water;
- Able to operate closely with US naval forces in all forms of warfare.

Clearly these requirements indicate a vessel of some size – maybe 7,000 tonnes or more. But this aspect should not be of concern, for hulls and propulsion machinery are relatively cheap. It is the equipment fitted which often governs the cost.



The lead F-100-class anti-air warfare (AAW) frigate, ALVARO DE BAZAN, has completed the first of four sets of sea trials before its planned handover to the Spanish Navy in September. The F-100 is one of the designs being considered for the RAN's SEA 4000 project (IZAR)



The Dutch LCF air warfare frigate on sea trials. This ship is also considered to be one of the future contenders for SEA 4000. It employs the SMART-L and APAR radar systems as opposed to the US Aegis (Thales)

Such a ship will of course be very flexible and capable of contributing effectively to deterrence, long-range maritime and land strike, army support and almost all types of maritime operations.

Costly? Yes. But can wealthy Australia take the risk of having a badly unbalanced Defence Force as we become more and more responsible for our own defence. Surely it is a matter of Government budgetary priorities and the internal allocation of funds within the Defence organisation.

What then are the options for the projected AWD's?

In *THE NAVY*, April-June 2001, Dr Roger Thornhill examined the options available to the RAN for existing designs to meet the AWD requirement. The ships he described included the German F-124, the Netherlands LCF, the French/Italian Horizon, the British Type 45, the Spanish F-100 and the Gibbs & Cox design for a frigate specifically adapted to Australian needs and based largely on the design philosophy and standards of the USS ARLEIGH BURKE (DDG-51) design. He concluded that none of these ships fully met the anticipated RAN requirements, but the Gibbs & Cox ship, the F-100 and the F-124 could be classed as favourites.

Neither do any current designs fully meet the requirements we have set out above, particularly in regard to the second gun and range.

Many factors will determine which ship is finally selected. In addition to the operational requirements these factors include:

Technical risk – the recent RAN experience with the design and construction of the Collins class submarines, the most advanced class of conventionally powered submarines in the world, has demonstrated the impact of technical risk on programme and cost. Setting out to achieve the best sometimes results in setbacks. The alternative, of never acquiring anything that has not yet been proven in service by others, would condemn the RAN to technology that is always less than state-of-the-art and possibly less than suitable for our needs.

Lead time – the design of modern combat ships is a complex and time-consuming task that, with few exceptions,



The Gibbs & Cox 'International Frigate' concept. This design is essentially a cut down Arleigh Burke class destroyer (Gibbs & Cox)

is becoming more and more an international effort. A decision to develop a unique ship for the RAN would demand more time than perhaps we have, not to mention the higher cost of this option. Modification of an existing design is a shorter route, although this process can be complex, time-consuming and expensive, depending on the extent of the changes required.

Logistic and training considerations – in his Keynote Address at the Pacific 2002 International Maritime Conference on 30 January, VADM David Shackleton, Chief of Navy, outlined the problems the RAN currently faces supporting and training personnel to operate the wide range of equipment used in the fleet today. He expressed a preference for reducing the diversity of equipment to reduce the training costs and the problem of maintaining the support inventory this diversity demands.

Suitability for Australian Build – there is greater recognition today of the benefits that flow to the RAN and Australia as a whole by the local construction of our naval ships. Australian shipbuilders have proved that they are capable of meeting most challenges but the design licensing conditions imposed by others may influence the extent to which Australia can conveniently adapt and modify existing ship designs.



A rather futuristic and stealthy AWD concept design by the RAN's Naval Materials Group in Canberra

Purchase cost – the acquisition cost naturally plays a large part in any acquisition decision, but the total cost of ownership through-life is a better measure of the relative merits of competing designs, provided naval requirements are met.

Historically, the RAN comprised ships designed originally for the British Royal Navy, or designed to RN standards. The decision in the early 1960s to buy the DDGs from the United States broke with this tradition. It was an inspired decision that provided Australia with some fine ships that served the RAN very well for decades, but resulted in a Navy with two technical and operational cultures – RN and USN.

Gradually, the links with RN design philosophy have been broken, a process hastened by the sourcing of ship designs from a wide range of sources – US, Australian, Italian, French and Swedish. Whilst this process has introduced some fine ships into RAN service, it has created the training and logistic nightmare to which VADM Shackleton referred at Pacific 2002.

The preference expressed by the Chief of Navy for more standardisation of equipment in future RAN ships is

understandable. There are risks inherent in such an approach applied too rigidly it can result in the RAN being denied the benefits of new technology that often have a significant impact on capability and the cost of ownership. Certainly, a high degree of equipment standardisation would seem to be warranted in the new ships that will replace HMA Ships MANOORA, KANIMBLA, TOBRUK, WESTRALIA and SUCCESS. In so far as the combat ships are concerned, it is perhaps more important to consider the design and operational philosophy behind the competing designs.

Today the two main classes of surface combat ship in the RAN are of US and German design origin. This would suggest that the potential short list of contenders identified last year by Dr Roger Thornhill is appropriate if some degree of standardisation of RAN ship design philosophy is to be achieved. The Spanish F-100 may seem to be the odd ship in this list, but it is the product of an alliance between the Spanish shipbuilder Izar, and Lockheed Martin and Bath Iron Works of the United States, working together as the Advanced Frigate Consortium (AFCON). The ship has the Aegis combat system as fitted to the US DDG-51 class and a machinery and weapon fit with much in common with the present or near future RAN inventory.

There is an old expression used by those who have been involved in naval design and construction – "It takes ten years to get a ship". A review of past projects tends to confirm the truth of this saying, although with improving shipbuilding technology fewer of those years are taken up by actual construction, with more required for the selection, design and approval processes.

Today the RAN is a hard-worked, well-equipped, if unbalanced, Navy but many of the ships are approaching their end of life. Replacements for the LPAs, TOBRUK and the replenishment ships will keep Defence and Australian shipbuilders busy over the next fifteen years.

Whilst the replacement of the air-warfare capability lost with the passing of the DDGs is now urgent, the replacement of the six Adelaide class FFGs is not far behind. The FFG-07 class guided missile frigate was originally designed to be a relatively inexpensive ocean escort. It was not intended as a front-line warship, nor was it expected to have a life much

beyond twenty years. Our oldest FFGs, ADELAIDE and CANBERRA, are now twenty-one years old. All six ships are shortly to be modernised (between 2002 and 2006) to extend the life of the hull and to improve the combat system. This will significantly improve the capability of these useful ships. That it has proved possible to extend their life towards 35 years, and increase the upper displacement limit from 3,500 to 4,200 tons, says a lot for the quality of the original design.

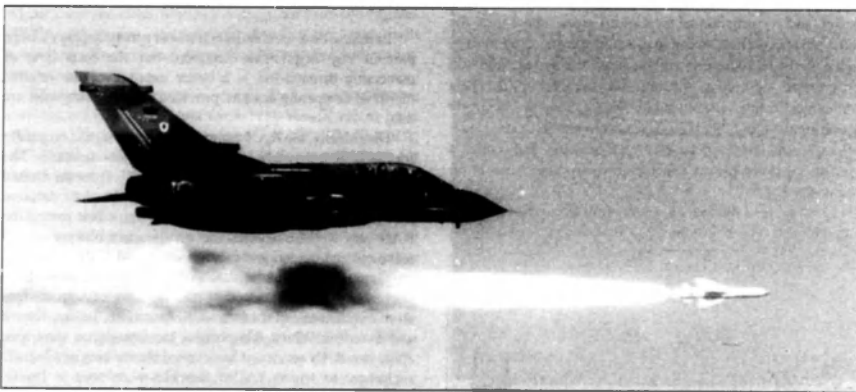
This modernisation should allow the first four ships to remain in service until 2013 – 2017, with the newer two, the Australian-built MELBOURNE and NEWCASTLE, to last until 2017-2020.

It is hard to predict the demands likely to be placed on the RAN in the next twenty years, but if it does 'take ten years to get a ship', then we need to be starting the process, that will deliver the FFG replacements, in the very near future.

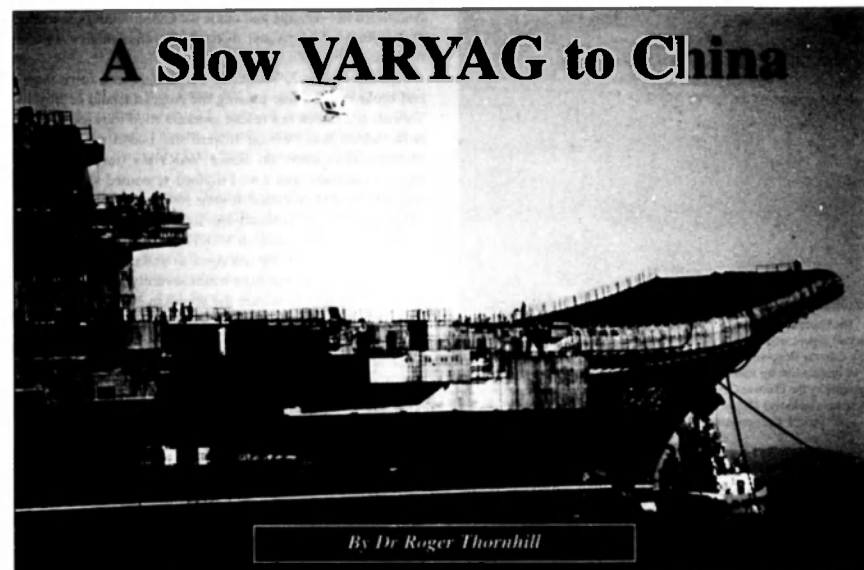
If we are also to minimise the range of different equipment and designs in the RAN as preferred by the Chief of Navy then perhaps the FFG replacements should be of the same family as the AWDs. Not all ships would necessarily be equipped to the same standard, depending on the intended role. The time frame is close to that postulated for the AWD.

While the desirability of building the AWD's in Australia is clear, in the current evolving strategic environment, accepting the time delay resulting from the decision-making process would seem to be taking a great risk in our national defence. Maybe the option of selecting an existing design which perhaps, with minor modifications, most nearly meets Australian requirements and obtaining the first ship or ships from a current overseas production line while building remaining ships in Australia would be the sensible way to go. This approach has been taken in the past when, as now, political decisions on the replacement of needed capabilities have not been taken in a timely manner.

At all events the selection of the next generation of surface combat ships for the RAN is one of the most important decisions facing Canberra, and must be taken in the very near future if the nation is to have a chance of maintaining an adequate level of sea defences over the coming decades.



This is what it's all about. The arrival of the RAN AWD will mean that 'missile shooters' such as this will be unable to not only close to within their missile range but will also be denied valuable targeting data from being unable to 'close' on the sea borne contact. Pictured is a German Airforce (Luftwaffe) Tornado firing a Kormoran anti-ship missile (Luftwaffe).



The ex-Soviet aircraft carrier VARYAG is towed down the Bosphorus Strait on its way to China and an uncertain future either as a floating hotel and casino, study tool for the PLAN or as China's first aircraft carrier. This image clearly shows the 12-degree ski jump employed by the class. (Serhat Guvenet)

At the time of printing the ex-Soviet aircraft carrier VARYAG still had not 'turned up' in the Asia-Pacific region's media despite her being over due from her transit from Turkey to China. VARYAG's appearance in a Chinese port is certain to send shock waves through the region as to date, surprisingly, none of the region's defence academics has even acknowledged that China has bought the super-carrier. There also appears to be some 'anomalies' as who has bought VARYAG, a Chinese based travel agency or the PLAN (People's Liberation Army-Navy).

Before the collapse of the Soviet Union the aircraft carrier VARYAG, still building, was to be the communist nation's second super carrier next to the already completed ADMIRAL KUZNETSOV. VARYAG was originally known as RIGA when her keel was laid down at Nikolayev South (formerly Shipyard 444) on December 6, 1985. She was launched on December 4, 1988, and was renamed VARYAG (viking) in late 1990.

After she was 70% complete construction stopped in 1992 with the ship structurally complete but without electronics, weapons and sensors. Ownership was transferred to the Ukraine as the Soviet Union broke up and the ship was laid up without any routine maintenance or preservation work being carried out. She was then stripped of anything valuable to maintain the current fleet and or to feed the families of dockyard workers. Her condition in early 1998 was grim. She lacked engines, a rudder, and all of her operating systems and was offered for sale as scrap metal.

In April 1999, Ukrainian Trade Minister, Roman Shprek, announced the winning bid for VARYAG's sale. A small Hong Kong company called the Chong Lot Travel Agency Ltd paid US\$20 million for VARYAG. Chong Lot proposed to tow VARYAG out of the Black Sea, through the Suez Canal and around Southern Asia to Macao, where they would moor the ship in the harbour and convert it into a floating hotel and gambling parlour.

However, reports indicate that the Chong Lot Travel Agency Ltd carries a nonexistent address in Macau and was only recently registered. Chong Lot is believed to be owned by a Chinese holding company known as ChinLuck. ChinLuck's ultimate owner is located in the Chinese city of Shandong, which also happens to be the home of the Chinese Navy's North Sea Fleet. ChinLuck's chairman is also a former career officer with the Chinese Military.

Before the auction for VARYAG was closed, officials in the former Portuguese possession of Macao had warned Chong Lot that they would not be permitted to park VARYAG in the harbour. Despite what should have been a serious set back and possible cancellation of the deal the sale was carried out anyway but now under the guise of a scrap metal deal. However, an interesting twist to this tale is that US\$20 million for the hulk represents US\$600 per tonne, three times higher than what scrap metal is normally worth.

Due to the poor condition of VARYAG's hull, many Western military analysts believe it is highly unlikely that the PLAN will commission the carrier, rather, they suggest that the PLAN intends to examine the carrier as a model for an indigenous carrier to be built later. Others counter that as the carrier does not represent modern technology. Also, the PLAN could probably have learned all they needed from VARYAG without towing it all the way to China. So why the tow to China?



The engineless, rudderless hull of what was to be the Soviet Union's second super-carrier VARYAG. The carrier was initially denied permission to transit the Bosphorus Strait given the danger it posed to the large number of bridges linking Europe to the Orient. But assurances to pay for any damages by the Chinese Government and the fact she was to be escorted by 27 vessels including 11 tug boats and three pilot boats finally convinced the Turkish Government to allow her to pass. (Serhat Guvenc)

Whatever plans have been made, in mid-2000, a Dutch tug with a Filipino crew was hired to take VARYAG under tow. However, Chong Lot could not get permission from Turkey to transit the dangerous Bosphorus Strait – in addition to safety issues, the Montreux Treaty of 1936 does not allow aircraft carriers to pass the Dardanelles – and the hull spent 16 months circling in the Black Sea costing the owners US\$8,000 a day in tug boat fees. Interestingly, high-level Chinese Government ministers conducted negotiations in Ankara on Chong Lot's behalf, offering to allow Chinese tourists to visit cash-strapped Turkey if the travel agency's ship were allowed to pass through the straits. On November 1, 2001, Turkey finally relented from its position that the vessel posed too great a danger to the bridges of Istanbul, and allowed the transit, which forced the closure of the Bosphorus to all other traffic. The Chinese Government's active involvement in the negotiations with Turkey over the VARYAG issue gives strength to speculation that the ship is to be used by China to develop its first aircraft carrier.

Escorted by 27 vessels including 11 tug boats and three pilot boats, the large engineless and rudderless carrier took six hours to transit the strait; most large ships take an hour and a half. Russian media reported that 16 pilots and 250 seamen were involved. At 11:45am on November 2, she



The 70% complete VARYAG sits at dock awaiting disposal or sale (1997). The ship was stripped of all its electrical components and piping to keep other Russian and Ukrainian ships in operations and to keep dockyard workers families fed.

completed her passage and made for Gallipoli and Canakkale at 5.8 knots. She passed through the Dardanelles without incident.

On November 3, VARYAG was caught in a force 9 gale and broke adrift while passing the Aegean island of Skyros. Turkish and Greek sea rescue workers tried to re-capture the hulk, which was drifting toward the island of Evia. The seven-member crew on board VARYAG (three Russians, three Ukrainians and one Filipino) remained there as six tugboats tried to re-establish their tow. However, after many failed attempts to reattach the lines, a Greek coast guard rescue helicopter landed on VARYAG and picked up four of the seven crew. One tug managed to make a line fast to the ship later in the day, but high winds severely hampered efforts by two other tugs to secure the ship. On November 6, Aries Lima, a sailor from the tug HALIVA CHAMPION, died after a fall while attempting to reattach the tow ropes. On November 7, the hulk was taken back under tow and progress toward the Suez Canal resumed at some three knots.

Since then, she has failed to materialise in the region.



Russian's only super-carrier the ADMIRAL KUZNETSOV at sea. KUZNETSOV is the lead ship of the class and the sister of what VARYAG was to look like.

Background

The 67,500-ton Kremlin class aircraft carrier was designed to support strategic missile carrying submarines, surface ships and maritime missile-carrying aircraft of the old Soviet fleet. The ship was to be capable of engaging surface, subsurface and airborne targets. Superficially similar to American carriers, the design is in fact defensive in support of SSBN bastions. The lack of catapults may preclude launching aircraft with heavy strike loads, and the air superiority orientation of the air wing is apparent.

The flight deck area is 14,700 square metres and aircraft take-off is assisted by a bow ski-jump angled at 12 degrees in lieu of steam catapults. The flight deck is equipped with arrestor wires. Two starboard lifts carry the aircraft from the

hangar to the flight deck. The ship has the capacity to support 18 Sukhoi Su-27D (Flanker) and four Su-25 'Frogfoot' fixed wing aircraft and a range of helicopters including 15 Kamov Ka-27-LD (Helix) and two Kamov Helix AEW&C aircraft. The ship was fitted for a Granit anti-ship missile system equipped with 12 vertical surface to surface missile launchers. The air defence missile system was to include 24 vertical launchers housing 192 anti-air missiles.

Originally designated 'Black-Com-2' class (Black Sea Combatant 2), then subsequently the Kremlin class, and finally redesignated Kuznetsov class, these ships were sometimes also referred to as the Brezhnev class. Initially, Western analysts anticipated that the ships would have a Combined Nuclear And Steam (CONAS) propulsion plant similar to the Kirov battle cruiser. However, the class was in fact to be conventionally propelled with oil-fired boilers.

Western intelligence first detected preparations for the construction of the first ship in late 1979. The first public view of this ship came with the leak of the 'Morrison Photos', which were the first real public look at overhead satellite imagery. Another leak over a decade later was a bookend to the first, showing the dismantlement of the sister ship to the carrier in the Morrison photo.

The first unit was originally named TBILISI, and subsequently renamed ADMIRAL FLOTA SVETSKOGO SOYUZA KUZNETSOV. The ADMIRAL KUZNETSOV is currently the only operational aircraft carrier in the Russian Navy. A variety of aircraft were tested on KUZNETSOV. The first specially configured Su-25UT Frogfoot B, Su-27 Flanker, and MiG-29 Fulcrum conventional jets landed on the deck of the TBILISI in November 1989, aided by arresting gear. The MiG-29K passed test flights from the deck of the aircraft carrier, but was not selected for production.



The carrier VARYAG had sat idle since 1992 without any preservation work or maintenance being conducted. What China will make or learn from her only time will tell.

Displacement (tons):

43,000 tons light

53,000-55,000 tons standard

66,600-67,500 tons full load

Speed (kts):

32 knots

Dimensions (m):

302.3-306.45 meters long overall

270.0-281.0 meters long at waterline

35.4-38.0 meters beam

72.0-73.0 meters width overall

9.14-11.0 meters draft

Propulsion:

2 x 50,000 hp gas turbines; 8 boilers; 4 fixed pitch props; turbogenerators: 9 x 1500 kW diesel gen. 6 x 1500 kW; range: 3,850 nm/32 kts; endurance: 45 days

Crew:

1960 + 626 air group + 40 flag

3857 rooms



The Russian carrier ADMIRAL KUZNETSOV. Many doubt that China can complete VARYAG to the standard of her sister ship KUZNETSOV but questions about VARYAG's owner's motives are already being asked, as well as their true identity.

Flash Traffic

NZ defence caught in time warp

By Henry Wilson,
from the 'Defence Systems Daily'
website

In a situation more akin to the whims of a Hollywood screen writer than a serious idea from Defence Chiefs, the latest sea trials in New Zealand of the country's frigates have cast more doubt on the wisdom of last year's decision by the Government to scrap its Air Force. The vessels CANTERBURY and TE KAHA carried out battle training exercises recently in the Bay of Plenty, their 'enemy' - three elderly aircraft flown by members of the NZ 'Warbirds Association', who restore and preserve classic aircraft.

Last year's decision to disband 2, 14, and 75 Squadrons of the RNZAF, which flew A-4 Skyhawks and Aermacchi trainers, met with criticism from its allies, both regional and global, as New Zealand became the first country since the war to disassemble its airborne defensive capability. Action group 'Save Our Squadrons', is currently exploring legal possibilities that the decision breaches the 1990 Defence Act and is therefore unconstitutional. Helen Clark, Prime Minister of the left-wing coalition government, ignored advice given by experts in the field of defence, including those commissioned by her own party, which questioned the wisdom of the move.

The events of the last week can only have cast further aspersions on the current state of New Zealand's defensive capabilities. The aircraft - a Hawker Hunter which first flew with the Singapore air force in 1957, a Fouga Magister which entered service with the French military in 1960, and a Cessna A-37B built in 1972 and used during the Vietnam War - took the role of enemy aircraft in mock attacks on the two warships.

How this will have prepared the ships and their crews for the realities of modern warfare is unclear, but no doubt Ms Clark will be pleased that the humorous traditions of HMS Pettecoat have been well served.

New ship decisions for RNZN

NZ Defence Minister Mark Burton has finally revealed the future shape of New Zealand's Navy.

"The Government is committed to equipping the Royal New Zealand Navy with a practical fleet that is modern, sustainable and matched to New Zealand's needs. This will involve a significant increase in the current naval fleet and a more focused use of existing resources.

"This announcement follows the first ever comprehensive analysis of New Zealand's maritime patrol requirements, both civilian and military," Minister Burton said. "Decisions have been taken on the basis of the Maritime Forces Review, and the earlier Maritime Patrol Review, released in February 2001.

"The reviews have identified gaps in the Navy's current ability to meet all tasks, in particular, sealift and civilian patrol requirements. Cabinet has therefore agreed to spend up to NZ\$500 million on capital acquisitions for the Royal New Zealand Navy," Mark Burton said.

"This will include a multi-role vessel, at least two offshore patrol vessels, and four or five inshore patrol vessels. The inshore requirements could possibly be met by upgrading the Navy's existing five inshore patrol craft.

"The two key timing issues are filling the gap in civilian agency patrol requirements, and bringing into service a multi-role vessel to replace the Leander class frigate CANTERBURY, due for retirement in 2005.

"I have therefore directed the Ministry of Defence to canvass proposals from industry to meet the requirements for a multi-role vessel, and offshore and inshore patrol requirements. Opportunities for New Zealand industry involvement will be explored. The New Zealand shipbuilding industry has already indicated that there would be considerable scope for New Zealand involvement.

"Once input from industry has been analysed, I will put acquisition proposals forward to Cabinet.

"The Government has embarked on a badly needed equipment modernisation programme across all three services: Navy, Air Force and Army. This is expected to involve capital spending of around NZ\$2 billion over the next decade, as we provide our defence personnel with the right equipment to do their jobs," Mark Burton said.

The current Royal New Zealand Navy fleet consists of:

- 2 ANZAC class frigates HMNZS TE MANA and TE KAHA
- 1 LEANDER class frigate HMNZS CANTERBURY
- 1 replenishment ship HMNZS ENDEAVOUR
- 1 diving support vessel HMNZS MANAWANUI
- 4 inshore patrol craft HMNZ ships MOA, KIWI, WAKAKURA and HINAU
- 1 hydrographic and oceanographic survey ship HMNZS RESOLUTION.

The Royal New Zealand Navy of the future will include the following elements:

- 2 ANZAC class frigates HMNZS TE MANA and TE KAHA
- 1 Multi-Role Vessel
- 2 or more offshore patrol vessels
- 1 replenishment ship HMNZS ENDEAVOUR
- 1 diving support vessel HMNZS MANAWANUI
- 4 or 5 inshore patrol vessels.

(The need for a hydrographic survey capability is the subject of a separate review nearing completion.)

The Maritime Patrol Review involved all of the relevant government departments and agencies: Ministry of Defence, New Zealand Defence Force, Ministry of Foreign Affairs and Trade, Ministry of Fisheries, New Zealand Customs Service, Treasury, Department of Conservation, Department of Prime Minister and Cabinet, Ministry of Agriculture and Forestry, Maritime Safety Authority, New Zealand Police and the National Institute of Water and Atmospheric Research.

HMNZS CANTERBURY is due for de-commissioning in 2005. To ensure there is no loss in training capability and no major fluctuation in the number of navy personnel required, a smooth transition from CANTERBURY to the Multi-Role Vessel is necessary.

RN SSN to go on public display

The UK MOD announced on 6 December plans to put the former Royal Navy nuclear submarine HMS COURAGEOUS on public display at HM Naval Base Devonport.



HMS COURAGEOUS will go on public display at HM Naval Base Devonport in spring of 2002.

COURAGEOUS, a Fleet or hunter-killer submarine, was decommissioned in 1992 after 21 years service, including during the Falklands conflict, and has been berthed in 3 Basin at Devonport since 1993. It is proposed that she be moved to 3 Dock in the spring of 2002, and there opened up to visits by members of the public as a unique attraction, as part of plans to expand the dockyard's Visitors' Centre and the Naval Base Museum.

Osprey to enter two-year flight test programme

US Defense Under Secretary for Acquisition, Technology and Logistics, Pete Aldridge, has announced that the US Military's troubled V-22 Osprey aircraft is to go through a two-year flight test programme.

"I've had some serious doubts about the safety, reliability and operational suitability of the V-22", Aldridge said during a Pentagon press conference. "I personally still have some doubts, but the only way to prove the case is to put the airplane back into flight test, and we're going to do that."

THE USMC still plans to buy 360 while the USN and USAF plan to buy 50 each of the tilt-rotor aircraft. These plans however, were put on hold

following two crashes that killed 23 Marines in April and December 2000.

The new flight test programme is to start in April 2002 and will be a comprehensive, two-year look at the aircraft. The tests will further explore the occurrence called vortex ring state, deemed responsible for the first crash of a V-22 in Arizona that killed 19 Marines.

The tests will also explore shipboard compatibility such as what happens when one rotor is over the flight deck and the other is over the side of the ship, conditions which could include take-off, landing or craft on deck.

The tests will also explore low-speed hover conditions, such as landing when the props blow up dust, debris, snow and other things. Combat manoeuvrability and formation flying, including refuelling operations are also included.

Aldridge said he and Navy Secretary Gordon England would assess the testing programmes at various posts along the way. He said the flight-test hurdles would be event-driven rather than schedule-driven. Tests will not move to new areas until engineers fully understand the results of earlier testing.

"We'll not be driven by trying to accomplish something in a certain period of time," he said.

The US DoD has slowed down production of the V-22 to the minimum sustaining level. This will allow changes to be made to production aircraft. Aircraft already built will be retrofitted.

USMC UH-1Y rolls out

The first remanufactured UH-1Y utility transport helicopter for the US Marine Corps (USMC) was rolled-out at Bell Helicopter Textron's Flight Research Center, at Arlington Municipal Airport, on 13 December 2001. Bell is remanufacturing 100 UH-1N Hueys to the new UH-1Y configuration as part of the US\$4.5 billion H-1 Program, which also includes the remanufacture of 180 AH-1W attack helicopters to AH-1Z configuration.

The H-1 Program is a major upgrade initiative to remanufacture



The first remanufactured UH-1Y utility transport helicopter for the USMC takes to the air for her first flight test (Bell)

these two USMC types to an advanced configuration featuring common engines and flight dynamics. The H-1 upgrades include an enormous amount of commonality between the two aircraft including engines (General Electric T700 turboshafts), a four-blade all-composite, hingeless, bearingless main rotor system and tail rotor, identical drive trains, hydraulics and electrical distribution systems. By utilising common systems, the cost of the logistics support process for the two helicopters reduces dramatically allowing for vastly improved shipboard operability. Far less critical shipboard space will be needed to store spare parts and support equipment to support the two helicopters comprising the H-1 Program.

New Russian SSN starts sea trials

The new Russian SSN GEPARD has started its sea trials in the northern waters of the White Sea following a ceremony that went some way to easing the wounds of the KURSK disaster and restoring the Russian Navy's morale. GEPARD is Russia's first nuclear-powered submarine of the 21st century.

President Vladimir Putin met the crew and sent the missile-armed, torpedo-carrying boat - named Cheetah in English - into service after successful sea and weapons trials under the blue and white Russian fleet flag of St. Andrew.

Russian Navy officers have already recognised the boost to pride that comes with a new vessel. Commander-in-chief of the Russian Navy Admiral Vladimir Kuroyedov said that it is "symbolic for the lost boat to be replaced by a new submarine," noting that Russia was advancing to building a

new fleet which "will be a tribute to the sailors who died on KURSK."

The 110-metre-long craft is the first in a fleet of new SSNs to be constructed. It displaces nearly 12,770 tonnes, dives to a maximum depth of 600 metres with a submerged top speed of 35 knots.

The class is served by a 63-strong crew and has space for 24 tube launched weapons including the nuclear-tipped Granit cruise missile with a range of up to 3,000 kms. It also carries a Sirela anti-aircraft weapon system. Though much smaller than the wrecked KURSK, GEPARD is viewed as the most formidable ship in the Russian Navy. Construction began in 1991.

Some Western naval observers believe GEPARD may move as fast and as quietly as America's newest Los Angeles class SSN, and have the capacity to dive deeper.

Six Fennec for Royal Malaysian Navy

At the LIMA 2001 International Air Show in Langkawi, the Malaysian Ministry of Defence, and Eurocopter signed a contract for the supply of six AS-555 SN Fennec helicopters to the Royal Malaysian Navy (RMN). The contract is worth 42 million euros.

The twin-engine light helicopter will be used for training, reconnaissance and over-the-horizon targeting. It can also handle 'complementary' missions such as, vertical replenishment, cargo transport, medical evacuation, and SAR. The aircraft will be delivered by the end of 2003.

The twin-engine AS 555 SN helicopter is powered by two Turbomeca Arrius 1A new-generation turbo engines with digital control.



A twin-engine Eurocopter Fennec helicopter of the RMN. (Brian Morrison, Warships & Marine Corps Museum)

Visby starts sea trials

The first of Sweden's Visby-class corvettes has started sea trials under the supervision of its builder, Kockums.

A total of six Visby-class vessels were originally ordered from Kockums. However, the Swedish Defence Materiel Administration (FMV) and Kockums have concluded an agreement to reduce the order to five ships (with an option remaining on the sixth vessel) after the HDW-owned shipyard incurred substantial cost overruns on the project.

Displacing over 600 tonnes, the 72m corvettes are constructed almost entirely from fibre-reinforced plastic material, and feature a variety of innovative signature-reduction techniques covering radar cross-section, infra-red, acoustic, magnetic, hydrodynamic pressure, visual and electronic signature reduction measures.



The first of Sweden's super stealthy Visby-class corvettes on sea trials.

In their initial configuration, the Visby-class corvettes were equipped with a single Bofors 57 mm Mk 3 gun, a Saab Bofors Dynamics' ALECTO multirole rocket launcher and four tubes for Tp 45 anti-submarine homing torpedoes. The ships will also have a fully integrated underwater warfare suite for both anti-submarine and mine countermeasures (MCM) operations. Alternatively, eight Saab Bofors Dynamics RBS-15 Mk II anti-ship missiles can be fitted in place of role-specific MCM equipment.

Command and weapons will be controlled through the SaabTech-supplied CETRIS combat management system, based on the latest CeCots multifunction console. Above-water sensors include an Ericsson Microwave Systems Sea Giraffe AMB three-dimensional radar and a Condor Systems C-3701 electronic support measures system.

SM-2 Block IVa Cancelled

The US Under Secretary of Defense for Acquisition, Technology and Logistics, Pete Aldridge, has cancelled the US Navy's Area Missile Defense Program due to poor performance and projected future costs and schedules. The cancellation will result in a work stoppage at some contractor and governmental field activities.

The cancellation came, in part, as a result of a Nunn-McCurdy Selected Acquisition Report breach of the existing program. A Nunn-McCurdy unit cost breach occurs when a major US defence acquisition program experiences a unit cost increase of at least 15%. If the unit cost increase is at least 25%, the US Secretary of Defense must certify that:

- The acquisition program is essential to the national security;
- There are no alternatives to the acquisition program which will provide equal or greater military capability at less cost;
- The new estimates of the program acquisition unit cost or procurement unit cost are reasonable; and,
- The management structure for the acquisition program is adequate to manage and control program acquisition unit cost or procurement unit cost.

In the case of the Navy Area Missile Defence Program, the program acquisition unit cost and average procurement unit cost exceeded 57% and 65%, respectively. The Department has decided not to certify the program as currently configured.

"It's unfortunate we've reached this point," said Aldridge, "but certification was impossible. We are still in pursuit of a sea-based terminal phase capability as part of the overall missile defence strategy, but we must now move forward from here."

Over the next several months, the Ballistic Missile Defense Organization (BMDO) will address sea-based missile defence as part of its plans to develop an integrated ballistic missile defence system that provides a layered defence against ballistic missiles of all ranges.



Two of the US Coast Guard's new Augusta MH-68 'MAKO' helicopters (AKA A-109). The new helicopters will be used to chase down the ocean going speed boats that drug runners are now using to escape capture in the Caribbean. The helicopters can be fitted with either a 7.62 mm machine gun or .50cal sniper rifle to knock out the engines of the drug boats. They are also fitted with a forward looking Infra-Red camera, search light and rescue equipment (USCG)

First Mesma AIP passes acceptance tests

Following exhaustive testing at DCN's Nantes-Indret facility, the Pakistani Navy has announced its acceptance of the first Mesma AIP (Air Independent Propulsion) unit. All results fully comply with the contractual specifications and all tests - including output power, fuel consumption and endurance - were supervised by a team of Pakistani officers.

Mesma, the first AIP system purchased by an international customer, offers an air-independent propulsion capability that is ideal for extended and deep diving. Because Mesma extends submerged endurance three to four-fold, the vessel does not need to surface nearly so often to recharge her batteries and is generally more discreet. Mesma-powered conventional submarines also offer new operational capabilities, including improved interception and quieter evasion.

The Mesma module is entirely in line with DCN's current philosophy of modular submarine design and

construction. The Mesma AIP 'plug' can be readily incorporated into new-built submarines or existing designs.

The Mesma plug will be shipped to Karachi for integration with the HAMZA, a DCN-designed Agosta 90B submarine currently under construction for the Pakistani Navy. When fully outfitted, HAMZA will undergo extensive sea trials.

In 1994, DCN International signed a contract with the Pakistani authorities to supply three Agosta 90B submarines. The contract also included provisions for extensive technology transfers. The first submarine, KHALID, was built and integrated in France and has been in service since August 1999. The second and third vessels are being built in Karachi.



The first Mesma AIP 'plug' for Pakistan's three Agosta 90B submarines. (DCN International)

VL MICA missile test a success

The first vertical launch of a MICA missile, developed by the newly formed company MBDA, has taken place at the Centre d'Essais des Landes (CEL) in France.

This trial was to validate the principles and technologies used during the launch phase of this new short range air defence (SHORAD) system, using the air-to-air MICA missile which is in service with some air forces.

This validation marks an important step in the VL MICA programme. It effectively clears the way for the full development of the system, the naval version of which is due to be launched during this year and is intended for the self-defence of surface ships.

The principal objectives of this trial were to verify the concept elements and the new technologies used in the storage container and vertical launcher of the VL MICA, and to study the behaviour of the missile during the launch phase.

The results achieved proved that the principal risks in the vertical launch

concept of the VL MICA have been overcome, from the mechanical and thermal behaviour of the launch container to the attitude of the missile on leaving the container.

The success of this trial will allow extra time for the remainder of the development of the naval version of the VL MICA, which should be operational by 2004.

The Vertical Launch (VL) MICA system is a short range surface-to-air system which uses the MICA missile, and is available with two seekers, electromagnetic (EM) and infra-red (IR). It can be used in the most severe electronic or IR countermeasure environments with a very high probability of target hit. It has an interception range of around 10 kms against moving targets, and an altitude range of up to 33,000 feet (10,000 metres).

The VL MICA offers a real multiple target engagement capability (fire-and-forget, all weather) against all types of targets (fast jets, helicopters, missiles, guided weapons, etc.).

In the naval self-defence version, the basic configuration of the VL MICA system includes eight MICA munitions and a launch sequencer.

The missile is fire-and-forget, and once the target is designated, the missile flies autonomously to the target. Target designation can be done by any 3D surveillance radar currently in use with the Navy, using an existing multi-mission console. On-board installation is simplified through the modular vertical containers and through the use of a single electronic interface, located under the deck of the naval vessel.

The VL MICA can also be installed, in retrofit, on ships equipped with 2D radar. It consists of a radar, a tactical

operations centre, and four VL MICA launchers, each capable of firing four missiles.

Austal secures ferry contract with US military



The Austal High Speed Catamaran WESTPAC EXPRESS will be leased to the USMC's 3rd Expeditionary Force for three years. (USMC)

Austal Ships has won a three-year contract with Military Sealift Command of the United States Military for the 101 metre high speed Theatre Support Vessel (TSV), *WestPac Express*. This is the first time the US Military has contracted a commercial vessel of this type for military support. The TSV will be used for operations supporting the Third Marine Expeditionary Force (III MEF) of the United States Marine Corps.

The three-year contract follows an extensive trial of the vessel during a proof of concept charter period entered into between Austal and the US Military in July 2001 (see *THE NAVY* Vol 63, No 4).

Austal's Managing Director, Mr Bob McKinnon said Austal won the contract over bids from major competitors. "The US Military

extensively tested our vessel and compared it to others, clearly demonstrating that *WestPac Express* is the preferred logistics solution for the III MEF's requirements," he said. "This contract has opened the door for Austal to take a leadership position in supplying vessels for the military market. Our decision to establish a modern shipyard in Alabama in the United States enables Austal to take full advantage of further US Military orders that could be expected to flow from this contract."

Mr McKinnon said Austal had made arrangements to sell *WestPac Express* to a financier. The vessel is to be chartered from the financier for the contract with the United States Military.

Austal has been focusing extensively on developing vessels for military use, recognising the superior applications high speed ferries provide to move large numbers of troops and support vehicles in one lift, compared to many movements with traditional vessels or aircraft.

WestPac Express enables III MEF to rapidly transport a complete battalion of more than 950 marines together with up to 550 tonnes of vehicles and equipment, in one lift, delivering considerable strategic and cost advantages.

During the term of the charter the vessel will continue to transport marine battalions, vehicles and equipment between the III MEF base at Okinawa and other ports in Japan and the Western Pacific region.

WestPac Express will be re-flagged in the United States during the course of the contract, establishing a benchmark as the first commercial vessel of this type to be registered and flagged in the United States.

Hellenic Navy to retire two DDGs

The Hellenic Navy (HN) is retiring two of its four ex-US Navy Charles F Adams-class DDGs due to age and the corresponding and expensive manning and maintenance requirements.

The DDGs were transferred to the HN in 1992, and made Greece the first eastern Mediterranean country able to perform area air warfare missions, thanks to the ships' Mk-13 rail launcher and SM-1MR weapon system.

It is understood that HS THFMISTOKLIS (D 221), ex-USS BERKELEY, will be withdrawn from service shortly, to be followed later by HS FORMION (D 220), ex-USS JOSEPH STRAUSS.

For the remaining two DDGs, HS KIMON (D 218) and NEARCHOS (D 219), formerly USS SEMMES and WADDEL respectively, no more upgrades will be performed. However, the HN's remaining inventory of SM-1MR missiles is expected to be upgraded to the Block 6 standard, in order to be kept operational until 2010, when the last two vessels will be withdrawn from service.

It is understood that if the upgrade of the missiles proves unfeasible, a quantity of around 100 SM-1MR Block 6 rounds might be purchased instead.

F-100 news

The lead F-100-class anti-air warfare (AAW) frigate, ALVARO DE BAZAN, has completed the first of four sets of sea trials before its planned handover to the Spanish Navy next September.

Built by Izar, the ship recently undertook initial platform trials testing of various combat system elements. Further trials are scheduled for July in advance of final handover to the Spanish Navy.



The second F-100 ordered for the Spanish Navy, ALMIRANTE JUAN DE BORBON, is launched from the IZAR shipyard in Spain.

ALVARO DE BAZAN is the first of four F-100 frigates equipped with a variant of the US Navy's AEGIS Combat System and associated SPY-1D phased-array radar, joined to an indigenous combat direction system (CDS).

Construction of ALVARO DE BAZAN began on 9 July 1997, with the keel formally laid down at Ferrol on 14 June 1999 and the ship launched in October 2000. The second F-100-class ship, ALMIRANTE JUAN DE BORBON, was recently launched.

The F-100 is one of the contenders for the RAN's SEA 4000 project to acquire an air-warfare destroyer.

Second hand submarines for Poland

Poland's Deputy Defence Minister Janusz Zemke has confirmed that the Polish Navy will this year receive two of four ex-Royal Norwegian Navy (RNoN) Koblen-class conventional submarines (SSKs) retired from service with the RNoN in 2001 as a result of defence cuts.

The eminent publication *Jane's Defence Weekly* has learned that by 2004 Poland will receive four boats and a decommissioned single for spares, as well as a dedicated tester for the Saab Bofors Undervater Systems Type 61 heavy-weight torpedoes, all of which will be donated by the RNoN.

Poland will pay some Zl 12 million (US\$3 million) to cover the transfer of the first two boats and for training and ammunition. Norwegian and Polish officials are negotiating the last of a series of agreements to finalise the deal. The first Polish Navy crew has already arrived in Norway for training.

The Polish Navy will accept two submarines this year, while the remaining two vessels, which are scheduled for delivery in 2003 and 2004, will undergo pre-planned maintenance at a Norwegian shipyard with the assistance of technicians from Poland's Naval Shipyard Gdynia. The shipyard will also provide in-service support for all four boats while operational with the Polish Navy.

The arrival of the ex-RNoN submarines is expected to speed up the retirement of the Polish Navy's two ageing Foxtrot class submarines ORP DZIK and ORP WILK, which are to be offered for sale, along with the modified Kashin-class guided missile destroyer ORP WARSZAWA in the latter half of this year.

Most of the crew of the WARSZAWA are now being trained for conversion to the second ex-US Navy Oliver Hazard Perry-class guided missile frigate USS WADSWORTH.

WADSWORTH was handed over to the Polish Navy last month and will be renamed ORP GENERAL TADEUSZ KOSCIUSZKO on its official commissioning in June.

Turkey to receive more FFGs

The US Department of Defense (DoD) has approved the sale to Turkey of two more FFG-7 Oliver Hazard Perry-class frigates.

The deal, which could be worth as much as US\$110 million, would involve transferring the USS ESTOCIN (FFG-15) and USS SAMUEL ELIOT MORISON (FFG-13), as well as associated equipment.

Apart from the normal sensor and weapon outfits for the FFGs the deal is also thought to include upgrade kits for 50 Standard SM-1 missiles.

The ships would be directly transferred from active duty in the US Navy to the Turkish Navy, and bring Turkey's total number of FFGs to nine.

France to acquire spy ship

The French Government has announced that the defence company Thales has been selected as prime contractor to supply a new intelligence-gathering vessel (AGI) and embarked MINREM signals intelligence suite for the French armed forces following a competition with EADS (teamed with shipbuilder Chantiers de l'Atlantique).

The Naval Procurement Directorate of the Délégation Générale pour l'Armement awarded the contract, which is worth more than EUR100 million (US\$89.1 million). It marks the first time that Thales has been selected as prime contractor for a new-build ship for the French Navy.

Designed to replace the AGI BOUGAINVILLE, the new 'eaves-dropping' vessel is scheduled to enter service in 2005 and will be operated by the French Navy (Marine Nationale). The specification for the MINREM joint force signals intelligence system has been defined by the French Direction du Renseignement Militaire (DRM) military intelligence directorate.



(Left) The bridge of the former HMAS BRISBANE is removed at Garden Island in Sydney for transport on the back of a truck to the Australian War Memorial in Canberra to form part of a future exhibit dedicated to the ship that served in two wars (Vietnam & the Gulf War). (Right) Here the bridge arrives at the War Memorial's Annex in the Canberra suburb of Mitchell. Also transported to Canberra by truck in the 'DDG convoy' was one of the ship's propellers and its Mk-13 missile launcher. (Brian Morrison, Warships & Marine Corps Museum & Mark Schweikert)

The MINREM payload will be employed to gather signals intelligence information for the DRM over periods of several months at a time. The system will feature facilities for communications intelligence (COMINT) – comprising signal interception, monitoring and direction finding – as well as electronic intelligence (ELINT)-gathering of radar emissions. MINREM will adopt an open architecture designed to enable regular upgrades and technology refresh.

Thales Naval France will act as overall prime contractor, taking responsibility for project management, prime contractor-level engineering, functional integration, and acceptance testing (both at the factory and during sea trials). The hull will be built in the Netherlands, with outfitting, integration and support undertaken by Thales in France.

The contract also includes in-service maintenance and operational support for an initial five-year period. The support services package proposed by Thales is intended to ensure vessel availability for at least 350 days each year.

The vessel will have an overall length of about 100 m and accommodation for 108 persons (including a crew of 30). Cruising speed will be 16kt in Sea State 3, and 10kt up to Sea State 6. Other features include a helicopter flight deck and facilities for underway replenishment.

USMC Sea Knight improvement program

Delays in the V-22 Osprey programme have put a fresh emphasis on an interim improvement program for the US Marine Corps' (USMC) Boeing CH-46E Sea Knight helicopters.

However, even it there are no further setbacks to the V-22 programme, under current plans the CH-46E will remain operational service till 2012.

The USMC's 229 CH-46E helicopters are suffering from the growing effects of old age. Troop payloads have been reduced from 25 to eight-to-18 combat equipped troops. The mean time between routine engine



Delays in the V-22 Osprey programme and old age are forcing the USMC to re-engine its fleet of CH-46 Sea Knight helicopters, the work horse of the USMC, in keep them flying longer (USMC)

maintenance servicing for the CH-46E's T58-GE-16 engines, which have an average service life of over 3,500h, has been reduced to fewer than 360h from an original 900h.

This decreased performance is due to both weight gain through necessary modifications to the CH-46E (over 3,600 lb over its service life) and a 10% reduction in thrust as the engines have aged.

The US\$192-million four-year ERIP (Engine Reliability and Improvement Program) is intended to maintain safety and airworthiness and restore the CH-46E engines to their original thrust and reliability levels.

Indian stealth frigate starts sea trials

INS TALWAR, the first of three new Project 1135.6 frigates built by Russia's Baltiysky Zavod shipyard for the Indian Navy (IN), has sailed from St Petersburg to begin sea trials in the Gulf of Finland.

A substantially modified version of the Soviet Krivak III-class design, the three Talwar class ships were ordered in November 1997. They incorporate topside structures and hull



An artist's drawing of the INS TALWAR. The ship is a substantially modified version of the Soviet Krivak III-class design with topside structures and hull surfaces shaped to remove radar 'hot spots' and reduce overall radar cross-section.

surfaces shaped to remove radar 'hot spots' and reduce overall radar cross-section.

Armament includes a single A-190E 100 mm dual-purpose gun, an eight-cell vertical launcher for 3M54-EI anti-ship missiles (part of the Klub-S system), a single Shitl-1 (SA-N-7) area-defence missile launcher, two Kashtan gun/missile inner-layer defence systems, an RBU-6000 anti-submarine rocket system, and two DTA-53 torpedo launchers.

China buys two more Sovremenny DDGs

In the last issue of *THE NAVY* we reported that China's plans to purchase two more Sovremenny-class destroyers was looking tenuous. However, China has since announced it is buying two more Russian-built Sovremenny-class destroyers to a modified Project 956EM design developed by the St Petersburg-based Severnoye Design Bureau.

The contract is thought to be worth in excess of US\$1 billion and was signed by Sergei Chemezov, first Deputy Director General of Russia's Rosoboronekspart Arms Export Agency, and Zhou Vai, Deputy Head of China's Chief Armament Directorate's Procurement Office.

The contract also includes an option for a further two ships, which if taken up, would give China six of the powerful destroyers.

The first two Project 956E destroyers, HANGZHOU and FUZHOU, were delivered in December 1999 and November 2000 respectively. Both ships had originally been laid down for the Russian Navy, but funding problems prevented their completion. The two new ships are due for delivery by the end of 2005.

While the first two Project 956E Sovremenny-class ships for the PLAN were completed to what was essentially the standard Project 956 configuration (with eight supersonic SS-N-22 'Sunburn' missiles) the new Project 956EM units are expected to incorporate substantial combat system improvements.

A source from the Severnoye bureau told the world renowned *Jane's Defence Weekly* that four alternative design options had been presented to the PLAN. Each included a

modernised anti-ship capability (either eight improved SS-N-22 'Sunburn' missiles, 16 SS-N-25 missiles, 12 vertically-launched Novator 3M54E Klub missiles or 12 vertically-launched 3M55 Yakhont missiles).

Russia and China have been discussing the sale of more Sovremenny-class ships for some time. At one stage it was expected that the PLAN would receive refitted and reconditioned Project 956 ships decommissioned from the Russian fleet.

India to lease Russian Akula SSNs

India has announced that it will lease two Russian Akula class SSNs to enable it to meet its "expanding operational responsibilities" and to counter China's presence in the Indian Ocean and Bay of Bengal. The move comes as India's own indigenously built nuclear-powered submarine – the Advanced Technology Vessel (ATV) – is well behind schedule.

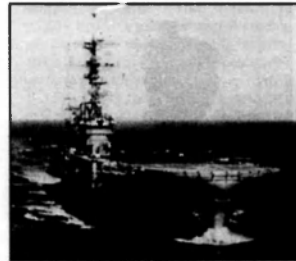
Sources in New Delhi said the IN (Indian Navy) will lease the SSNs for five years. The boats are expected to enter service in 2004, although the contract is still to be approved by the Indian Government.

The Akula class SSN displaces 9,100 tons dived. It has a submerged top speed of 28kts via one nuclear reactor. It has four 21 in (533 mm) and four 25.6 in (650 mm) torpedo tubes for a combination of 533 and 650 mm torpedoes. Tube liners can be used to reduce the larger diameter tubes to 533 mm. An impressive total of 40 tube-launched weapons are carried. The Akula is loosely described as being a much improved Victor III class SSN with extremely low noise signatures.

India's own ATV design is believed to be based on the ex-Soviet Charlie I class SSN, one of which the IN leased for three years in 1988.

USS INCHON to retire

The USN has announced that it intends to retire its only mine-countermeasures (MCM) command-and-control (C2) vessel, the two Jima-class USS INCHON (MCS-12), this year due to rising operational and maintenance (O&M) costs. As recently



The USN's only Mine Warfare aircraft carrier and command ship is to retire without a dedicated replacement. (USN)

as last year, USN studies indicated that INCHON's life could be extended until 2010. However a fire on the ship last October combined with rising costs caused the USN to re-examine its plans.

Despite the ship's early retirement, the Navy said it is still committed to having a dedicated MCM ship over the long term. The USN is exploring concepts using the leased Incat high-speed catamaran as a surrogate platform for such a ship. Under a draft concept of operations for the high-speed vessel, the ship would have modular and reconfigurable payloads, one of which would fill the dedicated MCM C2 role.

Until a replacement enters the fleet, the Navy's general-purpose (LHA) and multi-purpose (LHD) amphibious assault ships will take on the mission in addition to existing duties.

Campaign to save former VENGEANCE

HMAS VENGEANCE, the once proud unit of the RAN, is about to be scrapped in Brazil unless a rescue package can be funded.

Approximately 60 years ago she was built for the RN to fight against the Nazis and later the Japanese in the Pacific.

Today, VENGEANCE lies forgotten in South America awaiting scrapping unless the British and Australian nations can respond to a deadline to raise finance to purchase the ship from the Brazilian Navy.

The 'Save the VENGEANCE' appeal is urging the Australian Government to assist in safeguarding this unique ship for future generations.

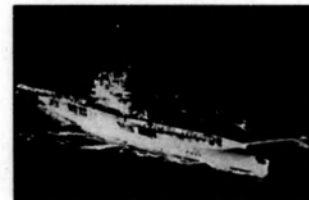
HMAS VENGEANCE is of unique historic and educational interest as well as a tourist and commercial attraction. She was commissioned in the RN and served in the Mediterranean and Pacific in WWII.

She was subsequently loaned to Australia as HMAS VENGEANCE during the Korean War while the carrier MELBOURNE was being completed. She was later returned to the RN where she was then sold to the Brazilian Government and served in the Brazilian Navy as MINAS GERAIS.

MINAS GERAIS was finally decommissioned on October 16, 2001 and stricken from the Naval Vessel Registry, her fate unknown after the Brazilian Navy bought the second hand French carrier FOCH.

Save the VENGEANCE Appeal's spokesperson, Martin Hill, said the plan is to rescue the ship and take her back to her birth place in the UK this summer and turn her into one of the world's largest floating education centres, naval aviation museum, exhibition area and tourist attraction.

Displays will illustrate the leading role that both Australia and Britain took in the development of ship-borne naval aviation, as well as provide opportunity for training schemes with local industry, engineering firms and universities, and show her long history with the Navies of Australia, Brazil and UK.



The Brazilian Navy's carrier MINAS GERAIS is also the former HMS/HMAS VENGEANCE. Since the carrier's decommissioning an appeal has been set up to save her from the scrapyard and turn her into a museum and entertainment venue in Southampton Water in the UK.

In addition to displaying historic naval aircraft on her flight deck, she will have a cinema and theatre, and provide attractive venues for conferences and trade fairs. She will also come alive as the flagship for boat shows and tall ship races as well as provide a unique focus for airshows,

and be a magnet attracting film producers and documentaries.

She already has a future home if the money can be raised in time to buy her. The British Port Authorities (ABP Southampton) have shown their support by offering her a berth in Southampton Water.

If you wish to join the 'Save the VENGEANCE' Affiliates or require information please contact:

Martin Hill, 'Save the VENGEANCE Appeal'.

Fax: 0011 44 01 262 490248

Email: vengancecampaign@

lectairarchive.net

SA Efficiency Award to TS AUGUSTA

At the end of last year, which coincided with the end of the training year, all eight Naval Cadet Units within South Australia met in Port Adelaide for a final sailing camp. At the conclusion of a successful camp, the long awaited prize giving Presentation Parade was held, at which all trophies for the year's most keenly competed activities were awarded by the Senior Naval Officer South Australia. CMDR Neil Phillips ADC RAN.



CPO Martin Ditton (TS AUGUSTA) accepts the NLA SA Annual Efficiency Shield from CMDR Alan Preskett, RFD, RANR (Rtd) President of the South Australian Division of the Navy League of Australia.

Following the annual inspection of each Unit - conducted by the Senior Officer Cadets for South Australia, CMDR R J Gherardin RFD RANR and CMDR Neil Phillips - the task of selecting the State's most successful and efficient Unit was decided for the awarding of the Navy League of Australia SA Annual Efficiency Shield.

For their overall magnificent efforts, TS AUGUSTA under the command of LCDR Robin Mackay ANC, from the northern township of Port Augusta, won the prestigious award for 2001.

CMDR Alan Preskett, RFD, RANR (Rtd), President of Navy League - South Australian Division, had much pleasure in presenting the NLA-SA Annual Efficiency Shield to TS AUGUSTA via that Unit's representative, Chief Petty Officer Martin Ditton ANC.

At a subsequent ceremony in Port Augusta, NLA-SA committee member, Colin Orr, presented LCDR Mackay ANC with the sponsorship cheque to accompany the Shield to aid the finances of the local unit.



The Saudi frigate AL RYADH, first of three ships, built by the French Company DCN International on sea trials for the first time. The ships are a close copy of the stealthy French La Fayette and will be fitted with the Aster anti-aircraft/missile system making them the most powerful air warfare combatants owned by an Arab country. They are also substantially more capable than their French cousins. (DCN International)

Sea Harrier to retire for all-GR-9 force

The UK Ministry of Defence (MoD) is embarking on a strategy to further develop the combined Royal Air Force (RAF)/Royal Navy (RN) Joint Force Harrier (JFH) concept in an effort to better prepare for the arrival of the JSF. However, this will mean the early departure of the Sea Harrier FA-2 from service.



ARN FA-2 Sea Harrier armed with two AMRAAMs about to land on the aircraft carrier ILLUSTRIOUS. The Sea Harrier will now be retired in 2006, leaving the RN without a dedicated air defence fighter for its ships until the arrival of the JSF and the new 40,000 tonne carriers. (RN)

The current JFH concept sees RAF and RN pilots in the JFH fly a combination of RAF GR-7 Harrier ground attack and RN Sea Harrier FA-2 air-defence aircraft.

The MoD strategy to prepare for the JSF is to rationalise and reconstitute the two existing Harrier forces and transition to a "more capable, truly joint" Harrier ground attack force using the newer GR-9 Harrier only.

An MoD study found that the total integration of the two current Harrier type aircraft into a single force was impractical given that the two Harrier variants share less than 20% commonality in airframe and avionics, and that they have quite different operational roles. They said the study had exposed "some serious resource dilemmas to which there were no readily identifiable financial or technical solutions", adding that both types of Harrier were found to require significant investment to maintain and upgrade their capabilities.

A key problem currently experienced by both variants is that in hot weather the hover performance is

dangerously low. The solution to rectify this is a more powerful version of the Rolls-Royce Pegasus engine. Engineering studies have revealed the technical risk to be too high to retrofit the FA-2 with the uprated Pegasus Mk 107 engine; whereas the GR-7 has an airframe which will readily accept the Mk 107 without major modifications.

The MoD concluded that the optimum development of the JFH concept is to field only one Harrier

type through to its end of service life and that this would be the more capable GR-9. The Sea Harrier will, therefore, be withdrawn from service earlier than planned, probably by 2006. In the interim, work has already begun to upgrade the GR-7 fleet to GR-9 standard, which will be flown by pilots from both services.

Withdrawal of the Sea Harrier FA-2, equipped with AMRAAM, will represent a severe degrading of the RN's air-defence capability. The Sea Harrier FA-2 is equipped with the Blue Vixen multi-mode radar for BVR (Beyond Visual range) air superiority tasks while the GR-7/GR-9 has no radar and only short range AAMs.

The move to an all-GR-9 force will see four front-line GR-9 units of at least nine aircraft each. RN Sea Harriers and their personnel will be relocated from their base at Yeovilton to the two RAF Harrier bases at Collesmore and Wittering.

Type 22s for Romania

The Romanian government has decided to acquire two ex-Royal Navy (RN) Type 22 Batch 2 frigates, HMS COVENTRY and HMS LONDON.

Romanian intends to upgrade the two frigates in the areas of command and Control, new guided weapons and the fitting of a medium-calibre gun system. The work is expected to be done in a Romanian shipyard. Acquisition of two ships would support Romania's NATO Membership Action Plan and provide the country's obsolete navy with its first modern surface combatants. As well as affording a huge leap in capability, the two 4,200-tonne frigates would enable the Romanian Navy to achieve a far higher degree of interoperability with NATO forces operating in the Black Sea and Mediterranean.

The batch 2 variant of the successful Type 22 frigate incorporates many of the lessons of the Falklands War. The ship is larger than its batch 1 cousins to improve sea keeping, habitability and damage control - all four batch 1 Type 22s are currently operated by the Brazilian Navy. The ships are armed with two sextuple launchers for the very accurate Sea Wolf missile although it is expected that Romania will remove the system. Designed primarily for ASW they are large enough to incorporate new weapons and systems to change their current speciality to what ever the Romanian Navy has in mind.

THE NAVY has been following the Type 22 batch 2 frigate saga for sometime as it was remarkable that these very capable warships were not only being decommissioned early but without any buyers. The class was also thought to be an attractive option for the RNZN.



The Romanian Navy is purchasing two of the very capable Type 22 batch 2 frigates, HM Ships COVENTRY and LONDON. Depicted is the Type 22 batch 2 frigate HMS SHEFFIELD. All six of the Type 22 batch 2 class have been retired from the RN despite there being 15-20 years left in their hulls. (RN)

Observations

By Geoffrey Evans

A SHIPPING SUCCESS STORY – THE WILHELMSSEN LINE

Although ranked among the world's leading shipping companies and its ships certainly well-known on the waterfront, Wilhelmsen was not an instantly recognised company name in Australia; that is, until 2001 when the MV TAMPA was caught up in the Howard government's border protection project as a consequence of rescuing several hundred 'boatpeople' whose craft was about to sink. TAMPA, her owner Wallenius Wilhelmsen and Norwegian authorities became involved in an unseemly wrangle with the Australian Government.

Wilhelmsen was founded in Tonsberg, Norway in 1861 and commenced liner operations to Australia in 1895. Wilhelm Wilhelmsen, son of the founder of the line and grandfather of its current President, was Chief Officer of the TIGER which initiated the service (the names of all Wilhelmsen ships start with the letter "T").

Wilhelmsen, or Wallenius Wilhelmsen to give the company its full title – the link with Wallenius, a pioneer in car transportation, took place in 1999 – has always focused on international liner activity and is today one of the world's largest car and RoRo transport companies.

The company's fleet consists of over 70 vessels designed to carry not only cars and other vehicles, but containers, cargo unsuitable for containers and RoRo goods. More than 12,000 people are employed and the seagoing element is linked with extensive shore-based management facilities to enable a complete transport service.

The writer can recall as a youngster being impressed by the smart Wilhelmsen freighters with their black funnels ringed by two pale blue bands; it is pleasing to note that, together with partner Wallenius, the line developed into one of the world's success stories.

*(Wilhelmsen purchased its first steamship TALBOT in 1887. It traded very profitably and thereafter all ship names began with "T". One of the fleet, TAMERLANE, was "christened" in Australia recently).

AUSTRALIANS ARE NOT MARITIME-ORIENTATED

It is curious that Australia, an island nation heavily dependent on an ability to trade with other countries and on ships to transport the goods, has seldom if ever been regarded as a maritime nation, either by most of its own people or those with whom the country trades.

Certainly Australians are conscious of the sea – most live on the seaboard and enjoy the pleasures it offers – but few appreciate the influence the oceans have on their lives. Regrettably, with a few notable exceptions or in times of crisis, community indifference to the sea's importance has been reflected in the country's governments and leaders.

For better or worse the Navy receives a fair share of publicity (at times more than it wants) but one of the main

reasons for the existence of the Royal Australian Navy – the protection of merchant shipping – is all but ignored.

The story of the shipping industry in Australia is one of virtually endless struggle, even to the present time. A truly maritime-orientated nation would have, as well as ship owners and operators, a shipbuilding/repair industry not constantly wondering where the next order was coming from and a government that provided support, not necessarily fiscal, but understanding in a regulatory sense. Such governments have been a rarity.

Privately owned and mostly small ships have operated around the Australian coast since settlement began; companies were formed and for the most part operated successfully, particularly between the World War years. Few however, engaged in the overseas trade which was dominated by foreign and in the main, British shipping. The coastal trading fleet numbered about 190 vessels of 1,000 dwt and over in the late nineteen-forties but thereafter for a variety of reasons the number declined.

On at least two occasions it seemed Australia had the semblance of a viable overseas trading fleet. The withdrawal of foreign shipping from the Australian trade during the First World War caused the government of the day to acquire 43 ships that traded as the Commonwealth Line of Steamers until disbanded and sold to Britain by a succeeding government in 1928.

In 1956 the Australian National Line (ANL) was formed from a collection of mostly small ships operated on behalf of the government by a shipping board. Under new and largely unfettered direction ANL developed from a relatively minor coastal operator to a world-wide shipping organisation involved among other things, as a partner in overseas liner operations.

For more than a decade ANL operated successfully and profitably but then started to decline in importance for reasons much the same as those that frustrated previous attempts to lessen the nation's dependence on overseas owned shipping. An exception are those companies, such as BHP, that provide their own ships to carry company products coastwise and overseas, but they are not exempt from the problems troubling Australian shipowners generally.

The industry has in the past and to some extent still is effected by a number of factors including:

- Relations between management and workforce ranging from very bad to indifferent, leading excessive ship operating costs.
- Government Acts and Regulations applicable to local but not to overseas shipowners.
- A fragmented maritime industry, with shipowners, cargo owners/shippers, shipbuilders, stevedores and workforce all pursuing their own agenda.

Relations between management and workforce were a major factor for many years but began to improve, albeit slowly, following a series of inquiries in the nineteen-eighties. One notable advantage has been a reduction in the number of Unions representing waterfront and shipyard workers, making it easier to negotiate agreements.

The cost involved in operating Australian flagged and manned ships remain high however, and they cannot compete successfully with ships crewed to completely different, unacceptable, standards.

A significant problem for Australian shipowners is the number of Acts and Regulations with which they are required to comply; they include:

- The Customs Act 1901
- The Navigation Act 1912
- The Income Tax Assessment Act 1936
- The Migration Act 1958
- The Shipping Registration Act 1981
- The Seafarers' Rehabilitation and Compensation Act 1992
- The Occupational Health and Safety (Maritime Industry) Act 1993.
- The Customs Tariff Act 1995.
- The Workplace Relations Act 1996
- The Product Stewardship (Oil) Act 2000.

Legislators appear to have been much more active in the latter part of the 20th century! As mentioned previously

foreign shipowners are exempt from some of the foregoing requirements, enabling foreign flag ships to carry nearly 16% of local (coastal) cargoes.

It is hard to know if Australia will ever become a maritime-conscious nation. The Navy (and the Navy League through this magazine and the film "The Sea and Australia", distributed to hundreds of schools) work hard at it, while refugees and asylum seekers – "boat people" – have played their part in drawing attention to the seas surrounding the country. In the RAN's recent thought-provoking publication AUSTRALIAN MARITIME DOCTRINE reference is made to the strategic advantages of having a national flag merchant fleet in emergencies. The same publication, in a section relating to the influence of history states "... this lack of understanding of our history has minimised the importance of the maritime environment for Australian national history".

Surely it is time for the Government to start leading the way to a better understanding of that environment.

Hatch, Match & Dispatch

Hatch

NUSHIP YARRA

The last of the Huon class minehunters to be built in Australia has launched.

The sixth and final 'plastic fantastic' for the RAN, the coastal minehunter YARRA was launched in Newcastle in January 02.

She is expected to be commissioned in September 02.

The 720-tonne fibreglass warship was built at ADI's Carrington shipyard.

Her hull is designed to withstand tremendous underwater shocks. YARRA's hull is single skin without any ribs or reinforcing frames.

The hull also has very low magnetic signature and noise levels.

On board, all machinery and equipment is mounted in cradles or suspended from bulkheads to further enhance shock resistance, reduce noise and protect ship systems.

YARRA, along with sister ships HUON, HAWKESBURY, NORMAN, GASCOYNE and DIAMANTINA, form a \$1 billion contract to give the RAN one of the best mine countermeasures fleets in the world.

YARRA was launched by Mrs Sylvia Merson, wife of CDRE Red Merson (Rtd) who commanding HMAS YARRA III in 1961.

The ceremony took place in Newcastle on January 19 2002 and attracted a good crowd.

To be commanded by LCDR Alexander Hawes, YARRA will carry the bow number 87, with a ship's company of about 42.

The minehunter's principal task is to keep Australia's maritime focal points for trade free from the threat of mines.

Once mines are detected the ship deploys a remote control mine disposal vehicle or clearance divers to identify and, if necessary, neutralise the mine.

By Graham Davis



NUSHIP YARRA is lowered into the water for the first time. YARRA is the last of the Huon class minehunters to be built for the RAN. (Brian Morrison, Warships & Marine Corps Museum)

Australia's Maritime Doctrine Part 4

In part 4 of our presentation of the RAN's new Maritime Doctrine we detail Chapter 6 on Maritime Strategic concepts. The document was written by the Seapower Centre and is reproduced in *THE NAVY*, with the Centre's approval, given its importance to readers of *THE NAVY*, Australians and to the Navy League in general.

Chapter 6

MARITIME OPERATIONAL CONCEPTS

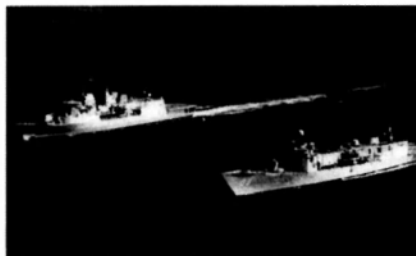
THE RELATIONSHIP BETWEEN LAND, AIR AND MARITIME POWER

The environments within which the services operate and fight are interconnected and cannot be considered in isolation. Indeed, Australia is attempting to ensure seamless warfighting approaches such that virtual integration is achieved to maximise the effectiveness of our forces. Furthermore, the trend of technological development is such as to make the operating environments and methods more alike. The fundamental differences between the land and the other two environments used to be that land warfare tended to be linear and focused on *gaining or holding ground*, while air and maritime warfare tended to be *non-linear, dynamic and platform focused*. Furthermore, as noted in Chapter Five, there are tactical relationships between the offence and defence on land which differ in nature from those on the sea or in the air. As all environments become more technologically sophisticated, such distinctions are beginning to disappear, with land warfare becoming more dynamic and non-linear and all three environments becoming more organised as *networks* in order to achieve *battlespace dominance*. Space based assets and over-the-horizon sensor systems are becoming important elements of the process. Forces from all environments are increasingly developing the capacity to manoeuvre, acquire and engage targets throughout the battlespace. Nevertheless, these processes are still in their early stages and there remain key differences between land, air and maritime operations.

Probably the most important factor for maritime forces is that the nature of maritime operations leads more readily to organisation and command by task rather than within specified geographical *boundaries*. The more detailed aspects of this for command and control will be discussed in Chapters Ten and Eleven, but the key issue is that both the capabilities and the vulnerabilities of maritime forces must always be considered in terms of both *space and time*.

CHARACTERISTICS OF MARITIME POWER

By their nature, seaborne forces possess characteristics and attributes in combinations and to an extent which are not necessarily present in the other environments. For the Australian context, the characteristics of land forces are described in Land Warfare Doctrine 1 – *The Fundamentals of Land Warfare* and of air forces in Australian Air Publication 1000-*The Air Power Manual*. For units on or under the sea these characteristics include:



(from L to R) HMA Ships ANZAC and SYDNEY. Both Ships have recently completed tours of duty in the Persian Gulf demonstrating the inherent reliability and reach of the modern warship. (RAN)

Mobility in Mass

Ships are *mobile*. Warships may only transit at less than a thirtieth of the speed of jet aircraft, but even moderate sized ships have the ability to carry tens, hundreds or even thousands of times the payload. Ships are thus uniquely *mobile in mass*. This mobility in mass relates not only to *lift capacity*, which is the ability of ships to move large numbers of people and large cargoes over long distances, but the capacity of warships to carry considerable *combat power* in the form of their organic weapons and munitions over similarly long distances. This is a very important aspect for smaller forces which face particular difficulties in projecting and sustaining concentrated combat power.

Warships are also continuously mobile in a way that land or air platforms are not, being capable of sustaining their progress almost indefinitely. Seaborne forces can move at several times the speed of large land forces over long distances, an aspect of considerable significance for *amphibious operations*. Even at a moderate speed of 15 knots (28 kilometres per hour), a naval task force can travel 360 nautical miles (more than 660 kilometres) in a single day. In conjunction with organic and shore based aircraft, particularly airborne early warning and control aircraft, and with the support of non-organic systems such as over-the-horizon radar and submarines, the idea of a moving bubble of approximately 1000 nautical miles (or nearly 2000 kilometres) radius is a realistic way of thinking about the scope of geographic influence of a maritime force.

Submarines, too, carry considerable combat power. They can transport and insert small special forces units and can operate covertly. By comparison with surface forces, however, conventional submarines transit much more slowly, although they have excellent endurance.

Readiness

Warships can be ready. While the Navy's normal operating and maintenance cycles may make it more difficult to surge an entire order of battle than is the case for aircraft, the Navy's customary operating patterns and exercise levels



HMA Ships WESTRALIA and CANBERRA recently made the long journey to the Southern Ocean and caught two trawlers suspected of fishing illegally in Australia's EEZ. This operation was conducted during one of the most demanding and hectic operational tempo periods in recent memory and demonstrates the flexibility of a modern navy. (RAN)

mean that ships that are not in maintenance and have completed their normal training can very rapidly be prepared and deployed for a contingency. In the 1990-91 Gulf War, the first RAN ships were ready to sail within 48 hours of the Government's decision to despatch them. Because they do not need to establish initial forward operating bases, warships can often be *operational in theatre* before any other forces despite their apparently longer transit times. Being on scene early helps contain escalation and prevent widening of a conflict.

Access

Warships can operate wherever there is sufficient depth of water to float and are only restricted in their operations in the internal waters and territorial seas of other countries. This gives them immediate access to some 70 per cent of the earth's surface, an effect magnified by the fact that the vast majority of the world's population lives within a hundred and fifty kilometres of the sea. Warships do not create a 'footprint' on other nations' territories or in their airspace and thus do not challenge sovereignty in the way that land forces or forward deployed or over-flying air forces must do. Restrictions on airspace and ground facilities may mean in some circumstances that warships are the only military option available to the Australian Government. Furthermore, the extent of that access can be expanded when maritime units are operating with organic air power and amphibious forces. The ability to control conflict without the need to adopt measures requiring land forces to be physically committed is an important strategic advantage.

Flexibility

Warships are flexible. Warships are immediately responsive and sensitive to government direction in a subtle way not always applicable to other military assets. Even in an era of satellite surveillance, warships are difficult to locate and identify, particularly near busy shipping lanes, and even more difficult to track continuously. Warships can be deployed into area covertly or overtly; they can be withdrawn at will; and they may be as easily operated so as to create a deliberate impression of ambiguity as of certainty and decision. Submarines, with their ability to remain covert, can be particularly useful in this regard. Modern high capacity communications now permit a very high degree of responsiveness to higher direction.

Adaptability

Warships can transition from a peacetime state to the highest degree of battle readiness, without giving any external indication of their increased readiness. This is a very important consideration for any would-be adversary. They can change their employment from the most benign of international activities to offensive action within a similar period and with equally little warning to an adversary. By organising naval units into *task formations*, the capabilities of particular platforms can be combined to achieve effects which can not only be matched to the job to be done, but which mean that a higher level of threat can be accepted and commensurate stress can be applied to others.

Reach

Reach may be defined as the distance from home bases at which operations can be carried out. Warships carry much of their logistic support with them. This ability gives them considerable inherent capability to conduct sustained operations, whether working individually or in *task formations*, at long distances and for extended periods from home bases, thus conferring reach. Such reach can be extended in distance and time by the provision of replenishment vessels and by the rotation of combat forces into and out of theatre.

Poise and Persistence

Warships can *poise* and be *persistent*. These qualities relate directly to the size of the vessels involved but, to a greater or lesser degree, all warships are almost wholly self contained and can operate without recourse to the shore for periods of weeks or even months. In a recent Australian example, the heavy landing ship TOBRUK spent 65 days in the area of operations off Bougainville in the course of a single 73 day deployment in 1998. Embargo operations have been conducted without interruption for years, even in modern times. The endurance of warships can be readily increased further by the provision of fuel, ammunition and food, and vital stores from replenishment ships. All modern ocean going navies possess such supply ships as fundamental elements of their fleet. This ability to *poise* and be *persistent* is particularly important for governments that are attempting to resolve a course of action in complex and ambiguous situations. In these circumstances, warships allow national leadership to be proactive as well as reactive in a way that is unique. Poise does not always require a physical presence on station but relates to the continuing ability of naval forces to intervene in a situation to achieve the required effects.



A Collins class submarine on the surface for a brief period. One of the disadvantages of diesel electric submarines is its slow transit speed. (RAN)

Resilience

Warships are *resilient*. Not only are they designed and their crews trained to control and alleviate the effects of damage, they are much less mission sensitive in terms of defects than airborne units. All ships are characterised by a degree of redundancy in both their equipment and manning and the extent of this redundancy tends to increase dramatically with hull size. Furthermore, just as most ships have multiple weapon and sensor capabilities and can perform several tasks *concurrently*, so even major defects or damage may not mean that a unit ceases to be able to make a contribution to the force as a whole.

THE LIMITATIONS OF MARITIME POWER

Maritime power also has a number of inherent limitations.

Transience

Maritime forces cannot 'hold the sea' in the way that occupying troops can 'hold ground' on land. Although *persistence* has been described as an important characteristic of maritime units and one not readily achieved by air forces, it must be considered as a tactical or operational tool and not as an element for final strategic decision except if that decision is susceptible to achievement by seaborne means alone. The blockade of an entity which has no alternative access to transport is probably the only exception to this rule.

Indirectness

An associated issue is the fact that many of the achievements of maritime forces are indirect and not always apparent in their effects. The success of operations such as blockade in particular are very difficult to measure, not only because the effects of seaborne power sometimes take a very long time to achieve but because they can also require close coordination with a range of other measures to be fully effective.

The primary danger of indirectness is that it tends to disguise the critical nature of the maritime environment in most conflicts. This is particularly true in relation to the requirement for the maintenance of uninterrupted sea communications to support campaigns on *land*, a requirement that has applied to practically the entirety of Australia's military experience since 1900.

Speed

Although maritime forces are *mobile in mass* and can move several times more quickly over long distances than large land forces, they do not have the speed of aircraft and airborne forces. There will be circumstances in which the response time of maritime forces will be measured in days or even weeks, rather than the few hours of immediately ready air mobile forces. The comparison is complicated, however, by the fact that the balance between range and payload remains a difficulty for air forces, which require forward bases, mobile operating platforms or asset-intensive air-to-air refuelling to add *reach* to their speed. In the circumstances where distance becomes a major consideration—something that will almost always be the case for Australia—the operational commander will need to make a careful judgement as to the key characteristics needed to achieve the task. In uncertain situations, the more effective the political-military interface the more likely that maritime forces will be deployed sufficiently early to allow their effective use.

MANOEUVRE IN THE MARITIME ENVIRONMENT

In maritime warfare, *manoeuvre* is a strategic and operational concept rather than one directly relevant to the tactical level

and the distinctions between *attrition* and *manoeuvre* are different to those in land warfare. Manoeuvrist effects can be achieved in the naval environment if overwhelming force can be deployed against an opponent's critical vulnerabilities without warning. Examples of this could include the pre-emptive sowing of minefields outside an adversary's bases. Since, however, they are inherently highly mobile and not readily susceptible to the same morale factors as ground troops, naval forces will generally require to be engaged with superior firepower to achieve their neutralisation.

Manoeuvre as a concept in the maritime environment, or *maritime manoeuvre*, principally relates to the inherent capability of maritime forces which possess a sufficient degree of *sea control* to move military force to the locations which can achieve the greatest possible advantage over the adversary. By seizing, retaining and exploiting the initiative, the terms and place of confrontation can be selected to exploit an adversary's will or capacity to resist. It is thus inherently a land-sea or a land-sea air concept and has particular relevance for Australia because of the *maritime-littoral* nature of so much of this country's strategic environment. Sometimes described as *manoeuvre from the sea*, it will be fundamental to most Australian operations in conflict.



HMAS DARWIN makes her way across the Indian Ocean. (John Mortimer)

ATTRITION IN THE MARITIME ENVIRONMENT

In this maritime context, *attrition* is also more properly a strategic or operational concept for naval forces than tactical, because at the latter level either the presence of superior force—generally reckoned in terms of the effective range and destructive effect of the weaponry carried—or the achievement of *surprise* is required to achieve a victory between naval forces. That victory will normally result in the serious disabling or destruction of the loser. Such destructiveness is one of the key themes of the historical experience of maritime warfare and it is important to remember this reality in the context of determining *risk*. On the other hand, the object of naval warfare is not a vessel count. It is establishment of the control of a dynamic environment in order to achieve the required end-state. In the rare event that opposing forces are evenly balanced and willing to fight to a definite conclusion, victory will normally go to the side which can make the first accurate attacks and thus to the one which has used its scouting and surveillance assets to develop better *awareness* of the battlespace on the path to achieving *dominance*. That process, requiring patrol and surveillance over extended areas and for long periods, is both highly demanding on systems and people and time consuming in its execution. It is very much the reality of maritime operations.

Pacific 2002

International Maritime Exposition and Sea Power Conference

By RADM Andrew Robertson, AO, DSC, RAN (Retd)
Senior Federal Vice-President, Navy League of Australia
Photos by Mark Schweikert

Sea Power 2002, part of the Pacific 2002 International Naval and Maritime Exposition was held at the Sydney Exhibition and Conference Centre, Darling Harbour, from 29 to 31 January 2002. The Exposition itself was the latest in a series of biennial events, organised by the Maritime Foundation of Australia Ltd, which continue to grow in size and prestige. The RAN organised the associated Sea Power Conference. This year there were exhibits from some 270 firms from all over the world, mostly associated with naval-related requirements. Some 900 to 1,000 personnel attended the Sea Power Conference and about 1,400 people visited the Exposition.

The keynote address for the opening of the conference and exposition was given by Senator the Hon Robert Hill, Minister for Defence, who, in the main, concentrated on the Strategic Setting and the Government's new strategy for the development of Defence Industry.



The new NSM anti-ship missile made by Kongsberg on display at the Pacific 2002 exposition. The missile has a very low IR signature, is very stealthy and passively guided by an advanced Imaging Infra Red seeker. The company is hoping to sell the missile to the RAN as a Harpoon replacement for the SEA 4000 destroyer.

Noting that Pacific 2002 is one of the most significant trade events to be held in the Asia-Pacific region, the Minister stated that in this year in particular the Exposition was a most significant reminder that naval capability is a central pillar of Australia's national security.

Drawing from the Defence White paper he predicted that over the next 10 years the ADF will continue to undertake a range of operations, other than conventional war, both in our region and beyond. "Preparing the ADF for such operations will therefore take a more prominent place in our defence planning than it has in the past".

He stated that if the current higher-than-anticipated operational tempo continues the Government may need to provide additional funding for Defence.

There will now be an annual assessment of Australia's strategic environment. The events of September 11 have already added to the significant operational commitments of the ADF and this will affect resources and force structure priorities.

The fundamentals of the program, outlined in the White Paper, to provide capabilities, will be maintained, but in addition to the already announced increase in counter terrorist capability and defence intelligence other issues will be considered. These include the adequacy of Chemical, Biological, Radiological and Nuclear defence capabilities; the requirements to conduct concurrent operations; and the lessons from recently-demonstrated applications of new technology.

Perhaps the most significant announcement was that of a new strategic approach to Defence Industry.

This will be the sustainability of key Defence Industry capabilities, rather than open competition in all cases. The "open competition" approach will give way to strategically-linked programs offered to industry under long-term arrangements.

To many observers this seemed to be a partial reversion—particularly so far as naval ship-building is concerned—to the policy pursued in the decades from WW II until the 1970s when the shipyards at Williamstown and Cockatoo Island could plan on a steady flow of orders as each ship class was completed. The announced change should greatly reduce the current 'boom and bust' environment for Defence Industry, and be widely welcomed. It may now be possible once again to sustain key industry capabilities instead of them wasting away and being lost.

The Department of Defence was now therefore developing industry sector plans for the key areas of aerospace, electronics, and shipbuilding and repair. As an example for future naval requirements the Government intends offering long-term multi-project work packages, as opposed to the traditional project-by-project approach.

The Sea Power Conference, which was held in parallel with lectures of more relevance to industry, covered a great range of subjects and speakers over the three days and it is not possible to cover all speakers in this article.

The Chief of Navy, VADM David Shackleton, outlined changes wrought by the September 11 attack on the World Trade Centre and the war in Afghanistan. Homeland defence now had a new meaning. There was a need for eternal vigilance and a need to act swiftly. While land operations were required to take and hold, logistic support would often



The French company DCN International displayed a model of its NTCD class Landing Helicopter Dock amphibious assault ship. Two of these 20,000 ton carrier-like vessels with a speed of 20 knots, a range of 11,000 nautical miles and carrying up to 450 troops, 16 heavy lift helicopters, armoured vehicles including tanks and two hovercraft or four landing craft have been ordered for the French Navy.

be needed from the sea and there was always the requirement for the protection of trade. Navy was an instrument for influence on others. Interoperating with allies was a priority; rapid advances in technology were bringing rapid changes in warfare; people remained the greatest challenge, and there was much competition for manpower to be faced; and the navy must get better at working with industry.

Professor Geoffrey Till of the UK Joint Services Command and Staff College spoke on *The New Maritime Millennium*. He considered that increasingly the tasks for navies were more to do with small wars and the launching of expeditionary forces to stabilise situations. National roles for navies were in decline and multinational forces seemed more likely in the future. Nevertheless the importance of Sea Power was unlikely to diminish. The centralisation of command would increase and there would be further loss of independence for navies.

Dr Richard Brabin-Smith, the Deputy Secretary for Strategic Policy in the Department of Defence, stated that in addition to the yearly review of the Strategic Setting there would also be a review of the Defence Capability Plan. He made a number of points including:

- the US commitment to see through the war against terrorism was very strong.
- the dominance of the US as the leader of the West, and its immense military and economic power.
- the US would continue to be the locomotive for changes in warfare through such developments as UAVs, IT, precision guided weapons etc.
- an increased US focus on the Asia Pacific Region.
- the enduring importance for Australian forces of interoperability with US forces.
- for the most part, crises in the Pacific have been well-controlled.
- September 11 has helped to pull many countries together again.
- some nations, particularly in the SW Pacific, have difficulty governing themselves, and this had importance for Australia
- transnational crime was of growing importance and needed international co-operation to deal with it. The finance behind people smuggling was now similar to that behind the drug trade.

- there was a growing and wider role for the UN.
- the proliferation of weapons of mass destruction continues despite the opposition of the US.
- nations such as Australia must look to their own defence.

Dr Brabin-Smith considered that the Defence White Paper remained sound and that Australia's strategic interests had not changed.

Dr Derek da Cunha of the Singapore Institute of South-East Asian studies spoke on *The Strategic Outlook - a View from SE Asia*.

He felt that the organisation of ASEAN had mixed fortunes as a security community partly due to the compartmentalised nature of regional security. He outlined the expansion of Chinese capability in all fields - economic, financial, diplomatic and military and there was now particular Chinese influence in Cambodia and Myanmar.

Claims to the Spratley Islands had a salutary impact on naval staffs and on naval acquisitions in SEA, but there were other concerns including piracy. The South East Asian states still looked to the West to resolve major problems in the area. There was concern however that global developments had a direct impact on the US forces in the West Pacific and under some circumstances there was some doubt on US capability to help SEA states, particularly as the region was not a vital US strategic area.

There were uncertainties in the area principally covering China and its intentions, whether Indonesia would hold together, and the relations between states. There was a notable build up in local naval forces and by 2010 there would be some 18 to 20 diesel submarines among five nations in South East Asia. Some states want a more apparent US naval presence in the area.

The key military balances were between Singapore and Malaysia and between Myanmar and Thailand, which shared a very long, largely unmarked, border and had a long history of animosity and smuggling problems.

Singapore was the leading local military power with her major strength lying in air power. He surmised that the acquisition of submarines, frigates and aircraft was intended to extend influence outwardly. Singapore was now buying Apache helicopters. Malaysia had a comparative technical



Missiles and ships were not the only items up for sale. Pictured are two special forces underwater rebreather sets. Rebreathers not only allow longer underwater dives but produce next to no tell tale bubbles on the surface.

advantage over Singapore in artillery and in some missile systems. In his view, the military build-up would be unlikely to lead to conflict. Singapore felt vulnerable and her arms build-up was necessary for morale reasons.

In answer to a question on the attitudes in South East Asia to the increasing power of India, Dr da Cunha considered that some countries viewed an Indian presence positively, as in years to come there would be a balance of power between India and China. There was speculation that India may be interested in the former Soviet base at Cam Ranh Bay.

Regarding dealing with terrorism he thought that there was considerable cooperation between Singapore, Malaysia and the Philippines and the situation was under control, except in the Philippines.

Dr J N Mak of the Maritime Institute of Malaysia gave an interesting perspective of the strategic situation as seen from his country. Japan was now less constrained than in the past and it will be interesting to see if they abrogate that part of their Constitution dealing with armed forces. The Gulf War underlined the importance of oil and Japan's sea lines of communication. The Japanese Maritime Self Defence Force had expanded greatly in its capability and had offered to patrol the Straits of Malacca against piracy. Both Malaysia and Indonesia had turned down this offer. He wouldn't be surprised to see Japanese naval operations in the Indian Ocean soon. They would need aircraft carriers in due course.

China was bent on becoming a great power and was rapidly strengthening its economy and technology. It was seen as the most destabilising force in Asia but was constrained by the US 7th Fleet and the Japanese Maritime Self Defence Force. China needed a long period of peace to modernise. She was a rich nation and had a strong army, but he felt their priority was to refurbish industry before major military development. It was unlikely that China would use force to resolve issues in view of the international repercussions which would follow.

Mr Clive Williams, the Director of Terrorism Studies at the Australian National University spoke on the impact of terrorism on maritime operations. He also covered increasing use of the sea for illegal purposes including people smuggling, narcotics, piracy, arms trafficking, illegal fishing and environmental crime such as hilt cleaning and oil spillage.

Maritime terrorism was occurring in Sri Lanka by the sea wing of the Tamil Tigers. The attack on the USS COLE in Aden was a new development which indicated some new naval vulnerabilities in ports, in addition to underwater attacks.

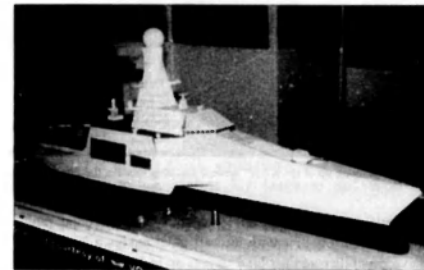
Better intelligence was required to deal with most of these problems. The searching of merchant vessels presented a huge problem. Much training was needed and at present only the Customs had the necessary expertise in Australia.

More close range weapons and other equipment would be needed to deal with COLE type attacks. Without a Coastguard, training in new fields would be required for the RAN including counter terrorism, searching ships, and maritime law. Close co-ordination with Police and Customs and better access to the media would be required. There would be further personnel retention problems caused by protracted deployments in uncongenial areas.

CDRE Tony Flint, the Director General Maritime Development covered the future for maritime warfare. He spoke on the great influence of technology. The importance of Knowledge Edge was well accepted and a huge range of new sensors and weapons was in the offing. These included

phased array radars. Unmanned Air Vehicles (UAVs), Unmanned Underwater Vehicles, extended range munitions, supersonic missiles, dumb weapons and a range of precision guided missiles. Maximum commonality in our ships and interoperability particularly with the USN were important requirements as were such things as running costs for ships, stealth design etc. It was an exciting time for the ADF.

Mr Guy Stitt of AMI International (US Naval Analysts and Advisers) spoke on *Developments in Maritime Technology*. There were now 151 ocean navies in the world, 10 of which (not Australia) were technology leaders. 25 others had some R & D (including Australia). Other nations purchased their requirements from these groups.



A unique warship model on display was Vesper Thornycroft's trimaran stealth frigate. No orders have been placed just yet.

Recent technological developments of great importance to navies included fuel cells, permanent magnet motors and high temperature super conductors for propulsion; phased array radars; integrated circuits allowing much smaller size and cost; programmable ammunition; high speed missiles (Mach 7 plus); and UAVs. Platform design was changing with an emphasis on stealth; on spacious hull designs to allow for future modification, greater survivability and lower costs; on new materials such as composites; and on automation and reliability allowing much lower manning levels. The Incat and Austal ship designs in Australia were examples.

A closer Navy/Industry partnership was required in Australia. Technology must be developed to keep pace with the threat. Collaboration and innovation were important to keep costs down and meet requirements.

There were a number of presentations covering the importance of the Information age, network centric warfare and the exploiting of technology for maritime warfare. Many observers felt that these developments were tools for the command and there may well be a problem in sifting the huge amount of information now available to prevent the command being swamped.

Of much interest was a lecture by Major General Rob Fry, the Commandant General of the Royal Marines who spoke on Littoral Operations. The UK had now moved from pre-deployment, as in the cold war, to an expeditionary strategy. There was much emphasis on sea basing and sea control. The concept of crossing the beach in amphibious warfare had been replaced by moving direct to the objective by helicopter hovercraft, fixed wing aircraft etc. HMS OCEAN, the new British LPH, carries a marine commando battalion and most of its equipment, with eight helicopters and some landing craft and yet costs less than a frigate.



A mock up of the RAN's newest anti-ship missile, the Penguin. Penguin missiles will arm the RAN's new Super Seasprite helicopters once the aircraft enters service.

Cruise missiles such as Tomahawk and extended range ammunition, together with aircraft gave navies a long-range strike capability against land targets up to 1,000 miles inland. During the Afghan War the USN had shown that Marines could be deployed over 450 miles from their sea bases.

The UK was not only building new LPDs and General Purpose Landing Ships but designing the new Type 45 destroyers to carry 60 Marines with boats.

RADM Russ Shalders, the Head of Defence Personnel Executive, outlined the personnel problem facing the Navy. Despite a drop in requirements the Navy was still about 10% short of its needs. However there had been some improvement in recruiting lately, particularly for sailors. There was a critical shortage of seaman officers and pilots.

Pay and conditions were not the major issues in the retention problem. Rather it was questions of careers, family considerations and competition for the skills held. Some strategies being addressed were flexible careers, family assistance, work environment, targeting re-entries, and advertising the benefits of naval service.

The Commander of the Australian Theatre, RADM Chris Ritchie, spoke of the added load on ships today compared with twenty years ago. They not only had to hone warfighting skills but be able to deal with illegal fishing, illegal immigration, UN sanctions and UN peacekeeping. This posed a number of questions for ship design, training etc.

There had been great changes in the Command and Control arrangements and in civilianisation. The acquisition process for new ships was too slow to meet naval capability requirements. There were lessons for the future in changing expectations and political and public pressure. Different mixes of ships were needed and the Navy may have to restructure to a sea-going force without the sea/shore system of the past.

The Chief of Air Force, Air Marshal Angus Houston spoke on *Air Power in the Maritime Environment*, drawing some lessons from history. The turning point showing the influence and capability of air power was the sinking of the anchored target German battleship *Ostfriesland* in 1921 by

Brigadier General Billy Mitchell with his Maritime Bombers. In WW II 45% of the 2,728 allied ships sunk were destroyed by aircraft. The Battle of the Bismark Sea in February 1943 in which all eight Japanese transports and five of the eight escorts were sunk by American and Australian shore-based aircraft, despite the Japanese having 100 fighters available, was a great demonstration of the effectiveness of aircraft against ships.

This was indeed correct but some observers also felt that the lesson of the great difficulty of defending a convoy at long range from shore air bases despite such huge numbers of fighters should also have been mentioned, for this lesson was learnt many times by naval forces during WW II.

The Chief of Air Force went on to list Australian Operational Imperatives including the need for Joint Command and Control; sensor permanence; integrated C4ISR; long-range multi-role capability; rapid mobility; air to air refuelling; stand off and precision weapons; stealth technology; interoperability both joint and combined; and combat support.

He outlined clearly the total coverage of our Northern approaches which should be achieved by 2020 with Jindalee and AEW&C aircraft giving more precision and detail, associated with mobile and permanent radars. UAV technology was needed in the future and data link common standards was a priority now.

Manned aircraft were still the best for air combat but he believed our next manned fighter would be the last.

Lt Gen Peter Cosgrove, Chief of Army, stated that for Army to play its role, in many cases it must go by sea including often in Australia itself. Sea transport and amphibians shipping was needed but control of the sea lines of communication was essential for supplies from overseas. Afloat helicopters, hospitals and support from ships was essential for Army.

The Navy must have comprehensive area air defence in the Fleet and Army was delighted at the prospect of the Air Warfare Ship. The Army could only operate effectively as part of a joint force.

More people than in past years seemed to take a great interest in the many displays in the Exhibition Hall. Included were item of interest as possible contenders for the projected Air Warfare Destroyers and other ships.

Izar (formerly Bazan, merged with a number of Spanish shipyards), now the second biggest shipbuilder in Europe, showed models of its carrier, landing ships and the interesting F-100 Frigate.

DCN displayed models of French warships including the NTCD class of Landing Helicopter Dock amphibious assault ship. Two of these 20,000 ton carrier-like vessels with a speed of 20 knots, a range of 11,000 nautical miles and carrying up to 450 troops, 16 heavy lift helicopters, armoured vehicles including tanks and two hovercraft or four landing craft, have been ordered for the French Navy. This sort of design could well be a contender for any replacement of HMAS *TOBRUK*.

Gibbs & Cox, the renowned US naval architects, displayed their designs for a number of ships including a 20,000 tonne Landing Ship dock, a 1,550 tonne advanced corvette and the International Frigate - a design offered to the RAN for the Air Warfare Destroyer. This ship is of 5,875 tonnes with a length of 144 metres, a speed of 30 knots, a range of 4,500 nautical miles, phased array radar, standard SM-2 and Evolved Sea Sparrow missiles, Harpoon, RAM, a 5"/54 gun system, 35 mm Valkyrie guns, MK-46 torpedoes, and capable of operating helicopters such as the Seahawk.

The Western world's great US and European missiles firms provided unmissable displays of a huge range of weapons, some of which had clear application to the ADF.

Austal, the West Australian builder of large catamaran high speed vehicle passenger ships, announced that it had been awarded a 3-year contract (with one 101 metre vessel) to transport US Marines between their various greatly favour this form of transport, as a battalion of 970 men with its equipment can be deployed in one lift in 24 hours, whereas

air transport can take 14 days or more with many lifts, due to other priorities.

Incat, the Tasmanian builder of similar craft, is currently operating one of its vessels (fitted, in a month, with a helicopter deck) for trials with US forces in the European theatre.

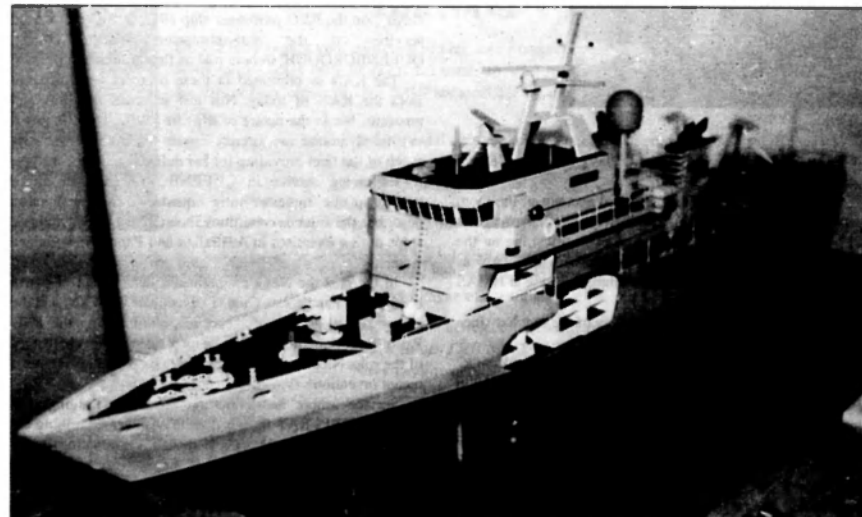
The Chief of Navy, VADM David Shackleton, wound up the conference listing the importance of six major points:

- the strategic uncertainty of the future,
- the need for interoperability,
- the importance of knowledge and information,
- the need for trials of new concepts and technology,
- the need to review the whole personnel scene including the Sea/Shore Roster,
- the need to ensure maximum synergies between the three services.

Overall the Exposition and Sea Power Conference must be considered an important and valuable event in the Defence calendar and a credit to the organisers.

As a minor criticism there is a tendency, common in all professions, for over use of rhetoric understood only by the initiated. For greater public understanding it would be well for speakers to use simple lay language and drop the acronyms and defence jargon.

Some clear messages from the changing strategic scene seem to be that while current emphasis must be on the non-conventional war aspects, the fundamental reason for the existence of the ADF must not be forgotten or relegated and its warfighting skills and capability must be strengthened. Many wonder whether the very long and expensive decision-making process for the acquisition of major equipments is any longer appropriate. The most concerning 12-year wait for the replacement of the Navy's area air defence capability is an example of tardy decision-making which needs immediate attention.



Forgcay shipyard in Newcastle is one of the many bidders in the RAN's project to replace the Fremantle class patrol boat. Pictured is Forgcay's contender based on an existing Italian patrol boat.

PRODUCT REVIEW

RED SKY AT NIGHT

THE LIFE OF A PROFESSIONAL SEAFARER

By Michael Bennett

Reviewed by Mike James

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Michael Bennett served some 27 years at sea, for several shipping companies, the Royal Navy and the Royal Australian Navy.

RED SKY AT NIGHT is a personal account of the more memorable experiences of his career, from his first voyage as a 17-year-old cadet, with the Canadian Pacific Line on the North Atlantic run, to finish his career with the RAN as executive officer of the now closed submarine base at HMAS PLATYPUS in Sydney.

The book is also a chronicle of a way of life that has since all but disappeared.

The author commenced his service on the "break bulk" freighters of the post war years, on the SS BEAVERFORD in 1957, and served on a mixture of merchant and passenger ships, plying the sea-lanes and maintaining the trade that bound the British Empire together.

In those days ships such as the BEAVERFORD carried a vast array of cargoes, manufactured goods, cars, machinery and so forth, around the world's oceans from the factories of England to the far-flung outposts of the Empire and Commonwealth. Having discharged their cargoes, the ships

would reconfigure their holds to accommodate produce such as wheat, copra, wool, rubber and other raw materials for shipment back to England.

The author notes on one voyage to South East Asia his ship berthing at a newly completed container wharf, and noting the introduction of container ships which were rapidly replacing the traditional freighters on which he served.

Service on the Pacific & Orient Lines passenger ships such as CATHAY and ORIANA also highlights the changes that have taken place. Voyages to ports such as Singapore and Hong Kong were full of passengers undertaking the trip to take up positions in the colonial administrations, together with their families and possessions.

Today, the long shadow of commercial air travel has replaced the passenger liners of that age, and relegated the liner to the role of mobile tourist resort. In fact the author describes undertaking a number of such cruises to the Mediterranean and the Fjords of Norway in ships such as the CHUSAN.

The author served as a member of the Royal Naval Reserve, with his Merchant Navy service interspersed with tours of duty with the Royal Navy, notably on anti-submarine frigates such as the Whitty class HMS EASTBOURNE and the Blackwood class HMS MURRAY, and the minesweeper HMS BADMINTON. The Royal Navy of those days was focused squarely on dealing with the looming threat of the Soviet Union, however, Bennett focuses on the high and low lights of Navy life.

In 1969, the author joined the Royal Australian Navy, having married an Australian girl he met on one of his voyages between England and Australia. Having travelled out to his newly adopted country as a passenger, "self-stowing cargo", on the P&O passenger ship IBERIA, he commenced service on the anti-submarine frigate HMAS QUEENBOROUGH, in here role as fleet training ship.

The RAN as presented in these times is very different from the RAN of today. Not just in terms of ships and missions, but in the nature of the role itself. The Navy was structured around the aircraft carrier MELBOURNE, with much of the fleet providing for her defence and support.

Following service in QUEENBOROUGH the author served in the minesweeping squadron, and graphically describes the arduous conditions aboard those small, cramped ships during exercises in Australian and Papua New Guinea waters.

In the past the Navy maintained a detachment of patrol boats as the Papua New Guinea Division of the RAN, and the author served as part of that force, commanding the PNG Patrol Boat Squadron, with a chapter relating the challenges of the role. Nice to see that inter-service difficulties are not a recent invention!

Service ashore and afloat on board the training ship HMAS Jervis Bay followed, with chapters describing the life of the Navy in the 70's and 80's, culminating in the authors retirement in 1985.

RED SKY AT NIGHT is a record of a time that has past. The march of technology has changed both the Merchant and regular Navy dramatically, and RED SKY AT NIGHT is a valuable record of a time whose like we shall not see again.

IN THE HIGHEST TRADITIONS

RAN HEROISM DARWIN

19 FEBRUARY 1942

By John Bradford

Reviewed by LCDR Greg Swinden, RAN

'In the view of this Government, it's never too late to acknowledge that sort of heroism'

The bombing of Darwin on 19 February 1942 has often been described as a national day of shame. The heavy losses incurred, the minor losses suffered by the Japanese, the poor performance of their duty by many of the military personnel in Darwin, and the mass exodus south of most of the civilian population, has always been portrayed as the true story of the first Darwin raid.

While the actions of some ashore in the wake of the bombing have rightly been called into question this has unfortunately overshadowed the bravery and outstanding devotion to duty shown by the Naval personal (RAN, USN and Merchant Navy) both afloat and ashore in Darwin. Several other military personnel, civilian medical staff and public servants also carried out their duties in an exemplary manner. It is a pity that the actions of some military personnel in Darwin resulted in tarnishing the record of a good many 'who got on with the job' and did it well.

John Bradford has produced a very good account of the raid, but more importantly has examined in detail the valour of the RAN personnel involved on that fateful day. Several

received awards for bravery while others became victims of ineptitude and apathy at higher levels of the 'paper trail'. The silence of the Silent Service failed its personnel in this case.

He is quite scathing of the requirement for RAN nominations for honours and awards, during World War II, requiring endorsement by the Admiralty and within a given time frame. This he states has led to some acts of bravery going virtually unrecognised in the Darwin raid and the later sinkings of HMAS YARRA and HMAS ARMIDALE. John also raises the now frequently asked question of retrospective awards for these men up to, and including, the award of the Victoria Cross for some.

John also looks at the affect of the raid on higher Naval thinking at the time and the role it played in later operations in northern Australian waters. A new slant on the reasons for the loss of the corvette ARMIDALE, in December 1942, is put forward and makes interesting reading.

For those interested in the bare facts *In the Highest Traditions* is an A5 paperback of 224 pages, reasonably well illustrated, and with a foreword by Sir Zelman Cowen (who was serving as a Naval officer in Darwin during 1942). The book will cost about \$35.00 (GST dependent) and is published by Seaview Press of Adelaide, South Australia (PO Box 234 Henley Beach SA 5022).

Another very welcome addition to the history of the RAN and one that the higher levels of the Navy could learn from as how recognize and, more importantly, reward skill and valour when it occurs.

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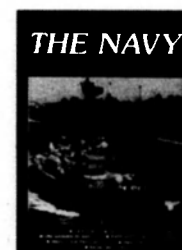
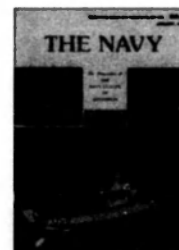
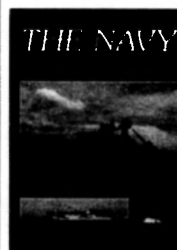
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Sydney NSW 1043



STATEMENT of POLICY

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.

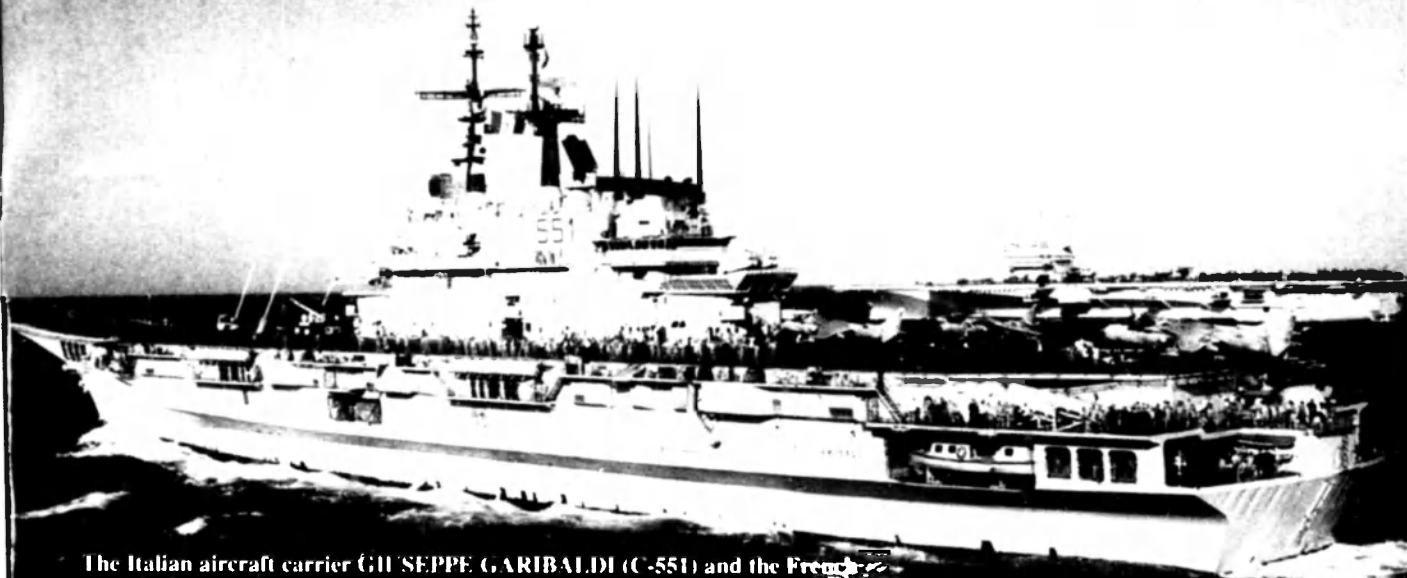
- Is concerned that the offensive and defensive capability of the RAN has decreased markedly in recent decades and that with the paying-off of the DDGs, the Fleet will lack area air defence and have a reduced capability for support of ground forces.
- Advocates the very early acquisition of the new destroyers 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 the GLOBAL HAWK or similar unmanned surveillance aircraft 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:

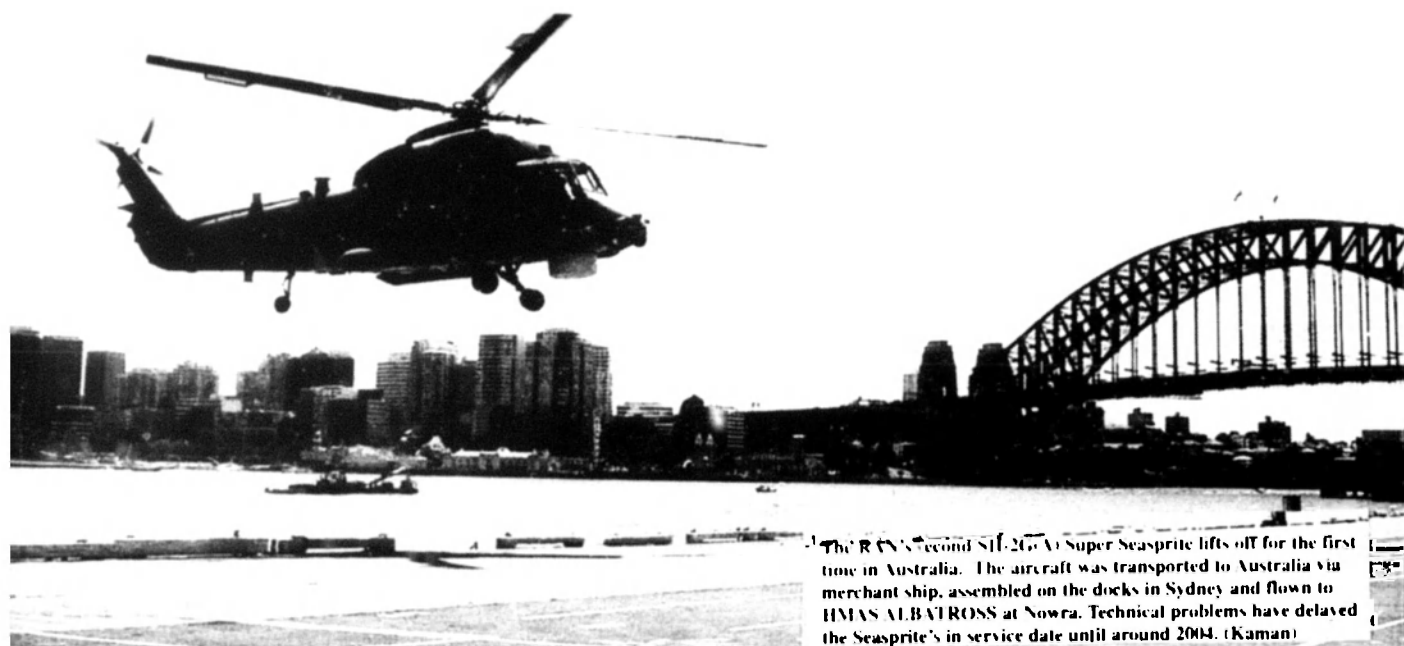
Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in our national defence capability including the required industrial infrastructure.

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.

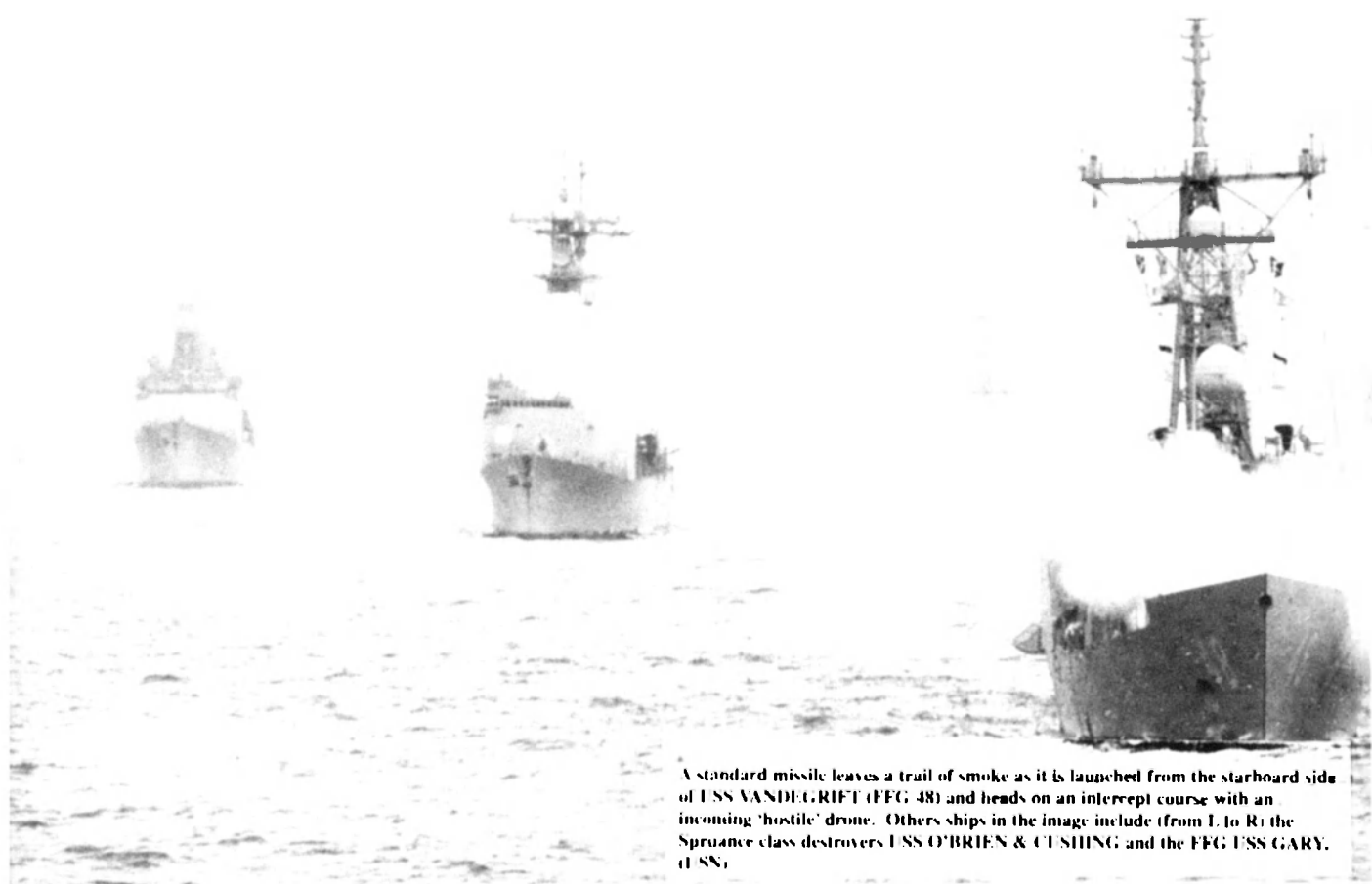
HMAS SYDNEY in the Persian Gulf. The RAN has taken over command of the MIF (Multinational Interception force) enforcing sanctions on Saddam Hussein's regime. (RAN)



The Italian aircraft carrier GIUSEPPE GARIBALDI (C-551) and the French nuclear-powered aircraft carrier CHARLES DE GAULLE (R-91) steam through the Arabian Sea. Both carriers, along with USS THEODORE ROOSEVELT (CVN-71) and several ships from other countries including Australia are deployed and conducting missions in support of Operation Enduring Freedom. (USN).



The RAN's second SH-60A Super Seasprite lifts off for the first time in Australia. The aircraft was transported to Australia via merchant ship, assembled on the docks in Sydney and flown to HMAS ALBATROSS at Nowra. Technical problems have delayed the Seasprite's in service date until around 2004. (Kaman)



A standard missile leaves a trail of smoke as it is launched from the starboard side of USS VANDEGRIFT (FFG-48) and heads on an intercept course with an incoming 'hostile' drone. Other ships in the image include (from L to R) the Spruance class destroyers USS O'BRIEN & CUSHING and the FFG USS GARY. (USN)