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THE NAVY

The Magazine of the Navy League of Australia

Chinese visitors to Sydney, May 1998. From top; guided missile destroyer QINGDAO, replenishment ship NANCANG and training ship SHICHANG, arriving on 4 May. (Photos - B. Morrison)

Front cover: The Royal Australian Navy's second Anzac class frigate, ARUNTA, on trials in Port Phillip, early 1998. (Photo - Naval Photo Unit)

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The Navy

All Letters to the Editor and contributions to:

The Editor, Ross Gillett
4 Dela Close,
Dee Why, NSW, 2099

Subscriptions and Membership

All magazine subscriptions and membership enquiries to:

The Hon Secretary,

NSW Division,

Navy League of Australia,

GPO Box 1719,

Sydney, NSW, 1043

National Email address:
navyleag@netspace.net.au

Internet Home pages for Federal and State Divisions:
URL:http://www.netspace.net.au/~navyleag

Copy deadline for the next edition is 9 August 1998.

VIEWPOINT

The Navy Number 3, 1998 is a pot-pourri of news and articles from the World's Navies.

Most recently, for Australia, the first ever Peoples Liberation Army – Navy (PLA-N) Task Group visit was successfully undertaken in Sydney during the early part of May. This edition also features a special New Zealand feature, including a post Defence White Paper commentary, the veteran Westaland Wasp Helicopter Story and an update on the 'new', interim SH-2F Seasprites, which are now flying.

An 'oldtimer' making a comeback into Australian military service in the Lighter Amphibious Re-supply Cargo Mk V, more commonly referred to as the LARC V. A number of the 30-year-old Army watercraft are being updated for service aboard the RAN's two modified LPAs, *KANIMBLA* and *MANOORA*. This report also includes the latest RAN photographs of the modernised *MANOORA*.

During August, 1998, the Naval Air Station, HMAS *ALBATROSS* will set the scene with a major 50th Anniversary Air Day, with dozens of aircraft and helicopters expected on show. The public display will span five decades, of Naval Aviation, with numerous flying, museum and static displays.

The new *Combat Fleets of the World* 1998-99 naval reference book is expected to be available in local bookshops from July-August. Spanning 1220 pages, the 1998-99 edition includes more than 4,750 photographs and line drawings. This year, for the first time, a CD-ROM version is available. A full review appears in this issue of *The Navy*.

Ross Gillett

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FROM OUR READERS

Ex HMAS CURLEW

Dear Sir,

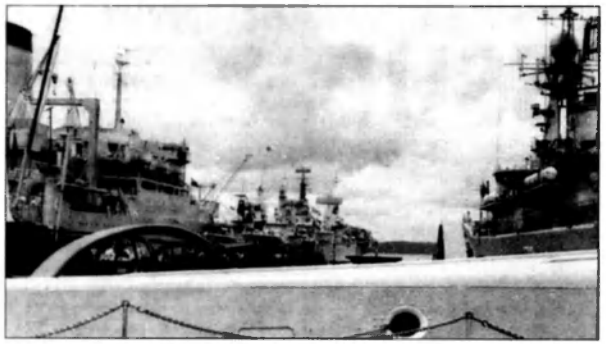
In reply to the article in the January-March, 1998 edition concerning the fate of the former minehunter *CURLEW*, I forward some additional information.

The old mine warfare vessel was saved from the scrap metal merchants about 14 months ago by myself, an ex-submariner. Purchased for $40,000, *CURLEW* is currently berthed at the Woolwich Marina in Sydney, undergoing repairs before heading to Hobart, Tasmania in June or July.

The work to restore the vessel to her original condition is a labour of love and determination, as a fine example of working Naval heritage. In 2003 it is planned to steam the 50-year-old *CURLEW* back to Montrose, where she was originally built for the Royal Navy.

Gary Hamer
Fax: 03 6261 1614

***Editor:** Gary is keen to hear from former crew members, prospective crew and anyone interested in helping with the project.*



Singapore Naval Base, prior to handover to ANZUK. On the right is HMAS SWAN, with a Royal Fleet Auxiliary on the left. (Photo – Bill Wilson)

Singapore

Dear Sir,

The accompanying photograph was taken in Singapore Harbour in 1971. On the right is the destroyer escort HMAS *YARRA*, units of the Royal Navy and a Royal Fleet Auxiliary on the left.

What about other readers sending in their old photos so the rest of us can see the Navy at work. I enjoy *The Navy* very much, keep up the good work.

Bill Wilson

KARRATHA 6714

Preserving Warships

Dear Sir,

I must agree with Mr. Genge (*The Navy*, January-March, 1998) regarding the preservation of our warships.

The class of frigate as exemplified by HMAS *SWAN* and variants was the most successful class of warship in modern times and should therefore be carefully preserved for future generations.

The arguments by bureaucrats and politicians against the cost of preservation are spurious when you consider the millions they have spent on Old Parliament House as a national shrine to 'hot air'. Doubtless, the same arguments were mooted against preserving HMS *VICTORY*, until overwhelming public opinion saved her from being scrapped.

VICTORY remains the flagship of the C-in-C Portsmouth to this day and millions of tourists have visited her. How many would have dived to her sunken wreck?

The Americans have been keen to conserve examples of old warships, but the RAN has shown little interest in its old ships, while our governments show even less concern.

D. G. Gwyer

ROCKINGHAM 6168

HMAS CURLEW (Photo – John Mortimer)

***Editor:** Up to mid 1998 numerous former RAN ships had been preserved. These include, ADVANCE, CASTLEMAINE, DIAMANTINA, JOHN OXLEY, KRAIT, VAMPIRE, WHYALLA, to name the larger units, now open for public inspection. Indications are that one or two Oberon class submarines and the guided missile destroyers PERTH and BRISBANE will also be preserved in the next few years.*

NAVY NEEDS MAJOR MODERNISATION URGENTLY

By Navy Leaguer

For some five years now, the RAN has been pressing to have its six *Adelaide* class FFGs upgraded.

The need for this was confirmed by an analysis of the new generation types of missile either already on the market or expected to become available over the next few years. The analysis then made an estimate of the number of missiles and launching vehicles (ships, submarines, helicopters and fixed wing aircraft) expected to be in service in the region. From this, the quality of defence likely to be required by the RAN and the date by which that defence should be provided to keep these ships combat worthy in our broader region was determined.

The primary purpose of this upgrade is to provide the ships with an effective self defence system against the new generation of anti-ship missiles. For some time, the way to do this has been clear in principle. A new type of missile and launching system must be provided. The new missile must be integrated into the ships' combat system. Improved sensors must be provided. Technological advances will enable these new missiles and improved sensors to be used together with existing ships' systems much more effectively than previously.

Largely in parallel with the plans to upgrade the FFGs, the RAN began planning to improve the war fighting capabilities of the eight *ANZAC* class frigates then under construction for the RAN.

This would take advantage of the foresight which saw substantial room for additional capabilities designed into the *ANZAC* class. It was planned to retrofit some of the earlier ships with these improved war fighting capabilities and to build the capabilities into the later ships whilst they were still building.

The first part of the improvements, involving surface warfare, are comparatively straightforward. Final details have been resolved. Detailed contract negotiations are underway with the ships' builders (Tenix Defence Systems). Harpoon missile launching equipment, a torpedo decoy system and a mine avoidance sonar will be installed.

The second part of the improvements is proving much more difficult, providing the *ANZAC* class with a much more comprehensive anti-air warfare capability.

Firstly, the Anzacs are much newer than the FFGs so will remain in service much longer. During this longer period it must be expected that the missile and aircraft threat will develop to more capable weapons.

To put this into perspective, surface launched anti-ship missiles currently in service in the region have a speed of mach 0.9 and a range of some 40 nautical miles with active radar or infra-red homing systems. The most flexible patterns (sea skimming etc) can make the defence task more difficult. Some ships are fitted with longer ranged missiles with much smaller warheads.

Current plans – the fitting of evolved Sea Sparrow missiles, Nulka active off-board decoys – will provide the Anzacs with a substantial defence against these 0.9 mach missiles. The FFG upgrade will provide these ships with effective defence against today's anti-ship missiles.

Until their AAW war fighting improvement program is complete, the Anzacs will also be incapable of defence against today's anti-missiles.

Before the end of the century (less than two years from now), a regional power will have major surface combatants in Service armed with a surface to surface missile with speed of mach 2.5 (mach 4.0 in the attack phase) and a range with active/passive radar homing of nearly 90 nautical miles.

The simplicity and effectiveness of this comparison should not be diluted by the numbers of additional types of missiles operated over a wide range of missile types. Some of these are marginally more effective than those used for our basic comparison.

HMAS SYDNEY, at anchor in Jervis Bay, 1989. (Photo – RAN)

The worrying factor is that the first upgraded FFG will not even start trials until two years after the first regional surface combatant with new generation anti-ship missiles enters service.

The FFG upgrade project has undergone a long series of examinations and re-examinations. The successive changes in capabilities, designs and plans for implementation of the upgrade give the outside observer the impression of dithering over capability needs with the need to get the design and capability right becoming bogged down in a wish to get the paper process right.

The Anzac war fighting improvement program AAW phase gives the same impression. A study has been followed by another study.

The fact is that the space limitations and other factors limit the degree of upgrading of the FFGs.

Due to the flexibility of their design, the opportunities for improvement of the Anzacs are much greater.

There is room for an Aegis type phased array radar, another major radar installation, for a markedly more capable combat management system, and for much longer ranged anti-aircraft missiles.

The AAW phase of the Anzac program should provide the RAN with a really modern long range AAW system.

On top of that, the Anzacs' combat management system should be able to provide the FFG's larger AAW missiles with an improved targeting data and guidance to enable the FFGs to play an effective role in defence against new types of anti-ship missile.

However, the RAN will not have the AAW improved Anzacs until at least two years after the FFGs. That is until some five years after the Mach 2.5 class of missile enters operational service with a regional power.

If the FFG upgrade and Anzac war fighting improvement program had progressed smartly, the RAN would not be in the position of receiving these vitally important new capabilities until five years after we may need this defence.

However, that is not to be. This and similar delays will continue to occur until it is recognised that it is more important to get the ships right than it is to get the paper process right.

CHINESE NAVAL TASK GROUP VISIT TO AUSTRALIA

A Warm ...But Wet...Welcome to the PLA-N

By Graham Davis

More than 1000 people, many from the local Chinese community, braved leaden skies to provide a warm welcome to Sydney to three ships of the Peoples Liberation Army – Navy in May. It was the first ever visit to Australia by the PLA-N.

Shouting "welcome, welcome" in Mandarin and Cantonese, the crowd, many of them children, lined Fleet Base East to greet the two-year-old guided missile destroyer *QINGDAO* (CAPT Fu Guosen), the replenishment ship *NANCANG* (CAPT Liu Wanglin) and the training ship cum helicopter carrier *SHICHANG* (MDR Yao Liqiang). The three ships were manned by 676 officers and sailors.

Aboard the destroyer was Rear Admiral Han Fangrun the Deputy Commander of the PLA-N North Sea Fleet, while RADM Qu Jichun, the deputy commandant of the Dalian Naval Academy was embarked in *SHICHANG*.

As the three light grey painted ships inched towards the wharf, the RAN band struck up, fireworks were deonated and two Chinese lion dragons began to dance. Chinese and Australian flags were waved and a large banner declaring "Warmest Welcome" in Cantonese and Australian spread before the public viewing area.

On a four day visit to Australia and arriving from New Zealand, the trio of warships was met by the 4,720 tonne guided missile destroyer HMAS *HOBART* (CMDR Simon Woolrych). *HOBART* met the ships just off Sydney Heads and led them, in line astern formation, to the Fleet Base East. As the trio approached the Hornby Light the lead Chinese ship fired off a salute. The Sirius Battery on South Head responded.

Inside the harbour the four ships were met by the high speed diving craft *SEAL* of AUSDT One carrying a press contingent of 50 local and overseas linked newspeople. Overhead three media helicopters videotaped the ships' every move. Off Bradleys Head the visitors were met by an escort of Naval and NSW Water Police launches and Defence Maritime Services and civilian tugs.

The presence of three unfamiliar ships, with hundreds of blue uniformed sailors and cream garbed marines lining their decks, attracted much interest among foreshore residents and ferry commuters. The 0800 passage up Sydney Harbour was carried out in sunny conditions but by 0900 heavy cloud had begun to appear in the southern skies.

QINGDAO berthed just after 0900 where the RAN Band, the Sydney Standing Guard and a large group of RAN officers waited. They were led by the Maritime Commander Australia, RADM Chris Ritchie. With the gangway landed, RADM Fangrun moved to the wharf where he was met by RADM Ritchie, the Chinese Ambassador to Australia and Consul to Sydney and several women from the local Chinese community.

With the guard commander inviting the RADM, in Mandarin, to review the guard, the senior Chinese officer moved through the lines of young men and women sailors followed closely by news crews whose images were soon be transmitted across Australia and the globe. RADM Fangrun moved to the dais where he joined RADMR Ritchie.

"On Ying"' declared the Australian officer...which translated said "welcome to Australia."

"It is a great please to to welcome you here." He said the visit by the Chinese ships was a first and was an "historic occasion."

RAMD Ritchie told the large crowd of the visit by Australian ships to China last year and the hospitality and welcome their crews had received.

"We hope that you will feel equally at home in Sydney." He said the Sydney visit reflected the bilateral relations between the two nations. "Your visit will strengthen the bonds."

RADMR Ritchie said the visitors and Australians would exchange the "professional views of sailors."

We also look forward to sporting competition. You are all very welcome. Thankyou for bringing these very fine ships to Sydney," the Australian officer concluded.

In response RADMR Frangrun said ," we are honoured to pay this friendly visit to Australia. We have received a very warm welcome...Thank you." He re-iterated the need for closer ties.

Completion of the welcome speeches saw the RADM move along the wharf to meet and greet the hundreds of Chinese folk who had come along. To the calls of "welcome, welcome" he was soon shaking thrust out hands and talking for the crowd. Before attending a dockside press conference with RADM Ritchie, he thanked the RAN band through its leader, LCDR Philip Andrews.

At a crowded press conference, RADM Fangrun was asked if, because of the success of the present links between the two navies, if in the short, or long terms, Australian sailors might serve aboard PLA-N ships and vice versa. He said it was "possible" Australians would visit Chinese naval establishments but stopped short of saying they would serve aboard his ships. He extolled the quality of his nation's naval university.

RAMD Ritchie said he welcomed the visit as he did the co-operation between the two Navies. The co-operation improved the stability in the region, he said. RAMD Ritchie, under questioning from a US news reporter, said he did not see a problem with the Chinese ships visiting Australia and perceptions of this in the United States. He pointed out that four Chinese warships had indeed visited the US last year. The conference revealed that more Australian ships will soon visit China. Their destination had not yet been determined.

The press conference came to an end with RADM Ritchie pointing to the sky behind the reporters and declaring "we are going to get wet in a minute." He was not wrong. The heavens opened and more than 400 people rushed for cover. Many sheltered in dockside facilities, others under umbrellas, but in a move not on the program, hundreds went up the gangplank and aboard the *QINGDAO*. The crew was soon playing host to babies, older children, parents and grandparents.

The ships arrived on Monday, 4 May and spent four days in Sydney.

Front cover of the PLA-N Welcome A'Board to Sydney, May, 1998.

When the weather turned 'bad', the crew's reception moved indoors. (RAN)

QINGDAO sails for the open sea. (Photo – LSPH Simon Metcalf)

Chinese sailor doing 'pipes'. (RAN)

Touring HMAS WATERHEN. (Photo – LSPH Steve Gumett)

PLA-N sailors with ABSCO Michael Davidson, aboard QINGDAO (Photo – LSPH Steve Gumett)

The Chinese training ship 'heads for home', after a successful four day visit. (Photo – LSPH Simon Metcalf)

The DDG QINGDAO proceeds up to the Fleet Base East, as her crew 'man' ship. (Photo – Brian Morrison)

The Maritime Commander, RADM Chris Ritchie, welcome his Chinese visitors. (RAN)

Replenishment ship NANCANG (Photo – ABPH Simon Metcalf)

Port quarter view of the training ship and helicopter carrier SHICHANG. The ship resembles a mini version of the Royal Fleet Auxiliary (RFA) ARGUS (Photo – Brian Morrison)

STATEMENT OF POLICY

Navy League Of Australia

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 the 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 in all relevant fields.
- Advocates a defence capability which is knowledge based with a prime consideration given to intelligence, surveillance and reconnaissance.
- 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 areas.
- Supports the concept of a strong Air Force and highly mobile Army, capable of island and jungle warfare as well as the defence of Northern Australia.
- Supports the acquisition of AWACS aircraft and the update of RAAF aircraft
- Advocates 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.
- Advocates the development of equipment, skills and experience in the ADF for patrol and surveillance of the ocean areas all around the Australian coast and island territories, including in the Southern Ocean.
- Advocates the transfer of responsibility, and necessary resources, for Coastal Surveillance to the defence force.
- Advocates the acquisition of the most modern armaments and sensors for our small defence force to ensure that the ADF maintains some technological advantages over forces in our general area.
- Advocates measures to foster a build-up of Australian-owned shipping to ensure the carriage of essential cargoes in war.
- Advocates that defence industry have the ability to construct all types of warships and support vessels and to provide their through life support.
- Advocates the need for defence industry to maintain a capacity to provide systems and sensor integration for the ADF including through life software support.
- Advocates that defence industry be supported by research capability within industry and DSTO to ensure the incorporation of technologies into the ADF at the earliest opportunity.

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.
- Believes it is essential that the destroyer/frigate force should include ships with the capability to meet high level threats.
- Advocates the development of afloat support capability sufficient to provide afloat support for two task forces as well as the capacity to support operations in sub-Antarctic waters.
- 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, including nuclear, be examined with a view to selecting the most advantageous operationally.
- Advocates the acquisition of an additional 2 or 3 *Collins* class submarines.
- Supports the development of the mine-countermeasures force.
- Advocates the development of a modern state-of-the-art hydrographic/ oceanographic fleet hydrographic officer supported by LADS aircraft.
- Advocates the retention in a Reserve Fleet of naval vessels of potential value in defence emergency, rather than their disposal.
- 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 Naval Reserve Cadet organisation.

The League:

Calls for 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, the League believes that, given leadership by successive governments, Australia can defend itself in the longer term within acceptable financial, economic and manpower parameters.

CANADA'S NAVAL FORCES ADJUST COURSE

*by Antony Preston**

In one sense there is no Canadian Navy, merely a naval element in the unified Canadian Forces of Maritime Command, but for convenience it will be referred to as the Canadian Navy in this survey. To complicate matters further, it is no longer known as the Royal Canadian Navy, but retains the privilege of naming its ships HMCS granted nearly 90 years ago.

As a staunch NATO ally and a noted participant in United Nations peace-keeping activities for many years, Canada has borne a significant military burden, and the end of the cold war has inevitably weakened political support for the military.

To put it succinctly, many of Canada's politicians question the need for balanced forces, and so projects such as the replacement submarines are given a much lower priority than, say, armoured personnel carriers. The former is 'aggressive', the other is connected with peacekeeping, and is therefore affordable.

The truth is that Canada will be much more influential in the post-cold war world if she has a balance of credible forces.

This was well demonstrated in the Gulf Crisis in 1990-1991, when Canadian naval units were able to share in Coalition operations with comparative ease. Destroyer escorts were hurriedly upgraded with RGM-84 Harpoon missiles and Mk15 Phalanx 20mm 'Gatlings'. The ships were also supported by Canadian support vessels.

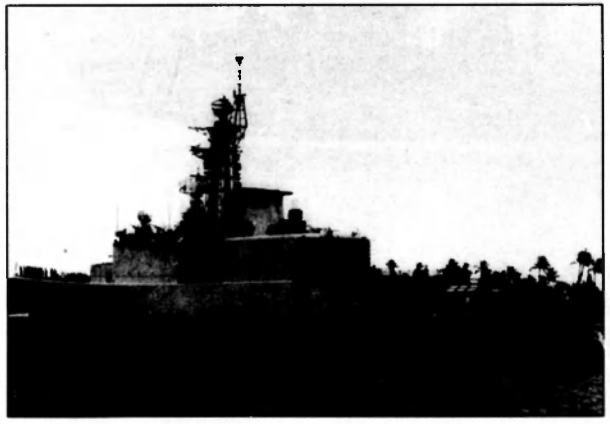
Strategically, the country has three maritime flanks, the Atlantic and Pacific seaboards and the Arctic. The land frontier with the United States presents no more than a cultural threat, and is totally open. The internal problems of separatism in French-speaking Quebec seem unlikely to cause any change in overall defence strategy.

Even if the 'nightmare scenario' of Quebec's secession happens, the majority of French-Canadians show little interest in acquiring a navy. Indeed, comparatively few French-Canadians appear to show much interest in joining the Navy.

The naval element of the Canadian Forces can, therefore, be very grateful that the Soviet Union was considerate in not collapsing before the Patrol Frigate programme was well advanced.

This has provided 12 *City* class ships, well equipped for anti-submarine warfare (ASW) and anti-surface warfare (ASuW) over a period of ten years. The last, HMCS *OTTAWA*, was delivered last year by Saint John Shipbuilding.

Also delivered in the early 1990s were four *Tribal* class destroyers converted to air defence ships (DDGs). The two *Annapolis* class destroyer escorts (DDES) and the two similar Improved *Restigouche* class will all be gone by 2002.



Tribal class destroyer sails for RIMPAC exercises. (Photo – Brian Morrison)

The oldest operational destroyer in the Canadian fleet, the improved *Restigouche* class destroyer HMCS *TERRA NOVA*, was placed in 'extended readiness' status in Halifax in July, 1997. The specialised diving support ship HMCS *CORMORANT*, a former Italian trawler acquired in 1975, was decommissioned after 19 years service, also in July, having been declared surplus to requirements.

Plans to build another four DDG variants of the City design have been dropped, and it is hoped to upgrade four (presumably the oldest) to DDGs, with Standard SM-2 air defence missiles after 2002. These will replace the *Tribal* class, reducing the escort force to a dozen frigates from its current total of 20.

Several notable deployments have been undertaken by the patrol frigates in the last 12 months. HMCS *HALIFAX* made a recent deployment to South Africa in August, the first time a Canadian Navy ship had entered a South African port for more than 40 years. On 22 September, the *HALIFAX* departed South Africa bound for South America, where the frigate and her Sea King helicopter were due to participate in a multi-phase international exercise Unitas '97, off the coasts of Argentina, Uruguay and Brazil.

The patrol frigate HMCS *REGINA* returned to Canada from a six-month deployment as part of the UN Maritime Interception Force in the Gulf in August. During the deployment, the ship was responsible for intercepting and inspecting Iraqi vessels coming and going from Iraq in order to ensure that they complied with UN sanctions against that country. *REGINA* also visited Hong Kong, Australia, New Zealand and several of the Gulf States during her deployment.

HMCS *CHARLOTTETOWN*, another patrol frigate, joined in a series of exercises in the Baltic with former cold war adversaries in September of 1996. A total of 26 ships, including HMCS *CHARLOTTETOWN*, participated in a 'Partnership for Peace' exercise off the coasts of Poland and Sweden.

Together, HMC Ships *ALGONQUIN*, *WINNIPEG*, *REGINA* and conducted an important two-month deployment in the Western Pacific towards the end of 1996. The deployment, known as WESTPLOY, reflects Canada's growing interest in the Asia Pacific region, and saw the ships visit Japan, Hong Kong, the Philippines, Vietnam, South Korea and Russia and join in Exercise RIMPAC '96.

Plans to replace the three 30-year-old *Ojibwa* class diesel electric submarines

(SSKS) were delayed, and now the Canadian Navy was faced with the unhappy prospect of losing its submarine capability altogether. The replacement plans were initially marred by what can only be described as 'wild mood swings'. Not long ago there was talk of a force of 12 nuclear powered hunter-killers (SSNs), leading to a brutal struggle between the British and the French with the Americans trying to scupper the whole idea. In 1992 it was announced that up to six modern SSKs would be bought, but then, that commitment was dropped

Needless to say, there was no longer any chance of SSNs, and even the modest hope of replacing the Ojibwa-class one-for-one was fading. The best hope seemed to be the acquisition of the four redundant *Upholder* class SSKs from the UK Royal Navy, which were on offer at a very reasonable price. In fact these powerful SSKs would be ideal for the Canadians – the design was optimised for high submerged endurance and Arctic surveillance operations. Finally, in 1998, the decision was announced that the four Upholders would be acquired. (See Naval News report)

An important programme which escaped the axe was the Maritime Coast Defence Vessel (MCDV) project. This has resulted in the construction of 12 *Kingston* class by Halifax Shipyards – over half have been delivered and the remainder will be delivered by 1999. Intended to be manned largely be reservists, these 55.3m vessels combine general patrol duties with an advanced mine countermeasures capability.

Half will be allocated to Maritime Forces Atlantic on the west coast and the St Lawrence River, the remainder going to the Pacific Squadron at Esquimalt in British Columbia. The keel laying ceremony of the tenth MCDV, the future HMCS *SASKATOON*, took place on 05 September 1997 at Halifax Shipyard Ltd. The same week, the first patrol on the Grand Banks off Newfoundland by a *Kingston* class ship, HMCS *GLACE BAY*, took place. The patrols are designed to offer support to Canada's Department of Fisheries and Oceans.

The eighth '*Kingston*' class vessel, *GOOSE BAY*, was launched on 04 September, 1997. In August the third of the series, HMCS *WHITEHORSE*, departed Halifax for its permanent homeport of Esquimalt, British Columbia.

The ageing shipboard helicopter force is becoming a serious worry. At present a total of 23 CH-124 Sea Kings are operated for ASW, ASuW, Search and Rescue (SAR) and utility duties. These airframes are now very hard to maintain and replacements are urgently needed, but the procurement process has been delayed by political indecision. A deal to buy two versions of the Anglo-Italian EH 101 Merlin was wrecked by budget cuts some time ago, but the need for modern airframes will not go away

Early in 1998 the Department of National Defence (DND) was reported to be close to a decision on the procurement of 15 SAR helicopters at a cost of Can$600 million. Subsequently, the Westland Cormorant was selected. A decision was still awaited on an ASW helicopter replacement.

In the longer term the three replenishment ships (AORs) will need to be replaced after 2005. A more flexible design is proposed but no decision can be expected for at least two years

*With contributions from David Foxwell.

HMCS VANCOUVER

NEW TANK LANDING SHIP FOR SINGAPORE

The Republic of Singapore Navy (RSN) has launched the first of a new class of locally-built Landing Ship Tank (LST). At the launching ceremony held at the Singapore Technologies Marine, the lead ship was christened RSS ENDURANCE.

ENDURANCE is the first of four new LSTs acquired by the RSN to replace the Navy's existing ex-*County* class LSTs. The current five LSTs, acquired from the United States Navy in the 1970s, are becoming highly uneconomical to operate and maintain, having been in operational service for more than 50 years. In addition, the existing LSTs are reaching the limits of their capabilities in providing expeditious and effective sea transportation of SAF personnel and equipment for overseas training deployments.

The new LSTs have been designed to fully meet the island nation's requirements for sea transportation as well as carry out the role of supporting the RSN's Midshipman sea training deployments. Innovative features will allow the new LSTs to be operated by 65 personnel as compared to the 130 personnel required to man the RSN's present LSTs. With a larger sea lift capacity and a higher cruise speed of 15 knots, the new LSTs will be able to transport personnel and equipment to overseas training areas using fewer vessels and personnel and more quickly. This will result in greater operational and cost effectiveness and efficiency.

The new LSTs, like the RSN's *Fearless* class patrol vessels, were designed and constructed by local shipbuilders, Singapore Technologies Marine, with all four units scheduled to be completed by the year 2001. Then the present LSTs will be retired from service. The LSTs come under the command of the RSN's Third Flotilla of the Fleet.

The main superstructure extends forward from amidships, leaving sufficient space for a large flight deck aft capable of taking two 10-tonne helicopters or providing space for a vehicle park. Four landing craft (two on either beam) are carried on davits. Internal ramps and lifts will allow stores, equipment and personnel accommodated below-decks to be embarked and disembarked as appropriate from the flight deck, through the bow door and ramp, or from the well dock. Equipment handling facilities include a pair of 25-tonne capacity ship cranes, sited amidships.

Construction of the lead ship began in early 1997, with the keel of the first vessel laid down on 26 March last year. On completion of outfitting and setting-to-work, *ENDURANCE* is planned to begin sea trials in November, 1998. Delivery to the RSN will follow in the first quarter of 1999, with the ship expected to become fully operational in 2000.

Accommodation is provided for a ships' complement of 65 officers and crew (half that required aboard the old LSTS). Propulsion is provided by two Ruston diesels driving independent shafts. Maximum range is in excess of 5,000 nm at a cruising speed of 15 kt.

Specifications

Length : 141 metres
Beam : 21 metres
Draft : 4 metres
Speed : 15 knots
Displacement : 6000 tonnes
Complement : 65 officers and men

The new LST will be equipped with modern shipboard and combat equipment and systems including :

a. An Integrated Navigation and Communication System to provide a centralised system for communication with various positions within the ship, other ships and shore units.

b. An Integrated Bridge System manned by one operator who will control both the direction and speed of the ship. Presently in the older ships, it takes two persons to perform these tasks.

c. A Gun Fire Control System, featuring a computerised system that calculates the direction and elevation of the gun barrel to increase probability of hits.

d. A Naval Gun of 76 mm calibre.

e. An Electro-Optic Director. This infra-red vision device will be used to track targets.

f. A self defence weapon based on the Mistral surface-to-air missile system.

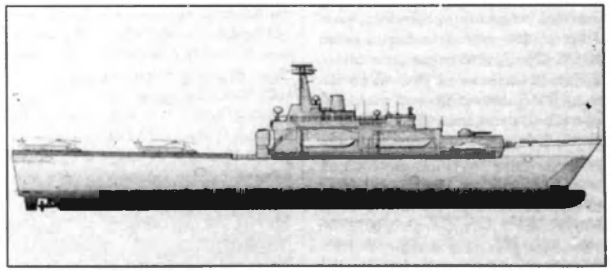
The new ship's armament includes an OTO Breda 76 mm Super Rapid gun forward, 0.5in machine guns and surface-to-air missiles.

The RSN's fleet of new and old LSTs is operated by the 3rd Flotilla's 191 Squadron. The vessels provide sea transportation for SAF personnel and their equipment, detached for overseas training duties. LSTs are also used for training cruises, as support ships, and during peacetime, rescue and relief efforts.

At the ceremony, Dr Tony Tan Keng Yam, Deputy Prime Minister and Minister for Defence spoke about the new class;

"This morning's launch of a new class of landing ship tank is another demonstration of both MINDEF's and the Singapore Government's commitment to ensuring that strong fundamentals and political stability remain the bedrock of our nation's progress and prosperity. Singapore is a small country highly dependent on external trade for our survival. As such, external developments often have far-reaching implications for us. Our consistent policy has been to strengthen the fundamentals like defence which underpin our country's long-term competitiveness and security.

With Singapore's limited land resources, the SAF faces the constraint of limited training space for our soldiers, sailors and pilots. To enable realistic, rigorous and demanding training to be carried out, the SAF actively looks for suitable overseas training areas to offset local space constraints. For many years Landing Ship Tanks (LSTs) of the Republic of Singapore Navy (RSN) have been transporting vehicles, personnel and equipment for



Model of the new Singaporean tank landing ship.

training overseas. However, the Navy's existing LSTs were acquired from the United States Navy in the 1970s. They have been in service for more than 50 years. With upgrading, we have been able to extend the useful lifespan of our LSTs but they have increasingly become uneconomical and inefficient to operate.

MINDEF has therefore decided to replace the Navy's current landing ship tanks. *ENDURANCE* is the lead ship of four new LSTs to be acquired by the RSN. These will replace the 5 aging LSTs that the RSN currently operates. Being larger and faster, the new LSTs will be fully capable of supporting the SAF's overseas training requirements. Innovative and modern technologies will be incorporated into the new LSTs to assure higher system reliability and availability and allow greater automation of manual tasks. This means that, while the new LSTs are larger and more complex than the existing ones, they will require significantly lower manpower and system maintenance requirements.

As with their predecessors, the new LSTs will continue to provide support for the RSN's operational and training commitments, as well as act as sea training platforms for the Navy's midshipmen. The ships are capable of deploying to more ports and countries in the region and beyond as part of their training cruises. Such port calls have a significant role in extending and facilitating MINDEF's defence diplomacy. Such diplomacy helps to foster and enlarge bonds of friendship and mutual understanding

DEFENCE BUDGET 1998-99

Chief of Navy, VADM D. B. Chalmers AO RAN

The 1998-99 Defence budget of AUST $10.945 billion, announced by the Federal Treasurer, maintains the funding base at zero real growth – this outcome is in keeping with the Government's commitment to the level of Defence spending promised by the Prime Minister on his election in 1996. This allocation represents 1.9 percent of GDP (the same as in 1997-98) and 8.7 percent of total Commonwealth outlays (an increase from 8.4 percent in 1997-98).

Under the new DRP (Defence Reform Programme) structure, my allocation for NHQ (Naval Headquarters, Maritime and Training Commands and all PNF/Reserves salaries is some $935 million. Support Command has been allocated $606 million for Navy Logistics Operations. Overall these allocations equal the 1997-98 expected budget outcome.

A significant feature of this year's budget has been the increased funding allocated to specific Navy-related activities within Support Command. This equates to about $440 million across the next four years to help address vital capability and preparedness deficiencies. Areas to receive particular supplementary funding over the next four years, include Naval Aviation ($80 million), funding to retain HMAS *TOBRUK* ($68 million), at a total of $27 million to ensure HMAS *KANIMBLA* and HMAS *MANOORA* will meet full operational status, and additional funds of about $90 million to correct Logistic support shortfalls across a range of important weapons systems and ships machinery/plant items associated with keeping HMAS *PLATYPUS* in commission until mid-1999, funding for the port services and support craft contract and Seasprite helicopter training costs.

The Government has announced approval for stage 2 of a significant new major capital facilities project to redevelop HMAS *ALBATROSS* to meet ongoing helicopter, maritime support and training requirements. This project is estimated to cost about $76 million and will be completed over the next three years. A further $13 million will be spent on the stage three development of HMAS *STIRLING*, and within Canberra a total of $65 million will be spent in finalising the Russell Redevelopment Project which includes the collocation of the service headquarters with the Defence Headquarters.

Funding to meet milestones associated with capital equipment projects for the Anzac ship, Collins submarines, Huon minehunters, and Seasprite helicopters has been continued. 1998-99 will see the delivery of HMAS *ARUNTA*, HMAS *WALLER*, HMAS *HUON*, HMAS *HAWKESBURY*, HMAS *LEEUWIN* and HMAS *MELVILLE* into service. The year will also see the launch of our third minehunter (HMAS *NORMAN*) and the fourth of the *ANZAC* class (HMAS *STUART*).

In addition, some $20 million will be spent in 1998/99 on the initial phases of acquiring Penguin anti-ship missiles for the Seasprite helicopters, upgrading the hydrographic survey suite in the survey motor launches, acquiring electronic chart display and information systems (ECDIS) for our surface combatants, and initiating work to further enhance the weapons system of the *Collins* class. These are all significant measures designed to enhance our warfighting capability into the future.

From an organisational perspective, this next financial year will see the changes required to implement much of the Defence Reform Program start to impact on the way we in Navy undertake our business. my focus is to ensure that the objectives set out in my future directions statement are pursued with the vigour necessary to maintain safety standards at the highest possible level, enhance our core warfighting skills throughout the fleet, particularly in ASW. A known throughout our region – we must be ready to fight and win at sea, when and as required.

The broader Defence aim is to achieve the optimum balance between capital investment in equipment and facilities, operation and support costs, and funding to meet personnel requirements. Efficiency in the delivery of our services and support is crucial if we are to free up the resources necessary to enhance our capability and preparedness. This, of course, was the primary reason for undertaking the Defence Efficiency Review.

The purpose of the Defence Reform Program is to realise major expenditure gains in order to fund measures such as the Navy specified items identified above. For this budget, Navy's DRP savings target in 1998-99 is about $40 million, to be funded mainly from reductions in the total number of service personnel to accord with DRP outcome.

To achieve both the DRP aim and my own objectives for the Navy, we must develop our workforce so that the right people are in the right place at the right time, in the right rank and with the right prerequisite training and acquired skill sets. This will require a significant reshaping of our current workforce over the next few years to ensure our capability and overall preparedness meets our emerging needs.

NAVAL NEWS

HMAS ANZAC's NATIONAL AWARD

On 4 May, the Governor of Western Australia, His Excellency Major General Michael Jeffery AC MC, presented the HMAS *ANZAC* with the Navy League of Australia Perpetual Trophy.

Accepting the award was the commanding officer of HMAS *ANZAC*, Captain Marc Bonsar, CSC, RAN on behalf of the ship's company.

HMAS *ANZAC* won this community award for 1997 from fierce competition from other Fleet units and shore establishments from around Australia. *ANZAC*'s win sees the prestigious shield remain in the west as HMAS *STIRLING* won the trophy in 1996.

ANZAC's nomination was for her heavy involvement with the Albany Children's Cancer Care Group, the ship's adopted charity. In an extraordinary effort since the ship's commissioning in May, 1996 more than $8000 was raised in 12 months for the charity.

This money was raised through innovative fund raising activities including a sponsored "Shave off" which saw 60 people go under the clippers from the previous commanding officer down to male and female sailors.

HAWKESBURY LAUNCHED

The Royal Australian Navy's new coastal minehunter (MHC) HMAS *HAWKESBURY* was launched in NEWCASTLE on 24 April, 1998.

HAWKESBURY is the second Huon class MHC to be built by Australian Defence Industries at their Carrington yard and the second RAN warship to be named after the major river system, north of Sydney.

In service the 720 tonne *HAWKESBURY* will be crewed by 36 officers and other ranks and carry a defensive armament of one 30mm gun. Her main role will be minehunting via a pair of Bofors Underwater Systems Double Eagle mine disposal vehicles. To control the Double Eagles, commands will be relayed from the MHC via fibre optic links to inside the vehicle.

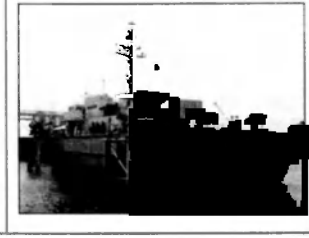
Two views of the new MHC HAWKESBURY, before and after her launching on 24 April, 1998. (Photos - Brian Morrison)

To counter hostile mines, each Double Eagle will carry a disposal charge slung under the vehicle or be fitted with mechanical cutters to sever the wire holding the moored mines.

HAWKESBURY and her sisterships will also embark mine clearance divers, able to operate to depths of 90 metres.

The Royal Australian Navy's current mine countermeasures force comprises two *Bay* class inshore minehunters (commissioned 1986-87) and five auxiliary minesweepers, converted 1988 to 1994, after various commercial careers. All are homeported to HMAS *WATERHEN*, in Sydney Harbour.

The lead and nameship of the new MHC class, *HUON*, is expected to be commissioned into the RAN in December this year, followed by *HAWKESBURY* in late 1999. Other members of the *Huon* class also under construction include *NORMAN*, *GASCOYNE*, *DIAMANTINA* and *YARRA*



JOINT EXERCISE

The Royal Australian Navy (RAN) and the Republic of Singapore Navy (RSN) conducted a Mine Countermeasure (MCM) exercise, codenamed EX HUNTER 98, off the coast of Newcastle, from 13 to 24 Apr 98.

The third in this series of bilateral exercises, EX HUNTER 98, was hosted this time round by the RAN.

EX HUNTER included planning for MCM operations and the conduct of such operations at sea. The RAN deployed seven Mine Countermeasure Vessels (MCMVs); HMAS *RUSHCUTTER* and HMAS *SHOALWATER* and the auxiliary minesweepers, *BROLGA*, *WALLAROO*, *BANDICOOT*, *KORAAGA* and *BERMAGUI*. Seven RSN officers together with the Australian counterparts, participated in MCM planning, as well as undertaking command, control and umpiring responsibilities.

The exercise allowed the RSN to work together with the more experienced RAN in the area of MCM operations, with the two navies mutually benefiting.

$30 MILLION BOOST FOR WHANGAREI

New Zealand Defence Minister Max Bradford has announced that up to an extra $30 million worth of work on the ANZAC frigate project had been won by Whangarei.

"The announcement means that more than half of the module construction work for the entire frigate project will now be done in New Zealand, all of it in Whangarei," Mr Bradford said. "That means new jobs for Whangarei, the development of specialist shipbuilding skills, and a sizeable boost to the local economy."

Mr Bradford's comments follow the announcement by prime contractor for the ANZAC frigate project, Melbourne's TENIX Defence Systems, that it will be doing construction and fitout work for two hull modules for each of ships 7, 8, 9 and 10 at its site in Whangarei. Tenix will also be spending an additional $3 million developing its existing Whangarei site to accommodate the new work.

"All up, the hull module and site development work will inject an extra $25-30 million into the local Whangarei economy – a very significant addition to the $100 million worth of construction and fitout work already being done there on the superstructure modules of frigates 2 to 10," said Mr Bradford.

Mr Bradford said it was important to also be aware that it was not just Whangarei taking dividends from the ANZAC project. "To date, the project has produced some $600 million worth of work for more than 500 New Zealand companies," he said.

"The project has brought new skills, technology and contract experience to the companies involved in it, which in turn is winning them a range of defence contracts overseas, most notably in Australia."

Defence-related exports are now earning New Zealand some $70 million a year, much of it the result of the expertise New Zealand companies have picked up from the ANZAC Ship project, Mr Bradford said. Meanwhile, Mr Bradford said he believed the Government would have to look carefully in the coming months at the issue of a replacement ship for HMNZS *CANTERBURY*, which was due to retire in 2005.

"Logic says it should be another ANZAC class frigate, and if that option gets the go-ahead Whangarei can look forward to still more work after frigate 10 is complete,' he said.

SEAHAWK HELICOPTER UPGRADE CONTRACT

The Minister for Defence, Mr Ian McLachlan, announced in late March that a contract for over $100 million had been signed to acquire and to integrate forward looking infra-red, electronic support and countermeasures equipment for the Navy's sixteen Seahawk helicopters.

Navy S-70B-2 helicopter at the recent launch of the Australian Post 50th anniversary postage stamp. (RAN)

Mr McLachlan said the upgrade contract with Hawker de Havilland Victoria Ltd would provide a sensor suite to enhance the protection and combat effectiveness of the Seahawk helicopters, which operate from the Royal Australian Navy's six *Adelaide* class frigates.

"The selected equipment will be fully integrated into the aircraft's weapon system to provide a significantly improved ability to detect and identify potential threats, and to avoid or counter them," he said.

These new systems will operate at over the horizon distances, in all weather conditions, at day or night. Under another contract, the same equipment will also be used for the new Super Seasprite helicopters, which are being acquired from Kaman Aerospace of the USA for the Navy's *ANZAC* frigates.

Hawker de Havilland Victoria Ltd will be the prime contractor and will conduct most of the installation work in Australia. RLM Systems in Melbourne will conduct much of the software integration for the helicopter's weapon system and modify the Seahawk software support centre. CSC Australia will complete the modification of the Seahawk simulator in Nowra. Australian industry will also be involved in providing the through life support for most of the procured systems.

The new equipment is planned to be operational in the Seahawk helicopters by 2002.

SECRETARY OF THE NAVY NAMES THIRD SEAWOLF SUBMARINE

Secretary of the Navy John H. Dalton has announced his decision to name the third and final submarine of the Seawolf class for former President Jimmy Carter.

JIMMY CARTER (SSN 23) will honor the 39th President of the United States. President Carter is the only U.S. president ever to qualify in submarines. He has distinguished himself by a lifetime of public service, and has long ties to the Navy and the submarine force. He is a 1946 graduate of the U.S. Naval Academy, served as an officer aboard submarines while in uniform, and served as commander-in-chief from 1977-1981 while in the Oval Office.

The three submarines of the *Seawolf* class are the most capable, multi-mission submarines ever built. They combine speed, stealth, a large and varied weapons load and the latest in hi-tech electronics to provide unlimited flexibility while operating "Forward. . .From the Sea." The ships have an overall length of 353 feet, a beam of 40 feet, displace 9,150 tons and a crew size of approximately 130.

With mission and growth capability far beyond previous submarines, the robust design uniquely supports missions such as surveillance, intelligence collection, special warfare, covert cruise missile strike, mine warfare, anti-submarine and anti-surface ship warfare. In addition to its formidable open ocean presence, the *Seawolf* class is also a highly capable shallow water warfare platform, setting the standard for submarine technology into the next century. Its inherent stealth, coupled with state-of-the-art sensors and advanced combat systems, make it the benchmark for underwater excellence. *JIMMY CARTER*'s flexibility and impressive capabilities will provide the Navy with an undersea weapons platform to operate in any scenario against any threat — from under arctic ice to shallow water.

Armed with the battle-proven Tomahawk cruise missiles, *JIMMY CARTER* will be able to safely conduct deep strike missions while submerged far off an enemy's coast. *JIMMY CARTER* will also carry the Mark 48 advanced capability torpedo, the most reliable torpedo in the world for use against surface ships and submarines. With twice as many torpedo tubes and a 30 percent increase in weapons magazine size compared to the previous *Los Angeles* class submarines, *JIMMY CARTER* will be eminently capable of establishing and maintaining battle space dominance.

Secretary Dalton hosted President and Mrs. Carter at a naming ceremony for the boat on 27 April. No previous ships have been named *JIMMY CARTER*.

UPHOLDER SUBMARINES GO TO CANADA

The Royal Navy's four redundant Upholder class submarines are to get a fresh lease of life with the Canadian Navy.

The diesel-electric submarines will go to Canada as part of an eight-year leasing deal, which includes a support and training package to provide work for British industry, plus an option for the Canadians to purchase the submarines outright.

The government of Canada announced its intention, subject to final negotiations, to lease all four of the *Upholder* class submarines for a period of eight years. Canada has chosen to acquire the submarines via a lease with an option to purchase as this is the most satisfactory solution for them.

In an arrangement worth some 610 million Canadian dollars to the UK, work will be generated for various UK companies in reactivating the submarines and for GEC Marine at Barrow who will be providing the technical and logistic support, including the provision of training to Canada.

This arrangement represents the most practical and cost effective manner of securing the future of the submarines and is a strong indication of the close relationship between the UK and Canada.

FOURTH COLLINS CLASS SUBMARINE LAUNCHED

DECHAINEUX, the fourth submarine in the Collins class, and the first to be built and outfitted at different Australian shipyards, was launched in Port Adelaide on 13 March.

The Minister for Defence, Mr Ian McLachlan, in his keynote address, described the *Collins* class as having the potential to be as fine a conventional submarine as there is in the world today. Speaking during the ceremony at the Australian Submarine Corporation headquarters at Outer Harbour, the Minister referred to what he called "exaggerated" and "nationally irresponsible" comments on the project.

"It is sometimes overlooked that the early F111 fighter aircraft was beset with problems, yet it turned out to be one of the great strike aircraft in the history of aviation," Mr McLachlan said. "We have a clear plan to bring these submarines into service with a proven operational capability which will be enhanced on a continuing basis."

The Minister said that HMAS *COLLINS* had been successfully deployed to Malaysia recently, and he looked forward to *WALLER* (launched last year) and *DECHAINEUX* joining their sister submarines.

"DECHAINEUX and her predecessors are helping to keep Australia at the forefront of submarine technology and capability well into the 21st century." Mr McLachlan emphasised the importance of government, industry and defence working together to further develop the technology, knowledge and industrial infrastructure.

"It would be infantile to pretend, on a project as complex as this, that some things could not have been done better. These lessons – about project management, about design, about how we run our acquisition system, all these areas and more can be used to improve how Defence manages future major projects. Certainly, we put a great deal of effort into making sure we are able constantly to improve our project management. We need to build a defence industry that meets or surpasses world standards on quality, value for money, besides delivering a product on time," Mr McLachlan said.

"Australia has a strategic asset of enormous importance in its submarine building capability. We cannot afford to let this capability disappear simply because the current submarine building contract will come to an end. That is why I announced in the Strategic Review that the Defence Department is developing an enhanced submarine design based on the *Collins* class. That work will provide the basis for any future decisions Government will make on acquiring even more capable submarines," the Minister said.

The submarine was formally named at the ceremony by Mrs Mary Purbrick, widow of the late Captain Emile Dechaineux, who died when HMAS *AUSTRALIA* was hit by a kamikaze bomber in the Leyte Gulf in 1944. The ceremony was attended by other members of the Dechaineux family and by retired Navy personnel who served with the Captain during World War II.

ROYAL YACHT GOES TO EDINBURGH

The Royal Yacht BRITANNIA will be preserved in the Port of Leith in Edinburgh, British Defence Secretary George Robertson recently revealed.

Subject to satisfactory negotiations, *BRITANNIA* will be sold to an independent charitable trust being promoted by Forth Ports PLC. The trust will take responsibility for its preservation, and running it as a visitor attraction and venue for prestige conferences.

Mr Robertson said: "This has been an enormously difficult decision for me. Both Forth Ports and the Manchester Ship Canal Company offered extremely good, well thought out and detailed ideas. Either would have allowed *BRITANNIA* to be preserved successfully and with dignity.

"I am grateful to both organisations for putting together such excellent proposals – but sadly there is only one Britannia.

"I was particularly impressed by Edinburgh's proposal to retain the yacht as a 'living' entity by using her for prestige conferences, as well as the more traditional public display. I have concluded, on balance, that the Port of Leith, which hosts many visiting ships, including a large number of Naval vessels, is on balance the more appropriate resting place for this historic national asset."

BRITANNIA was expected to leave Portsmouth shortly after and, following essential work to adapt her to her new role, will be open to the public later in 1988.

HMAS NEWCASTLE HELLFIRE PASS

The Royal Australian Navy guided missile frigate (FFG), HMAS NEWCASTLE sailed from the Fleet Base East on 27 March for a three month operation through south east Asia. The deployment included participation at the Hellfire Pass Memorial opening on the Burma Thailand Railway by Prime Minister John Howard on 24 April.

NEWCASTLE's crew provided a fitting naval tribute to the memorial opening with a 40 strong contingent and a catafalque party dressed in full ceremonial uniform.

Two weeks earlier *NEWCASTLE* had arrived back in Sydney after a successful Southern Ocean operation resulting in the apprehension of a foreign fishing vessel alleged to have been operating illegally in Australia's Exclusive Economic Zone off Heard Island.

HMAS *NEWCASTLE* rendezvoused in Darwin with the Western Australian based FFG, HMAS *CANBERRA*, with both ships proceeding 'up top' to begin exercises with neighbouring Singaporean and Indonesian Navies.

HMCS ORIOLE EPIC JOURNEY TO SOUTH PACIFIC

The Canadian Navy's sail-training ship, HMCS ORIOLE has concluded her epic, 31,000-kilometre (17,000 nautical-mile) journey to Australia and New Zealand.

For the voyage, the navy's oldest commissioned vessel carried a mixed ship's company of 22 personnel, including 10 trainees. *ORIOLE* set sail 13 October and returned seven months later, on 13 May, 1998.

The 15,000km route took the ketch-rigged yacht south to San Francisco California then west for 14 days to Pearl Harbor Hawaii; south again to Palmyrahas Island, Kiribati Western Samoa, Fiji New Caledonia, and Lord Howe Island; arriving in Sydney, Australia, over Christmas.

Commissioned in 1952, the 46-year-old vessel is at home on the high seas, able to carry 60 days of provisions for 22 crew and equipped to produce 500 gallons of fresh water daily.

Under the command of Lt.-Cmdr. Michael Brooks, two separate teams of 10 naval cadets who have graduated from public universities across Canada were trained by 10 permanent crew members. Sailing in the steel-hulled training ship is a unique and memorable training experience. Moreover, the 90 tonne ship is one of the most cost-effective seamanship training vessels in the Canadian Navy – the voyage requiring less than 500 gallons of fuel oil.

After the crew change in Australia, *ORIOLE* participated in Tall Ships Australia 1998, the largest gathering of tall ships in the southern hemisphere since Australia's Bicentennial in 1988. The event featured tall ships from around the world from Jan. 19 to 25. It was a "grand spectacle of international camaraderie".

ORIOLE also represented Canada in the Sydney-to-Hobart 'Australia Day' sailing race, winning the event on 1 February, as the first of the 'tall ships' to reach the Derwent River and Hobart. The ship then attended the Bass and Flinders Bicentennial Maritime Festival and in late February arrived in Wellington, New Zealand, for the International Festival of the Arts.

With five naval cadet trainees from the Royal Australian Navy, and five from the Royal New Zealand Navy, *ORIOLE* began her three-month trek homeward on 3 Mar. En route she made port visits to: Chatham Island, New Zealand; French Polynesia, Tahiti; Bora Bora; Kiribati; and Pearl Harbor Hawaii.

COSCOM'S PATROL VESSELS NOW OPERATIONAL

Four Patrol Vessels (PVs) of the Republic of Singapore Navy's (RSN) Coastal Command (COSCOM) were commissioned on 7 February, 1998, by the Deputy Prime Minister and Minister for Defence, Dr Tony Tan, at Tuas Naval Base.

The commissioning of these four vessels, RSS *RESILIENCE*, RSS *UNITY*, RSS *SOVEREIGNTY* AND RSS *JUSTICE*, signified that the vessels were now operational.

The RSN has to date acquired a series of 12 PVs. The first six PVs had already been commissioned and were operating under the RSN's 189 Squadron. The vessels commissioned in February were deployed under the 182 Squadron of COSCOM.

The remaining two PVs of the series will be commissioned later this year.

COSCOM, set up in 1988, is responsible for the security of Singapore's territorial waters and the conduct of all naval operations in the Singapore Straits. Besides the PVs, COSCOM also operates Mine Countermeasure Vessels, inshore patrol boats and a diving support vessel. It works closely with other government agencies such as the Maritime and Port Authority of Singapore and the Police Coast Guard to ensure the security and safety of Singapore territorial waters and the Singapore Straits.

In addition to the operational roles, one of the PVs commissioned, RSS *UNITY*, has been assigned as a Naval Technology Evaluation Ship (NTES). The test ship will enable the RSN to conduct trials under actual operating conditions. This will contribute to the RSN maintaining its cutting edge in naval operations.

INDIAN AND SINGAPORE NAVIES IN ASW EXERCISE

The Indian Navy (IN) and the Republic of Singapore Navy (RSN) conducted a twelve-day Anti-Submarine Warfare (ASW) exercise off Kochi (Cochin), South-west India, in March 1998.

The exercise was the fifth in the series of bilateral ASW exercises which was started in 1994.

It involved a series of graduated shore-training activities and professional discussions, followed by a series of rigorous ASW exercises at sea. Two Missile Corvettes, RSS *VALIANT* and RSS *VALOUR*, and two Anti-Submarine Patrol Vessels, RSS *BRAVE* and RSS *DAUNTLESS*, from the RSN participated in the ASW exercise together with the IN submarine, INS *SHALKI*, and the IN Frigate, INS *GODAVARI*.

The ASW exercise series reflects not only the commitment of the RSN and IN to train together for mutual benefit, but also the good ties and cooperation between the two navies.

SEARCH FOR THE MONITOR

Navy divers deployed for USS *MONITOR* expedition departed Little Creek, Va., May 25, for an expedition to the site where the Civil War ironclad USS *MONITOR* lies submerged off Cape Hatteras, N.C.

Aboard deep submergence support ship KELLIE CHOUEST, 40 Navy divers will work with the National Oceanographic and Atmospheric Administration (NOAA) 230 feet below the ocean surface to stabilise the *MONITOR*. The team will also recover artifacts as well as the ship's rudder during the three-week mission.

The most significant naval engagement of the Civil War took place March 9, 1862, off Sewells Point between two ironclads, USS *MONITOR* and CSS *VIRGINIA*. The battle ended indecisively after several hours of fire exchanged at close range. Shortly after this epic battle, the *MONITOR* sank off the coast of North Carolina while being towed to Port Royal, S.C.

RFA SEA CHIEFTAIN ROLLS FORWARD

The first of the Royal Fleet Auxiliary's two Roll-on Roll-off ships chartered by the Ministry of Defence from STENA Ferries Ltd, has been named.

RFA *SEA CHIEFTAIN* was officially named by Mrs Carol Squire, wife of Cdre David Squire, Commodore RFA, at a Ro-Ro exhibition and conference organised by STENA in Gothenburg, Sweden.

As Mrs Squire performed the naming in Gothenburg, a champaigne bottle simultaneously crashed against the ship's hull at the Societa Esercizio Cantieri shipyard at La Specia, Italy, where she is in the final stages of construction and fitting out. An Italian band played the national anthems as the event was show live at the exhibition on a giant video screen.

SEA CHIEFTAIN will join RFA *SEA CRUSADER*, chartered in 1996, in providing the UK's rapid reaction forces with an enhanced strategic sealift capability – transporting military hardware, vehicles and equipment at short notice to support operations and exercises across the globe. She will enter service in June, based at Marchwood Military Port, Southampton.

Welcoming RFA *SEA CHIEFTAIN* at today's ceremony, Cdre Squire said: "The chartering of RFA *SEA CHIEFTAIN* – and a sister vessel which is expected to replace RFA *SEA CRUSADER* in November – provides a capable, cost-effective and immediate answer to the UK's strategic sealift requirement for the forseeable future."

USS MISSOURI GOES TO MEMORIAL ASSOCIATION

Secretary of the Navy John H. Dalton signed the donation contract on 4 May officially transferring the historic battleship *MISSOURI* (BB 63) to the USS *MISSOURI* Memorial Association (MMA) of Honolulu, Hi. The Association planed to tow the ship from Bremerton, Wash., to Hawaii in mid-May to transform it into a memorial museum at Pearl Harbor.

"I am pleased to see this transfer completed," commented Mr. Dalton. "I am confident that the *MISSOURI* Memorial Association and the people of the state of Hawaii will provide the battleship *MISSOURI* with the honored position in history that she holds."

Prior to her final voyage across the Pacific Ocean, *MISSOURI* was towed to a mooring on the Columbia River at Astoria, Ore., where fresh water eliminated marine saltwater organisms that had accumulated on the ship's hull over the years. The battleship was expected to arrive in her new home of Pearl Harbor by 22 June where Mighty Mo will be repainted and refurbished by the MMA into the Battleship *MISSOURI* Memorial, scheduled to open to the public in January 1999.

MISSOURI was commissioned on 11 June, 1944, and served her country from 1944 to 1955. In 1986, following her recommissioning and modernization, she served for an additional six years to help provide for an expanded 600-ship Navy demonstrating global U.S. naval presence. *MISSOURI* is best remembered as a symbol of peace. It was on her teakwood deck on 2 September, 1945, that Gen. Douglas MacArthur officially accepted the formal "Instrument of Surrender" from the Japanese to end World War II.

The importance of her role as peacekeeper was highlighted by her last operational mission when she visited Pearl Harbor in honor of the 50th year remembrance of those who died on 7 December, 1941. It was a rare sight to see the Arizona Memorial and *MISSOURI*, symbols of the "beginning and the end" of U.S. involvement in World War II, in the same port.

OVERHAUL OF USS NIMITZ

Newport News Shipbuilding has been awarded a contract by the U. S. Navy to perform refueling and overhaul work on the nuclear-powered aircraft carrier USS *NIMITZ* (CVN 68). The contract, valued at approximately $1.2 billion, was signed by Navy and Newport News Shipbuilding officials on 30 April, 1998.

NIMITZ, the lead ship of the class, is also the first of its class to undergo this major life-cycle milestone. The ship arrived in late May 1998, with the work performance period scheduled to last approximately 33 months.

"This is a very significant contract for Newport News Shipbuilding," said NNS Vice President for Aircraft Carriers Mike Petters. "We are looking forward to the ship returning to her birthplace for her one and only refueling in a 50-year life-span."

In addition to the refueling of both of the ship's reactors, there will be significant modernisation work. This includes a major upgrade of the island house that will involve the shipyard removing the top two levels of the island house and replacing them. This action is driven by the installation of a new antenna mast that runs down along the island and will provide for better radar capabilities. The shipyard is also integrating a new radar tower aboard *NIMITZ*.

Maintenance and repair work will be performed below the ship's waterline to include the application of a new paint. In addition, the shipyard will be replacing nearly 3,000 valves and overhauling another 600 in various ship systems.

More than 3,200 Newport News Shipbuilding employees will be working aboard *NIMITZ* during peak periods of the overhaul and refueling project, performance.

USS *NIMITZ* was built by Newport News Shipbuilding. The ship's keel was laid on 22 June, 1968, the anniversary of the Battle of Midway. Christened on 13 May, 1972 by Mrs. Catherine NIMITZ Lay, daughter of the ship's namesake, Fleet Admiral Chester W. NIMITZ, the ship was commissioned in 1975. *NIMITZ*'s first deployment began on July 7, 1976 when it departed Norfolk, Va., for the Mediterranean Sea.

HMAS TOBRUK, sails on another re-supply voyage to Bougainville. The ship departed from Sydney in mid May, loaded with both supplies and three cocooned helicopters. (Photo - LSPH Steve Gumett)

OBSERVATIONS

From Geoffrey Evans

Sydney Inquiry

In August 1997 the Defence Minister requested the Defence Sub Committee of the Parliamentary Joint Committee on Foreign Affairs, Defence and Trade to investigate and report on the circumstances of the sinking of HMAS *SYDNEY* off the West Australian coast on 19 November 1941, with particular reference to:

- the extent to which all available archival material has been fully investigated and whether any relevant material has been misplaced or destroyed;
- all relevant archival material available from allied and former enemy forces; the desirability and practicability of conducting a search for the HMAS *SYDNEY* and the extent to which the Commonwealth Government should participate in such a search should one be deemed desirable and practical;
- the practicability of accurately locating the grave of an alleged body from HMAS *SYDNEY* which was allegedly buried on Christmas Island;
- the identification of any scientific procedures now available which could verify the identity of human remains alleged to be those of a crewman of HMAS *SYDNEY* buried on Christmas Island if and when such remains were located; and
- measures which should be taken to protect and honour the final resting places, if and when located, of HMAS *SYDNEY* and KSN *KORMORAN*.

The committee of inquiry formed to carry out the task received numerous submissions from relatives and other interested parties and arranged to have hearings in Canberra and several State capitals. The writer spent several hours at the Melbourne hearing when regrettably the committee was short on numbers, the chairman C Senator David MacGibbon and one other member being present while another was linked by conferencing telephone.

It is not likely the real reason why *SYDNEY*, a 6" light cruiser, sank after sinking *KORMORAN*, a well-armed merchant raider, will ever be known as all SYDNEY's people perished: while most of *KORMORAN'S* ships company survived and reports of the engagement were obtained at the time, it is asking too much to expect the memories of those who were involved and are still alive today to be absolutely reliable after 57 years. (The actual engagement is described in some detail – from reports by survivors – in "Australia in the War of 1939-45 – volume 1 Royal Australian Navy 1939-42")

Surprise has been expressed that there were no survivors from *SYDNEY's* complement of 645 (a body recovered some months later from a carley float believed to be from the cruiser is subject of the present inquiry – reference 4). Many ships were lost with all hands during World War II while HMS *HOOD*, with more than twice the complement of *SYDNEY*, was destroyed in a matter of minutes with only three survivors – three from over fourteen hundred.

It is the writer's personal view that HMAS *SYDNEY* was a casualty of war like a great many other warships and merchant ships and should be left undisturbed wherever she lies. One would not wish to see an Australian version of the *TITANIC* disaster – a tragedy at the time and now a commercial money maker.

The ABC Reaches Back

From time to time ABC television promotional ads have shown a line of sailors against an HMAS *BRISBANE* background. The writer is reasonably sure that the "sailors" are in fact members of a sea cadet contingent he took back to Britain in 1952 to represent Australia at the 2nd Empire Training Course the last of its kind so far as the writer knows.

Despite a call to the ABC, the reason for a 1952 black and white photograph appearing on television in 1998 remains a mystery.

Misleading

On 7 April under the heading "Forces in turmoil as top brass resign" a Canberra correspondent of *The Age* newspaper reported the appointment of Vice Admiral Chris Barrie as the next Chief of the Defence Force, replacing General Baker who was due to retire. The article went on to say that the Chiefs of the Army and the Air Force had resigned because "it is understood that both men left the Australian Defence Force as a result of Admiral Barrie's appointment" (Admiral Barrie – Vice Chief of the ADF and the Service Chiefs were logical candidates for the top job.)

The ministerial press release announcing the changes together with other consequential appointments did not say anything about resignations. Simply that the appointments would take effect "on the date of retirement of their respective predecessors". The three outgoing officers, all of whom were thanked by the Minister for their distinguished service, were approaching the end of their previously announced terms of office.

The Waterfront

Whatever the outcome of the latest display of bitterness in the seemingly endless struggle for power on the Australian waterfront, struggle in which so far there have been no winners, only losers – not least the Australian community – the extensive publicity attached to the display (not to mention the legal costs to the participants) may possibly have created an atmosphere, in which commonsense can play a part. Or once media attention lapses will the public lose interest and allow a situation sapping Australia's well-being to continue?

Although the adoption of an adversarial stance is customary in Australia – starting with the parliaments, continuing through the legal system and into industrial relations where in some industries including the waterfront it has been carried to extremes – it need not inevitably be so as an increasing number of people appreciate the damage inflicted on their country by continuing feuds rooted in the past.

The Australian waterfront – the writer includes both shore-based and seagoing elements – is not a major user of labour compared with many industries and given the value of the commodities that pass through the country's ports, but it is capital intensive, the providers of capital not unnaturally want a reasonable return on their investment. For some time, two or three major firms have handled cargoes employing labour supplied from one organisation – the Maritime Union of Australia (MUA) which also looks after essential members of the sea going element.

With both the main political parties determined to sell the Australian National Line and to depend even more than at present on overseas shipping interests to move Australia's trade, a policy opposed by the MUA among others, further feuding on the waterfront would appear to be inevitable.

Nevertheless there have been faint signs that the futility of the existing situation is recognised on both sides and that some changes in long-standing practices are inevitable. The government should stand back and encourage discussion that will almost certainly require compromise if the foolishness is to end.

B.A. Santamaria

The Navy League of Australia lost an influential supporter and the writer a good friend with the death of Mr. B. A. Santamaria in February this year.

Mr. Santamaria's remarkable career, particularly in the areas of politics and religion, has been well documented and need not be repeated here.

Perhaps not so well known was his interest and activities in defence and in maritime affairs – in the Navy, the shipping industry and in the waterfront in general – the latter no doubt because of his close involvement over many years with trade union matters.

The writer first met Mr. Santamaria more than 25 years ago and over the years enjoyed innumerable discussions with this unusual man, not least during the writer's period as Federal President of the Navy League. The last meeting – primarily to discuss growing waterfront problems in Melbourne – took place in October 1997, just before Mr. Santamaria was admitted to hospital for what proved to be a terminal illness.

Hopefully our association brought mutual benefits – to the Navy League because of Mr. Santamaria's exceptional knowledge of political and industrial affairs and the personalities involved in these spheres; and Mr. Santamaria I think benefited from the Navy League's range of contacts in the maritime community.

The Santamaria eloquence was well know and demonstrated when he shared the platform at meetings arranged by the League in Melbourne for two distinguished visitors to Australia – Admiral Bud Zumwalt, former Chief of United States Naval Operations, and Admiral of the Fleet Lord Hill Norton, who had been Britain's Chief of Defence Staff. Bob Santamaria was almost certainly responsible for the large audience on both occasions and the resulting publicity for the visiting speakers and the Navy.

Intensively patriotic, an attribute admired by the writer was Bob Santamaria's ability to look ahead and to advocate solutions to problems he believed likely to be detrimental to Australia's future – even if the solution was unpalatable.

Mr Santamaria was accorded a State Funeral by the Commonwealth Government and it was a most impressive occasion in terms of a attendance and religious splendour. The writer could not help wondering however what Bob Santamaria, a man he knew to be a genuinely humble person, would have thought about it all.

HMAS SYDNEY

NEW ZEALAND – SPECIAL FEATURE

AFTER THE 1997 DEFENCE WHITE PAPER

By Commander Richard Jackson RNZN

New Zealand's November 1997 Defence White Paper outlined the government's plans for the future force structure of the New Zealand Defence Force. The good news of the 1997 White Paper is that New Zealand's defence spending will rise, to cover new capital equipment, an increased operating tempo and improved pay

Overall, the White paper confirms that the NZDF's force structure will include:

a. a three frigate combat force for the Navy, and a commitment to the other naval capabilities of MCM, NCS, sealift, RAS, hydrography and oceanography.

b maintenance of an air combat capability, with the prospect of replacing the Skyhawks in the period 2007/2010. As well the capabilities of maritime air patrol, air transport and tactical vertical lift are to be maintained by electronic upgrades for the Orions, a commitment to C-130Js and extending the air frame life of the Iroquois helo fleet.

c. Reviving the Army's general land combat capability by enlarging the infantry battalions to four-company units (rather than the present three) and replacing the old M113 armoured personnel carriers, as well as acquiring new reconnaissance vehicles, tactical communications and infantry weapons.

Generally these force structure policies are sound, except for the RNZN. The reduction to a three frigate Navy is a shock. Despite the words in the White Paper, the Navy's assessment was that four frigates are necessary to both sustain deployments and provide the necessary training capacity

However, the chain of events that led to the three frigate decision, and – almost concurrently – the decision to not order a third Anzac frigate, were the stuff of political drama. It appears that the RNZN lost the interservice/Treasury argument about a four-frigate fleet during the Defence Assessment process even before the White Paper was agreed by Cabinet. The sacrifice of the fourth frigate reflected concerns by the other two Services that there would not be enough capital money to buy both replacement combat aircraft and a fourth frigate. But then the extra blow, of not ordering a third Anzac by November 1997, was the result of political position taken by the junior coalition party.

So the fleet now has to reduce to meet the government's new policy of a three frigate force: *WAIKATO* – already reduced to an alongside training ship at extended notice – is to pay off in July 98; *WELLINGTON* will pay off as *TE MANA* is delivered, but *CANTERBURY* will steam on until a third modern frigate (if ordered) can be delivered

The other shock for the Navy from the new Defence White Paper is the delay to the conversion of the *CHARLES UPHAM*, the military sea lift ship. The *UPHAM* was bought in late 1994, a *Mercandian* class North Sea Ro/Ro trader. On arrival in New Zealand she was painted grey, given some additional communications equipment and commissioned in October 1995. Then she was deployed for various trials and Army exercises. On returning from a South Pacific deployment, with virtually no cargo, she was caught in a storm and found to roll sharply, too quickly for personnel safety, while her high sides caught the wind and made her nearly unmanageable. Navy knew that to function properly as a military sea lift ship *UPHAM* would need extensive conversion – more water tight compartments for damaged stability (which would also provide accommodation for troops) a water ballast system and a flight deck (which like the British RFA *ARGUS* would be built over a concrete slab thus reducing the metacentric height and hence the rate of roll).

It is not that the *UPHAM* is unsuitable as a vehicle transport (after all a sister ship does the Wellington-Lyttelton run every week of the year) but in the long distances of the South Pacific she cannot reasonably undertake passages in a lightly loaded or empty condition, in her current configuration.

Coincident with this experience, the RNZN was at its nadir for marine engineers, so it was convenient in 1996 to lay the ship up pending conversion. Yet, although the design studies had been undertaken, *UPHAM*'s conversion has now been delayed to 2001/02; in the interim she is being chartered out commercially. She was decommissioned in March, ready for chartering. However, critics of the Navy take the *UPHAM*'s fate as proof of 'manifestly inadequate advice' from the Navy, thus giving them ammunition to undermine the RNZN's credibility. Yet the ship was a high priority for the Army back in 1994, it could be valuable to the ADF (in view of the LPA project and the ADF's new emphasis in amphibious capabilities) while it would also be a major deep draft command opportunity within the RNZN. It appears that the timely conversion of the ship gained little joint service support during the Defence assessment process.

But the White Paper does concede that some money has to be spent on the Navy; the plan for future capital projects includes the following:

* Kaur, Point ammunition storage upgrade
* bridge training simulator
* evolved Seasparrow, towed array sonar and torpedo modifications (ie a semi-WIP for the RNZN Anzac frigates)
* a fifth maritime helicopter in 2003
* a remote minehunting system
* provision for the Anzacs' midlife upgrade, and
* a third surface combatant by 2006

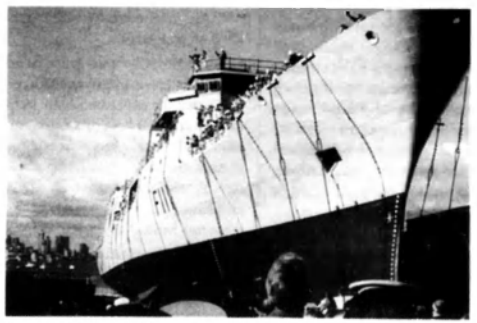
On the face of it, this may seem a good list. In fact it is just sufficient to keep the Navy ticking over by upgrading the Anzacs' weapons, ensuring there is an attrition aircraft available to the helicopter force, continuing the development of our MCM capability and providing for two key pieces of infrastructure. Inevitably, the inclusion in the long term plan of funds for a third frigate has already attracted adverse political comment.

So what next for the RNZN, after the 1997 White Paper? The Chief of Naval Staff has made it clear in one of his personal memos to the fleet as a whole (nicknamed WADS 'With All Despatch') that the RNZN's priority now has to be training. HMNZS *WELLINGTON* has been designated as a training ship (ironically, fresh out of refit, she is now equipped with Phalanx CIWS and other new equipment) while the training staff at HMNZS *TAMAKI* are seeking innovative ways to increase training effectiveness. In the meantime, *MONOWAI* will pay off in April and TUI has already gone out of service; both are being replaced by *RESOLUTION*, with a consequential valuable saving in complements.

HMNZS TE KAHA. (RNZN)

HMNZS CANTERBURY, sails from Sydney Note the frigate's CIWS, fitted atop the helicopter hanger.
(Photo – CMDR Richard Jackson)

HMNZS ENDEAVOUR.
(Photo – CMDR Richard Jackson)



Launch of the second Anzac class frigate, TE MANA.
(Photo – CMDR Richard Jackson)

Westland Wasp. (RNZN)

The specific bright spot in the RNZN at the moment is the Sea Sprite helicopter program. The first of four SH-2F Seasprites has been delivered and test flown. These are ex-USN machines that are entering service as our interim helicopter, so that the Wasp could be retired in April (after 32 years' service!). The F-model Seasprites will operate off *TE KAHA* and *TE MANA* as well as *WELLINGTON*, *CANTERBURY* and *ENDEAVOUR*, until the first of the G-model aircraft arrive in 2000, at about the same time as the RAN Seasprites arrive.

So it is not all gloomy for the RNZN. The service is determined that its individual ships will be credible, both in terms of weapons and sensors, and in terms of well trained ships' companies. I am confident that after the shock of the 1997 White Paper we can resume our place among the navies of the region. Back in Wellington Naval Staff will have some tough battles to fight to get a third Anzac frigate ordered, but I hope they don't lose sight of making the case for a four-frigate fleet. Yet in the meantime the RNZN will have to look inwards, concentrating on training and on its people – they remain the greatest single factor.

WASP FINALE

by Lieutenant Andy J Nicholas, RNZN

(From Navy Today, RNZN News)

As the twilight years of the Wasp helicopter draws to an end let us briefly reflect on a quite remarkable 32 years of active service in the Royal New Zealand Navy.

The Westland Wasp was developed from the Saunders Roe P531 which first flew in 1958. Originally named the Sea Scout, the Wasp was always intended to be a lightweight anti-submarine torpedo carrying helicopter for use onboard smaller warships such as frigates and destroyers. As the primary ASW weapon system with no detection or tracking systems, emphasis was placed upon attaining a real rapid response capability or put another way, being able to deliver a torpedo in the shortest possible time.

Prior to 1966, the Royal New Zealand Navy had operated ships without Flight Decks. The purchase of HMNZS *WAIKATO* in 1966 was the RNZN's first step into modern Naval aviation. Of course, New Zealand had been actively involved with carrier-borne aircraft during WW2, notably in the Pacific Theatre but those aircraft were generally integrated into the units of the bigger navies, and New Zealand never operated or manned its own air-capable ships.

The first Wasps, NZ3901 and 3902 were purchased with *WAIKATO* and in consideration of the RNZNs limited experience and size, provision of maintenance-support, and personnel and aircrew training was delegated to the Royal New Zealand Air Force. This arrangement has continued successfully to the present day with Naval Support Flight (or more commonly Wasp Flight) being formed as part of 3 Squadron RNZAF, manned by RNZN pilots and RNZAF maintainers.

Wasp NZ3903 was purchased with HMNZS *CANTERBURY* in 1970, and these three aircraft continued until 1973 when 3903 ditched following an engine failure off North Head and was subsequently written off during the salvage operation. As a replacement NZ 3904 was purchased in 1977 having been leased from the Royal Navy since 1974.

Perhaps the most famous incident which involved an RNZN Wasp was in November 1978. In atrocious weather conditions 260 miles south of Bluff, an injured Russian sailor from the fishing vessel *Ardatov* was winched and

transferred to *WAIKATO*. The following morning to be flown ashore to Bluff again in the Wasp.

Air support for hydrographic operations wing the introduction into service of *MONOWAI* was initially undertaken by the RNZAF, but it soon became very clear that with its large flight deck and facilities, an embarked Wasp could significantly help support the ship moving stores and survey parties ashore. By 1979 Wasp Flights were regularly embarked in support of surveys. Notably, in 1980 *MONOWAI* and her Wasp were deployed to the Pacific to assist with the surveying for the ANZCAN Pan-Pacific telecommunications cable.

The early 1980's also saw four Armilla patrols to the Persian Gulf, two by *WAIKATO* and two by *CANTERBURY*, each time with a Wasp embarked.

During 1982 and 1983, four more Wasps, NZ3905, 3906, 3907 and 3908 were purchased with HMNZ Ships *WELLINGTON* and *SOUTHLAND*, both of which were air capable, bringing the total number of Wasps to seven. The size of Wasp Flight similarly increased in line resulting in four operational Flights to support the four frigates and hydrographic operations.

In 1984 Wasp NZ3907 crashed at Hobsonville airfield following an engine failure and was repaired to an airworthy condition after sustaining significant damage. Regular embarkation of Wasp Flights into the Fleet tanker, HMNZS *ENDEAVOUR* commenced after trials in mid 1988. In 1992 NZ3904 was destroyed after ingesting a boat cover in its rotor, an accident where the pilots were lucky to survive. Unfortunately NZ3901 was lost when she ditched in the Hauraki Gulf in April 1993, having lost tail rotor effectiveness. Being the oldest Wasp and high in airframe hours it was deemed uneconomical to repair.

With five now in service the mid 1980's purchase of ten ex RN airframes for spares was becoming very useful – these ten Wasps were surplus after the RN began to retire the aircraft. To make up for losses the best and youngest of these ten Wasps was chosen to be rebuilt during 1994, numbered NZ3909.

1994 saw the final embarkation of Wasps to *MONOWAI*. The change in surveying methods reduced the demand for a regular embarked flight and the shortage of Wasps and pilots made this in increasingly difficult task to support. Thereafter support has been provided by civilian helicopters operating ashore.

NZ3906 was withdrawn in 1995 because of ongoing excessive and incurable vibration problems.

In 1996 *WELLINGTON* was to return to the Persian Gulf as part of the peacekeeping force, followed in 1997 by HMNZS *CANTERBURY*, each time with the now desperately obsolete though indispensable Wasp embarked.

1997 and 1998 witnessed the gradual reduction in the size of the Wasp fleet as preparations for the retirement has approached. NZ 3902, with airframe hours almost time expired was withdrawn in early 1996 and is now destined for the Naval Museum Devonport.

Throughout all this time the Wasp has accompanied RNZN Ships' deployments to the Pacific Islands including regular Raoul Island re-supply missions, Australia, Asia, The United States, Canada, The Middle East, The Indian Ocean, Europe and North Africa, through both the Suez and Panama Canals.

The final four aircraft looking as good if not better than when they first arrived in New Zealand and were flown together for the last time in August 1997, incidentally, coinciding with the arrival in New Zealand of the new frigate HMNZS *TE KAHA*. NZ3905 and 3909 were withdrawn towards the end of 1997 although this was not the end of the Wasp's operational life when at short notice NZ 3907 was deployed with *CANTERBURY* to Bougainville in support of the latest peace mission and painted in the rather catchy orange colour scheme-the flying baked bean! Thereafter, NZ3907 continued ashore at Hobsonville, with NZ3908 embarked *WELLINGTON* until April 1998, when both aircraft were officially withdrawn from service.

Whilst reminiscing on the remarkable service that the Wasp has given us over the last 32 years it is important to also remember that there have never been any fatalities associated with Wasp service in New Zealand. It is perhaps also fortunate to consider that the Wasp never saw action whilst in New Zealand service although in Royal Naval service in the Falklands War the Wasp achieved the only helicopter submarine kill to date, crippling the Argentine *SANTA FE* with missiles.

It is generally agreed that the Wasp is well due for retirement, but it is probably less well known that the first utterings for the replacement Naval helicopter began as long ago as 1977. As the many people who have been associated with the Wasp say a fond farewell with a tear in the eye it must surely be agreed that the Wasp has performed well beyond the expectations of 1966. Regrettably the RNZN is not going to have the honour of being the last Wasp operator as this will go to the Malaysian Navy.

The Wasp has served us well and risen to every occasion when called upon and for that we can all be grateful. In reflection the condition, safety and availability record of the Wasp will be difficult to better and with this in mind, the RNZN can and should feel very proud.

SH-2F SEASPRITES ENTER SERVICE

The Royal New Zealand Navy (RNZN) has entered the interim phase of its Replacement Naval Helicopter (RNH) project with the start of SH-2F Seasprite flying training and the final retirement of its obsolete Wasps.

The SH-2F is intended to bridge the gap between the withdrawal of the Wasp and the arrival of the SH-2G(NZ) Super Seasprite – the definitive RNH – in late 2000. It will also provide the Naval Support Flight (administered by 3 Squadron Royal New Zealand Air Force) with lead-in familiarisation and training in advance of receiving the more capable SH-2G model.

New Zealand announced the selection of Kaman Aerospace as preferred RNH tenderer in March last year. A $195 million contract for the delivery of four SH-2G(NZ) Super Seasprites was signed three months later.

The RNZN has chosen to procure new-build SH-2Gs (rather than the remanufactured airframes contracted by Australia for its SH-2G(A) variant) as a risk mitigation measure. Although remanufactured airframes are brought to zero-hours condition, the RNZN considered that unforeseen corrosion or fatigue problems in later life could impact more seriously on the operability of its small fleet.

The purchase agreement with Kaman included the supply of four SH-2Fs to replace the Wasp in the short term. Having served with the RNZN for 32 years, the Wasp is no longer economically supportable and will be formally retired on 9 April.

Arriving by sea last November, the first SH-2F (NZ3441) was initially used for deck interface trials aboard the new *ANZAC* class frigate HMNZS *TE KAHA*. The airframe subsequently completed a comprehensive restoration and inspection procedure (RIP) before a first check test-

Wasp aboard HMNZS WAIKATO. (RNZN)

flight on 24 February A formal roll-out ceremony was held on 27 February.

All three remaining SH-2Fs were delivered in December. They are undergoing RIP, with reactivation expected to be complete by the end of July.

Naval Flight Commander Lt Cdr John Toon said: "The initial primary purpose of the SH-2F will be to train aircrew and maintainers to operate the aircraft safely, both ashore and at sea as a front-line operational unit. Initially three aircrew – two pilots and one observer – will be converted to type and invaluable support maintenance expertise will be provided for our newly trained engineers."

The establishment of an Observer Branch is a new departure for the RNZN because the Wasp was a pilot-only platform. Although the RNZN is training its own observers, it has recruited two ex-UK Royal Navy observers to provide a near-term capability.

"With a vastly improved range and endurance over the Wasp, the Seasprite will effectively become the ship's eye in the sky, able to search for, track and report any surface contacts up to 100 nm ahead," said Cdr Toon.

"Its primary role will be as a weapons delivery platform for anti-submarine warfare, with the capability to carry two [Mk46] torpedoes, two [MkII] depth charges, or a combination of both. It also comes with a rescue hoist for search and rescue missions and has an impressive external load-lifting capability."

First-of-class flight trials aboard the *Leander* class frigate HMNZS *CANTERBURY* – currently in the middle of an aviation upgrade – are due to start in early October. Trials aboard HMNZS *TE KAHA* are planned to start at the end of that month. The SH-2F is configured with a Canadian Marconi LN-66HP surveillance radar, a Litton AN/ALR-66 radar warning receiver and a Tracor AN/ALE-39 chaff/flare dispenser. However, the SH-2F's limited lifespan is likely to mean constraints on mission-system operability.

"The facts are that in view of the short service life of the SH-2F – it will be retired when the SH-2G enters service – spare parts and support for the mission systems will be limited and have to be funded from an already overburdened operating budget," said Cdr Toon. "Careful prioritisation of support and effort is the essence. It does not necessarily follow, therefore, that all of the airframes will have all of the capabilities all of the time." He added: "It is important to keep the SH-2F in perspective in that it was only ever intended as an interim solution to replace the Wasp until the arrival of the SH-2G in 2000.

"The aircraft is neither designed nor configured to meet the capabilities intended . . . for contributing to defence outputs as specified in the RNH purchase agreement. Ultimately, the objective with the -F is to hit the ground running with the arrival of the -G at the millennium."

The four SH-2G(NZ) aircraft will be delivered with a mission system including a Telephonics APS-143PC radar, FLIR Systems' AQS-22 infra-red sensor and Litton LR-100 electronic support measures. Alongside the existing range of anti-submarine ordnance, the full-up RNH will also be equipped with the AGM-65 Maverick missile for anti-surface warfare operations.

Following their withdrawal from service, the SH-2Fs will be broken down for spares. Long-term capital acquisition plans, announced after last year's Defence Assessment, call for the procurement of a fifth SH-2G in the 2003 to 2005 timeframe.

LARC V MAKES A COMEBACK!

LARC V.

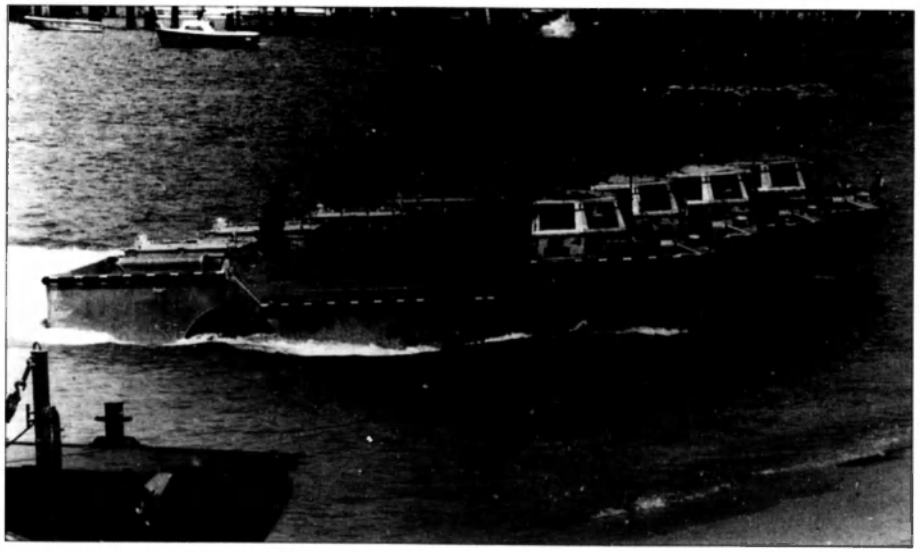
The Army's veteran Lighter Amphibious Re-supply Cargo Vehicle (LARC V) is planned to return to service by early next year in support of the Royal Australian Navy's two 8000 tonne LPAs, *KANIMBLA* and *MANOORA*.

Originally built in the 1960s and withdrawn from service in the early 90s due to supportability problems, 12 of the type are being refitted to play a major role in the amphibious operations. Another 52 LARC Vs will be held in reserve. A Request For Tender for the updated versions was issued on 5 March, the aim to replace the engine and ancillary systems in seven vehicles. Similar upgrades may be carried out on another three to five LARC Vs.

The update of the four-wheel-drive and propeller driven LARC V, is planned to extend their service lives by up to 10 years. The project is one of ten LPA related activities being conducted by the Army for operations with the LPA. Total project budget is $15.247m with all elements due for completion in late 1999. Other major components include minor modifications to the LCM 8 landing craft, installing Army communications on the LPAs, lighterage equipment, trials and training, and cargo planning. Industry estimates on the LARC re-engineering suggest a price-tag in the order of approximately $2m.

Army purchased the American manufactured LARC Vs in 1964/65. The vehicles proved both versatile and dependable craft, operating from the tropics to the Antarctic. Each was capable of moving a 5 tonne payload of personnel and cargo from ship to shore and transfer points further inland. All were mothballed after the Force Structure Review of 1991 due to difficulty supporting the vehicles ageing 300 hp Cummins diesel engine-based power train.

Following the purchase of the two former USN *Newport* class tank landing ships, now redesignated LPAs, the need for a lighter amphibious re-supply craft re-emerged. In US service, the *Newport* class LSTs were designed to beach for the discharge troops and equipment. After conversion to an LPA by Forgacs of Newcastle, the vessels will not be



Four LARC Vs make group approach for a beach landing.

HMAS MANOORA after refloating in May, 1998. (Photo – ABPH Damian Pawcenko)

beached, no longer expected to operate close-in-shore. The original bow ramps have been removed, the bow doors sealed to provide additional space for the larger flight deck, capable of operating either Army Chinooks, or storing LCM-8 landing craft.

The LARC V is the only piece of equipment – land vehicle – in the defence inventory capable of crossing the surf line. It will be the first off the LPA, either by the port crane or stern gate, to supply a shore base. It will play a small but significant part in LPA operations. The updated LARC V prototype fit was required by 30 June, 1988, with trials completed by 14 September. The next six vehicles are for delivery by 28 February, 1999. Minimum performance requirements have called for a cruising speed of 8 knots in water and 50 km/hr on land, with a cargo capacity of 4,536kg, and operating range of 128 km at sea and 400km on land. Occupational Health and Safety requirements introduced since the LARC Vs entered service more than 30 years ago, have called for a reduction in noise levels to at least 85dBA at the rear of the vehicles.

As part of the programme, Army also stipulated that the vehicles existing performance on land and in water should not be compromised by the refurbishment, with the craft required to maintain the all important stability in the maritime environment. As well, the LARC Vs new engine must remain supportable for another 10 years, providing high levels of craft availability, supportability and minimal downtime.

MANOORA, the first of the converted LPAs, is currently scheduled to return to service in early 1999, followed by *KANIMBLA*, in mid year.

After their return to service, the LARC Vs will be stationed in the Townsville and Cairns regions.

* * * *

Port quarter, HMAS MANOORA. Changes made to the ship include a new helicopter hanger and midships superstructure, an enlarged flight deck, flying control station, port and starboard quarter sponsons and remodelled stern (and LARC V entrance to the former deck). (Photo – 'ABPH Damian Pawcenko)

IOWA'S LEGACY
THE SURFACE ACTION GROUP

By Mark Schweikert

Easier to manoeuvre, cheap, very capable and readily available the modern USN Surface Action Group (SAG) will usually be first on the scene when conflict flares. This reflects a greater emphasis and responsibility assigned to surface ships over more expensive super carriers.

Recently Australia played host to a collection of visiting USN warships but given the lack of an accompanying Aircraft Carrier this visit went un-noticed by the media. What they did not realise was that these ships form the backbone of the USN and one of the most available and deadly ship combinations in history. The ships, when operating together, form the USN's current SAG. The ships visiting consisted of a *Ticonderoga* class Cruiser, an *Arliegh Burke* class Destroyer, an Improved *Spruance* class Destroyer, a *FFG-07* class Frigate, an Improved *Los Angeles* SSN and a support ship.

During WW II the SAG concept suffered at the hands of emerging land and carrier based air power. This was evidenced by the destruction of the US Pacific Fleet's Battleships at Pearl Harbor, the sinking of the *PRINCE OF WALES* and *REPULSE* and the sinking of the Japanese *YAMATO* SAG. Only now is the SAG starting to rise up out of the ashes of the WW II experience.

Many would still write off the SAG in favour of the more glamorous CBG (Carrier Battle Group), much the subject of movies and documentaries, but with the US cutting back its carrier numbers more emphasis and reliance will be placed in the SAG to complete an unprecedented array of tasks. Those who write off the modern USN SAG would do so at their peril and possibly not realise how technology has transformed the surface combatant and the tasks that it can now perform. But in order to appreciate the real firepower of the modern SAG one must concentrate on the group as a whole and not as a fragmented collection of individual ships.

HISTORY

Of the 32 gunned capital ships sunk during WW II, only eight were sunk by their own kind, the rest by aircraft and submarines. Air power and Carrier power advocates used this fact to perpetuate the ascent of the Aircraft Carrier and later the CBG (Carrier Battle Group) concept as the centrepiece of naval warfare. The employment of the CBG with its flexibility and decisive firepower, confirmed the death of the SAG. Since then, a lack of air cover has always been the argument against sending surface ships in harms way without a carrier. Surface ships were thus relegated to patrol work and escort duties. However, a revolution has occurred in naval warfare in the areas of C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) and weapons which has prompted the re-birth of the SAG and given it a flexibility previously unheard of.

The re-birth of the SAG could be said to have its origins in the same war that aborted the concept. The 1980's re-activation of the WW II *Iowa* class Battleships acted as the catalyst to the re-forming of the SAG and gave it a new future. Only a Battleship (BB) could provide public and military legitimacy to the SAG concept. With the right escorts, which technology was then providing, the SAG could conduct limited independent operations even in the face of a moderate air threat. The BB formed the core unit of the SAG and its reason for existing.

One of the principle tools that helped the re-emergence of the *IOWA'S*, and the SAG, was the addition of cruise missiles to its impressive gun armament. This gave the BB a long range precision strike capability. Tomahawk could target airfields, C2 (Command and Control) nodes, roads, bridges and any sort of war sustaining industrial infrastructure or politically sensitive vulnerability. The BBs were also fitted to act as flagships, providing the necessary C3 (Command, Control, Communications) cohesion needed. Other weapons which perpetuated the SAG came with the accompanying Cruisers, Destroyers and Frigates. Weapons in the form of the long range anti-aircraft Standard SM-2ER, ASROC and the LAMPS helicopter all provided a means for the SAG to act independently for limited periods depending on the threat.

Given the *IOWA'S* new capabilities, and advances in ASW and AAW technology, it made sense to allow the SAG free run of the oceans. A SAG off an enemy shoreline was bound to create as much confusion and fear as a CBG. It could thus supplement a CBG in certain situations by providing the much-needed visual confirmation of foreign policy determination, not to forget a very effective tool of war if called upon.

During 1983/4 the USS *NEW JERSEY* lead SAG provided televised proof of their value and viability as a supplementary force by engaging enemy positions in the hills around Beirut, thus saving the navy from sending aircraft to attack these positions. This was an important demonstration of the SAG's capability given that two A-6 Intruders attacking the same targets were lost weeks before. The *IOWA'S* could engage targets from stand off ranges without exposing USN

Ticonderoga class guided missile cruiser, USS SAN JACINTO executes a high speed turn, 1996. (USN)

personnel to danger. The escorts accompanying this mission also engaged enemy positions whilst still providing AAW and ASW defence to the SAG. Long range Tomahawks, anti-aircraft missiles, good ASW defence, NGS (Naval Gunfire Support) capability and flagship C3 facilities ensured the place of the SAG concept in the new surface warfare domain.

The next demonstration of the SAG concept came during the 1991 Gulf War. The BBs *WISCONSIN* and *MISSOURI* pounded Iraqi positions with Tomahawks, 16-inch and 5-inch HE shells. While the two BBs, and their escorts, conducted NGS operations off Kuwait they were fired on by an enemy shore based 'Silkworm' ASM (anti-ship missile). Fortunately an escorting RN Destroyer shot the missile down. This action was insignificant to the operation but bears mention for the fact that since the Falklands conflict the ASM was expected to have the same effect on the SAG as aircraft did during WW II.

During the Gulf War a total of 288 Tomahawk cruise missile were fired at Iraq from USN surface ships and Submarines in and around the Gulf. This proved the valuable contribution that surface ships could make to large-scale operations in conjunction with CBGs.

But with the decommissioning of the BB many thought that the surface ship would go back to its role of CBG escort and patrolling. Without the BB forming the nucleus and public appeal what was left? But technology had advanced and during the time of the Iowa's re-activated service the Aegis combat system and Mk-41 VLS (Vertical Launch System) arrived. These two advances in naval warfare gave the SAG a new sting and viability.

Aegis provided a computer based command/decision combat system to counter threats from surface, sub-surface and air simultaneously. Coupled with the four megawatt SPY-1 radar system, it could detect and track over 300 airborne targets and engage them automatically using any ship in the group, conduct IFF and maintain data exchanges with other ships. The SPY-1s ability to scan and monitor events at incredible ranges (quoted as being to the edge of space) is an awesome advantage and warning system for the SAG. During the Gulf war, Ticonderogas' operating in the northern gulf detected and tracked Iraqi Scuds being launched against Saudi Arabia. More recently Aegis ships have been used to monitor Syrian and North Korean ballistic missile tests.

The Mk-41 VLS provided a stockpile of ready to fire missiles of any combination, including cruise. The addition of the Mk-41 to three of the SAG's ships provided a firepower replacement for the *IOWA'S*. The SAG concept thus remained a part of the USN's maritime response despite the decommissioning of the BBs. The Mk-41 VLS's adaptability is the key to the current SAG. Depending on the mission, the ships can embark any kind of missile needed for the task in any combination. Much like a golf bag contains different clubs for specific needs depending on the course. Alternately the VLS could employ one missile exclusively as the USS *SAN JACINTO* (CG-56) did with cruise missiles during the Gulf War.

Refuelling operations for the Arlegh Burke class guided missile destroyer USS MITSCHER. (USN)

TODAY

With the USN experiencing a downward spiral in Aircraft Carrier numbers, and the traditional US response to international situations being maritime, it will have to rely on its surface ships and Submarines more often than not. This means that SAGs will have to supplement for the CBG in engaging the growing number of hostile international 'bandits'.

Apart from conducting its own independent operations the SAG can pre-empt the arrival of superior forces and prepare the battlespace. This could involve intelligence gathering (either passive collection or engaging the enemy to fight for it), ASW sanitisation, cruise missile strikes on vital air bases, SAM sites or military installations, fixing an enemy's position or as a taste for what is to come. A SAG preparing the battle space also gives the follow up force the ability to data link into the AO in real time via satellite. Preparing the battlespace is important if the follow up naval forces are to fight through it, such is the case with joint or amphibious operations.

When viewed as a combined force the current USN SAG is indeed a powerful and exceptionally flexible group. Usually it consists of a *Ticonderoga* class Cruiser for command and control of the group and as an anti-air warfare specialist. An *Arleigh Burke* class Destroyer for strike warfare command, secondary SAG leader and anti-air warfare. An Improved Spruance class Destroyer for strike missions and ASW. An FFG-07 class Frigate for AAW and ASW. An Improved *Los Angeles* class SSN for scouting, intelligence gathering, ASW ASuW and strike and a fleet support ship for sustainability in the combat zone.

The tasks and roles this combined surface team can complete are amazing, everything from CBG re-enforcement, merchant fleet escort, sanctions enforcement, NGS, strike missions, C4ISR and flag showing. Some of the key elements in the concept include; interoperability with each other in machinery, weapons, systems and electronics, Aegis, battle group C4ISR, large volume of missiles and availability over CBGs, to mention a few.

The flexibility and combat power of modern independently operational USN SAG was tested in September 1996 when a patrolling SAG in the Persian Gulf fired its Tomahawks at targets in Iraq on two separate occasions within days of each other. The ships were the Ticonderoga *SHILOH*, the Arleigh Burke's *LABOON* and *RUSSELL*, the Improved Spruance *Hewitt* and the SSN *JEFFERSON CITY*. None of the ships were specifically equipped or employed for these specific missions before taking up station in the Gulf and fired what they normally carry. Since then SAG's have fired on targets in Bosnia and Iraq at short notice and with good results.

Spruance class destroyer, USS KINCADE. (USN)

Individually the ships of the SAG are impressive surface combatants. When compared together the statistics are even more impressive.

SAG firepower;

- 278 VLS cells (plus 12 in SSN for Tomahawk only),
- 2 Aegis combat systems,
- 2 SPY-1 Radar fitted ships,
- 3 air search radars,
- 4 surface search radars,
- 28 RGM-84 Harpoon missiles (Sub-Harpoon carried by SSN not included),
- 5 127 mm Naval guns,
- 7 Phalanx CIWS,
- 1 Mk-13 launcher for 36 Standard SM-1MR,
- 1 Octuple Sea Sparrow for point defence, 8 missiles plus reloads,
- 5 SH-60 ASW/OTHT Seahawks,
- 5 passive towed array sonars,
- 20 324 mm torpedo tubes for Mk-46 torpedoes,
- 4 533 mm torpedo tubes for 26 Mk-48 torpedoes. Sub-Harpoons and or cruise missiles.

In order to appreciate how many missiles the SAG has at its disposal, if all Mk-41 VLSs and Submarine VL tubes were loaded to fire cruise missiles they would have more missiles than what was fired at Iraq during the entire duration of the Gulf War. The VLS is so flexible that the Improved *Spruance* class Destroyer in the SAG can carry and fire Standard SM-2MR missiles for designation by the Aegis equipped ships. This means that when deliberately going into a hostile air environment the SAGs total VLS capacity could be up to 278 anti-aircraft Standards, assuming that one missile type was used exclusively (this does not take into account the SM-1MR and Sea Sparrow missiles of the FFG and Spruance). Not many countries have air forces to throw against this sort of firepower.

CONCLUSION

Since the end of the cold war SAG operations have been common and although the technology behind the modern SAG looks like its replacing the Aircraft Carrier, sadly it cannot. Despite the near 278 anti-aircraft weapons it could theoretically embark, plus the 36 SM-1MR from the FFG and Sea Sparrow form the Spruance, it suffers from not being able to engage attacking aircraft before they launch their anti-ship missiles (due to the curvature of the earth). However, the USN is experimenting a way to do just that.

There is currently a program investigating ways of engaging hostile air threats from beyond missile release point. The CEC (Co-operative Engagement Capability) program is experimenting ways to enable units to fire on air threats and have a secondary source illuminate the target. Recently a Ticonderoga, involved in the CEC program, successfully shot down a

Los Angeles class fast attack submarine, part of the SAG (USN)

sea-skimming drone from a position which it was unable to see or detect it. The Aegis Cruiser fired on information it received from a secondary source with a land-based illuminator tracking the drone and facilitating the kill. This advance could go some of the way to ensuring that a SAGs missile magazines are not exhausted firing at anti-ship missiles rather than the launch platforms, which incidentally are re-useable and harder to replace. However, the secondary detection and illumination source will have to be developed. This could be a helicopter, AEW&C aircraft or even a blimp but there is still a long way to go yet.

Another vulnerability of the SAG involves its major domain, the littoral. During the Gulf War the littoral environment demonstrated its potential for destruction when the ships *TRIPOLI* (LPH-10) and *PRINCETON* (CG-59) hit Iraqi mines. Until the accuracy of the cruise missile, its range and lethality are increased significantly the SAG will always have to operate in the littoral environment to engage targets inland. This is significant given that 80% of the world's nations have littoral borders.

Diesel-electric submarines have always called the littorals their home and to a navy use to hunting SSNs in deep water this becomes an unknown and dangerous foe. Currently the USN is in the process of re-tuning their ASW sonars for hunting in the shallow water environment found in littorals. But even so the small diesel sub is still an elusive and threatening weapon to the SAG's dominance of the littoral.

Many of the worlds super bandits' will challenge US regional influence in their littorals by attacking patrolling USN SAGs. The SAG is certainly capable of defending itself and inflicting damage but the realisation, practice and technology of 'fighting hurt' will have to be developed if the group is to remain in the littoral battle space, which the enemy will initially have control of, until re-enforcement's arrive.

Further, in a shooting war the SAG will have to be relived sooner than a CBG as its missile stocks dwindle. Another SAG will have to take up were the last left off immediately in order to sustain offensive operations or maintain the momentum. This would require many SAGs to achieve as one draw back of the VLS is its inability to be reloaded at sea However, for limited periods and in many cases, a SAG can supplement an expensive and large CBG.

The future of the SAG and the surface combatant is looking bright. The new DD-21 land attack Destroyer, being designed for the USN, will alleviate some of the missile supply problems by providing more ready to use missiles. The CEC program will help in one key area of SAG vulnerability and advances in mine countermeasures and shallow water ASW will hopefully give the SAG the overwhelming influence it needs in an enemy littoral.

The USN's future goal for the SAG is "an offensive maritime force that conducts precision land attack and theatre air dominance as part of joint, allied, and coalition forces". The new DD-21, together with Aegis equipped Ticonderogas and Arleigh Burkes, will soon be able to establish theatre air dominance over the battle space with a new Patriot style anti-ballistic missile defence system based on the current Standard SM-2MR.

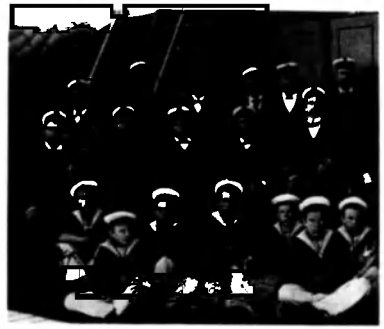
Other advances for the SAG includes a range of precision guided weapons for land attack out to 1500 miles. NGS and land attack capabilities being studied include a naval version of the US army TACMS (TACtical Missile System, a large surface to surface missile carrying 950 anti-personnel bomblets over 170 km). An Extended Range Guided Munition (ERGM) fired from a modified Mk-45 gun and a 155 mm naval gun in either a standard turret form or vertical launched/mounted form.

The SAG will certainly become a part of future history as the Aircraft Carrier already has. As the cost and complexity of the USN CBG rise the SAG will increasingly take over in many of the worlds trouble spots as a show and instrument of US foreign policy determination. Naval warfare is about to become more dynamic. Stay tuned!

TINGIRA (SOBRAON)

Prior to her service as the training ship TINGIRA with the RAN, SOBRAON was utilised as reform school ship, moored in the upper reaches of Sydney Harbour, near Cockatoo Island.

Some of the ship's staff and young boys attached to SOBRAON. Note the ship's dog in the foreground.



Some Early Scenes

School work below decks. The young boys are being taught by instructors from the Department of Public Instruction. Following their time aboard SOBRAON, the boys were placed in a job or trade ashore.

The entire ship's complement parade on the upper deck, with the ship's band to the left and guard, upper left.

Another deck scene; the band plays on the poop, as other youngsters practice their physical training skills.

After classes, the accommodation deck was filled with hammocks.

Cutlass drill on the upper deck of the school ship.

'THE OLD NAVY'

? WHAT IS AN . . . EM ?

The 'What is a ...' navy people series was originally written in the late 1950s. The set will be re-produced in 'The Navy' during 1998.

An EM is an Electrical Mechanic and knows all about electricity, ohms, watts, currents, and shocks. (NOTE: The "shock" comes when an electrical item works again, following repair by an EM).

The EM carries a little black bag with him everywhere he goes, looking quite like a doctor on his way to make a delivery. This bag holds all an EM needs for his day's cigarettes, matches, pencils, sweat rags, tombola tickets, and such sentimental items as the first fuse he pulled, and a piece of wire used in short circuiting the main switchboard. The bag can also be used during the day as a pillow.

Whenever the EM on duty at the main switchboard feels lonely he blacks out a section of the ship so that he will receive some phone calls. This occupies him for most of his watch. No matter how carefully you may gather the details of some electrical fault and have it registered, the EM at the main switchboard is able to:

1. forget about it;
2. repair something else;
3. say that the Naval Store does not have the spares; or
4. say, "just going to . . ."

In the tropics the EM really makes the fullest use of his fine and intensive training. He manages to be able to effectively reduce the amount of cold air passing through the fans, thus overheating a compartment and causing the occupants to sweat. In cold places however, the EM is equally able to increase the flow, thus causing the occupants to freeze.

Another exacting duty the EM has to perform is known as the "fuse pull". This duty is invariably carried out just at the crucial moment. Just as you get to the bit where John has taken Eva to the river bank, and the two are laying down – "fuse pull" – all you see are dots.

(NOTE: If the ventilating EM is ever required he can be found on the GDP – ventilating.)

A more obscure Electrical Mechanic is known as the Romeo EM. This type is rare and is usually radioactively engaged on building television sets and car radios. Little is actually known of this type although one or two have been seen entering and leaving compartments in the ship. It is thought they may have had a "ping".

HMAS ANZAC RECEIVES NATIONAL AWARD

The Governor of Western Australia, His Excellency Major General Michael Jeffery AC MC, presented the Royal Australian Navy frigate HMAS *ANZAC* with the Navy League of Australia Perpetual Trophy in an onboard ceremony on Monday, May 4.

Accepting the award was the commanding officer of HMAS *ANZAC*, Captain Marc Bonser, CSC, RAN on behalf of the ship's company.

HMAS *ANZAC* won this community award for 1997 from fierce competition from other Fleet units and shore establishments from around Australia. *ANZAC*'s win sees the prestigious shield remain in the west as HMAS *STIRLING* won the trophy in 1996.

ANZAC's nomination was for her heavy involvement with the Albany Children's Cancer Care Group, the ship's adopted charity. In an extraordinary effort since the ship's commissioning in May, 1996 more than $8000 was raised in 12 months for the charity.

This money was raised through innovative fund raising activities including a sponsored "Shave off" which saw 60 people go under the clippers from the previous commanding officer down to male and female sailors.

Amongst the guests at the presentation were Commodore Fleet Bases, Commodore Paul Kable; National President of the Navy League of Australia, Commander Graham Harris; Mr Arthur and Mrs Gwen Hewitt, WA State President and Secretary of the Navy League; Mrs Annette Knight (and husband Tom), previously the Mayor of the Town of Albany, Mrs June Hodgson and Ms Val Chisholm, President and Secretary of the Albany Children's Cancer Care Group.

The Governor of Western Australia, Major General Michael Jeffery, presents the Navy League Shield to Captain Marc Bonser, Commanding Officer, HMAS ANZAC

BOOK REVIEWS

COMBAT FLEETS OF THE WORLD

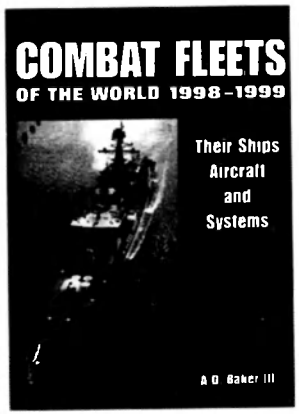
Edited by: A. D. Baker III

Published by: The United States Naval Institute (Email address: customer@usni.org)

Reviewed by: Ross Gillett

Combat Fleets of the World 1998-99, Their Ships, Aircraft and Systems is a much welcome addition to the range of naval literature currently available to the naval book market.

In one volume, the editor, A. D. Baker III, has provided readers with one authoritative naval reference book. The one thousand two hundred and twenty pages, including 4,600 photographs and 150 line drawings, is highlighted by detailed descriptions of the individual ships and classes, making Combat Fleets, the most comprehensive naval reference book currently available to the naval market.



To produce such a monumental work, the editor has secured the services of over 100 naval experts worldwide, providing both up-to-date information and data, as well as the all important variety of illustrations. The book describes one hundred and eighty countries and territories, including the numerous coast guards, major marine water police forces and customs services, Army and Air Force Marine sections.

Mr Baker has now been editing Combat Fleets since 1978, each edition growing in scope and size from its original French ancestor. After service as an officer in the USN from 1963 to 1967 and as a civilian with the Department of the Navy from 1967 to 1997, Mr. Baker, can proudly boast of his current editorial achievement, as the result of nearly forty years of study into the world's navies. Today, in 1998, Combat Fleets can rightly claim its place on thousands of bookshelves around the world, from leading libraries, through to academics and naval enthusiasts and the all important youngsters, just interested in reading and researching about the 'Senior Service'.

As the sub-title suggests, *Combat Fleets of the World* includes sections on the naval air arms and shipboard armament, electronics and future ship construction programs. The main difference between Combat Fleets and the historically popular Janes, is the former's greater amount of general and technical information. In recent years, Janes appears to have reduced its amount of information, while Combat Fleets, grows with each edition. One particular part of the United States of America section which this reviewer likes to keep up to date with is the Military Sealift Command or MSC. Combat Fleets devotes over 18 pages to the MSC, while Janes covers the ships in just under a half that number.

The naval air arm and armament/electronic sections are a book within themselves, negating the need for the reader to refer to other annuals. Aircraft included range from the carrier based front line combat machines, through to land based patrol aircraft, trainers and helicopters. Squadrons and numbers held are listed, plus new designs on the drawing boards for future use with the air war at sea.

But more than anything else, Combat Fleets, is a good read, the whole book set out in an 'easy to use' two column format, most photographs a half or full page width, the technical line drawings provided with a key numbering system to identify the important armament and fittings. A totally new format for the book presents the ships and craft classes in a consistent order, from new to old within each type.

It would be impossible tc highlight the vast amount of new information in the 1998-99 volume. However the Russian section has improved greatly over the past years, with the release of valuable new and updated data on the former Soviet era warships and auxiliaries, obtained from both official and private sources. Generally speaking, each page of the 1998-99 edition of Combat Fleets 'bulges' with new data and general commentary, even the recently retired, decommissioned or sold ships are given due credit to complete the story of their naval careers, via disposal or sale details.

A number of years ago I wrote about an earlier edition of Combat Fleets of the World, 'By far the most impressive book of its type available ..... and an automatic selection for any naval enthusiast or professional who needs accurate and up-to-date information...', Nothing has changed!

A CD-ROM version of Combat Fleets is also available for US $129.95 for use with Microsoft Windows 3.1 or newer systems.

Combat Fleets of the World (the book) is available direct from its publisher, the United States Naval Institute for US $150 plus post and packing (refer e-mail address above). For such a small investment, the naval enthusiast can invest in a truly remarkable piece of warship literature.

THE ROYAL NAVY IN FOCUS 1970-79

By: LCDR Ben Warlow RN

Published by: Maritime Books (e-mail marbooks@aol.com)

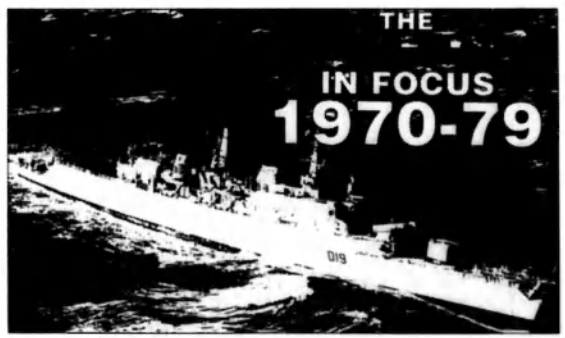
Reviewed by: Ross Gillett

The eighth of the 'In Focus' pictorial books from Maritime Books, *The Royal Navy in Focus* 1970-79 is now available. The new work is a follow-on from the earlier 1930-39, 1940-49, 1950-59, 1960-69 and World War II and two special Fleet Air Arm editions.

For many readers, the years 1970-79 may not seem to long ago, but the vintages of ships depicted between the covers, will still bring back many memories for former naval personnel. Some of the older ships still operating in the seventies included the 1944 vintage destroyer *CAPRICE*, the 1943 frigate *GRENVILLE*, the 1938 *MAIDSTONE* and the repair ship *HARTLAND POINT* from 1945. Each of the illustrations is accompanied by a well researched and lengthy caption, outlining a brief ship career, including its final fate.

For the first time, colour is included as a special 16 page supplement, with a total of 18 colour and 143 black and white B5 size photographs included. Some of the finer images depict Royal Navy ships in rough sea conditions, including the frigates *ARETHUSA* and *BACCHANTE*, carrier *ARK ROYAL* and minesweeper *HUBBERSTON*. Another interesting photo is the converted *Battle* class destroyer *MATAPAN*, modified for use as a trials ship in 1973.

The Royal Navy in Focus 1970-79 is available direct from Maritime Books. Full details of all of their naval books are available on the web at: http://members.aol.com/marbooks/



FLAG 4

By: Dudley Pope

Published by: Chatham Publishing

Reviewed by: Joe Straczek

Most people are familiar with the naval war in the Mediterranean. Names such as Taranto, Matapan and Cape Spada bring forth vivid pictures of aircraft carriers, battle ships and cruisers engaged in a desperate struggle for naval supremacy. Less well known are the exploits of the smaller craft, the submarines, mine warfare craft, MTBs and MLs. It is the activities of this last group, MTBs and MLs, which are covered in *Flag 4*.

Flag 4 covers the role of these small wooden craft and their daring crews from the desperate evacuation of Tobruk through daring attacks on enemy convoys and finally covert operations in along the Yugoslavian coast. Dudley Pope's book read like an adventure story. But what makes this adventure story more readable and interesting, is that the events portrayed are factual not the concoction of a Hollywood scriptwriter.

Flag 4 is also the story of men engaged in a life and death struggle for survival. Unlike their larger counterparts, these small and flimsy craft offered no protection whatsoever to their crews. Survival depended on the skill and determination of the crews and a good deal of luck.

To all those who enjoy reading history *Flag 4* is a must. If Tom Clancy were a historian, this is the book he would have written.

NO EASY ANSWERS

The Development of the Navies of India and Pakistan, Bangladesh and Sri Lanka 1945 – 1996

By: James Goldrick

Published by: Lancer Publishers with the support of the Royal Australian Navy Maritime Studies Program

Price: $28.00

Reviewed by: Geoffrey Evans

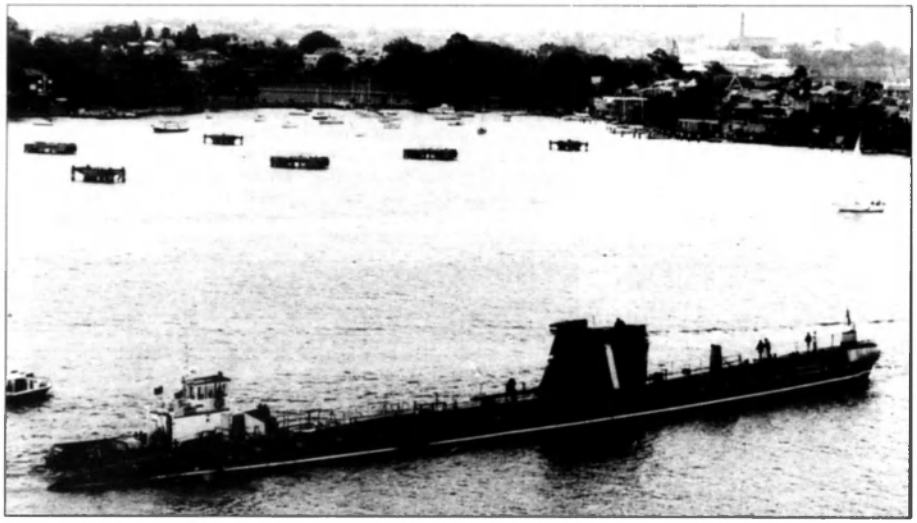
This book, a treatise by James Goldrick, a serving officer in the RAN, is timely given the uproar following India's decision to continue nuclear testing in May. It will be of interest to anyone interested in the rather tortured politics of the new nations created as a result of partition of the Indian subcontinent in 1947 and Ceylon's independence in the same year, as well as to those interested in navies and maritime affairs.

Divided into nine chapters – a preamble, two each for India and Pakistan, one for each of the other three and a summary reflecting on fifty years following partition – the book has a very large number of notations quoting the source of statements made and conclusions reached by the author. It is easily read and well illustrated with photographs of ships.

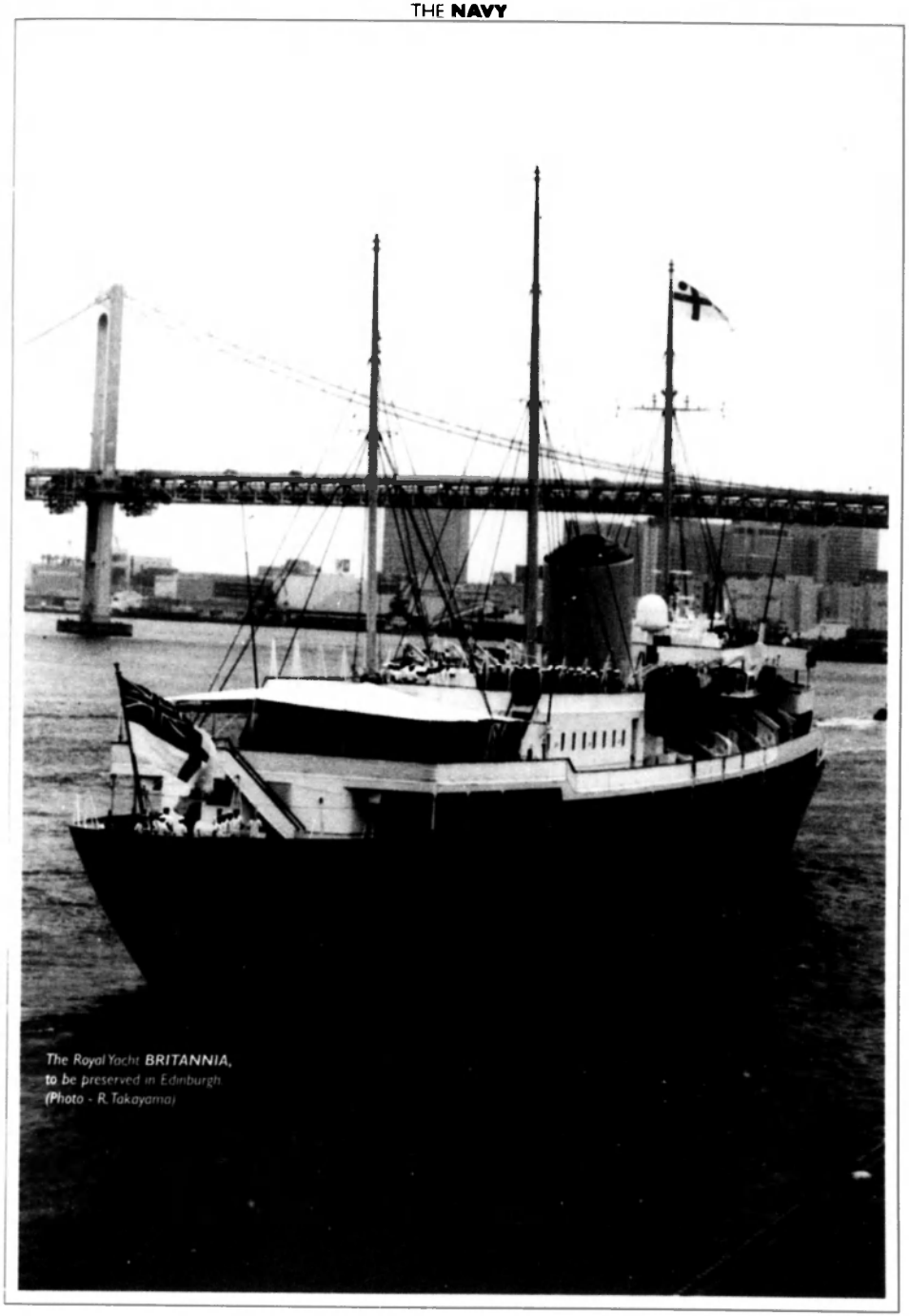
All the navies had as their genesis vessels of the Royal Navy or rather, what had been the Royal Indian Navy and their development was largely influenced by their dislike or fear of one another or, in the case of Ceylon/Sri Lanka, by the problems of militant minorities and the incursion of Tamils from the Southern India province of Tamil Nadu.

Not surprising the new navies were at first orientated towards the Western powers especially Britain, but faced at time by uncooperative attitudes by these powers turned towards the USSR. India in particular became adept in terms of equipment at taking the best of what each sides had to offer. Eventually Britain, the United States, France, Russia, China, Norway and Israel were among the powers bidding to supply ships and equipment to one or another of the South Asian nations.

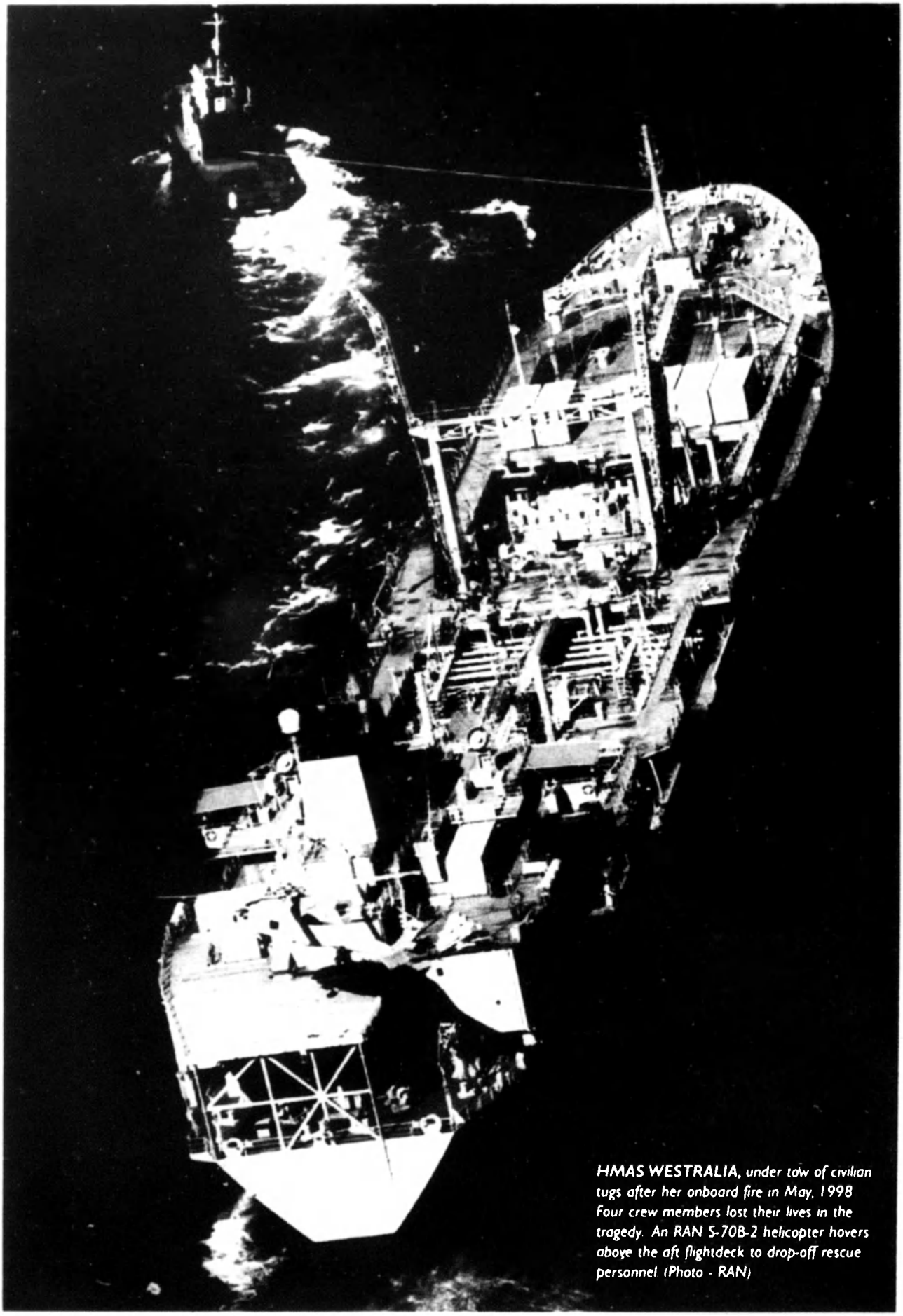
No Easy Answers is a book well worth reading and will be a most useful reference tool for all those interested in a restless and very important part of the world, a part moreover where events will surely influence Australia's future.



After a number of years service as a tourist submarine with the Australian National Maritime Museum, the former Soviet Navy Foxtrot class submarine was removed from her Pyrmont berth, alongside ex HMAS VAMPIRE. The submarine was shifted to Cockatoo Island before being towed to the USA for further use as display. (Photo – B. Morrison)



The Royal Yacht **BRITANNIA**, *to be preserved in Edinburgh (Photo - R. Takayama)*



***HMAS WESTRALIA**, under tow of civilian tugs after her onboard fire in May, 1998. Four crew members lost their lives in the tragedy. An RAN S-70B-2 helicopter hovers above the aft flightdeck to drop-off rescue personnel. (Photo - RAN)*

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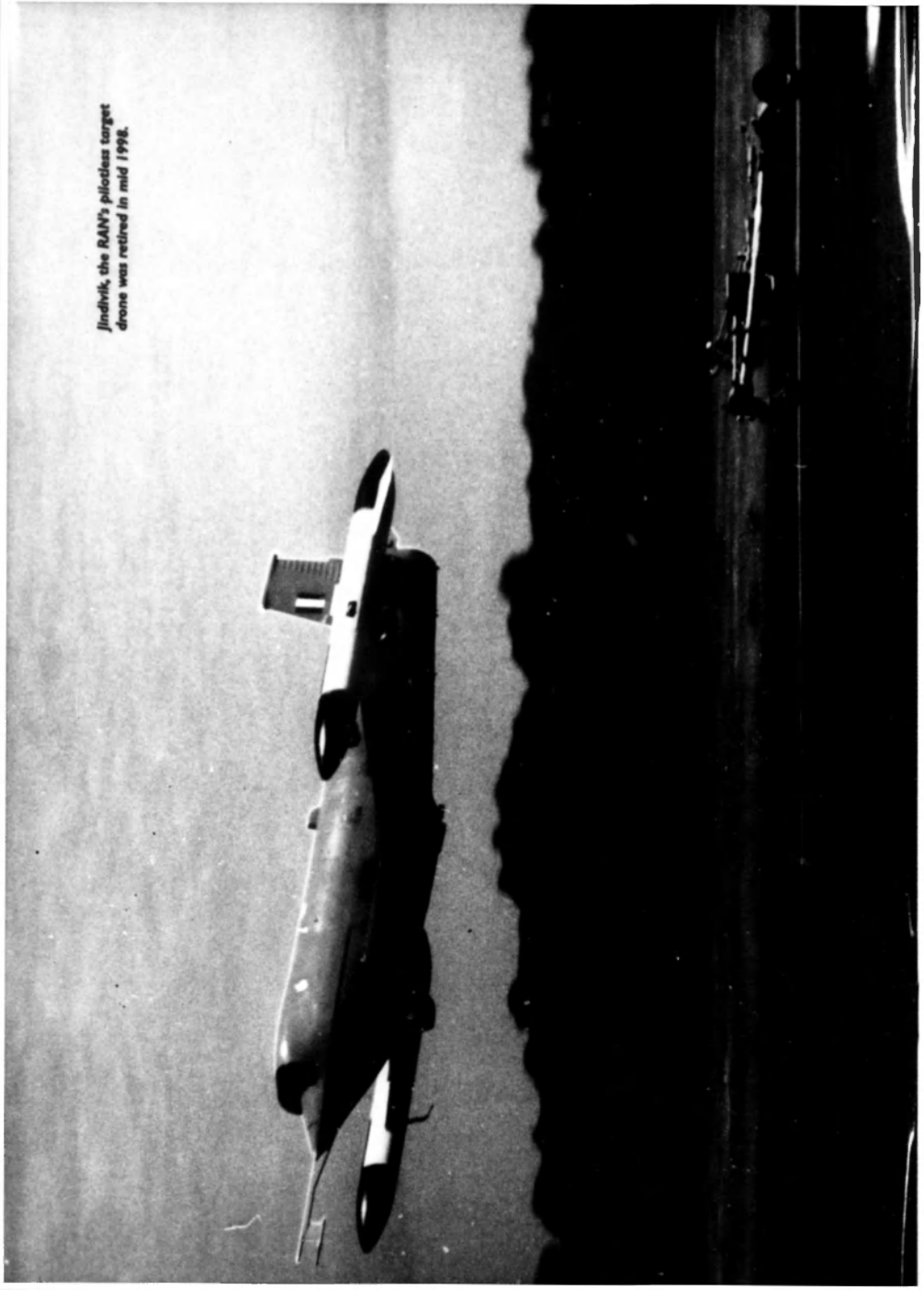
THE NAVY

The Magazine of the Navy League of Australia



Jindivik, the RAN's pilotless target drone was retired in mid 1998.

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National Email address:
navyleag@netspace.net.au

Internet Home pages for Federal and State Divisions:
URL:http://www.netspace.net.au/~navyleag

Front cover: *The Royal Australian Navy's new Minehunter Coastal (MHC) HUON during trials off Newcastle in July, 1998. (Photo – Naval Photo Unit)*

Copy deadline for the next edition is 9 November 1998.

VIEWPOINT

This edition of *The Navy* marks the anniversary of both the Royal Australian Navy (87 years) and the Fleet Air Arm (50 years).

For the Fleet, the Navy will celebrate the former with a major open day at the Fleet Base East in Sydney on Sunday, 11 October. Five surface combatants (one destroyer and two frigates), the veteran submarine *ONSLOW*, and the landing ship *TOBRUK* will be available for inspection. To promote 50 years of the Fleet Air Arm, four examples of current day helicopters will also be on hand, parked on the wharfside for all family members.

A major Air Day is also scheduled for HMAS *ALBATROSS* at Nowra on Sunday, 1 November. The previous day, the Fleet Air Arm will celebrate with a Freedom of Entry Parade through Nowra, including an RAN Historic Flight flypast. The Sunday Air Day will begin from 1030, preceded by the dedication of a new FAA Monument. In other aviation news, this edition of *The Navy* magazine includes reports from the Super Seasprite project and plans in the USA to preserve the veteran aircraft carrier USS *MIDWAY*, which visited Sydney for the last time in 1987.

Other reports discuss the decision not to acquire the four *Kidd* class guided missile destroyers from the United States and an interview with Commodore Flotillas (RAN) regarding the recent RIMPAC 98 exercise. Pictorially, we look at the Naval Review held in the Philippines, with many Second World War, ex-USN warships, still surviving in front [illegible] with the host navy.

Ross Gillett

The opinions or assertions [illegible] Navy are those of the authors and are not [illegible] those of the Federal Council of the Navy League of Australia, the Editor of The Navy or the Royal Australian Navy.

The Navy League of AUSTRALIA

FROM OUR READERS

Customs Patrol

Dear Sir

As a Navy League member of many years standing and always look forward to receiving my copies of *The Navy*.

Whilst I have never served under the White Ensign I have had an interest in things naval since childhood, having grown up with a step father who joined the RAN in September 1939 and who had a very interesting time serving on a number of ships and in a number of theatres throughout the War.

I have been an amateur military historian since my early teens and a member of the Naval Historical Society since the sixties. I have had a lot to do with the RAN during my twenty odd years in the Australian Customs Service, also a proud service with a direct line of descent from the British Royal Charter of AD 732.

It is in my capacity as a member that I enclose some material, which although not strictly Navy, could be of interest to many of your readers. With the commencement of our new Patrol Boat construction programme here in WA, I enclose details of the craft now being constructed by Austal Ships at their yards south of Fremantle WA.

Richard Coleman

DARLINGTON WA 6070

Patrol Vessels

Dear Sir

First and foremost, I would like to congratulate you on the excellent publication *The Navy*.

Are any fellow readers able to assist me with information regarding to WW2 Patrol Vessels (particularly US PTs & British MTBs) that still maybe in existence here in Australia.

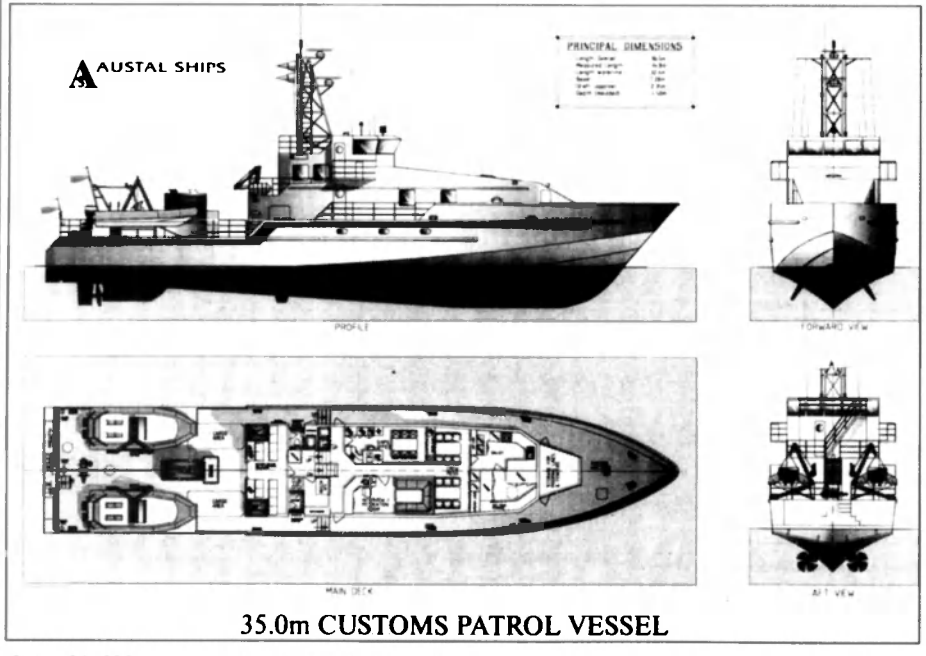
I have particular interest in obtaining a motor from one of these vessels, namely a Packard unit, to transfer this information on to a friend who is requiring it for an upcoming project.

If any reader can assist me with information, I can be contacted on 03 9484 9498.

M.A Handreck

PRESTON VIC 3072

Reader Dennis Ford sent in this old photograph of a navy diver. He asked when and where the photograph was taken. Can any former members of the Clearance Diving Teams assist?



Design of the 35.0m customs patrol vessel, to be built in Western Australia.

THE ADF & INTER-SERVICE CO-OPERATION

By Navy Leaguer

Inter-Service cooperation in the Australian Defence Force has achieved various levels of effectiveness and ineffectiveness in the past.

In general, the three Services have cooperated effectively at the operating level in the field, those who have to fight together train for that so to the best of their ability, regardless of the colour of their uniform.

The nearer the need for cooperation and understanding get to the major equipment and force structure decision levels, the greater become the difficulties and disagreements. At these levels, the Public Service has become involved. Each of the four groupings in Defence, the three individual Services and the Public Service, have participated in decision making and debate, often with one eye on the sectional interests of their grouping.

Relations between the RAN and the RAAF were at a low at the time of the decision to acquire the F/A-18A/B tactical fighter force and to abolish the fixed wing Fleet Air Arm. Between the RAAF and the Australian Army, relations were at a low when it was decided that the newly ordered Black Hawk troop lift helicopters would be manned and operated by the Australian Army. The RAAF managed the acquisition of the aircraft for the Army.

Some years earlier, the decision that the RAN would man and operate the *Balikpapan* class heavy landing craft (originally ordered for the Army) was deeply resented by many in the Army.

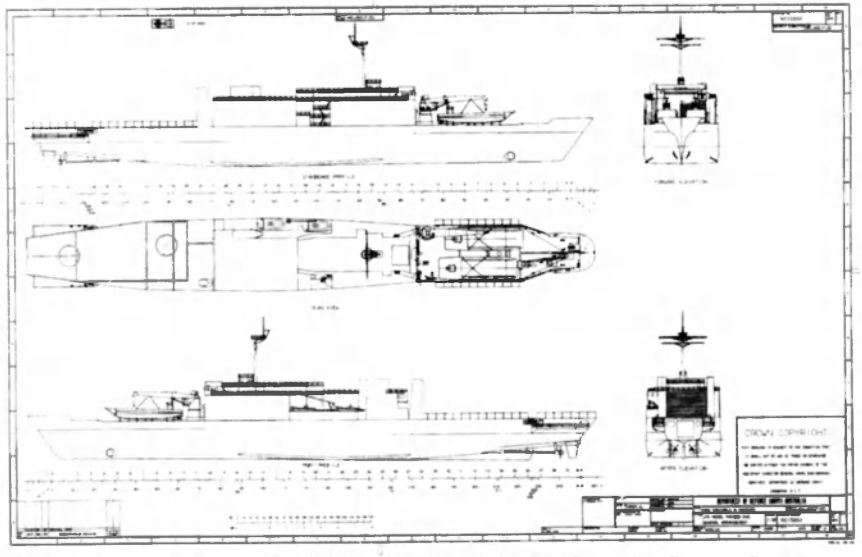
Each of these issues clouded relations between the Services involved for many years afterwards.

In recent years, strenuous efforts have been made by successive Defence Ministers, Chiefs of the Defence Force and Secretaries of the Department of Defence to reduce inter-service stresses and to ensure that the three Services operate and train to fight as one Australian Defence Force, with the added objective of achieving the maximum value for the defence dollar.

These changes have resulted in the establishment of operational joint service commands, such as Northern Command, and the establishment of the post of Commander Australian Theatre. Additional joint force commands have been established temporarily for particular operations and excercises.

Within the Department of Defence, a tri-service organisation has been established to manage the key functional areas. These range from personnel through intelligence and strategic planning to force structure. It is in the latter case that the friction can become particularly damaging. It is necessary to stay the right side of the fine line between the professional debate necessary to ensure that all factors involved in a key decision are considered and the counter productive effects of destructive criticism.

In recent times, many key force structure issues have enjoyed the support of all Services, the acquisition of an airborne early warning and control aircraft is an



General arrangement plans of the new LPAs, HMA Ships MANOORA and KANIMBLA. (Courtesy Naval Engineering Services)

example. The acquisitions of light tactical transports to succeed the Caribous are another, where the RAAF will acquire, man and operate the new aircraft. Ninety per cent of their cargoes will be carried for the Army.

However, the impending ADF block obsolescence problem will test the ability of the Department of Defence to work together in the best interests of the country.

During the next decade, decisions will be necessary on whether and how to replace the RAAF's Tactical Fighter Force (F/A-18A/B strike fighters), strike and reconnaissance group (F-111s and modifications thereof) and maritime patrol group (AP-3C Orions). A decision will also be necessary on successors to the RAN's *Adelaide* class FFG7 surface combatants.

All of these projects will involve multi-billion dollar purchases.

There are a number of smaller, but none the less expensive – prospective purchases. These include successors to the C-130H Hercules and Boeing 707 transport and air to air refuelling aircraft, fleet support ships, mid-life updates for the *Collins* class submarines, successors to the Army's Leopard tanks and a number of others.

The need for all of these projects, in some form or other, can be argued strongly on the grounds of the maintenance of the nation's independent position in a region growing not only in economic but also technological strength. Australia has survived in defence terms through its technological edge. That edge is being eroded. We must redouble our defence effort to maintain this technological edge.

There are those who argue that an increase in the defence budget is necessary. However, no Australian Government could accept this without rigorous examination. It will be tempting to allocate funds on a priority basis, allowing some capabilities to lapse not as the result of a conscious decision but as a particular successor project is repeatedly delayed until the existing capability is no longer effective. Another temptation will be to modify threat assessments to reduce the expenditure necessary to meet them.

Inevitably, these decision making processes will strain inter-service relations. These have to be overcome without the bad aspects of the major historical decisions listed earlier in this article.

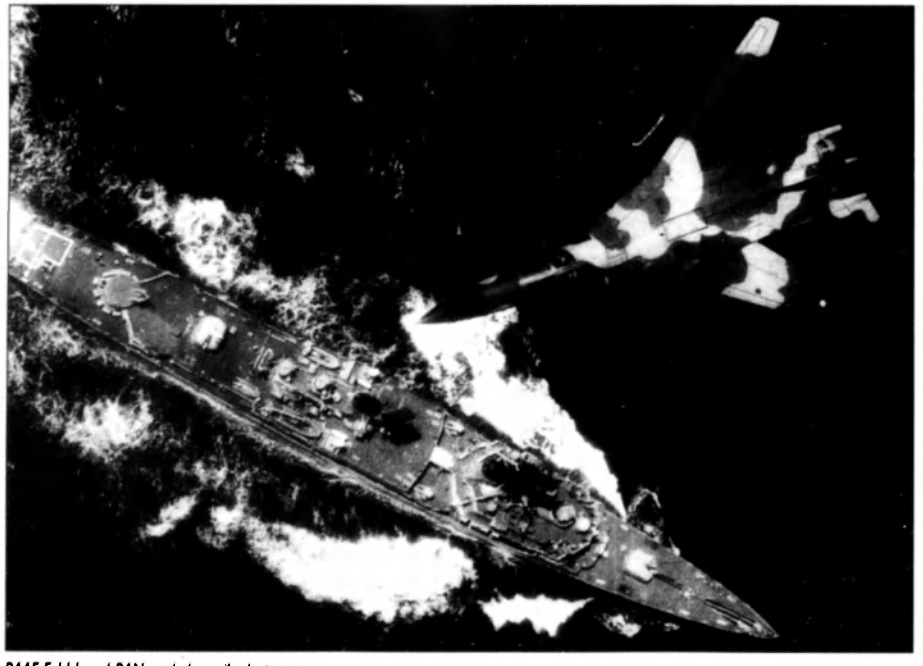
Particular areas are the tactical fighter and strike aircraft replacements (regarded by the RAAF and many others as essential to maintain an independent air force with regional credibility as a fighting force.

Another is the successor to the RAN's *Adelaide* class frigates. The RAN and many others regard the operation of a substantial major surface combatant force as essential for an Australian maritime force with regional credibility.

One opportunity that must not be foregone is that of arming our "platforms", the ships, submarines, military units and aircraft to their maximum capability. Examples include providing the RAN's surface combatants and submarines with surgical strike land attack missiles and the RAAF's strike fighters with effective and modern "beyond visual range" air to air missiles.

Both RAAF and RAN needs are essential to the maintenance of a balanced Australian Defence Force offering the Australian Government a range of options in meeting a wide variety of threat levels and requirements to participate in international peace keeping and natural disaster operations.

The key to success is making the right decisions in selecting the most suitable and cost effective equipment available to provide the balanced force.



RAAF F-111 and RAN guided missile destroyer

GAWLER BACK ON THE JOB

HMAS *GAWLER* is back at sea (August 1998) after eight months' repair and maintenance in a Darwin shipyard.

GAWLER was damaged last year when the Darwin naval base synchrolift failed. The Navy took the opportunity while she was under repair to carry out major planned maintenance that had been scheduled for 1998.

Total cost of the repair was $1.2 million, most of which has been spent in the Darwin area, either with Darwin Ship Repair and Engineering at Francis Bay or with associated contractors.

GAWLER conducted sea trials and related activities for the remainder of August before her operational assessment in September. The boat then deployed to South East Asia until November when she recommenced regular patrol in North Australian waters.

HMAS TORRENS RETURNS FOR LAST TIME

The *River* class destroyer escort HMAS *TORRENS* (DE-53) berth at HMAS *STIRLING* at 10am on Friday, August 14 at the return from her final operational deployment before decommissioning.

TORRENS had been absent from Western Australia for three months, during which time she visited Surabaya, Manila, San Fernando, Hong Kong, Singapore, Sandakan, Ambon and Port Moresby. Enroute to Stirling she also paid farewell visits to Newcastle, Sydney, Melbourne, Devonport and Adelaide, where she exercised her right to the Freedom of Entry for the last time.

A team of cyclists from HMAS *TORRENS* conducted a 19 day charity bike ride from Newcastle to the Ship's sponsored charity, St Anne's School for children with special needs in Adelaide.

The Western Australian public were given one last opportunity to look over the ship when she held an Open Day, six days before she left the Fleet.

Built at the Cockatoo Island Dockyard, Sydney and commissioned on January 19, 1971 the 2750 tonne *TORRENS* has been based in Western Australia since 1991 and has steamed in excess of 800,000 nautical miles in her lengthy career.

TORRENS was the last of the six *River* class destroyer escorts which have served Australia so well over the past 38 years. Anti-submarine ships, two of them, *DERWENT* and *SWAN*, still serve the community in other roles. *DERWENT* was scuttled west of Rottnest Island in 1994 after a series of survivability tests and today is a very successful fish attraction device. *SWAN* was scuttled as a dive wreck off Dunsborough late last year and is proving a most popular tourist attraction. Of the others, the formerly WA-based *STUART* was scrapped as were *PARRAMATTA* and *YARRA*.

There has been no decision made on the future of *TORRENS* after decommissioning.

Two views of the final arrival of HMAS TORRENS in Sydney. (Brian Morrison)

DEFENCE AMMUNITIONING FACILITIES

The Defence Department announced in late August, its intentions to further investigate options for the site of its proposed armament facilities on Australia's east coast, in line with a Parliamentary Public Works Committee (PWC) report tabled on 30 June this year.

The PWC asked Defence to examine an option that provides for separate locations for the explosive ordnance import and Navy's ammunitioning functions. The report cited the PWC's concern at the distance of Point Wilson in Victoria, where ordnance is imported, from Navy's Fleet Base in Sydney and the Navy's exercise area in waters adjacent to Jervis Bay.

Because the requirement for the ammunitioning of ships no longer includes ammunition storage facilities, Defence has begun feasibility, cost and environmental assessment studies of a site at Twofold Bay, on the NSW south east coast. This area was previously excluded on the grounds of cost involved in relocating part of the woodchipping facility established there, when ammunition storage, and the associated security precautions, was part of the requirement.

As Twofold Bay cannot accommodate the EO import function, the PWC has asked Defence to examine the potential for use of Port Alma near Rockhampton.

The Navy's ammunitioning operation in Sydney Harbour will close by the end of 1999 and it is intended that the current Point Wilson Facility will be used as an interim arrangement until alternate facilities are identified.

ANZAC SHIP UPGRADE MOVES FORWARD

The Minister for Defence, Mr Ian McLachlan, has announced the release of a Request for Proposals to upgrade the Royal Australian Navy's *ANZAC* class frigates under Project SEA 1443 Anzac Warfighting Improvement Program.

The request was issued to four companies: ADI Limited, the Australian Submarine Corporation Pty Ltd, British Aerospace Australia Limited, and Tenix Defence Systems.

"This project contrasts with the flawed approach of the previous Government which launched the ANZAC Ship Project with the vessels fitted "for but not with" essential sensors and weapons systems," Mr McLachlan said.

"It is a further step in implementing the Coalition's policy of enhancing combat capability within the ADF."

The four companies were asked to submit their proposals by 22 December to upgrade the anti-ship missile defence and air warfare capability of the *ANZAC* class ships to better allow them to contribute to Australia's defence in the 21st century.

Interesting view of the new survey ship NUSHIP LEEUWIN as she proceeds to sea for builder's trials. In the background is HMAS FLINDERS berthed at HMAS CAIRNS at the completion of another survey. FLINDERS decommissioned in early September, 1998.

RAN auxiliary minesweepers on exercises off Newcastle, New South Wales.

QUOKKA SAILS NORTH

After 14 years in service in Western Australia, the 110 tonne naval tug *QUOKKA* (DT 1801) departed from HMAS *STIRLING* on 14 July, for her new home port of Darwin.

The tug now supports naval movements and activities in northern waters, with her first task being to tow targets during the Fleet Concentration Period. *QUOKKA* is now owned and manned by the Defence Maritime Services (DMS) organisation.

The larger 260 tonne DMS manned tug *TAMMAR* remains at HMAS *STIRLING*.

The upgrade will involve significant and complex change to their radar, weapons control, and command and control systems.

After studying the proposals from industry, Defence will make recommendations to the Government on upgrade options that are suitable for implementation.

The recently painted WA based tugs QUOKKA and TAMMAR, after their transfer to Defence Maritime Services. The former sailed from HMAS STIRLING for the Darwin Naval Base in July.

DIAMANTINA: KEEL LAID

ADI has formally laid the keel of *DIAMANTINA*, the fifth of the six *Huon* class minehunters for the Royal Australian Navy.

The 720 tonne coastal minehunters are being built at ADI's Newcastle facility, a purpose-built shipyard opened four years ago. The *HUON* project costing $1 Billion, is on schedule and within budget, ADI reported. *HUON* commenced sea trials last June and the second ship, *HAWKESBURY*, was launched in April.

DIAMANTINA's keel was laid by the secretary of the Department of Defence, Mr Paul Barratt at a ceremony on Tuesday, 4 August. Managing director of ADI, Mr Ken Harris said the laying of *DIAMANTINA's* keel continued the minehunter project's excellent performance.

"The commencement of *HUON's* sea trials emphasised the successful on shore integration and setting to work of the *Huon* class combat system," he said.

"While the combat system has to be validated at sea, a major achievement of this project has been that we have been able to install it on *HUON*, is already tested and co-inciding with the completion of the ship's platform trials."

Mr Harris said the outstanding progress of the minehunter contract was underpinned by the excellent relationships between ADI and its subcontractors, high quality project management and the capabilities of the project's workforce.

The *Huon* class ships will be distinguished by the most advanced mine warfare system of any ship in the world today, according to ADI.

Workmen at ADI in Newcastle work on the inner hull of the coastal minehunter DIAMANTINA.

The first HMAS DIAMANTINA, a River class frigate. In this view she has been converted to the survey-oceanographic role.

Selecting the electronic systems that will define modern warships, the *HUONs* will be equipped with a minehunting sonar that can simultaneously search, detect, classify and route survey in depths exceeding 150 metres along with fibre-optic link controlled mine disposal vehicles carrying searchlights, closed circuit TV camera and a disposal charge.

HUON and *HAWKESBURY* are in the water. *NORMAN, GASCOYNE* and now *DIAMANTINA* are under construction while *YARRA* is still in plans. *YARRA* is expected to be launched in September 2001 and commissioned in August of 2002. *HUON* should be commissioned at the end of this year. Each minehunter will have a company of 36.

RE-DEDICATION OF PROTECTOR

The former submarine trials and rescue vessel HMAS PROTECTOR was re-dedicated (re-named) SEAHORSE HORIZON at HMAS CRESWELL on Wednesday 1 July 1998.

The vessel, which is part of the Defence Maritime Services (DMS) fleet, will undertake junior officers sea familiarisation training, diving and mine warfare support as part of DMS's ten year contract providing maritime support to the Royal Australian Navy. She is 42 m in length, has a beam of 9.5 m and displaces 670 tonnes. It is fitted with accommodations and a classroom for training purposes and has a ten tonne 'A' frame derrick and a large amount of clear deck space aft for cargo and equipment.

HORIZON has two main diesel engines developing 1220hp each and four thrusters providing precise positioning capability. The Master of the vessel, Mr Ross Davey has a permanent DMS crew of five. When undertaking officers training the vessel is manned by a Naval crew of nine, under the Command of the Sea Training Officer, LEUT Ian McPherson RAN.

HORIZON forms another component of the DMS waterfront operation at HMAS *CRESWELL*, which began supporting the Navy under contract in January this year. DMS now has 20 staff, two major vessels and ten minor support craft at *CRESWELL* and provides a wide range of services, including sail training, practice weapons recovery, boat transfers and range clearance operations, to name a few.

Excerpts from the Handover speech by the new Commanding Officer;

This day marks a very special occasion for DMS and the ship. Today, 1 July, marks the formal start date of the Defence Maritime Services Port Services and Support Craft contract. It is fitting and appropriate the ship designed to familiarise new entry and other junior officers with their first taste of life at sea should be formally inducted today.

There certainly is a new dawn breaking on the horizon. The ships secondary role is to provide assistance to the mine warfare and clearance diving community. *SEAHORSE HORIZON* may also be called upon to supplement other DMS activities when not being used in her major roles.

I have come to DMS and the Navy Support contract from the merchant marine and in my short time working with my Navy counterparts I have enjoyed what I believe is a most refreshing and professional attitude to the job. I am looking forward to a long and close relationship with the Navy. I am sure we in DMS and the Navy have much to learn and pass onto each other especially our sea going knowledge in our specialist fields. *HORIZON's* crewing will be slightly different from other DMS and naval vessels, she will have two crews, one DMS, one Navy, both based at HMAS *CRESWELL*. In general terms when she operates as the sea familiarisation platform she will have a naval crew with DMS input.

When the ancient mariners peered at the horizon they wondered at the new worlds, adventures, commerce and learning which lay ahead. As we look at todays horizon, both the ship and that past Point Perpendicular, we can rest comfortable in the knowledge that our young and future mariners will receive the benefits of those ancients and other mariners who have sailed to the horizon and returned triumphant and safe, having overcome their fears and the ravages of the sea.

SEAHORSE HORIZON, ex HMAS PROTECTOR, was re-dedicated on 1 July, at a ceremony at HMAS CRESWELL in Jervis Bay. (RAN)

NUSHIP LEEUWIN fitting out prior to builder's trials.

New personnel launch operated by Defence Maritime Services on Sydney Harbour. (Brian Morrison)

Another view of the new minehunter coastal, NUSHIP HUON. (LACN Smyth RAAF)

ROYAL NAVY ENVIRONMENTAL PROTECTION

In the crystal waters of Scapa Flow, HMS *ROYAL OAK* is leaking oil.

Now, experts from Naval Support Command have revealed innovative plans to protect the environment against oil leaking From HMS *ROYAL OAK*. They have discovered a unique way to harness natural forces of wind and tide, release the oil into a container and bring it ashore.

The idea was inspired by Royal Navy divers working on the wreck to gather samples of the leaking oil ready for laboratory analysis. They rigged a temporary tent over the leak which funneled the oil droplets into a container. It worked so well that engineers have been asked to develop a permanent version, using natural force rather than man-made pumps to collect oil that is circulating within the hull. They will also be asked to investigate ways of safely accelerating the rate of oil leakage from specific locations. Over the coming years teams of RN divers will return to monitor the rate of oil flow, with the possibility of further action as the results become clear.

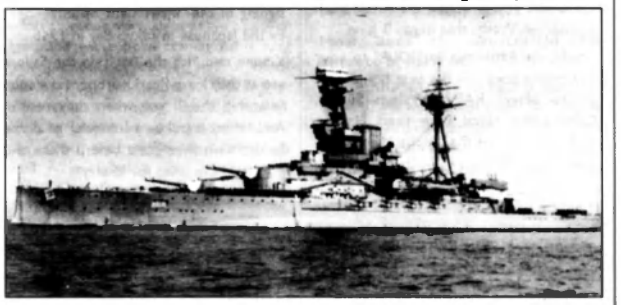
Back in 1996, following the discovery of oil ashore on the Orkney coast, the Orkney Islands Council called in the Royal Navy to try to solve the problem, amid fears that the leak was getting worse. By 1997 the hull was filled with a large metal patch, giving the project team valuable time to seek a longer term solution which met the needs of the local environment and respected the war grave.

Months of diving work, surveys, computer modelling and environmental assessments followed, during which the project team retrieved the original ship's plans from the Royal Naval Museum at Greenwich and combined them with data from modern day diving teams working outside the hull to create a three dimensional computer model of the HMS *ROYAL OAK*. More than 50 years after she was sunk, the ship was rebuilt on screen, complete with its bulkheads and compartments. It is now possible to take the ship apart deck by deck, revealing each complex layer of the structure of her hull, without the need to enter the ship at all.

Environmental surveys also used computer generated wind and tide models to establish the likely effect of any oil leak. The marine environment, flora and fauna were all taken into account in an independent report, and the findings of that report were taken into account when deciding the way to stop the oil.

Orkney is home to a large population of over wintering sea birds such as grebes and divers. Scapa Flow houses 9% of the UK seal population, and shellfish and salmon are both caught or farmed commercially nearby. To the west of the *ROYAL OAK* lies a Site of Special Scientific Interest. This solution is designed to offer protection to them, and is to be carried out at times when the environment is at its least vulnerable.

Oil collection and removal will include continued monitoring, a very controlled operation which may last many years. It is anticipated, though, that it may be possible to manage, and possibly to accelerate, the rate of oil flow from HMS *ROYAL OAK* by using this method. The design for the oil collector is now out to tender. Once commercial engineers have returned their designs, the most suitable will be chosen and divers are expected to install it late in the summer of 1998.



HMS ROYAL OAK. (RAN)

THAI CARRIER – A LOCAL REPORT CARD

The new Thai aircraft carrier *CHAKRI NARUEBET* was bought for the Thai Navy in the early nineties because "it was their turn to have something". Now in the late 1990s, the Navy has no use for a carrier. It only engages in coastal defence and would not venture beyond land-based air cover.

The main reason given by the Government for a carrier is that it will give them the edge in a scrap over the Spratly Islands (some islands off Vietnam (I think!) which are hotly disputed, although about half of them are underwater at high tide!). However, it is understood that Thailand is about the only country in the region which does not lay claim to all or part of them!

As well, the Thais also bought a number of former Spanish AV8A Matador Harriers to go on it which many are claiming are basically junk. Since commissioning last summer the ship has only left port twice (both in 1997). Her current status is a tourist attraction, with the ship's company conducting tours and selling souvenirs at the Sattahip Naval Base.

The Asian economic crisis has also played havoc with Thai defence procurement policy (cancellation of eight F/A18s, losing only their $75M deposit). President Clinton waived the cancellation charge of

Thai aircraft carrier CHAKRI NARUEBET. (USN)

$250M. The operations policy is going the same way with attempts to slash costs all over the place, so the chances of *CHAKRI NARUEBET* going to sea, or even of her getting proper upkeep in the short to medium term are slim.

DD 21

The United States Navy's new land-attack destroyer of the 21st century, *DD 21*, entered Phase One development of system concept on 17 August with the award of a $68,500,000 agreement modification to the *DD 21* Alliance.

The Alliance, comprised of General Dynamics' Bath Iron Works Corporation (BIW), Bath, Maine, and Ingalls Shipbuilding, Pascagoula, Miss., is led by General Dynamics, who will execute the Phase One agreement. The use of two, independent design teams will ensure that *DD 21* benefits from intense and aggressive competition during this critical concept development phase. Work will be performed by two competing teams: the "Blue Team," led by General Dynamics' BIW, with Lockheed Martin Government Electronic Systems, Mooretown, N.J.; and the "Gold Team," led by Ingalls Shipbuilding, with Raytheon Systems Company, Falls Church, Va. Each competing team is responsible for developing an independent competitively robust total ship design and life cycle support concept for the *DD 21* System.

The 21st century Destroyer is the first surface combatant founded entirely upon post-cold war thinking and strategic concepts, supporting joint service requirements in the littoral. Armed with an array of land-attack weapons, *DD 21* will provide offensive, distributed and precise firepower at long ranges in support of forces ashore. Equipped with state-of-the-art information technologies, *DD 21* will operate with forward-deployed joint forces, emphasizing "sensor-to-shooter" connectivity in order to provide a Naval or Joint Task Force Commander with the mission flexibility to both counter any maritime threat and to destroy a variety of land targets.

Additionally, *DD 21* will use advanced "stealth" features to make these warships less noticeable to potential adversaries and more survivable to enemy attack.

Currently, there are 32 ships planned for the *DD 21* ship class. The first ship of the class is expected to arrive in the fleet in 2008

USS MISSOURI

The USN's most famous warship, the battleship USS *MISSOURI* (BB 63) was gently guided and delicately docked to a Pearl Harbor Pier on 21 June after a 2,300-mile voyage across the Pacific from Bremerton, Wash., that began 3 June.

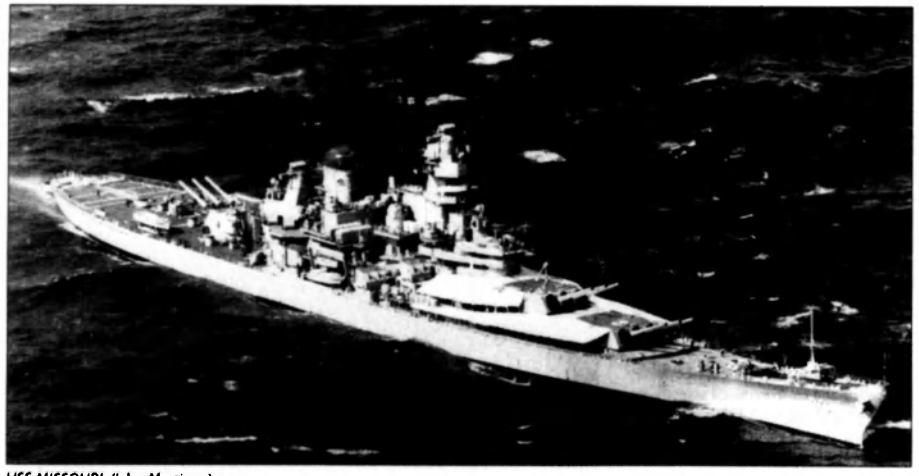
"Welcome Battleship *MISSOURI* to your new home port — die best home port in the Navy," RADM William Sutton, Commander Naval Base Pearl Harbor, told the crowd at the "Aloha Mighty Mo"

MISSOURI is tied to pier F-5 on "Battleship Row" 300 hundred yards behind USS *ARIZONA*. She will reside there for a maximum of three years before moving to a permanent site at the most seaward end of "Battleship Row" at piers F-2 and F-3. The grand opening for *MISSOURI* and her memorial museum is scheduled for January 1999.

"These two ships together make a more significant statement about our country and the spirit of our American servicemen and women than each ship could make by itself," Sutton said. "Together they symbolize the beginning and end of World War II and the sacrifices made by tens of thousands of our young men and women during that war. They together remind the world of the Honor, Courage and Commitment that is America's character."

She was recommissioned in both 1944 and 1986, fought in three Wars, (World War II, Korea and the Gulf War), and was decommissioned twice (1955 and 1992). Now, the "World's Most Famous Battleship" has returned to the place she started her illustrious career when she joined the Pacific Fleet in 1944 *MISSOURI*'s teak wood decks hosted the signing of the "Instrument of Surrender" by the Japanese in Tokyo Bay in 1945.

Kihune said, "It's the last ship the Sailors see as they leave Pearl Harbor and it's the first ship they'll see when they return. And I think it will be a reminder of all the Sailors who have gone before them and have paid the price for liberty."



USS MISSOURI. (John Mortimer)

COMFLOT AT RIMPAC 98

An interview conducted with COMFLOT (Commodore Russ Shalders) and CTG (Captain Lou Rago) during Exercise RIMPAC 98

What is COMFLOT's role at RIMPAC 98?

I'm the Sea Combat Command for the Multi National Force (MNF), working for Commander Carrier Group Three. My function is to co-ordinate all surface and under sea warfare for the IVINF. I'm also involved in maritime interception and defensive warfare as well as small ship helo co-ordination. This means I have responsibility for most areas of warfare with the exception of air defence warfare, and command and control warfare. Essentially, I look after the sea and undersea warfare responsibilities assigned to the IVINF Commander.

What benefits does the Royal Australian Navy receive by participating in RIMPAC 98?

The RAN receives substantial benefits from RIMPAC. We have been coming to RIMPAC since it started; in fact this is our 16th appearance. We always make an effort to get as many ships as we can over here and we've been coming for a long time because we do get such a lot of benefit from the exercise. The biggest benefit is enhancing interoperability, working with other nations, particularly the US but with all the other nations as well. A level below that is the great training benefit we get from working in RIMPAC's complex scenarios with lots of ships and advanced weapons firings, which in some cases we do not get a chance to do in Australia. The general structure of RIMPAC means we get to practice every element of warfare with a large number of other forces operating in a complex and dynamic scenario. So briefly improving interoperability is the key benefit. The opportunity to work in multi warfare environment is a close second.

What is the Australian Navy's contribution to RIMPAC 98, and what is the major purpose of Australia's involvement?

In the RAN Task Group itself we have 1000 young men and women at sea. However, the total is over 1200 Australians participating when you include the personnel involved in support crews for the three P3C Orion aircraft as well as the Australian support staff ashore and embarked in USS *CORONADO* and *CARL VINSON*. We have a lot of people involved and have expended significant resources because we get such excellent training value from the exercise. The value we get from RIMPAC makes the time, effort and money well worth it. Interaction between junior officers and sailors of other navies during various social and sporting activities also helps us to understand what the other nations cultures are and what environments they work in. We really enjoy the interaction between the different nations.

How does the Australian TG operate in RIMPAC?

The Australian Task Group is split for RIMPAC 98; we are not solely working as an 'Australian Task Group' because we are fully integrated across the full range of RIMPAC activities. For example HMAS *ONSLOW* and *DARWIN* are working with the Opposition Force; the Commanding Officer of HMAS *PERTH* (Captain Lou Rago) is the Surface Action Group (SAG) commander with no other Australian ships in his SAG. The other two Australian ships, HMAS *MELBOURNE* and *DARWIN*, are in completely different SAGs. Having the Australian Task Group split gives us much greater better training benefits through integration with units from other nations. In answer to your specific question we are not operating as a separate Australian Task Group in RIMPAC at all, which I believe, is a much better way to conduct the exercise.

How does RIMPAC rank to other exercises that the RAN participates in?

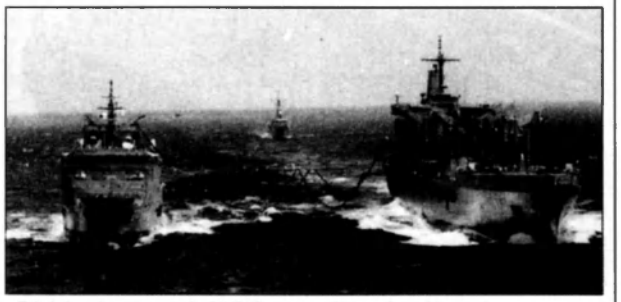
RIMPAC ranks very high up on our priorities because of the professional value we get from it. We exercise a lot in our region but, of the standing exercise we do, RIMPAC would be top of the tree, only just ahead of some of our regional exercises. For example the Five Power Defence Arrangement exercise called Ex STARDEX, where we work with Malaysia, Singapore, New Zealand and the United Kingdom, is also very important to us. In terms of professionalism, RIMPAC is the one we value the most.

How is Australia's role different from past RIMPAC exercises?

The 1998 exercise is not that much different from 1996, although the RIMPAC scenario has changed considerably over the years. In the past we have worked as an Australian Task Group and as the Opposition Force. When RIMPAC involved two aircraft carriers, the Australian TG worked in opposition to one of the carrier groups.

What are your personal expectations for RIMPAC 98?

My key hope and objective is that we have a professionally rewarding exercise. We have come a long way and spent considerable money getting ourselves here. What I hope to get out of it is a group of Australian ships and a wider RIMPAC community that achieves professional results. That's what we are all about. Almost equal to that professionalism goal is a safe exercise. We have spent a lot of time thinking about safety. RIMPAC is a very complex activity and potentially very dangerous. Each of the Commanding Officer's and all the ship, submarine and aircraft personnel will endeavour to ensure it is a safe exercise. The third goal is that people enjoy themselves. This is a really good opportunity to understand how other people work and to really practice our training. Professionalism is the key, safety is shortly behind that and thirdly I hope our people really enjoy it and have fun doing it. We love coming here to Hawaii and I think if you asked the average Australian sailor what he would like to do, going to RIMPAC and visiting Hawaii



Tribal class destroyer sails for RIMPAC exercises. (Photo – Brian Morrison)

HMAS SUCCESS and an American oiler

would be high on the list. Sailors spend a lot of time at sea getting here, on exercise and getting home again but the attractions of Hawaii seem to really make up for it.

How does RIMPAC test the RAN?

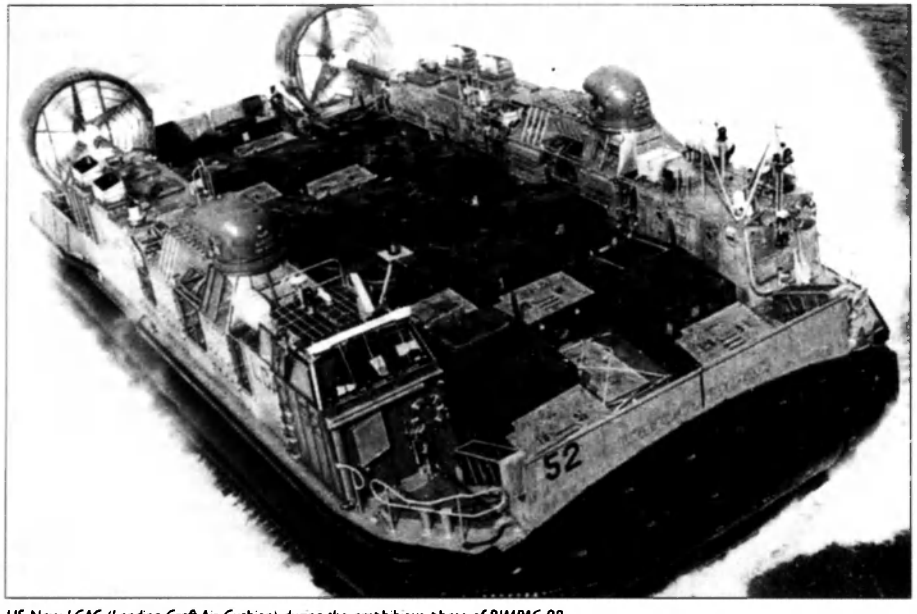
RIMPAC provides a test of how we are going. From a Ship's Captain point of view it is a very good measure of the ship and crews performance. You can test yourself by yourself as much as you want, but unless you can base-line against other units in an asset rich environment you don't get the same sort of results. The amount of quantitative information that you have to process in such a large exercise, with 50 odd ships, keeps you extremely busy. The information flow is part of the complexity of RIMPAC. In my view, if you always do simple operations then that is all you will ever be able to do. Every now and again we need to practice in a really complex environment. We do a number of complex activities on our own but we just don't have the assets and resources that RIMPAC gathers together. That's the opportunity that RIMPAC provides us.

How long is the Australian TG away from home?

The TG is away for a long time, just under four months from Sydney to Sydney. When we finish RIMPAC we don't go straight back home but put the ships through a series of exercises and activities culminating in our Fleet Concentration Period in Darwin where the ships from RIMPAC meet up with another TG, which is deploying to SE Asia. The ships don't actually get back to Sydney until 23 September.

What happened on the passage over to RIMPAC?

On the way over the TG received a message from RCC Honolulu that a fishing boat captain had been lost at sea from a ditched helicopter. We were close to the area, so as all mariners will do, we went to the aid of someone at sea with a problem. The TG searched for over 12 hrs but the decision was taken, when the person was not recovered, to proceed to Hawaii. Only a couple of days out of Pearl Harbor HMAS *MELBOURNE* was detached and conducted a search for a sunken vessel. Their helicopter located the liferaft which was subsequently found to be empty as the passengers had already been rescued. It is part of our job to help our brethren on the oceans. And, it is one of those things we train for. In the course of a two week passage it was most unusual for two SAR incidents to occur. The first incident was 40 miles off our track to Hawaii, and the TG had high passage speed of 18 knots. Spending 12 hrs on task meant that the TG had to catch that time up. It was unfortunate that the first incident did not have that same successful outcome as the second.



US Navy LCAC (Landing Craft Air Cushion) during the amphibious phase of RIMPAC 98

The USS CARL VINSON passes the former USS MISSOURI (now museum ship) and USS ARIZONA (war memorial) as she arrives in Pearl Harbor for RIMPAC 98. (USN)

What pre-exercise activities have the Australians been involved in?

One of the great advantages of coming to RIMPAC is the use of the range and support facilities at Hawaii. All our ships have been through our Foracs range testing and sensor measurement, and they have conducted torpedo firings. The sensor testing, ranging and torpedo firings were pre RIMPAC activities, which have been very valuable. So there are actually two reasons for being here, one is to check our weapons systems and the other is to participate in the exercise. It's a good learning process. It will probably be the last time that we do the testing and ranging here in Hawaii as we have recently built equivalent ranges in Australia.

What are some of the Australians favourite places in Hawaii?

Waiamea fall and Hanauma Bay, the bars and karoke in Waikiki, lots of mountain bike riding opportunities are just some of the favourites. I reckon there is not many better sites in the world than watching the sun go down over Diamond Head and Waikiki beach whilst watching the aircraft, boats and people with a cold beer in your hand at Dukes bar. It's one of the world's great places. The only disappointment of this trip has been the inability to visit some of the other islands, which we have had the opportunity to do in previous RIMPACs, mainly due to the busy program this year. Fortunately there has been sufficient block leave periods for sailors to fly to MAUI and some of the other islands in their spare time.

What aside from RIMPAC are COMFLOT's duties?

COMFLOT has two functions; the primary one is the Sea Training Group (STG) function. When a ship comes out of refit, the STG puts the ships through a work up process, culminating in an assessment of its capabilities. The STG comprises a number of experts who sea ride. They spend a lot of time working with the ships and putting them through a number of evaluations. Whilst the STG focus is on single ship capability, it then becomes the CM's responsibility to work up the TG as a group of ships. The overall TG readiness becomes his responsibility. The second function of COMFLOT, is what I'm doing here at RIMPAC and that is to exercise tactical command in a group of ships. Basically I have two roles: STG and Tactical command.

HMAS MELBOURNE in Pearl Harbor, July, 1998. The frigate was the final warship depermed at the naval dockyard. (RAN)

OBSERVATIONS

From Geoffrey Evans

National Shipping Line Sale Moves

The Australian Government, in its efforts to dispose of the Australian National Line proposes to sell the company in three pieces – the liner trade (preferred bidder Compagnie General Maritime [CGM]; self discharging vessels (preferred bidder Auscan Self Unloaders) and shore-based activities consisting of container management, freight forwarding etc.

While ownership of the first two parts overseas the land activities, depending to some extent on the successful purchaser of the liner trade business, will possibly be sold to one of the large Australian transport companies.

If they go ahead as planned the sales will mean the end of yet another once proud Australian shipping company.

The ANL was never a giant among the world's shipping companies but as an active and innovative participant provided Australia with an influence in an industry of absolute importance to the country.

Australians may one day regret the short-sightedness of their governments.

UK Shipping Decline

Australia is not the only country with merchant shipping problems. The August edition of *The Melbourne Log*, journal of the Melbourne Branch of the Company of Master Mariners carried the following item:

"National Statistics has announced that British Shipping contributed (pounds sterling) 4.45 billion in 1997 (4.68 bn in 1996), whereas expenditure in foreign shipping aggregated 5.17 bn (reduced by 0.04 bn since 1996. NUMAST describes this as ridiculous at a time of rising world shipping, for an island nation"

NUMAST is the organ of the Union of British Merchant Officers. It is hard to realise that not so long ago Britain was the world's major shipping nation.

SYDNEY Inquiry

The inquiry by the Defence Sub Committee of the Joint Parliamentary Foreign Affairs, Defence and Trade Committee into the loss of HMAS *SYDNEY* in 1941, completed its capital city hearings and nominated cut-off dates for written submissions mid-year.

Altogether 79 witnesses appeared before the sub committee in Canberra, Perth, Melbourne, Sydney and Brisbane, while over 360 submissions, half of which were supplementary submissions amending the original, some three, four or five times, were received.

Transcript of the hearings and the written submissions have been published, the latter in 16 volumes. The variety of theories concerning the loss is quite remarkable, but the writer gained the impression that even if *SYDNEY* is located and the probable cause of her destruction is determined, the overwhelming feeling is to allow the ship to be as she is – a war grave.

The defence sub-committee is also inquiring into military justice procedures in the ADF. At the time of writing it is not known when its findings on either of the inquiries will be presented to the Parliament.

The Forgotten Campaigns

As readers of this column will be aware from comment in previous issues of *The Navy*, for several years a group of former naval personnel who served in HMA ships involved in the Malayan Emergency anti-terrorist campaign and the Vietnam war, have been seeking recognition and similar benefits accorded to their colleagues in the Royal Navy and Australian Army and Air Force.

The quite reasonable request of the group has so far been only partially successful despite voluminous correspondence with a variety of authorities and representations to political leaders and others which it would seem difficult to reject.

Perhaps those who advise ministers and officials are unaware of the turmoil that engulfed much of southern Asia in the aftermath of World War II, and the efforts of British Commonwealth countries to maintain order in newly liberated European colonies. If so reminders would appear necessary.

Former WA President Honoured

Long time member of the Naval Reserve and the Navy League of Australia, Captain Len Vickridge OBE VRD* was honoured in this year's Queen's Birthday Honours List and became a member of the Order of Australia (AM) for service to the community.

Len Vickridge joined the RANR in 1934 and served throughout World War II. Demobilised in 1946 he remained in the Reserve and finally retired in 1973. Len joined the Navy League in 1954 and for many years served as the State President and Western Australia's representative on the Federal Council. He is a life member of the Navy League.

Len has also been involved in a wide range of community activities. His colleagues extend their congratulations to Len on a well-deserved award.

Admiral Sir Victor Smith

For the second time this year the writer is faced with the sad task of commenting on the death of a long-time and influential supporter of our Navy League.*

Admiral Smith's wartime experiences and professional achievements, especially those in the latter part of his career – Flag Officer Commanding HMA Fleet; three Naval Board Appointments, the last as First Naval Member and Chief of Naval Staff; Chairman of the Joint Chiefs of Staff – are well known to former naval personnel and were well documented in the obituary columns of mainstream newspapers at the time of his death.

Not so well known was the Admiral's acceptance of the fact that the Navy could no longer be "the Silent Service" and that it must have the support of the civilian community if it was to prosper.

To gain support Admiral Smith looked in the first instance towards former naval personnel. As CNS in 1969 he invited Federal and State Leaders of the Naval Association and the Navy League to Canberra to meet the Naval Board and to discuss, in particular, ways of repairing the RAN's image which had been badly damaged as a result of several disasters involving the Navy in the nineteen-sixties. The writer was one of those who attended the meeting and it marked the beginning of an association, indeed a friendship, that lasted until Sir Victor's death 29 years later.

The late Admiral Sir Victor Smith.

It was obvious the Navy's supporters could be of very little help to their former service unless they were familiar with its problems and needs; this required frankness and a close and continuous relationship between the leaders of Navy and the organisations involved. Admiral Smith agreed and honoured the agreement to the full during the remainder of his term as Navy Chief and, in a broader tri-service sense, while he was Chairman of the Joint Chiefs.

It can of course be argued that Service leaders who preceded Admiral Smith were equally conscious of the need for public support for the armed forces but so far as the Navy is concerned, the way he set about "closing the gap between Navy and the civilian community" (as he put it in a letter to the writer) was unusual and perceptive.

It remains to be said that Admiral Sir Victor's successors have, by and large, followed his example and so far as the Navy League is concerned have "engaged in regular dialogue".

Upon retirement Sir Victor was made a life member of the Navy League and Patron of the ACT Division.

* Mr. B. A. Santamaria, *The Navy* July - September 1998 issue.

THE FLEET AIR ARM CELEBRATES 50 YEARS

EARLY YEARS

Australians were involved in flying operations during the Great War (1914-1918), with all personnel serving with the British Royal Naval Air Service. Operations were conducted with a number of Australian warships, including the battlecruiser HMAS *AUSTRALIA*, and the cruisers *SYDNEY*, *MELBOURNE* and *BRISBANE*.

In the early 1920s the Australia built seapiane carrier HMAS *ALBATROSS* was launched at Cockatoo Island, for operations with RAAF aircraft Seagull III amphibians. In 1938 *ALBATROSS* was eventually transferred to the British in exchange for the new cruiser HMAS *HOBART*.

Throughout World War II the Royal Australian Navy operated improved RAAF Seagull V and Walrus amphibians from its three heavy, three light and two armed merchant cruisers. Following the successes achieved by British and American aircraft carriers in the battles against Japanese forces, the Australian Government decided to form its own Fleet Air Arm based on an aircraft carrier force.

The first documented move by the RAN to acquire a fixed wing carrier force was in 1944 when the then CNS presented his submission to the War Council. He was seeking a gift of an aircraft carrier from the Royal Navy. However, whilst many Australians were involved in early naval flying operations, Australia would not form its own naval aviation force until 1948, although many attempts had been made previously to achieve just that.

Subsequently, in October 1945, the carrier acquisition debate increased. A project officer was sent to England to evaluate the RAN's air requirements for a Fleet Air Arm and to propose a plan based on the then Royal Navy organisation.

The Australian Naval Aviation Museum during a recent air day.

A FLEET AIR ARM

The naval aviation plan originally submitted required two ex-British Light Fleet Carriers, three Carrier Air Groups and two Naval Air Stations for training and support functions. Recruitment was to be achieved by volunteers from General Service, civilians and experienced FAA personnel from the RN. In effect, the early FAA consisted of almost 50% of ex-RN personnel.

The plan was approved in August 1947. The carriers *MAJESTIC* and *TERRIBLE* were acquired, to be renamed *MELBOURNE* and *SYDNEY* and two Carrier Air Groups (CAGs), the 20th and 21st – with Fireflies and Sea Furies. The two Naval Air Bases were identified at Nowra and Schofields. *ALBATROSS* located at Nowra, on the New South Wales south coast eventually became the one and only Naval Air Station, with *NIRIMBA* acquired for technical training purposes. Initial technical and aircrew training courses were carried out in the UK.

The 20th CAG, comprising 816 and 805 Squadrons, was formed at RNAS *EGLINGTON* in Northern Ireland on 28 August 1948. HMAS *ALBATROSS* commissioned on 31 August 1948 and the first of the RAN's aircraft carriers, HMAS *SYDNEY* was commissioned at Plymouth in the UK on 16 December 1948. The first of the light fleet carriers arrived in Jervis Bay on 25 May 1949 with the 20th CAG embarked as deck cargo.

In April 1950 the 21st CAG comprising 817 and 808 Squadrons was commissioned in the UK for transport to Australia aboard HMAS *SYDNEY*.

The second of the new carriers, HMAS *MELBOURNE*, incorporated many improvements over the earlier *SYDNEY*. The new ship became the first operational aircraft carrier in the world

Grumman S-2E Tracker of the Historical Flight.

to incorporate steam catapults, an angled deck and a mirror landing system. *MELBOURNE* arrived in Australia in May, 1956 with 816 and 817 (Gannets) and 808 (Sea Venom) Squadrons embarked.

Fixed wing carrier operations in the RAN reached a new crossroad in 1959. Discussions were held regarding the disbanding of the fixed wing elements of the Fleet Air Arm in 1963, when a major and expensive upgrade was expected. Decisions were being made to reduce the FAA to a purely anti-submarine rotar force, with the planned acquisition of 27 Wessex helicopters from 1961. The FAA experienced another four year period of uncertainty, but with the decision to retain *MELBOURNE* as a fixed wing carrier, the ship went on to operate successfully in major international exercises across the world. In April 1963 the carrier achieved her 20,000th deck landing since commissioning in 1956.

A third aircraft carrier, HMAS *VENGEANCE* was also operated by the RAN in the early 1950s. The ship was loaned from the Royal Navy during the period 1953-1956 to fill the gap until the arrival of *MELBOURNE*. The Sycamores *VENGEANCE* delivered were the first helicopters to be purchased by the RAN.

Embarked fixed wing carrier operations continued throughout the Korean and Vietnam war periods, as well as numerous major international exercises until 1982 when the 27-year-old *MELBOURNE* was decommissioned, on 30 June. Fixed wing operations continued for another two years, after which the FAA was reduced to a predominantly helicopter force.

NAVAL AVIATION TODAY

The Naval Air Squadrons now based at HMAS *ALBATROSS* continue to support the Fleet at sea, with most of the RAN's principal frontline and support ships having the capability to embark helicopters.

The three squadrons at HMAS *ALBATROSS* include:

816 Squadron with 16 Seahawk anti-submarine warfare helicopters for operations from the six guided missile frigates (FFGs);

817 Squadron with eight Sea Kings now converted to the medium lift utility role and;

723 Squadron with a mixture of six Squirrel helicopters for training, five Bell 206's for survey duties and training and, a pair of HS 748's for the all important ECM training.

Also at HMAS *ALBATROSS* is No 2 Squadron, a RNZAF Skyhawk Unit on contract to the Australian Defence Forces for Fleet Support and Air Defence training duties and Pel Air, a civil contractor operating Lear Jets, also on contract for Fleet Support duties.

In January 1997 orders were placed for eleven Kaman Super Seasprite helicopters armed with the Penguin air to surface missile system to operate from the new *ANZAC* class frigates now entering service with the RAN. The arrival of the Super Sea Sprites from early next century will bring with it, another era of helicopter operations for the Fleet Air Arm.

The RAN Fleet Air Arm has been involved in three significant wars since 1948 and numerous peacekeeping commitments.

KOREAN WAR

The participation by *SYDNEY* and her CAG from 31 August 1951 was an amazing feat as she sailed off to war after only two and a half years from the first flight of a Sea Fury in Australia.

Interior view of the large vintage aircraft display area at the Australian Naval Aviation Museum.

Preserved Hawker Sea Fury above HMAS ALBATROSS.

Vietnam War

Four helicopter contingents, each of 12 months duration (Helicopter Flight Vietnam) joined the US 135th Assault Helicopter Company for land based operations in a very different type war from October 1967.

HMAS *SYDNEY*, converted to a troopship/stores role embarked helicopters on a number of her 24 re-supply trips from Australia to South Vietnam. The Vietnam experience was a harrowing experience for both the aircrew and groundcrew alike, with many fatalities and wounded in operations in a permanent hostile environment. The RAN Helicopter Flight Vietnam was disbanded in June 1970 ending a remarkable FAA chapter.

The Gulf War

Ships of the RAN with helicopters embarked were dispatched to the Persian Gulf in August 1990 and participated in the US led coalition war against Iraq. It is extraordinary to note that the Seahawk helicopter, just delivered to the RAN, continued introduction trials on a war footing – with outstanding success.

In all three wars the RAN found itself learning new 'tricks' to deal with vastly different and rapidly developing scenarios.

In addition and on a regular basis, RAN helicopters regularly make headlines carrying out daring rescue missions and assisting in flood relief in one extreme, to bush fires in another.

CALLING ALL EX-FAA PERSONNEL

We are holding our Golden Jubilee Reunion at HMAS *ALBATROSS* – 28 OCTOBER – 2 NOVEMBER 1998 and we are trying to locate all surviving ex FAA personnel to invite them to this significant occasion. The 50th Anniversary of HMAS ALBATROSS (31 August 98) is also being commemorated in a joint celebration during the period, with the following programme:

Date		Activity
Wednesday 28 October	1000	– Registrations open at Museum
Thursday 29 October	1200	– Registrations – continue
Divisions NAS	1830	– Combined Cocktail Party, Beat Retreat Museum
Friday 30 October	0800	– Registrations – Museum
	1000	– FAA AGM – PTS Theatre
		Air Day Rehearsal all day
	1100	– Base Tours Museum Tours
	1230	– BBQ Lunch
	1400	– FAA History – Review
	1500	– Launch History Book
	PM	– Mini Branch Reunions
		Dolphin Watch
	1900	– 50th Anniversary Ball "A" Hangar
Saturday 31 October	1100	– Freedom of Entry Parade with RAN
		Historic Flight flyover
		Private aircraft "Fly In"
		Spring Festival
		Mini Reunions
		Kangaroo Valley Tours
		Race Day – Nowra Racecourse
	1900	– BBQ Museum
Sunday 1 November	0830	– Ecumenical Service
		– Monument Dedication – Museum
	1030	– HMAS ALBATROSS Air Day
Monday 2 November		– Mixed Bowls Competition and Golf Day
		– Sydney Tour (All day)

Would you please forward your details below (and those of known ex FAA ship mates) in order that we can make contact and forward an invitation in due course to join us and make this a worthy and memorable occasion.

Name ..... Address .....

Phone..... Fax / Email.....

Alternatively, please send a fax to +61 (02) 4421 1999 or hardcopy to:
Mike Lehan

Secretary
FAA 50th Anniversary Committee
PO Box A15
NAVAL PO
NOWRA NSW 2540
Email may be sent to: anam@ozemail.com.au

THE KIDDS, OPPORTUNITY ONLY KNOCKS ...

By Mark Schweikert

In a decision that can only be described as illogical the ADF rejected the RAN's best opportunity to once again become a credible naval power when it turned down a USN 'gift' of four Kidd class Destroyers. History will record this as the greatest strategic blunder since the loss of the aircraft carrier Melbourne.

In October of last year the USN informed Australia that a window of opportunity existed to purchase its four *Kidd* class destroyers, USS *KIDD*, *CALLAGHAN*, *SCOTT* and *CHANDLER*, which were being withdrawn from service prematurely. Regrettably, despite the A$30 million price of each and the fact that these are powerful and impressive destroyers, the offer was declined. Had the Kidds been accepted the RAN would have been the most powerful Navy in the South West Pacific, South East Asia and possibly the Southern Hemisphere, restoring it to a level not seen since the loss of the Aircraft Carrier *MELBOURNE*.

The *Kidd* class has had a varied and interesting career and its early decommissioning has nothing to do with their capabilities but rather USN economies. But Australia's decision not to proceed with the offer not only defies logic but contradicts the recent "Strategic Review" which called for a strong Navy to defeat ships and aircraft in our air-sea gap. Unlike us, other enlightened countries are lobbying to have the Kidd offer extended to them. Most notably the Greek Navy who recently conducted detailed surveys of all four ships.

The level of USN RAN interoperability gained by purchasing the Kidds, in particular with their CBGs, would be unsurpassed by anything in the RAN. This would have allowed the RAN to electronically 'plug into' joint or allied operations giving it the ability to exploit the USNs impressive C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance) capabilities and join the maritime RMA (Revolution in Military Affairs) club.

HISTORY

In 1979 an Iranian order for four US built AAW destroyers was cancelled as a result of the Ayatollah Khomeini coming to power. The USN then purchased the still-in-build destroyers and renamed them the *Kidd* class, after Rear Admiral Isaac Kidd killed aboard the USS *ARIZONA* at Pearl Harbor.

The *Kidd* class reflects what the Spruance was meant to be but a lack of funding altered the design slightly. The only differences between the two lie in weapons and sensors as the Kidd was designed for general warfare with a particular emphasis in AAW, according to the original buyer's intent. Another advantage of the original buyer's specifications were larger than normal air-conditioning and dust filtration units for use in the Persian Gulf, by coincidence this also makes them suited to Australia's top end.

Kidd class guided missile destroyer USS KIDD. (USN)

The main weapon system of the *Kidd* class consists of two Mk-26 twin arm launchers for Standard SM-2MR in place of the Sea Sparrow and ASROC launchers of the Spruance. The forward magazine holds 24 Standards while the after holds 44, a total of 68 in all.

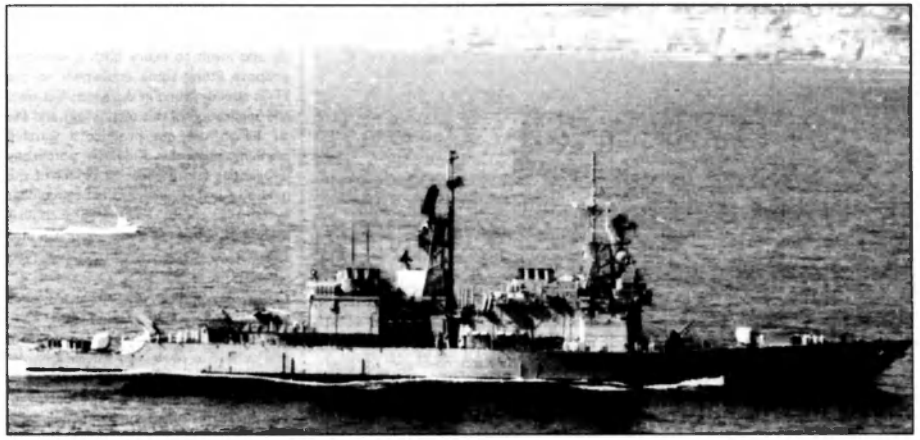
The Kidd's radar suite is also impressive with a SPS-48E 3-D air search radar, an SPS-49 air-search radar (as used on the RAN's FFGs and Anzacs), two SPG-51 fire control radars for the SM-2MR, one fire control radar for her two Mk-45 127 mm guns (as used in Anzac) a short range track while scan fire control radar, a surface search and navigation radar.

Her C3 (Command, Control, Communications) capabilities are impressive and provide the class with a flexibility only seen in more expensive Aegis equipped ships. On many SAG deployments they have performed the role of group command ship whilst still conducting defensive or offensive operations. One such case was the class's performance during the 'Tanker War' in the Gulf. The class not only acted as flagships but also provided defence against attacks from Iraqi and Iranian air and surface threats.

Before the arrival of Aegis equipped ships the *Kidd* class constantly formed the AAW defence and C3 element of CBGs and BB lead SAGs. Two of the class, USS *SCOTT* and *KIDD*, saw action in the Gulf War as escorts to the *EISENHOWER* CBG and *MISSOURI* SAG respectively, complementing and supporting the Aegis escorts of the groups.

During the UN operation "Restore Hope" in Somalia the USS *CHANDLER* made a 30 knot transit from the Persian Gulf to Somali. Operating within visual range of Mogadishu airport for nearly a month, *CHANDLER* provided sole air traffic control services for civilian and military aircraft of all types from many nations for the entire country.

More recently the class has been used for counter narcotics operations with great success. On September 27 1997 the USS *CALLAGHAN*, operating in the Eastern Pacific, chased a large ocean racing boat and seized 3,500 kg's of cocaine estimated at US$165 million. On March 5 of this year the USS *SCOTT* assisted in seizing 1,800 kg's of cocaine off the coast of Honduras whilst on anti-drug surveillance operations.



USS CHANDLER arrives in Sydney, 1994. (Brian Morrison)

These examples demonstrate the class's flexibility. The *Kidd* class destroyer can be described as a blending of the best features of the Spruance class destroyer and the combat systems and weapons of the *Virginia* class nuclear powered guided missile cruisers. This formula makes the *Kidd* class one of the most lethal afloat.

THE QDR AND USN SURFACE COMBATANT STRENGTH

The *Kidd* class was originally due to decommission in 2017 however, the recent US QDR (Quadrennial Defence Review) called for an all Aegis fleet and the total number of US surface combatants to fall from the current 128 to 116. How this figure was arrived at and why it affected the Kidds has nothing to do with the class whatsoever, ie. age or technological deficiencies, as detractors of the offer to the RAN inaccurately portrayed.

A US General Accounting Office report on Surface Combatants released in May 1997 foreshadowed a number of reasons why the parameters used to plan surface combatant numbers would fall. Firstly, with more capable and flexible ships, ie. Aegis and Tomahawk equipped, coming off the slips, 116 surface combatants was viewed as being appropriate to meet current mandates of US military strategy, that being able to deal with two MRC's (Major Regional Conflicts) simultaneously. However, (the report stated) *"this figure was derived largely from budget-driven objectives rather than an analysis of war fighting crisis response, and overseas presence objectives"*.

Part of the classes impressive radar suite. From top to bottom, the SPS-55 surface search radar, the navigation radar, the SPS-49 air search radar, the SPQ-9A anti-missile track while scan radar and the SPG-51D Standard fire control radar. Also visible one of the ships two Phalanx guns.

It should be noted that if the MRC requirement were reduced to one then a further 45 surface combatants would be withdrawn cutting into the USN's *Ticonderoga* class cruisers. Consequently the early withdrawal of the *Kidds* is not platform based as the same fate could have been suffered by the Aegis and Tomahawk equipped *Ticonderoga* class.

With ship numbers set, the USN is currently clearing out the 'less new' to make way for the 'new'. That 'new' consists of more flight IIA *Arleigh Burke* class destroyers with Aegis and Tomahawk. Aegis equipped ships are viewed as being far more capable, flexible and survivable in the littoral battlespace environment which the US is increasingly being engaged in due to the end of the cold war. Aegis and Tomahawk allow a ship to establish theatre air dominance and influence events ashore through the application of precision long-range firepower. Both these USN objectives are not required by the RAN.

Further, the model used for number requirement generation has also changed. Basing distances on the location of recent naval engagements, redefining the numoer of months between deployments and changing the point of origin of ships to deployed areas has contributed to the revised ship numbers.

Another facet of the revised figure is the expected contribution to USN operations of countries like Canada, the UK and Australia etc. US Chief of Naval Operations Admiral Jay Johnson stated in the 1997 edition of *'Force 2001*: Vision...Presence...Power' that it is essential to provide *"allies or likely coalition partners with US equipment, training and logistics support (to improve) interoperability and common infrastructures among our own forces"*. Further to this the USN Secretary John Dalton said in September 1997 *"our nation cannot shoulder alone the burden of undergirding peace and stability throughout the world"*. One could surmise that USN strategy calls for the acquisition of Kidds by the RAN not only to help itself but also Australia.

The bow of the USS CHANDLER on her last visit to Sydney. From left, the Mk-26 twin launchers for the 74 km SM-2MR and one of the two Mk-45 127 mm naval guns (as used on HMAS ANZAC)

KIDDS IN THE RAN

Apart from new 'Order of Battle Posters', four new names, some new ammunition and electronics stocks nothing more would be required to fit the Kidds into the RAN, except some manpower, budget and program re-allocations. Most of the ships systems, electronics and weapons are common to the RAN including their LM-2500 gas turbine propulsion plants. The major difference being the Kidd's range of 8,000 nautical miles at 17kt's compared to Anzac's range of 6,000 nautical miles at the same speed. This equates to less out of area support required by the Kidds, particularly along our long coastline, and thus a force multiplier.

ASW torpedoes, helicopters and helicopter handling systems are the same. Many of the radars and consoles along with communications equipment are common. However, what is not common is the class's superb 3-D air search radar, its C3 capabilities and its Standard SM-2MR anti-aircraft missiles, which incidentally the RAN is hoping to use on a WIP Anzac.

The SM-2MR is essentially the only hard kill counter to the supersonic SS-N-22 'Sunburn' ASM (Anti-Ship Missile) now entering the Chinese Navy. It also provides a means of defeating attacking aircraft armed with ASMs beyond their missile release point. Having the SM-2MR capability now is vital given that more than 75 countries now possess over 90 different types of ASMs. These three differences of the Kidds would have enabled the RAN to mount virtually any type of maritime operation required and in a safe and effective manner anywhere in the world.

CONCLUSION

Inside the RAN the battle over the Kidd offer was somewhat divisive. Many at the sharp end were in favour of acquisition but some 'dry docked Canberra Admiral's' opposed it. Industry is certainly worried as acquisition of the $120 million Kidds was seen as an alternative to the $1 billion FFG upgrade, as it was widely believed that four of the older FFGs would decommission to make way for the Kidds.

Although this may seem a waste of four FFGs which have served the RAN well one should consider that the FFGs were designed as disposable warships at the height of the cold war, with a life span of 23 years without major modification (USN figures). Given this philosophy it is not surprising that doubts about the RAN's earlier FFGs hull integrity are already starting to emerge. The Kidds however, are large 9,000 ton warships whose life expectancy is over 35 years, consequently they will last a lot longer than our FFGs despite the fact they were commissioned around the same time. This fact also means that a replacement will not be needed as soon thus affording a saving.

At this point one should question why the Kidds were rejected in favour of the FFG upgrade. For $1 billion the FFGs will gain another fire control radar, a short range air/surface search 3-D radar, a new combat data system, a new hull mounted ASW sonar, a mine avoidance sonar and an eight cell VLS for Evolved Sea Sparrow (Tenix proposal).

It is not receiving SM-2MR or any significant upgrade in its long-range radar coverage as compared to the Kidds. Nor will it receive the same C3 capabilities, the ASW potential, the NGS capability or the range, speed and survivability of the Kidds. Some of the more disappointing elements of the FFG 'upgrade' are the retention of the SM-1MR missile and no fleet wide C3 capabilities.

To add insult to injury both contenders propose fitting some equipment to the FFGs already found in the Kidds, but even the application of this technology, and the $1 billion, will not produce a warship anything near the Kidds. A potentially debilitating and frightening aspect of the 'upgrade' is that much of the new combat system, like the *Collins* class SSKs combat system, is untried and unproven. It is also rumoured that both proposals now exceed the $1 billion budget.

Detractors argued that the Kidd offer was another second hand junk sale. Nothing could have been further from the truth. Two of the Kidds have recently been laid up in reserve and the other two are still fully operational and deployed. But the stigma of second hand equipment is still somewhat strong based on the LST acquisition experience. However, it should be noted that *KANIMBLA* and *MANOORA*, regardless of their problems, still represent a significant capability enhancement and saving over new build ships. One should also remember that in the past the ADF has profited from second hand equipment such as the F-111Gs, HMAS *SHROPSHIRE, DUCHESS, SUPPLY, JERVIS BAY, GOLDSBOROUGH* to name just a few.

Criticism of the offer also includes the provision of through life support. The USN *Spruance* class destroyers are also being decommissioned early but for scrap. If the RAN had repeated the very successful *Goldsborough* exercise with two *Spruance* class cut up for Kidd spares then through life support could be achieved for as little as $10 million (remembering the virtually identical design of the two).

Another problem cited with Kidds were crew numbers as each ship's complement is approximately 350. As the DDG's crews have already been earmarked for Anzacs, crews would have to come from four decommissioned FFGs, *ADELAIDE, CANBERRA, SYDNEY, DARWIN*. As each FFG's complement is only 190 this leaves only 760 to fill a total complement of 1400. But some in the RAN suggested that a figure of 250 per Kidd could be achieved through modifications to the ship's weapons and sensors, such as replacing the two Mk-26 twin arm launchers with Mk-41 VLS, as on the improved Spruance which shares the Kidd's design. This would have reduced crew numbers and significantly improved the already impressive firepower of the Kidds.

One area that the $1 billion from the FFG 'upgrade' could have been re-directed

The aft Mk-26 twin arm launchers for the Standard SM-2MR. As ASROC has been withdrawn this leaves the class with a missile load of 68 Standards.

into was improving the Kidds even further and investing in a new program still currently underway in the USN. The 'Smart Ship' project is investigating ways of reducing manpower onboard ships which in turn produces significant financial savings, approximately US$2.8 million p.a. per ship for a one-off US$8 million investment.

The US study team's initial findings were that crew reductions could be made based on greater use of internal communications, bridge and watch manning policy changes, increased use of GPS and digital charts, a self monitoring condition assessment system and a computerised damage control facility. The report on the program stated that *"the smart ship initiative was a success and can provide a significant return on a modest investment in technology"*, and that the program can produce *"long term benefits of positive crew moral and increased retention of quality personnel"*. Recently, as part of this program the Ticonderoga cruiser *YORKTOWN* went to sea to demonstrate the concept and was certified combat ready, operational and safe with 50 enlisted and four officers less.

Initial elements of this new program are already being integrated into all USN ships and submarines. The question the RAN should have asked itself was, if these modest changes were applied to a modified Kidd of 250 personnel how many would then be required to crew? Possibly 200 or the same as an FFG?

In 1961 the RAN took a bold step and acquired the Charles F. Adams class DDG. At the time these were the first US made ships in the RAN. Logistically the fleet would be under some pressure as up until this point the fleet was comprised of British made ships and equipment. All the equipment on the DDG would be exclusive to them thus requiring an expansion of the fleet's logistic system. However, this did not influence the decision. The ships were assessed on their merits. However, today the RAN is different. Some of the uncommon equipment of the Kidds was cited as placing too much strain on the fleet's logistic system. However, I would point out that if the Kidds had been introduced the older DDGs could have been retired immediately thus making way for the one-off equipment of the Kidds by taking the place of the greater number of one-offs of the remaining DDGs. Remembering that the Kidds are significantly more common to the FFG and Anzac than the DDGs.

It is unfortunate that our bureaucracy and force structure is so rigid and inflexible that an opportunity like the Kidd offer cannot be given the attention it deserves. A senior Admiral has publicly stated that Navy did not bother to investigate the offer (also evidenced by their inaccurate criticisms) given the plans in place for the current force structure. It is also regrettable that some would prefer to invest a billion dollars in a somewhat pointless 'upgrade' on six frigates instead of $120 million in four recently updated operational destroyers. This is particularly poignant given that the RAN is currently at its lowest ebb in living memory and is set to get worse.

One of the impressive features of this class is its SPS-48E 3D air search radar with a range of 402 km. Below it is the SPG-60 fire control radar for the Mk-45 127 mm naval guns.

The bow of an improved Spruance class destroyer showing its 62 cell Mk-41 VLS. As the Kidd class shares the same design they could also be modified with the VLS to improve the ships firepower and reduce the number of crew.

The three DDGs will start to decommission next year without replacement, at least one FFG will be in major refit and modernisation each year and the Anzac WIP will not provide a deployable ship for nearly eight years. Matters are made worse by the fact that Collins is well behind schedule.

With two Indian Ocean powers sabre rattling with nuclear weapons and ballistic missiles to deliver them, it would have made sense to have four of the worlds most powerful destroyers inserted into an order of battle of an island nation sharing that same ocean. It would have also made sense to include the Kidds into the RAN now as any future DDG replacement under project SEA 1400 will be nowhere near the capability of the Kidds and cost an astronomical amount. It will also come at a time of incredible stress for the ADF due to block obsolescence in the RAAF, Army and RAN.

As mentioned the *Kidd* class destroyer offer was rejected. The FFG 'upgrade' is less of a capability enhancement as a $1 billion Ministerial confidence investment in industry. When the history of the RAN is re-written the Kidd offer will end up as a footnote. But it was more than that. It represented one of the greatest opportunities presented to the RAN to once again become a credible world maritime power. History will record this missed opportunity as the greatest strategic blunder since the loss of the carrier *MELBOURNE*. So much for the Strategic Review.

OCEANS GOVERNANCE AND MARITIME STRATEGY

The latest seminar in the biennial series run by the RAN's Maritime Studies Centre in conjunction with the University of Wollongong's Centre for Maritime Policy and Tenix Defence Systems, (formerly Transfield), took place in Canberra from 18 to 19 May 1998. The subject was *Oceans Governance and Maritime Strategy* and the seminar attracted a wide audience from Australia and the Asia Pacific region.

Overseas speakers, mainly from Universities, represented China, the USA, Korea and Samoa, while addresses were also given by local authorities from the Universities of Wollongong and Tasmania, the Department of Defence, the RAN, the CSIRO Maritime Research Division, the ANU Strategic and Defence Studies Centre, the Attorney General's Department, the East-West Centre, Environment Australia, the HQ Australian Defence Force, the Bureau of Resource Sciences and Tenix Defence Systems.

The keynote address was given by Professor Ed Miles of the University of Washington who opined that the Law of the Sea Conference, which took 10 years to negotiate, represented the best balance between competing approaches the world was likely to achieve, and that we must make it work. Many countries including his own had failed to satisfy the Law of the Sea and this was a concern, not least in view of the huge claims of such countries as China (most of the South China Seas) and Chile (in the South-East Pacific Ocean). There was some conflict between the Law of the Sea and certain local agreements such as the Antarctic Treaty. This latter banned mining below 600 S but the new Law of the Sea allows deep ocean bed mining.

Commander Dick Sherwood, the Director General Maritime Studies Program, followed Professor Miles with a succinct historical outline of the development of Oceans Governance from the times of Ancient Greece, and its impact on Maritime Strategy including the growing legal limitations on naval mobility. He concluded with a thoughtful quote from Professor D F O'Connell's work on *The International Law of the Sea:*

The History of the law of the sea has been dominated by a central and persistent theme: the competition between the exercise of government authority over the sea and the idea of freedom of the seas. The tension between these has waxed and waned through the centuries, and has reflected the political, strategic and economic circumstances of each particular age. When one or two great commercial powers have been dominant or have achieved parity of power, the emphasis in practice has lain upon the liberty of navigation and the immunity of shipping from local control; in such ages the seas have been viewed more as strategic than as economic areas of competition. When, on the other hand, great powers have been in decline or have been unable to impose their wills upon smaller States, or when an equilibrium of power has been attained between a multiplicity of States, the emphasis has lain upon the protection and preservation of maritime resources, and consequently upon the assertion of local authority over the sea.

Professor Choon Kun Lee of the Korean Institute for Maritime Strategy spoke on *Sea Power and Security at the Close of the 20th century.* Korea has now established a Ministry of Maritime Affairs and wishes to become a leader in the diplomatic field covering Oceans Governance in her local area. He oudined the concerns now felt in East Asia, particularly since the end of the cold war. Oceans Governance was less effective now than in previous centuries. US hegemony was now not as great as that wielded by the Portuguese, Spanish, Dutch and British before her. US Strategy seems to have changed, with a massive reduction of the US Navy and its resulting East Asian presence. There was now doubt as to its capacity to govern the oceans. Asian countries now worry over the security of the sea lines of communication. There has been a 39% increase in spending on Navies and Air Forces in East Asia since the end of the cold war. With no land threat from the Soviets, China was now moving towards becoming a maritime power. There was also concern in Korea over Japan and her ocean claims.

The Director of the Chinese Institute for Strategic Studies in Shanghai, Professor Ji Guoxing, emphasising he was presenting his own views, oudined the problem of the world's growing population and scarcity of resources. He felt maritime co-operation could act as a catalyst and a bridge for security co-operation. There was a trend to an irreversible increase in naval power in East Asia and a lack of political will to solve the growing arguments between East Asian countries over disputed islands and Exclusive Economic Zones. There needed to be a resolution of maritime claims, and agreements on dealing with incidents as they arose. China had huge maritime interests. 25% of her oil and gas was offshore; within 12 years, 10% of her GDP would come from fishing. China was developing her Oceans Policy.

RADM Chris Oxenbould, the RAN's Deputy Chief of Navy, outlined the extensive Regional Security Co-operation between Australia and East and SE Asian countries and the nations of the South Pacific in many fields of naval and air activities. He felt that this contributed to stability in the areas concerned. Possible improvements might include concentrating on greater interoperability of forces, more warfighting exercises such as Mine Counter Measures, increased training, exercises with Asean naval forces involving Maritime Patrol aircraft and inter-action with submarines. There was also some further potential for pooling some efforts with New Zealand.

Dr Rosemary Balkin of the Attorney General's Department spoke on *Responsibilities and Obligations under Intentional Law* and oudined the various Laws and Conventions to which Australia is now committed, including the London Dumping Convention regulating dumping at sea, the Basle Convention on transboundary movement of wastes; the Marpoll Convention on Maritime Pollution; the Intervention Convention on Coastal States intervening on the high seas in the case of accidents causing pollution; and the Convention on Oil Pollution.

Dr Marcus Howard of the University of Tasmania outlined outstanding issues with *Regimes for Oceans Governance*, stating that time was required for implementation and there was a need for the harmonising of national laws in a whole range of subjects.

In covering Maritime Environment Security, Mr Alan Dupont of the Strategic Defence Studies Centre Canberra, outlined the major impact on the seas deriving from the great population growth of Asia, concentrated mostly in coastal areas. 80% of sea pollution came from the land and there were increasing problems of human and industrial waste, oil pollution, radio-active waste pollution and the degradation of land and coastal areas. The capacity for fishing now far exceeds the biological replacement of fish. The world fishing take was therefore falling, and some fisheries had already been almost destroyed. Hunger for various types of resources increases the prominence of maritime disputes.

Dr Mark Valencia of the East-West Centre emphasised the energy vulnerability of a number of Asian nations and their growing dependence on energy from ocean areas. Competition could exacerbate maritime problems. The East China Sea was the last low latitude area in the world not yet explored, and there were overlapping claims. 85% of Japan's energy was imported. Requirements for energy by China, Korea and ASEAN states were increasing at a major rate. Problems were arising all over E and SE Asia due to overlapping claims in the offshore areas. Problem areas included the Spratley Islands, the South China Sea, the Gulf of Tonkin, the Takeshima/Tokdo Islands involving Japan, South and North Korea; the Senkaku/Dia O'yu Islands and the Okinawa Trench/Continental shelf disputes between Japan and China. One solution might be joint development in some areas, as arranged in the agreement between Australia and Indonesia over the Timor Sea. However, there did not appear to be the political will for a solution of the East Asia disputes.

Other speakers covered fisheries and highly migratory fish species, pollution, dumping and Maritime accidents; jurisdictional issues for navies; SW Pacific Regional Co-operation; and Oceanography and Hydrography.

There is now a complex array of law developed since the UN Conference on Law of the Sea 1982. This brought with it new challenges for navies in policing the High Seas with limited resources. During the coming century there would be an increasing need to control activities on the High Seas beyond normal national jurisdiction. Some recent regimes changing the ancient Freedom of the High Seas concept include:-

- the 1988 Vienna Convention on drugs which allows boarding of ships beyond the 12 nautical mile Territorial Sea
- the Rome Convention on Maritime Terrorism
- the HMS and Straddling Stocks (fisheries) Agreement which allows boarding in International Waters
- the CCAMLR covering the Antarctic in which there are no enforcement arrangements
- the IMO Marine Environmental Convention

So far there has been little co-ordination internationally on such matters as Piracy, the Slave Trade and Stateless Vessels.

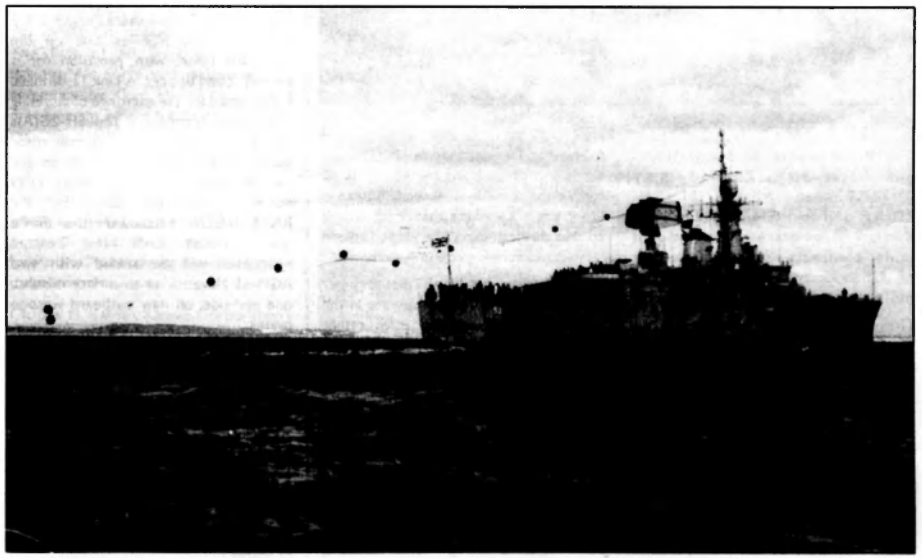
However, the United Nations is currently reviewing whether conventions could be developed on Deep Sea Bed Mining, Marine Protected Areas and Refugee Flows.

Clearly there are huge changes in activities and responsibilities taking place in the ocean areas around us. The pressures created by the population explosion, advances in technology, the demand for food and minerals and changes in international law are making it of growing importance that we in Australia look to our ocean frontiers. We now have responsibility for one of the world's largest exclusive economic zones, stretching 200 nautical miles from our coasts and island territories, together with the adjacent continental shelf.

During the conference it was announced that the Government was about to launch an issues paper for public comment on *Australia's Oceans Policy*. The policies contained in this document will be of considerable importance to our future as "the nation at the centre of the world's oceans". Whatever the content, it seems quite clear that we will have to devote increased resources to surveillance, and to enforcement of our own and international laws in the areas for which we hold responsibility.

RADM A J Robertson AO DSC RAN (Rtd).

Federal Vice-President Navy League of Australia.



HMAS TORRENS; 1971 to 1998, 832,796 nautical miles; 61,590 hours underway. BZ.

SUPER SEASPRITE

Close up of a Kaman Sea Sprite. (Kaman)

The Royal Australian Navy (RAN) and Royal New Zealand Navy (RNZN) have ordered 11 SH-2G(A)s and four SH-2G(NZ)s from Kaman Aerospace International under contracts valued at in excess of US$600 million and US$185 million respectively.

The SH-2G Super Seasprite is an upgraded derivative of the earlier SH-2F model, with power provided via twin General Electric T700-401 engines. The SH-2G has been operated by the US Naval Reserve since February 1993 with two squadrons with 14 aircraft each, one each stationed on the east and west coasts. These helicopters carry a Litton Canada LN-66 surveillance radar and ASN-150 tactical navigation system, plus an anti-submarine warfare (ASW) suite of sonobuoys, magnetic-anomaly detector, Computing Devices Canada AN/UYS-503 acoustic processor and Mk 46 or Mk 50 lightweight torpedoes. As well, Kaman is fitting kits in six of the east coast aircraft so that they can carry the Magic Lantern laser-based mine-detection system.

The Australian and New Zealand Super Seasprites are planned to operate in the surveillance and anti-ship roles rather than for ASW (using only two crew). The RAN's Super Seasprites have been acquired under Project Sea 1411, like those for Egypt, use refurbished ex-US Navy airframes taken from desert storage in Arizona. Deliveries of the 11 aircraft under firm contract are due to span from September 2000 to mid 2002, to equip the *ANZAC* class frigates, while New Zealand has elected to procure newly built aircraft, using some existing components, for delivery from June 2000. They will fly from *ANZAC* and *Leander* class frigates.

Both the RAN and RNZN have selected the Telephonics AN/APS-143 PC radar, which will incorporate an inverse synthetic-aperture radar (ISAR) mode in the case of the Australian aircraft, but the remainder of the sensor, avionics, and weapon fit differs.

Each SH-2G(A) will carry a Litton Guidance & Control Systems Integrated Tactical Avionics System (ITAS), with four colour multi-function displays, and an automatic flight-control system. Dual Litton LN-100G ring-laser-gyro inertial navigation systems, each featuring a Global Positioning System (GPS) receiver, replace the earlier Doppler radar.

Australia has chosen the Hughes Aircraft AN/AAQ-16 turret-mounted forward-looking infrared set (FLIR), operating in the 3-5 mm band, to provide the required range when operating in the hot and humid conditions encountered around Australia's northern coast. This is a variant of the unit that Hughes is supplying for the V-22 tilt-rotor program in the US, with three (rather than two) fields of view. Elisra is supplying its AES-210 electronic support measures (ESM) suite, which additionally manages operation of the Israeli company's LWS-20 laser warner, Northrop Grumman AN/AAR-54 missile approach warner, and AN/ALE-47 countermeasures dispensing system.

The SH-2G(A) model helicopter will be armed with two Kongsberg Penguin Mk 2 Mod7 anti-ship missiles, one on the starboard pylon, with provision for a second round to port. A Link 11 terminal will be fitted for the exchange of targeting and other information. The SH-2G(A)s will be fitted with a composite main rotor blade (CMRB2) with a 15,000h fatigue life, developed by Kaman under USN contract. Across the Tasman Sea, the RNZN selected a standard rather than a 'glass' cockpit. Each New Zealand helicopter will be armed with two AGM-65 Maverick air-to-surface missiles, one per side, on new outboard weapon pylons.

As an interim measure the RNZN also ordered four ex-USN SH-2Fs as interim replacements for the aging Westland Wasps, until the newer Super Seasprites are delivered. The first F model arrived in late 1997 with flight trials from February, 1998 and first shipboard deployment, aboard *TE KAHA* planned for June. After the delivery of the SH-2G(A)s, the older SH-2Fs will provide a source of spares.

The RNZN is expected to buy another single Super Seasprite to operate from additional platforms, with the RAN having options to increase its SH-2G(A) fleet with the commissioning of new helicopter equipped ships. Kaman has also proposed a land-based version, to carry up to eight fully armed troops for an Army reconnaissance and fire-support helicopter for use in the north of the country. The Department of Defence is expected to issue an invitation to register interest in June, with a request for tenders in June 1999. Contract award is planned for July 2000, with deliveries from January 2003.

A helicopter designed over 40 years ago is being remanufactured into a 21st-century fighting machine for several foreign navies. Kaman Aerospace Corporation's long-lived H-2 Seasprite, in its SH-2G Super Seasprite configuration, has been rescued from a well-deserved retirement by aggressive Kaman marketing and new avionic technologies that have transformed the shipboard helicopter into an even more formidable extension of a ship's combat systems. The Egyptian Air Force and the Australian and New Zealand Navies all have contracted with Kaman for remanufactured SH-2s, and the navies of several other nations are considering purchases of the Super Seasprite.

Kaman's first SH-2 for an overseas customer rolled out of the company's Bloomfield, Conn., plant on 21 October. The first of 10 SH-2G(E)s for the Egyptian Air Force was welcomed in a ceremony by Gen. Hazim Awad, chief procurement officer for Egypt, who said that the SH-2G(E) "adds an important new dimension to my country's ability to defend its coastal waters." He gave special praise to the SH-2's anti-submarine warfare (ASW) system. "This is an outstanding aircraft and we are looking forward to its becoming a part of Egypt's defense system."

Charles H. Kaman, Kaman Corporation's chairman and CEO, called the rollout "a milestone event for the SH-2G Super Seasprite as it marks the beginning of its new mission in international military service. We are very proud to have Egypt as the lead international customer for the SH-2G and we look forward to supporting this aircraft for the life of the program." The value of the Egyptian program to Kaman is more than $150 million for the aircraft and support services.

THE LONG-LIVED SEASPRITE

Kaman's Seasprite first flew in July 1959. By the end of 1965, the U.S. Navy had received 190 single-engine UH-2A/B utility and rescue models, most of which were upgraded during the late 1960s and 1970s with a second General Electric-built T58 turboshaft engine, an uprated transmission, and a four-blade rotor. The second engine gave the HH-2C, HH-2D, YSH-2E, SH-2D, and SH-2F conversions substantially increased load-capability and survivability.

The advent of the light airborne multipurpose system (LAMPS) during the late 1960s changed life forever for the Seasprite. The LAMPS, a successor to the less-than-successful QH-50 drone anti-submarine helicopter (DASH), centered around the use of a light helicopter to extend the horizon of a warship's sensors and weapons. The idea behind the LAMPS concept was to use the Seasprite to track submarines and attack them with torpedoes, and, in the anti-ship missile-defense role, to provide warning of cruise missile attack. The helicopter's yeoman usefulness in the rescue and utility roles remained, of course, and the LAMPS concept took off.

After concept trials with HH-2D conversions, the Navy selected the Seasprite in October 1970 as the LAMPS Mk I. Twenty H-2s were converted to SH-2Ds, equipped with sonobuoys, Mk46 torpedoes, a search radar, an active sonar repeater, a UHF acoustic data-relay transmitter, and an electronic surveillance measures (ESM) receiver.

In March 1971, the Navy committed almost all of its remaining Seasprites to the LAMPS Mk I program. The SH-2F version – with a more powerful upgrade of the T58, the improved Kaman 101 rotor, a towed magnetic anomaly detector (MAD), avionics upgrades, and a tailwheel moved forward (to facilitate flight operations from smaller decks) – long reigned as the standard LAMPS Mk I aircraft, eventually equipping six fleet and three reserve squadrons. A total of 104 Seasprites, including 16 of the SH-2Ds, were converted to SH-2Fs.

The introduction of the Sikorsky-built SH-60B Seahawk (LAMPS Mk III) in

First RNZN SH-2F Sea Sprite above Auckland city. (RNZN)

1983 apparently marked the beginning of the end of the SH-2, but the relatively diminutive size of the SH-2 ensured its longevity as long as the Navy retained the *Knox* class (and earlier) frigates, and the short-hull Oliver Hazard *Perry* class guided-missile frigates. The naval buildup of the 1980s kept the demand for LAMPS helicopters high; to meet that demand and replace attrition, the Navy ordered the Seasprite back into production after a 16-year hiatus, a rare occurrence in aviation history. Starting in fiscal year 1982, Kaman built 54 new-construction SH-2Fs for the Navy. In 1987, to improve survivability in the volatile Persian Gulf region, many Seasprites were upgraded with ALQ-144 infrared countermeasures equipment. AAQ-16 forward-looking infrared (FLIR) sets, ALE-39 chaff and flare dispensers, and M60 7.62 mm machine guns.

AN END AND A BEGINNING

Following trials of the YSH-2G, the Navy ordered six new SH-2G Super Seasprites, powered by two General Electric-built T700-GE-401 engines. The SH-2G featured a dramatically expanded capability over the SH-2F, made possible by a 99-channel Computing Devices-built UYS-503 acoustic processor, a Litton-built ARN-150 tactical navigation system, a Mil-Std 1553 data bus, and an auxiliary power unit. However, the end of the cold war led to cancellation of plans to remanufacture about 115 SH-2Fs to SH-2Gs; ultimately, only 18 such conversions were completed. The rapid retirement of the six fleet SH-2F squadrons – and one of the three reserve SH-2F squadrons – during the early 1990s accompanied the withdrawal of *Knox* class and short-hull *Perry* class frigates. The SH-2G never entered service with the Navy's active-duty forces, but replaced the SH-2Fs in the two remaining reserve light anti-submarine helicopter squadrons (HSL-84 and HSL-94).

The process of turning an SH-2F into an SH-2G is not a mere airframe refurbishment and systems upgrade; it requires a complete stripping of the airframe and remanufacture of components that need replacement. New engines are installed, moving parts are restored or replaced as needed, and obsolete wiring is removed. Modular terminals for new avionics systems also are installed.

United States Navy SH-2F Sea Sprite. (Kaman)

The Seasprite had never served in a foreign air arm. The proposed sale of five SH-2Fs to Portugal in 1990 did not go through. A 1994 Foreign Military Sales plan to provide Turkey 14 SH-2Fs for use on board its *Knox* class frigates was put on hold by Congress because of tensions between Turkey and Greece. The U.S. Naval Reserve SH-2Gs soldiered on, though, and occasionally were deployed to interdict drug runners. The Kaman-built Magic Lantern minehunting laser system, tested on board an SH-2F during the Gulf War, became fully operational this year after two sets were delivered to one of the reserve squadrons, HSL-94 at Naval Air Station Willow Grove, Pa.

The fact that the Sikorsky SH-60 Seahawk (or its S-70 equivalent) had been sold to several foreign navies did not deter Kaman, which saw new opportunities for the Super Seasprite, which can operate from ship's helopads that are too small for the larger SH-60/S-70. The availability of small anti-shipping missiles gave new potency to light helicopters, and the increasing miniaturization of avionics made possible a lightweight dipping sonar, the Allied Signal Ocean System's ASQ-18A, that the small SH-2 could handle.

Half a decade after Super Seasprite production ceased, Kaman entered foreign competitions for shipboard helicopters. In 1996 and 1997, its marketing efforts paid off with orders for remanufactured Seasprites from Egypt, Australia, and New Zealand.

EGYPTIAN AIR FORCE – DEEP-DIPPING SONAR

Kaman's first foreign model, the SH-2G(E), is the first and, as of late November, 1997, was the only version of the Super Seasprite planned to be fitted with the 1,500-foot-depth ASQ-18A dipping sonar instead of a sonobuoy dispenser. A U.S. Navy SH-2G was used as an evaluation platform for a new digital hover coupler designed by Kaman. The Vista Controls-built coupler (automatic stabilization equipment, or ASE) was tested at the Naval Air Warfare Center Aircraft Division at Patuxent River, Md., to evaluate its capability in automatic approach, hover, sonar cable-angle hold, and departure. The ASE reduces pilot workload, enables the helicopter to launch torpedoes while in a hover, and provides a night automatic hover capability. Like the U.S. Navy SH-2Gs, the Egyptian versions are operated by three crew members: two pilots and a sensor operator.

The 10 SH-2G(E)s purchased by Cairo were delivered to the Egyptian Air Force at a rate of one per month through July 1998. The first three are temporarily based in Pensacola, Fla., for crew training; actual deliveries to Egypt began in April 1998. The Egyptian Air Force will deploy its Super Seasprites on board the Egyptian Navy's *Knox* class frigates Damyat and Rasheed and Oliver Hazard *Perry* class guided-missile frigates Mubarak and Taba. (Egypt is expected to acquire two more *Perry* class ships and two more *Knox* class ships.)

RNZN – DELIVERY IN 2000

Last year, Kaman Aerospace International Corp. announced a contract to provide four SH-2G(NZ) Super Seasprites to the Royal New Zealand Navy (RNZN). Deliveries are expected to begin in 2000 to replace four SH-2Fs that Kaman will deliver to the RNZN to serve as interim replacements for the Westland-built Wasp ASW helicopters on board the RNZN's *Leander* class frigates and new Meko 200 *ANZAC* class frigates.

The RNZN plans to operate the SH-2G(NZ) with a two-man crew, a pilot and a tactical coordinator (TACCO). The SH-2G(NZ) version will be configured to fire the AGM-65 Maverick air-to-surface missile. Test-firings of the optically guided Maverick were conducted from a U.S. Navy SH-2G in February 1996, but New Zealand will employ the infrared version from its SH-2G(NZ)s. The New Zealand Government has chosen the AAQ-2 FLIR and LR-100 ESM systems for the SH-2G(NZ)s, which will be capable of recovery on board ship using the Harpoon decklock system.

The $185 million Super Seasprite contract with New Zealand includes costs for spare parts, missiles, and training. Teaming with Kaman to support the New Zealand and Australian contracts are Safe Air Ltd. (New Zealand); Litton Guidance & Control and GE Aircraft Engines (United States); and Transfield Defence Systems, CSC Australia Pty. Ltd., and Scientific Management Associates (Australia). On 5 November, Telephonics (Farmingdale, N.Y.) was awarded a contract from Kaman for the APS-143B(v)3 sea-surveillance radar (with inverse synthetic-aperture radar capability) to be used on the New Zealand and Australian Super Seasprites.

Delivery of the first SH-2G(NZ) is expected in June 2000. The New Zealand Defense Force and Kaman Aerospace International have completed reactivating the second of four Kaman SH-2F Seasprite helicopters, which will serve on an interim basis until the year 2000, when they will be replaced by more advanced SH-2G Super Seasprites.

The first two aircraft are being used for training pilots and ground crews of the Royal New Zealand Navy (RNZN) for the advanced "G" version. These aircraft will be used for "first of class trials" on the RNZN's new *ANZAC* class frigate *TE KAHA*, after which they will continue in an operational status.

The SH-2Fs were obtained from the United States, where they had been in desert storage. In New Zealand, the aircraft each undergo intensive "nose to tail" reactivation to bring them back to operating standards. Reactivation of all four SH-2Fs was scheduled to be completed in the August-September timeframe.

The SH-2F can be used in both Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW), Search and Rescue, as well as for carrying up to 4,000 pounds of external cargo. It carries a crew of three – pilot, observer and sensor operator.

AUSTRALIA – "GLASS COCKPIT" UPGRADE

Kaman Aerospace International Corp. also announced a $600 million contract to provide eleven SH-2G(A) Super Seasprites, as well as 10 years of training, technical, and spares support, to the Royal Australian Navy (RAN). The SH-2G(A)s, scheduled for delivery between early 2001 and mid-2002, will operate from the RAN's eight Meko 200 *ANZAC* class frigates currently entering service and, according to Kaman officials, "will be able to operate from any helicopter-capable ship – large or small – in the Australian Navy and will be interoperable with their allies' ships." The SH-2G(A) can recover on board ship using a recovery-assist traverse (RAST) system.

Like the RNZN version of the Super Seasprite, the Australian version will operate with a two-man crew. Instead of the Maverick, Australia chose the AGM-119B Penguin Mk2 Mod 7 anti-shipping missile to arm its Super Seasprites. The SH-2G(A)s will be equipped with the Litton Guidance & Control Systems-built Integrated Avionics System (ITAS), a "glass cockpit" that, according to Kaman officials, will make the SH-2G(A) the "most sophisticated, most integrated rotary-wing platform flying." Australia selected the AAQ-16 FLIR and AES-210 ESM systems for the SH-2G(A), which will feature rotor blades built of composite material. Delivery of the first SH-2G(A) is scheduled for September 2000.

TECHNICAL

Fitted with two General Electric T-700 engines (similar to those fitted in the RAN's Seahawk helicopters) the Super Seasprite will be an extremely capable and flexible helicopter in its normal operating configuration. The principal characteristics and capabilities of the SH-2G(A) Super Seasprite in summary are:

- Maximum All Up Weight *(MAUW)* 6,166kg
- Maximum Take Off Weight *(MTOW)* 6,123kg
- Useful Load 1,823kg
- Cabin Volume 5.3cu m
- Rescue Hoist Load Capacity 272kg
- Range About 680km
- Endurance About 3.8 hours
- Maximum Speed About 140 knots

Following delivery and introduction into service, the helicopters will be largely supported by a purpose designed and constructed Support Centre located close to the Nowra Naval Air Station. The Centre will provide a wide range of technical and logistics services, manage the repair and overhaul of engines, major components and avionics equipments and will warehouse the majority of helicopter spares. In addition the Super Seasprite Flight Simulator and the Software Support Facility will both be located at the Centre. The technical, logistics, training and software upkeep services will be conducted by industry with only a small Defence personnel presence. Such arrangements, which are consistent with the ongoing Commercial Support Program initiatives, represent a new way of supporting naval aviation and are expected to provide increased helicopter availability at a reduced cost.

A contract for the helicopters and supporting infrastructure was signed on 26th of June 1997. The first four helicopters will be fully assembled in the USA with the remaining helicopters being largely assembled at the Nowra Naval Air Station. The first of the Super Seasprites is planned for delivery during the first half of 2001 with all deliveries completed by mid 2002.

NAVY WEEK 98 – SYDNEY

PROGRAMME OF OPEN DAY, SUNDAY 11 OCTOBER, 1998

Time Activity

1000 Fleet Base Opens, Cowper Wharf Road, Woolloomooloo
HMA Ships Open for Inspection:
- Logistic Landing Ship HMAS *TOBRUK*
- Guided Missile Frigate HMAS *MELBOURNE*
- Guided Missile Destroyer HMAS *PERTH*
- Guided Missile Frigate HMAS *NEWCASTLE*
(with continuous 'huge' Navy video wall and photographic exhibitions)
- HMA Submarine *ONSLOW*
- Fleet Oiler HMAS *SUCCESS*
- To celebrate the 50th anniversary of the Fleet Air Arm, four Naval helicopters available for inspection on wharfside including: Sea King, Seahawk, Squirrel and 206B-1.
- Australian Naval Aviation Museum display opens

1000 Shoreside displays open, including:
- Task Force 72 model warships
- National Flags
- Defence recruiting van
- Naval Historical Collection display
- Australian Naval Aviation Museum
- Photographic Displays
- Naval Reserve Cadets
- Fleet Gymnasium

1100 Navy Band performance

1130 Diver display in Woolloomooloo Bay

1300 Navy Band performance

1400 Diver display in Woolloomooloo Bay

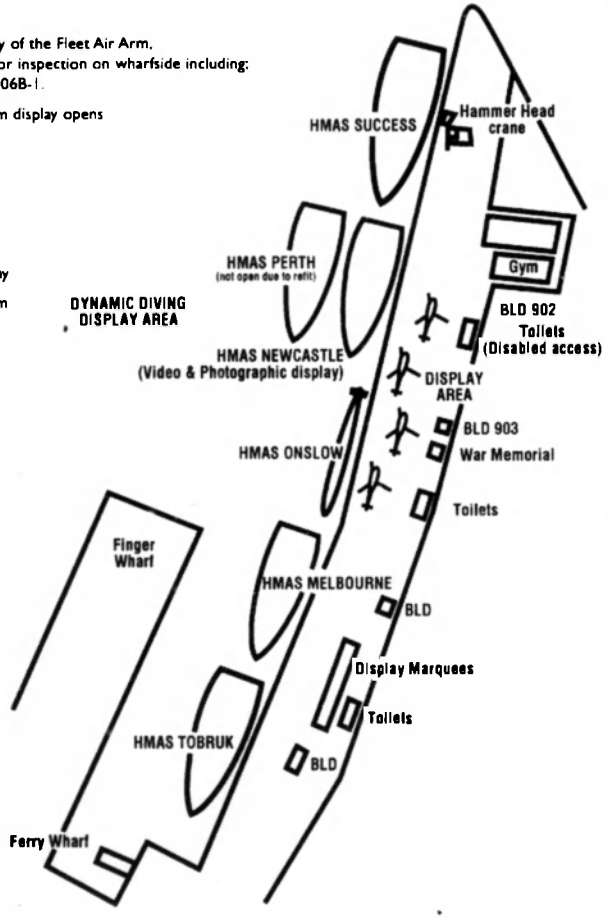
1530 Ceremonial Sunset performed by the Naval Guard and Band

1600 Ships' gangways close to visitors

1630 Last visitors off ships

1700 Fleet Base closes

(Please note: This programme may alter subject to ships' availability)



NAVAL REVIEW – THE PHILIPPINES

BRP (Ship of the Republic of the Philippines) RAJAH HUMABON was originally built for the United States Navy in 1943. She commissioned as the USS ATHERTON (DE 169) and after service with the Japanese Maritime Self Defence Force was transferred to the Philippines in 1978. Although stricken in 1993, RAJAH HUMABON was restored to operational service. The 55-year-old patrol ship (PS) is expected to remain active until the early 21st century. (Brian Morrison)

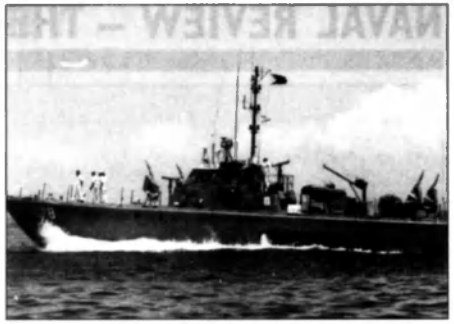
The former USN Auk class minesweeper RIZAL (PS74), built for operations in the Second World War and transferred to the Philippines in 1965. Stricken in 1994, the patrol ship was refitted and returned to service from January, 1996. She is crewed by 100 personnel. The ship is armed with two 76 mm guns and four 40 mm, four 20 mm and two 12.7 mm guns. (Brian Morrison)

Auk class patrol ship QUEZON during the 1998 Naval Review. The two twin 40 mm guns are visible above the aft 76 mm gun. All of the original anti-submarine weapons have been removed during the 1995-96 refit. (Brian Morrison)

Another view (port bow) of the RAJAH HUMABON at the 1998 Naval Review. Her main armament comprises three single 76 mm dual purpose guns. (Brian Morrison)

Fine broadside of the Auk class vessel RIZAL. This 53-year-old ship is one of ten Second World War vessels (one frigate, nine minesweepers) currently forming the PS force. (John Mortimer)

BRP EMILIK JACINTO, the former Royal Navy Peacock class patrol vessel, transferred by sale in April, 1997. Built as HMS PEACOCK in 1983, the ship operated with her sister ships as part of the Hong Kong squadron, until the handover of the colony to mainland China in June, 1997. (Brian Morrisan)



One of the recent 78 foot class patrol boats in service with the Navy. PG378 HILARIO RUIZ was completed in 1995, as one of 24 units accepted between 1990 and 1998. The 56.4 ton vessel is manned by ten crew and carries four 12.7 mm machine guns and two 7.62 mm machine guns. (John Mortimer)

The old and the new. A former Royal Navy Peacock class moves swiftly towards two of the older patrol ships. (Brian Morrisan)

Vehicle landing ship BACOLOD CITY, in commission since December, 1993. Based on an Australian designed roll-on/roll-off beachable cargo ship, the two Filipino ships (sister DAGUPAN CITY) were built in the USA as members of the US Army Frank S. Besson class. (John Mortimer)

Coast Guard Swift Mk III type patrol boat. This ex USN craft was built in the mid 1970s. Mountings for the two 12.7 mm machine guns are fitted forward of the bridge. (John Mortimer)

Starboard quarter view of BACOLOD CITY in 1998. A helicopter platform is fitted aft for operations of light helo types. Both class members can carry 150 troops. (Brian Morrison)

SAVING THE MIDWAY

On 1 July, 1998 the U.S. Navy officially announced its intention to award the decommissioned USS MIDWAY aircraft carrier to the San Diego Aircraft Carrier Museum (SDACM).

In a letter to SDACM's president, Alan Uke, Assistant Secretary of the Navy John W. Douglass said delivery of the historic ship from Bremerton, Wash. is confirmed, upon completion of five conditions. *MIDWAY* organisers expected all of the conditions being met.

A group of community leaders and elected officials have been working for more than five years to moor the *MIDWAY* at Navy Pier 11A in San Diego Bay as a tribute to the armed services and as San Diego's first new, major visitor attraction since the Wild Animal Park opened a quarter century ago.

The Navy notification accelerates the momentum for the project. *MIDWAY* organisers have raised more than $1.5 million from San Diegans and are well into their second phase of fundraising. The Port District's advisory North Embarcadero Planning Alliance is nearing completion of a master plan that includes the *MIDWAY* at Navy Pier 11A as a cornerstone of the long-term vision. The plan is expected to be forwarded to the Port District for formal consideration by October.

"The inclusion of the *MIDWAY* as the anchor of the North Embarcadero, minutes away from a soon-to-be-expanded convention centre, is a vital cog in our city's tourism industry," noted San Diego Convention & Visitors Bureau President Reint Reinders.

Meanwhile, museum organisers expect to meet the conditions contained in Douglass' letter in the near future.

Said Uke, "We have been working closely with the Navy for five years. This official notification confirms that we can be confident that *MIDWAY* will be coming to San Diego for her final tour of duty."

The Navy requires evidence of "firm financing" for the project. SDACM's Vince Benstead and others have been meeting with local banks to establish a consortium of local lenders to finance approximately $3 million for the project's opening phase. From the beginning, *MIDWAY* organisers have adamantly insisted the project would not involve taxpayer funds.

The Navy also wants to be assured a permanent mooring site based on Port District support and completion of an Environmental Impact Report (EIR). Late last year, the Port gave its conceptual approval of the project at Navy Pier 11A, subject to completion of an EIR, the development of which is underway.

In response to another Navy condition, project officials are developing a specific maintenance plan – including staff monitoring, encapsulation, cleaning, sealing and removal techniques – to be approved by the Environmental Protection Agency and become part of the environmental impact report.

The Navy's requirement for adequate insurance is being met through companies that specialise in museum insurance coverage.

Finally, the United States Navy will require a lease for use of Pier 11A, already developed and under review. Equally important, two-thirds of the warehouse on Navy Pier has been removed, creating approximately 400 parking spaces for use by *MIDWAY* visitors and others.

"We appreciate your efforts to preserve and honor ex-*MIDWAY* and look forward to working with you over the coming months to fulfill all requirements to finalise the donation of this historic vessel," said Douglass.

The association's year-long study found a sound and conservative financing plan which should result in a successful, self-supporting museum for San Diego. The costs of mooring and refurbishing the *MIDWAY* Museum will be borne by a $3 million bank loan, $1 million in donations as well as future surplus revenues from the museum. The carrier museum will be moored to the old Navy pier just south of the Broadway pier

MIDWAY Magic's fund-raising campaign passed the $1.5 million mark in 1997. More than 40 San Diego individuals and organisations have contributed $25,000 each to the *MIDWAY* Project to become "Plank Owners." The second phase of fund-raising, the "Centurion Club," is now underway.

A 390-page application for the use of the *MIDWAY* has been submitted to the Secretary of the Navy, an application that details virtually every aspect of *MIDWAY* Magic's operation and impact. San Diego was the only city to submit an application.

MIDWAY was commissioned on September 10, 1945. Named for the Battle of *MIDWAY*, the carrier was the lead ship of her class, ultimately serving her country for 47 years. More than 200,000 American veterans served aboard her. In that time, the *MIDWAY* saw service off Vietnam, in the Persian Gulf and in a number of other conflicts and crises. She completed three tours off Vietnam, her aircraft downing the first three and last MiG of the war in the course of nearly 12,000 missions. More recently, her aircraft flew more than 3,000 missions in Operation Desert Storm.

Through it all "*MIDWAY* Magic" became a living legend in the Navy because the *MIDWAY* always found a way to meet her operational commitments. Over five decades of service, she received the Presidential Unit Citation; Navy Unit Commendation; U.S. Navy & Marine Corps Expeditionary Medal, Navy Occupation Service Medal; China Service Expeditionary Medal; and Vietnam Service Medal.

After being the first aircraft carrier "forward deployed" for 17 years in Yokosuka, Japan, she returned to North Island Naval Air Station in San Diego for decommissioning in April of 1992. Today, she rests at Bremerton, Washington, ready to begin her final "tour of duty" as San Diego's tribute to the contributions of the armed services and as a dynamic, interactive beacon of education and entertainment in "America's Finest City."

MIDWAY will be converted into a multi-dimensional, interactive educational and entertainment complex, attracting visitors and residents alike as the only museum of its kind on the west coast. Anticipated Highlights include carrier aircraft on display, below-deck theatre, flight simulators, touring and permanent exhibits, tours through selected portions of the ship, research/historical memorabilia centres and displays, community events and educational events.

'THE OLD NAVY'

WHAT IS A .... STORES ASSISTANT?

The 'What is a ...' navy people series was originally written in the late 1950s. The set will be re-produced in '*The Navy*' during 1998.

Speaking very generally, Stores Assistants issue stores – that is, if they: (1) can find them; and (2) have them.

There are two types of Stores Assistants – the "S" and the "V".

SA(S) types are either myopic, liverish or "hung over". There are known exceptions to this (see "*The Navy of King 'Alfred's Time*" Chapter 16, and the "*The Life of Henry VIII*" Chapter 21). Other books do make further references, but only slightingly.

The SA(S) insists on the indelible pencil. Without it the day's work cannot begin. This insistence amounts almost to a fetish and one can imagine the SA(S) spending many a quiet hour over the private collection of indelibles. The SA(S) knows these as instruments of signature.

At the Supply School, the SA(S) undergoes rigid courses in being able to say (at the drop of a hat and without blinking an eyelid) "Sorry mate, (or Sir) but were closed for ...":

1. standeasy;
2. lunch;
3. make and mend;
4. stocktaking, etc.

As well, the SA(S) is so trained that unless he is surrounded by classes, groups, section, references and Forms AS 1 upward to AS 1,000,000, he is helpless. Training also means use of the feint. Go to any Main Store, ask for an item and the SA(S) will tell you to "check at the office". Go to the office, ask for the same item and the SA(S) there will tell you to "check at the Main Store".

The SA(S) has many favourite sayings. Amongst the more popular being – "Do you know the pattern number mate?" and "Have you got your AS 156?" and "We haven't got any."

The SA(V) deals with food, clothing and mess-traps. (The Trap is the 30 cents you get slugged for at the end of each quarter).

SA(V)s are a fine body of men, and when joining a ship are issued with either a seaman or stoker, or both to do the work. Also issued on joining is the scribblers book. Scribbling in this book occupies most of their day, and becomes very feverish toward the end of the quarter. At this time no-one should ask for either a tin of milk or a tomato.

Some people in the Navy maintain that an SA(V) cannot victual. Neither side have as yet been able to prove their point.

The Mess Gear SA(V) is usually the only person with plenty of Mess Gear. His stock is effectively secured by a vast network of cobwebs that keep the ship's company at bay. All SAs can do more with a sheet of paper and a pencil than any other sailor. This can be seen to advantage during store ship periods. The SA has been so finely trained that he can make the paper and pencil appear heavier than a bag of spuds.

BOOK REVIEWS

SHIPMATES

Illustrated Tales of the Mascots Carried in RAN Ships and Establishments

By Vic Cassells
Published by Vic Cassells
Price: $25.00

This book tells of the trials and tribulations of the mascots carried in the ships and establishments of the Royal Australian Navy – and a few RN cases where their story is pertinent in some way to this country.

The most eye-opening thing found by the author during his research was the extent to which these mascots contributed to the morale of the men. In the hundreds of conversations conducted by Vic Cassells, the strong affection they'd had for 'Digger', 'Smoky', 'Wheels', 'Tiddles', 'Durbo' and all the other remarkable creatures in this book, comes through just as clearly 50-odd years on.

Some of the stories are funny – even bawdy, and others are sad. A bit like life, really. But, at least, to the best of the author's knowledge, they are all true. Nevertheless, it is understandable that there may be differences of opinion about exacdy what did happen all those years ago. Most of the contributors were recalling events which took place in their teenage years, with all now in their 70s, some in their 80s, and even a few in their 90s. It would be surprising, indeed, if they all still retained perfect, unclouded memories of events.

A paperback, laminated, 205 page book, *Shipmates* is illustrated throughout with more than 280 black and white photographs, with a bibliography and index. The book will be available in April, 1998, direct from the author at P.O. Box 229 Paradise Point Queensland 4216 for $25 plus $5.00 postage (add $2.50 per each additional book).

AUSTRALIAN MARITIME PATROL AIRCRAFT

Published by: Topmill
Cost: $14.95
Reviewed by Joe Straczek

Maritime Patrol Aircraft is a detailed examination of the seaplanes, flying boats and land based patrol aircraft of the RAAF since 1922, as well as the carrier borne aircraft of the Fleet Air Arm from 1948.

Twenty-five aircraft types are discussed, including sixteen RAAF and seven naval models, with 130 black and white and 30 colour illustrations.

The story of the maritime aircraft is related through well researched narrative and data, plus some interesting large format (full page) tables which describe through figures and dates, the chronological history of these unusual aircraft.

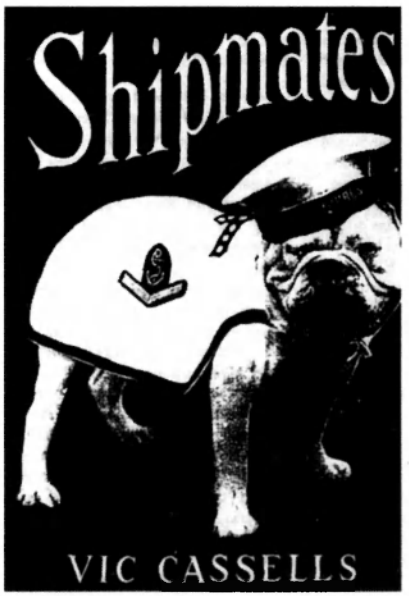
Each aircraft entry is presented via a general history of the type, its acquisition, armament, special notes and final disposal. Most of the photographs have reproduced well, with the colour section mainly devoted to the RAAF's *Neptunes* and *Orions* and the Navy's *Gannets* and *Trackers*.

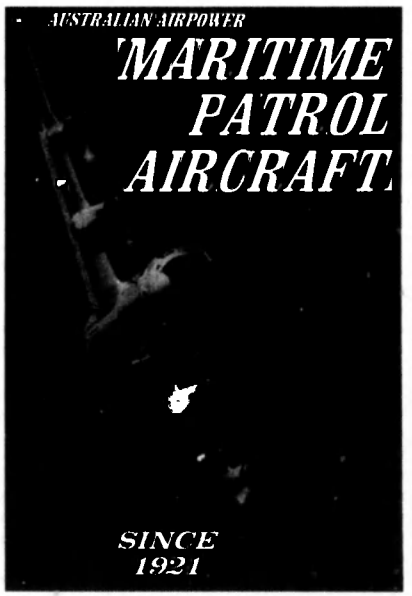
This book comes highly recommended and at only $14.95, will not set back the finances too much.

AUSTRALIAN CARRIER DECISIONS: The Acquisition of HMA SHIPS ALBATROSS, SYDNEY and MELBOURNE

By: Anthony Wright
Published: Maritime Studies Program
Reviewed by Ross Gillett

In recent years the Royal Australian Navy has, through the Maritime Studies Program, regularly added to the available pool of quality publications dealing with Australian naval and maritime subjects.





The publications of the MSP have been well received both nationally and internationally and represent a substantial return for a small investment. The latest volume in the series Papers in Australian Maritime Affairs is no exception.

Australian Carrier Decisions: The Acquisition of HMA Ships *ALBATROSS, SYDNEY* and *MELBOURNE* by Anthony Wright was initially written in 1978 as an internal Department of Defence study. The original work was written in the midst of the debate over whether or not to replace *MELBOURNE*. Unfortunately once the draft manuscript had been completed it was not progressed with any further. That is until now!

The book describes the processes involved and background to the decision to acquire aircraft carriers for the RAN. In examining these decisions the book also examines the decision making processes and the strategic background against which these decisions were made.

In the case of *ALBATROSS* Dr Wright clearly demonstrates the problems created by the decision to acquire this vessel, a ship not originally included in the Five Year Plan and one for which no naval requirement really existed. *ALBATROSS* was a hybrid, neither capable of defending herself nor able to operate at speed with the cruisers with whom she was to accompany. Additionally her capability came at too great a cost to a navy operating under very restricted financial circumstances.

If there was a benefit in the construction of *ALBATROSS*, she at least helped maintain a level of dockyard capability in Australia. Not just in the context of large facilities, but also with respect to the many small sub-contractors which supply the myriad of small components.

The second case study follows the initial attempt, late in the Second World War, to acquire a light fleet carrier and its subsequent rejection. The matter did not end here however, and in June 1947 the Chifley government decided to purchase two light fleet carriers from Great Britain. This decision was based on the lessons of the war and the perceived requirements of what constituted a balanced fleet The two carriers acquired required extensive modifications in order to operate modern aircraft The first carrier *SYDNEY* was delivered as designed, but the second, *MELBOURNE*, was dramatically modernised. Unfortunately no decision was made to modernise *SYDNEY* and so her life as a carrier was less than half originally expected.

At the end of the book, the editor David Stevens, has inserted a chronology showing the major milestones in the initial decision to acquire HMS *INVINCIBLE* and the subsequent cancellation of this project and the paying off of *MELBOURNE* in June, 1982.

All in all, the book provides an invaluable insight into the acquisition process, as well as clearly demonstrating the impact of political decisions on this process.

To my mind I can only fault this book in two areas, the lack of footnotes in the first section, though this is explained in the introduction and secondly, the lack of an index.

All in all this is a very valuable contribution to the available literature on the RAN and the Navy should be complemented for its production.

(Copies of this book are available through the Maritime Studies Program, Department of Defence (CP3-4-41) Canberra ACT 2600)

THE BRITISH BATTLE FLEET: Its Inception and Growth through the Centuries

By: Fred T Jane
Published by Conway Maritime Press
Review Copy from DLS
Reviewed by Joe Straczek

Within the area of naval history a number of names are instantly recognisable as having made a contribution to the wider knowledge of national or international naval affairs. This publication brings together two such names. One Antony Preston is such name, a renowned authority on naval affairs and contributor to a number of international Journals. The second name virtually needs no introduction, Fred T Jane, perhaps one of the most famous navalists of the late 19th and early 20th centuries. His name continues to be associated with the international naval scene through Janes Fighting Ships, which he founded and the series of journals published by the Janes group.

The publication which has bought these two names together is the re-print of Jane's *The British Battle Fleet: Its Inception and Growth through the Centuries*. Published in 1912 this book was one of the first to analyse the development of the British warship. Though this book may not by today's standards be considered as an academic work it is none-the-less an important work and one which will continue to be sought out and referred to by students of the period.

In *The British Battle Fleet: Its Inception and Growth through the Centuries*, Jane traces the development of British warships and their associated technologies. The book succinctly describes the development of the ships as well as some of the social changes which occurred during the period. One of the more revealing points is how during the 1680s the lot of the seamen began to deteriorate after the supply of provisions and clothing was passed into contractors hands, something akin to today's Commercial Support Program. Hopefully after 310 years things have improved.

Jane is possibly one of the few authors who places the design and construction of *CERBERUS* into its true historical context The vessel designed by Sir EJ Reed was the basis of modern warships up to and beyond the famous *DREADNOUGHT*. In essence, everything that *DREADNOUGHT* had, *CERBERUS* had, in smaller scale, some 40 years earlier.

The British Battle Fleet: Its Inception and Growth through the Centuries is a timeless book and one which will provide those interested in naval affairs and warship development with a wealth of contemporary information. This book is strongly recommended for inclusion in naval libraries.

BATTLECRUISERS

By John Roberts
Published by Chatham
Reviewed by Ross Gillett

Steaming at high speed through a North Sea swell in 1917 Fisher's 'Splendid Cats' were indeed a splendid sight

So reads the first narrative in the new Chatham publication *Battlecruisers*, describing HM Ships *TIGER, PRINCESS ROYAL* and *UON* steaming in company during the latter stages of the First World War.

Designed with the speed of a cruiser and with the firepower of a battleship, the British Battlecruisers spanned an era from 1908 to the late 1940s, this new work concentrating on their origin, design, the ship's early years in service and the all-important technical side of the various classes, from *INVINCIBLE* (1908) to *HOOD* (1920). Also included in this timeframe are the large light cruisers *COURAGEOUS, GLORIOUS* and *FURIOUS*.

Each ship's development is well documented, with superb perspectives and cutaway drawings of each class.

Battlecruisers is the second in the new Shipshape series (after The First Destroyers) from Chatham Publishing. A wonderful book which is highly recommended.

JANES WAR AT SEA 1897-1997
100 Years of Janes Fighting Ships

By B. Ireland and Eric Grove
Published by Harper Collins
Reviewed by Ross Gillett

The name Janes is synonymous with many things naval and has now been so for over one hundred years.

To mark the centenary of Janes Fighting Ships, the Harper Collins group has released the impressive *Janes War at Sea 1897-1997*. The book is written around the development of the warship during the past 100 years, centred upon the major eras and warship types, from battleships and aircraft carriers, through to torpedo boats and amphibious ships.

The book features hundreds of high quality photographs and numerous colour profiles, all printed on glossy paper. Unfortunately, for this reviewer, the narrative was found to be too small for any period of long reading.

The compilation of a book such as this is a daunting task, thousands of ships, numerous developments and alterations to the warships. To their credit the authors have presented the general reader with a well balanced, by ship type and national navy, overview of the 100 years covered by the book's sub-tide.

AUSTRALIAN SEAPOWER
Photofile No. 6 - FRIGATES

Published by Topmill
Reviewed by Mike James
Cost: $9.95

The Australian Seapower Photofile series, published by Sydney's Topmill Books, has provided a convenient and economical resource for the maritime enthusiast and layman alike.

FRIGATES continues this worthy tradition, covering the many and various classes of escorts that have operated in Australian and New Zealand waters. From the first sloops of the pre-World War One era up to today's technologically sophisticated *ANZAC* class frigates, all are covered in detail.

Each class is broken down into individual ships and the highlights of each ship's career is detailed, in peace and wartime, supported by a wealth of photographs. Many of these photographs have never been published before, a boon to the serious student of naval history and the model maker.

The book is laid out in three sections. The first covers the Royal Australian Navy while the second examines the ships of the Royal New Zealand Navy. The third section is made up of 16 pages of colour photos, including a rare 1950's colour view of HMAS *QUEENBOROUGH* following her modification to an anti-submarine frigate.

FRIGATES would be a welcome addition to the bookshelf of any ship lover and continues this excellent series. The next book is planned to cover the corvettes, anti-submarine and mine warfare ships. *FRIGATES* is available through better newsagents for a recommended retail price of $9.95.

Notice is hereby given that the

ANNUAL GENERAL MEETING

of

THE NAVY LEAGUE OF AUSTRALIA
will be held at the Brassey Hotel, Belmore Gardens, Barton, ACT
On Friday, 13 November, 1998 at 8.00 pm

BUSINESS

1. To confirm the Minutes of the Annual General Meeting held in Canberra on Friday, 14 November, 1997
2. To receive the report of the Federal Council, and to consider matters raised therefrom
3. To receive the financial statements for the year ended 30 June 1998
4. To elect Office Bearers for the 1998-99 year as follows:
   - Federal President
   - Federal Vice President
   - Additional Vice Presidents (3)

   Nominations for these positions are to be lodged with the Honorary Secretary prior to the commencement of the meeting.
5. General Business:
   - To deal with any matter notified in writing to the Honorary Secretary by 2 November, 1998
   - To approve the continuation in office of those members of the Federal Council who have attained 72 years of age, namely Arthur Hewitt (WA), Joan Cooper (Tas) and Mervyn Cooper (Tas).

ALL MEMBERS ARE WELCOME TO ATTEND

By order of the Federal Council
Don Schrapel, Honorary Federal Secretary, PO Box 309, Mt Waverley VIC 3149
Telephone (03) 9888 1977 Fax (03) 9888 1083

STATEMENT of POLICY

Navy League Of Australia

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 the 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.
- 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 Air Force and highly mobile Army, capable of island and jungle warfare as well as the defence of Northern Australia.
- Supports the acquisition of AWACS aircraft and the update of RAAF aircraft.
- Advocates 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 states in our area.
- Advocates the transfer of responsibility, and necessary resources, for 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 in the Southern Ocean.
- 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.
- 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.

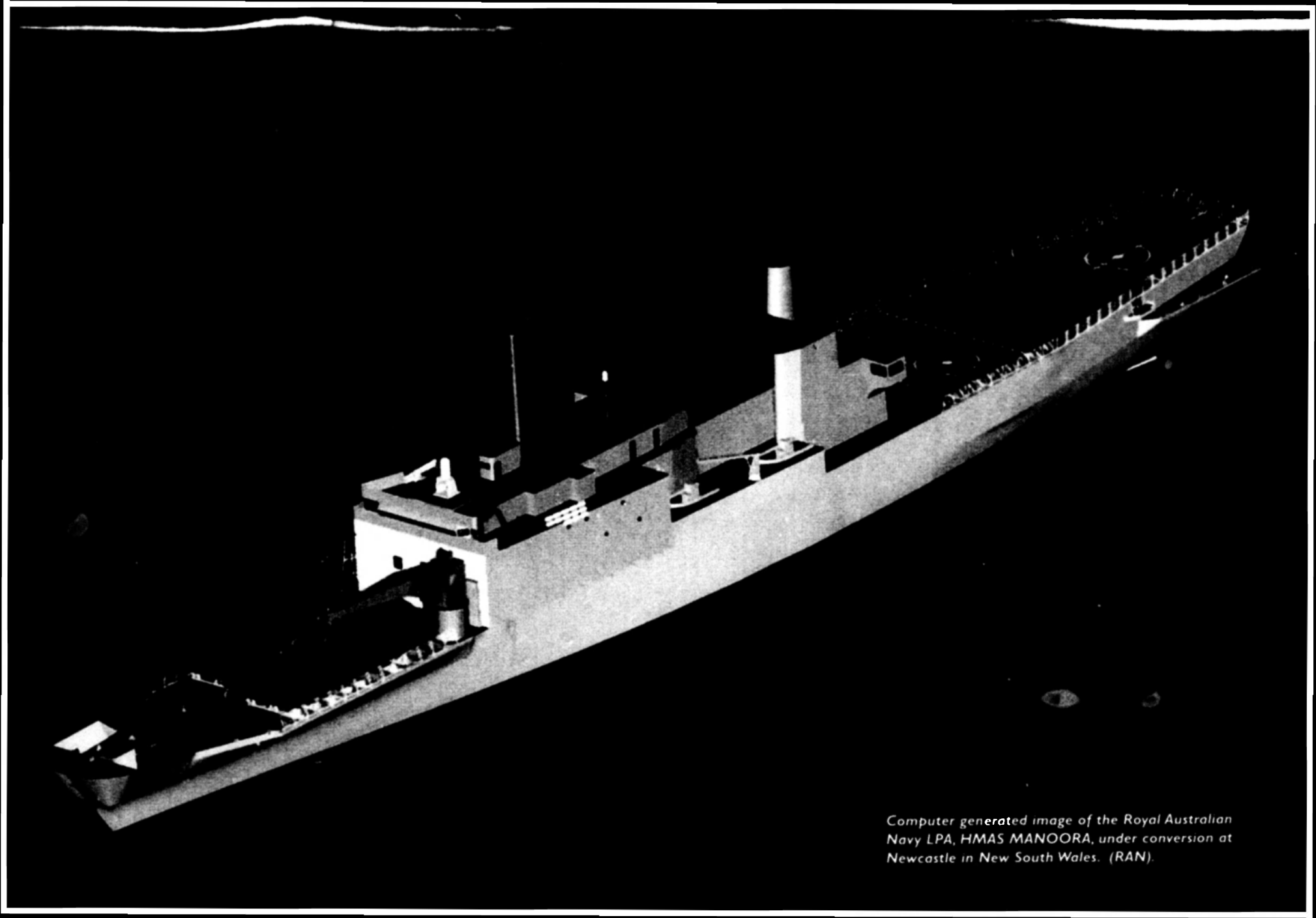
As to the RAN, the League:

- 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.
- Believes it is essential that the destroyer/frigate force should include ships with the capability to meet high level threats.
- Advocates the development of afloat support capability sufficient for two task forces, including supporting operations in sub-Antarctic waters.
- 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, including nuclear, be examined with a view to selecting the most advantageous operationally.
- Advocates the acquisition of an additional 2 or 3 *Collins* class submarines.
- Supports the development of the mine-countermeasures force and a modern hydrographic/oceanographic fleet.
- 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 Naval Reserve Cadet organisation.

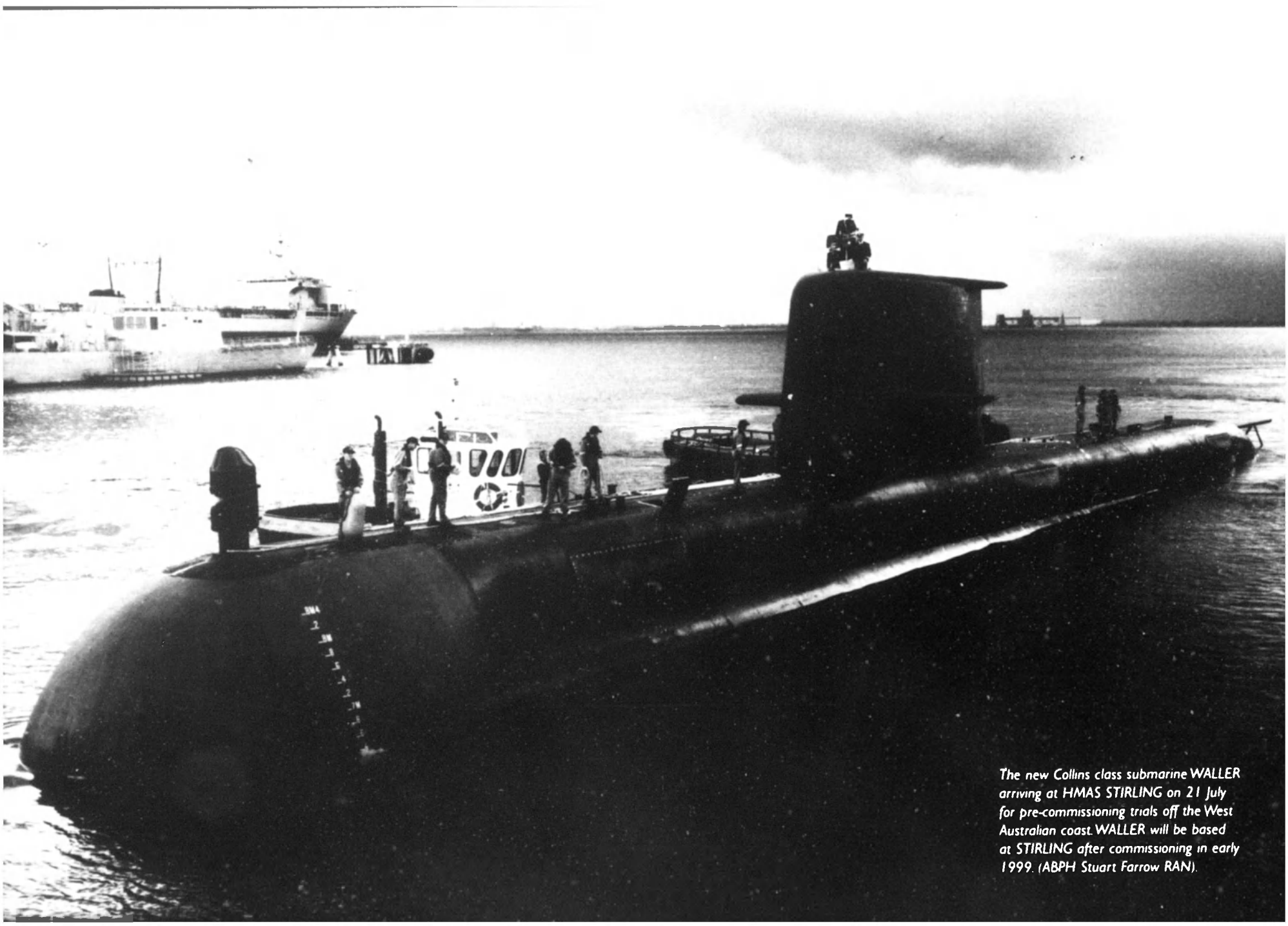
The League:

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.



Computer generated image of the Royal Australian Navy LPA, HMAS MANOORA, under conversion at Newcastle in New South Wales. (RAN).



The new Collins class submarine WALLER arriving at HMAS STIRLING on 21 July for pre-commissioning trials off the West Australian coast. WALLER will be based at STIRLING after commissioning in early 1999. (ABPH Stuart Farrow RAN).

PLEASE NOTE

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SOME PAGES MAY CONTAIN POOR PRINT, TIGHT BINDING, FLAWS AND OTHER DEFECTS WHICH APPEAR ON THE FILM