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The opinions or assertions expressed in “THE NAVY” are those of the authors and not necessarily those of the Federal Council of the Navy League of Australia, the Editor of “THE NAVY”, the RAN and the Department of Defence. The editor welcomes correspondence, photographs and contributions and will assume that by making submissions, contributors agree that all material may be used free of charge, edited and amended at the editor’s discretion.

Front Cover: HMAS BRISBANE leading HMAS DARWIN. (ABPH Torrin Nelson 1998, RAN)

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The Navy League of Australia
From the Crow's Nest

In this edition's News section we read about the recent creation of the position of Commander Australian Amphibious Forces (CAAF). Although a step in the right direction, given our burgeoning and significant sea lift capability, should it have gone further? The demise of the Cold War saw the replacement of blue water naval operations with brown water or littoral operations. Given the West's occupancy of this area, many smaller nations are developing and buying weapons to use in this environment.

To a defender, significant advantages exist within this environment as current generation radars and sonars suffer in this area. The USN discovered these dangers during "Desert Storm" with PRINCETON and TRIPOLI hitting mines. In the future, Navy should consider extending CAAF into a new command, Commander Littoral Forces (CLF), to specialise in this demanding environment. Hopefully CAAF will act as the foundation stone to a littoral command HQ which has doctrine and tactics established before operational use is required. Another advantage of a CLF would be its organisational structure. CLF would have the necessary fighting ships to support an amphibious assault, ie. DDGs, FFGs and Anzac class, under command during peacetime thus ensuring a smooth transition into war. Army would also be involved in a CLF HQ as "joint warfare" is becoming increasingly important and necessary. The notion that amphibious warfare is still exclusively a Navy service is well and truly outdated. Amphibious warfare but one stage of a greater littoral operation. Navy and Army could, under a CLF, train and work together not as integral to one another but integrated.

Recently the Government deployed the frigate HMAS MELBOURNE to the Persian Gulf to assist in maintaining sanctions against Iraq. It would be wise of the ADF, and in particular Navy, to pursue high profile missions such as these. Public perception, and thus political perception, of the ADF is important if budgets are to rise and equipment and capability replaced. The recent public dismay over Army's need for funds to increase the readiness of 1 Brigade highlights the public's ignorance of the ADF and its financial position. Navy needs to be especially aware of its public image and be seen as combat ready and active as a contact is currently brewing over the fate of the RAN's surface combatant. There is a concerted effort in some quarters to have the surface ship go the way of the RAN's carrier force, ie. into oblivion. These same antagonists use many of the arguments against surface ships as they did against the aircraft carrier but ironically believe that this same application of force loses its value when placed on the water. It's a shame that some denigrate the carrier and surface ship with subjective labels as "floating targets". These same people, who worship the alter of land based "Air", are currently questioning the value of surface ships and not learning from other nations who have gone down the same path. These nations have only come back from that path more in favour of surface ships than before. The road to Damascus is not down this path. It's time we stood up to these illogical and uninformed detractors who, perhaps unknowingly, are currently the greatest threat to our maritime security.

As THE NAVY went to press the 1999 Federal Budget was handed down. Once again defence has been quarantinned from cuts but with a projected surplus of over $5 billion cuts would be illegal, given the Governments plan to increase the readiness of the 1st Brigade, the leasing of the INSAT Cattamaran and the RAN deployment to the Gulf. The Defence Reform Program, another government initiative, was meant to "de-criminalise" defence to the point that the full pardon of increased defence spending could be issued. Sadly, its back to the chain gang for defence for another year.

Mark Schwerkert

From Our Readers

Dear Editor.

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I would like to reply to F.W. Austin's letter that appeared in the last edition regarding what IK means in the "BAR'OOI' argumot" article. Briefly, the Earth is divided into time zones which change with every 15 degrees of longitude east of Greenwich. Greenwich Mean Time (GMT) is also referred to as Zulu (Z) time in the International Time Co-ordinated (ITC) system, which has the world divided into the zones every 15 degrees.

Due to the fact that there are 360 degrees of longitude, 15 divides into 24 times, hence 24 time zones around the world. However, because there are 26 letters in the alphabet, 2 letters either have to be deleted or combined to fit in with the total of 24.

Therefore, 1 & K are combined, which is actually Eastern Standard Time (EST), or 1K time under the ITC system. The letter actually deleted from the alphabet for this purpose is "O", because it could be confused with a zero in any preceding time group.

Stephen Gillard, LEUT, RANR NHQ TAS

Editor: Many thanks Stephen.

Right Volume, Wrong Year

Dear Editor.


Regards

Geoff "Rusty" Wynn, Sydney

Editor: Apologies to all those who were inconvenienced. The error was detected during the proof reading of the first draft and corrected. For some reason, when the magazine went into print, the error re-emerged at a time when it was too late to re-enter. However, THE NAVY finds itself in good company as JANE'S NAVY INTERNATIONAL recently made the exact same error.

On 22nd March 1999 the Committee tabled its report to the Parliament. Probably no single event in the Second World War attracts as much interest today as the circumstances surrounding the loss of SYDNEY on 19th November 1941. In total some 201 submissions and 208 supplementary submissions were received by the Committee - a very high number. Most unusually some respondents sent multiple supplementary submissions, commenting on the arguments advanced in other submissions and providing additional information.

It was anticipated that the two schools of thought on the fate of SYDNEY would put their case to the inquiry. For want of a better description those schools are the orthodox school and the unorthodox school: the orthodox school being those who assert SYDNEY was sunk by KORMORAN alone; and the unorthodox that more than one enemy ship was involved.

What was not foreseen was the intense and intemperate personal animosity which exists between these two groups and which emerged in written submissions - a quite pointless state of affairs.

A search of archival material to satisfy the first two directives of the inquiry led the Committee to conclude that SYDNEY was sunk by KORMORAN alone, as a consequence of an intense engagement which also proved terminal for KORMORAN. This conclusion is broadly in agreement with the account in the official history of the RAN.

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Details of the battle and the final hours of SYDNEY will never be known. What information does exist comes from the swirling memories of Captain Detmers who now all of advanced years. Those survivors who were contacted generally expressed no desire to add to previous statements they have made and some expressed a desire to be left alone. Many allegations have been made that the German accounts are an elaborate fabrication. While there are minor inconsistencies between accounts, the overall story is coherent. No conclusion can be drawn from the evidence on its own account of the presence of any enemy vessels in the area or the time. Allegations of Japanese involvement are interesting because they lead to the assertion that the Germans and Japanese had to conceal their involvement, since Japan was not then in the war. Japanese involvement had to be concealed to avoid the KORMORAN crew being charged and executed as war criminals. This also serves for a great variety to the story and to some degree adds to its plausibility. There is no evidence of any Japanese submarine being deployed in the area at that time, there was no military objective to be gained by such deployment. Planning for the audacious and very high risk strategy of the attack on Pearl Harbour only a few weeks away would have fully occupied the minds of the Japanese Navy. However, if proved true in the future, the Committee left the door open by recommending the funding of a research grant scheme so that any new evidence in the future can be properly addressed. Over the years and in some of the submissions to the inquiry, allegations have been made that successive Australian Governments have concealed or deliberately destroyed records pertaining to SYDNEY. Despite the fact that the RAN has a reputation for bad record keeping, as demonstrated recently by the absence of some records for the DDCS on deployment to Vietnam, there was a vast stock of paper records generated through the Second World War. Storage requirements were immense. Huge volumes of records were destroyed both during and after the war for this reason. With electronic data processing storage is now not so much a problem but it was not always so. My father used to recount how as adjutant of his battalion prior to embarkation in World War II he burnt the records of Queensland’s involvement in the Boer War so he could get some room to work in the orderly room. Even so, the Committee was advised that over 21,600 shelf kilometres of documents, which could possibly relate to SYDNEY still exist. The Committee, with expert professional assistance from Professor Peter Dennis, could find no records which added new information. One of the Committee’s recommendations was that the Government review the operation of the Archives Act 1983 with regard to World War II material, with a view to providing full public access to all material.

The Committee categorically rejected the assertion that the Australian Government had concealed or withheld any records of SYDNEY. Special attention was paid to signal records. An area of some controversy, there is no evidence that relevant documents were intentionally destroyed or are currently concealed. What transmissions were made by SYDNEY or KORMORAN are obscure. Both ships certainly maintained a disciplined radio silence as a matter of routine. Transmissions were by HF radio in 1941 with the attendant reception variability of that mode. It is probable that SYDNEY’s ability to communicate was destroyed in the opening salvo.

Consideration of the body washed ashore on Christmas Island occupied a large part of the Committee’s time. There was a very high and understandable degree of interest in the identity of this body among the families of the ship’s company. Somewhere about 6th February, 1942, a decomposed body in a faded boiler suit floated to Christmas Island in a Carley flot. There were no identifying marks on the body or on the boiler suit. Because it was a Carley float the assumption is that it was a naval sailor and not from the merchant marine. After a careful review of all the ships sunk in the relevant area and at the relevant time, if the body did not come from SYDNEY then it could not be determined what other ship the sailor might have come from. The Committee concluded that on the balance of probability, the body did originate from SYDNEY.

The Committee resolved, having regard for the feelings of the families, that it was possible to identify the grave site and gain approval then the body should be exhumed. DNA testing may then lead to a positive identification. The inquiry was required to address the location of SYDNEY and KORMORAN. Captain Detmers declared in 1941 the position where KORMORAN was scuttled. This may or may not be the true position. It may be that the Captain wanted to conceal for military reasons in war time the site of the action. The location of SYDNEY is much more obscure. It is said to have sailed off into the night on a south easterly heading. It probably lies off the continental shelf in very deep water. Remote though the possibility is of finding the wreckage, the Committee recommended that, once a search area has been more closely defined, the Commonwealth should fund a search on a dollar for dollar basis up to $2 million.

If found, then the protection of the wrecks of both SYDNEY and KORMORAN must be maintained.

The Committee felt that a memorial to the SYDNEY was appropriate and that it should be both for the living and the dead. Accordingly it recommended that the RAN set up a research grant in the name of HMAS SYDNEY II and her crew to support research into aspects of Australian Naval history. As well, a memorial should be erected at HMAS SYDNEY in Fremantle jointly funded by the Commonwealth and the Western Australian Government and dedicated by the 19th November, 2001, sixty years after the loss of the ship.

The Committee recognised that its report will not put an end to the controversy surrounding the loss of SYDNEY. What the inquiry did create was the opportunity for all those who were alive at the time, as well as subsequent generations, to put their views on record and argue their case.

It was a great pity that a comprehensive inquiry was not held through the period from 1945 to 1950. While there would still have been an absence of detail particularly in relation to the final hours of SYDNEY, a great deal more information would have been available at that time. Had that been done the events surrounding the loss of this famous cruiser and the 645 members of the ships company might have been more mystified to some degree.
The subject of adequate air support for the RAN has long since disappeared from the front page, but is still a matter of grave concern to many. However, this is not an article about the procurement of an 80,000 tonne aircraft carrier. It is about the need to recognise that presently the defence force and particularly Navy, is not a self-reliant entity as some have suggested. Self-reliant is what our defence force should be.

For a considerable time thereafter, when Navy became self- reliant is what our defence force should be. It is more than 15 years since the ill fated, ill conceived decision was made to disband the RAN's fixed wing air support, a decision that has left Navy without a crucial support element that will see it in a hazardous position in many conflict situations.

Lest this article be seen as a biased political statement, it should be said that the defence force may well have suffered the same loss no matter which party had been in power during the intervening period. The only difference would have been one of reason, philosophical in one case, economic in the other.

For a short time after the decision was taken, Navy reiterated its long held belief that fixed wing air support was essential to its viability as a credible naval defence force. For a considerable time thereafter, when Navy became beset by its political masters, the Navy League continued the fight. Carrying out various studies for economical ways of regaining the lost facility and keeping the matter before the public eye through articles, letters in the press and public seminars. However, there came the time when it was perceived that further action could be an economic matter.

The size of the platform would dictate the type of aircraft to be employed, that is STOVL (Short Take Off Vertical Landing) aircraft which have proved their worth with the USMC in 'Desert Storm' and more recently in Operation 'Allied Force' and in a combat with the RN in the Falklands and again in Kosovo. The Sea Harrier and the US AV-8B have been improved over the years. The Sea Harrier is now considered one of the best Air Superiority fighters in Europe given the addition of a Blue Vixen radar and AMRAAM. The new Boeing AV-8B Harrier II Plus is fitted with the APG-65 radar, as found in the F/A-18, and can use the full array of weapons in the USN air power arsenal.

Work on the Harriers replacement, the JSF (Joint Strike Fighter), will provide a significant advancement over the current Harriers with super sonic speed, stealth and VSTOL capabilities. The JSF is also considered a possible future replacement for our Hornets. The specific aircraft to be acquired is a matter for later procurement decisions. The important thing at this time is to recognise the essential need and to no longer bury our heads in the sand or dream up alternatives which are far less than the best and which will sell short our ships and those who sail in them in time of trouble.

Two F/A-18s about to pass over HMAS ANZAC during FCPfN. (Denis Herdey. IPAQ)

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Previous articles have suggested that STOVL aircraft would additionally provide invaluable ground support and air cover to Army in remote locations in our north and in other areas where our land based aircraft would find difficulty in operating. It has also been suggested that our F/A-18s are too expensive as an asset to be used in a dedicated support role. In the event that Army was required to offer support to allies in offshore theatres, STOVL aircraft could be disembarked by Navy to offer support in areas remote from access by mainland based aircraft. It is of more than passing interest to note that the USMC have for many years relied on ship borne STOVL aircraft in support of troops.

It appears that Defence is again looking to return to a more pragmatic forward looking defence policy which may see the war ship operating in locations described above and in urgent need of fixed wing air support. There would be instances in which land based aircraft refuelling might offer that support, but not so effectively and more importantly not with the immediate response as would a STOVL aircraft carrying with it the troops and operating from the sea or from their immediate air bases off shore. It is recognised that such aircraft, even with the economical carrying platforms, will not come cheaply, but there are ways that they may be acquired at affordable cost.

One less conventional approach to platform costs may be the acquisition of COTS (Commercial Off The Shelf) platforms which would come at a fraction of the cost of MILSPEC (Military Specifications) platforms. The addition of a modest ASMD (Anti-Ship Missile Defence) capability would make such platforms very cost effective. A large surface force with no organic air cover will be at extreme risk in numerous conflict situations and will be less capable of carrying out its various functions that could a smaller force complete with its own fixed wing air support. It logically follows that one saving offset could be a reduction in the number of other surface units presently in the pipeline. As suggested above, the platform does not require MILSPEC armoured command and control facilities but could rely on existing fleet units for this task.

Some positive comments regarding AEW&C and fixed wing air support made by an RAN PWO (Principal Warfare Officer) tell of a recent exercise with the RN in which RAF AEW&C aircraft were performing surveillance duties for the fleet. As well as the experience with the proposed RAN support for the RAN, there were gaps between on time stations of the aircraft. These gaps were filled very usefully with the same AEW equipped Sea King helicopters that the Navy League advocated acquiring some years ago. If the capability had been available to the RN earlier in the Falklands conflict, it is plausible that SHEFFIELD, COVENTRY, ARDENT, ANTELOPE, SIR GALAHAD and ATLANTIC CONVEYOR would still be with us. No doubt the systems have been upgraded since then and will still be on our list of essential acquisitions.

To those who point out that STOVL aircraft will always be outclassed by other high tech machines, it should be pointed out that the former have certain operating characteristics which the others lack and in any event in this day and age the aircraft is but a part of a weapons system. The task of which is to deliver, at high speed, the final strike weapon to a point at which it can be released to carry out its task, whilst the aircraft returns to fight another day. It can be argued with certainty that STOVL aircraft are less vulnerable than helicopters charged with a similar task and it follows that the fleet is less vulnerable when relying on fixed wing support. It is important to note that despite the lower-speed of the STOVL aircraft, when compared with an opposing air force with supersonic performance, what is more important is the weapons carried, as demonstrated by the Sea Harrier in the Falklands. Similarly today, an AMRAAM equipped Harrier can defeat or match any supersonic aircraft with or without similar BVR (Beyond Visual Range) missiles.

Others who oppose naval air have referred to the support of INVINCIBLE during the Gulf War in containing any aggressive ground forces or the Sea Harrier further with the majesty of the US carriers. Of course STOVL aircraft will be capable of being catapulted, thus expanding the options for sea going operation. Mindful of days of yore when aircraft were by various means craned into the air from the fore decks of cruisers, one might imagine our frigates carrying a helicopter on the quarter deck and a catapult operated STOVL aircraft on the foc’’sle. The mind boggles, but a little imagination could open up various scenarios that would enable such aircraft to be used in novel and effective ways. In a defence force without funds to spare, innovation could play a significant role. Recent history has brought such obvious (in retrospect) innovations as the mirror landing aid, the angled flight deck and the ski jump, maybe this is the time for more.

It is suggested that the time is ripe to persuade government and to persuade Navy that we cannot afford not to plug the serious gap in our defence capability, by acquiring a facility as soon as is practicable. A facility without which we will possess a fleet unable to carry out its intended functions, without placing the ships and their crews at unacceptable risk.

The original caption for this image reads: An artist's depiction of the Boeing X-32 JSF in USN colours.
Brutal Asian Pirates Threaten Ships and Their Crews

By BILL BEECHAM

(Re-printed with the permission of AUSTRALIAN SHIPS AND PORTS MAGAZINE)

Naval Operations: Deports to the Gulf

He said once MANOORA was operational HMAS TORRUK would undergo an extensive refit. Meanwhile, as he awaits delivery of the ships, CAPT Hooke and his team will be kept busy planning for the time troops will go aboard.

By Graham Davis

ADT wins WESTRALIA Repair Contract

Despite ADT being named in the report on WESTRALIA's fire as contributing to the chain of events that caused the death of four RAN personnel, it has been awarded a $25 million contract to repair the ship.

Families of the victims have expressed their anger and dismay at the decision to grant ADT preferred status for the contract.

Lyndon Pelly, who lost his daughter Megan on her first day at sea, said: "The Hobart Men's..." said Noel Choong, regional

CAPT Stephen Hooke, the new Commander Australian Amphibious Forces. The new CAAF command structure was announced by CN last February. Based at MHQ in Sydney, the unit has a staff of six with CAPT Hooke supported by two LCDRs, two WOs and an AB.

It will be boosted by the posting of the CO of TORRUK, CDR Alan Du Toit, to become the deputys CAAF. Now falling under the command of CAPT Hooke are HMA Ships TOBUKORI, MORGAN, KANIMBLA, BALIKPAPAN, BRUNEL LAUBAN, TARKANAN, and BETAN.

More than 500 members of the RAN, to man the ships. Another landing craft, WEWAK, is in reserve.

CAPT Hooke said the role of the unit was to prepare and test the ships for their amphibious roles.

He said much attention would be paid to the design of the vessel to ensure they were robust. The unit was to conduct maritime patrol and boarding operations in the Persian Gulf, the Red Sea and the Gulf of Oman.

"The Australian Defence Force has contributed naval ships to the MIF on eight earlier occasions during the period 1990-1996," Mr Moore said.

MELBOURNE Departs to the Gulf

During March the Minister for Defence, John Moore, announced that Australia would deploy HMAS MELBOURNE to the Gulf in support of United Nations sanctions against Iraq.

The Australian-built frigate, with an embarked Seahawk helicopter, will form part of the multi-nation Maritime Interception Force (MIF) for a three-month period commencing late May.

The Sydney-based frigate departed Australia on 30 April to join a US Navy task group also operating in the Gulf.

Approximately 220 mixed gender crews will be involved in this operational deployment.

The MIF was mandated by UNSCR 661 in August 1990. Its purpose is to conduct maritime interception patrols and boarding operations to enforce sanctions against Iraq after its invasion of Kuwait.

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CAPT Stephen Hooke, the new Commander Australian Amphibious Forces. The new CAAF command structure was announced by CN last February. Based at MHQ in Sydney, the unit has a staff of six with CAPT Hooke supported by two LCDRs, two WOs and an AB.

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More than 500 members of the RAN, to man the ships. Another landing craft, WEWAK, is in reserve.

CAPT Hooke said the role of the unit was to prepare and test the ships for their amphibious roles.

He said much attention would be paid to the design of the vessel to ensure they were robust. The unit was to conduct maritime patrol and boarding operations in the Persian Gulf, the Red Sea and the Gulf of Oman.

"The Australian Defence Force has contributed naval ships to the MIF on eight earlier occasions during the period 1990-1996," Mr Moore said.

MELBOURNE Departs to the Gulf

During March the Minister for Defence, John Moore, announced that Australia would deploy HMAS MELBOURNE to the Gulf in support of United Nations sanctions against Iraq.

The Australian-built frigate, with an embarked Seahawk helicopter, will form part of the multi-nation Maritime Interception Force (MIF) for a three-month period commencing late May.

The Sydney-based frigate departed Australia on 30 April to join a US Navy task group also operating in the Gulf.

Approximately 220 mixed gender crews will be involved in this operational deployment.

The MIF was mandated by UNSCR 661 in August 1990. Its purpose is to conduct maritime interception patrols and boarding operations to enforce sanctions against Iraq after its invasion of Kuwait.

"The Australian Defence Force has contributed naval ships to the MIF on eight earlier occasions during the period 1990-1996," Mr Moore said.

ADT wins WESTRALIA Repair Contract

Despite ADT being named in the report on WESTRALIA's fire as contributing to the chain of events that caused the death of four RAN personnel, it has been awarded a $25 million contract to repair the ship.

Families of the victims have expressed their anger and dismay at the decision to grant ADT preferred status for the contract.

Lyndon Pelly, who lost his daughter Megan on her first day at sea, said: "The Hobart Men's..." said Noel Choong, regional
The last deployment was conducted in mid-1996 by HMAS MELBOURNE. In recent times, nations committed to the MIP have included New Zealand, Canada, the Netherlands and the United States. Australia has committed to the UN Security Council Resolutions on Iraq, said Mr Moore.

These resolutions, the sanctions that give effect to them, and the MIP's role in enforcing them, are an important element in ensuring that Saddam Hussein is not able to threaten regional and international security. 

“Im in the interests of international stability that we continue to enforce these sanctions, against Iraq, if it fully complies with UN conditions.”

As mentioned, this will be the second time MELBOURNE has deployed to The Gulf to enforce sanctions. During her last five month deployment, MELBOURNE intercepted 25 ships, boarded 14 and escorted 11 into port.

MELBOURNE is due back in Australia in September.

**COLLINS Investigation Board**

Based on comments made to the Senate estimates committee the Minister for Defence has announced the formation of an investigation board to report to the government on the continuing problems associated with the Collins class submarine project.

“I have decided to appoint Dr Malcolm McInnes, the former Chief of Defence Procurement in the United Kingdom, and Mr John Prescott, the former Chief Executive of BHP, to review progress to date on the Collins submarine project, and to report to me on proposals for completion of the project.

I have asked the Review Team to complete their report by 30th June,” said the Minister for Defence, The Hon. John Moore.

The Deputy Secretary of the Defence Acquisitions Organisation, Mr Gary Jones, listed the problems as being noise, unreliable engines, outdated periscopes and cracking propellers.

Mr Jones said that given the high-technology metal used to make the propellers fatigue cracking was starting to show. However, it is the propellers which give the Collins class submarines their unique reduced noise signature.

Recently, the investigation team went aboard a Collins class sub to experience the submarine first hand. As the practice before a sub dives a next of kin signal is sent listing all those on board and their close relatives in case of accident. During the team's sea day a fish Hill antennae was used to send this signal failed to work and the signal was sent in the clear, delaying the dive by one and half hours.

In other Collins related news, crew numbers for the submarines are reaching critical levels. Morale problems associated with the bad publicity and extended evaluation period of the class have left many officers and crew complaining they were trained for operations rather than builders tasks. It is understood that a very high number of crew from WALLER have resigned and that SHEEYAN recently launched is well short of a full crew.

**Streetfighter Frigate under Consideration**

The USN is considering developing a small, low cost frigate sized warship to replace the Navy's 300 ship sailing. The frigate is to be around 2000 tonnes with speed, stealth and the ability to support and hunt with the larger ships in the fleet.

The consideration of a frigate sized ship marks a reversal in USN thinking on small combatants. At present the USN is expected to retire its entire Perry class frigates by 2008. Hull design considerations include the possibility of an open ocean catamaran. The US ship building industry is keen to see the concept develop as the 'Streetfighter' could provide a source of foreign sales.

**U.S May Aid Russia Scrap Nuke Boats**

Russian nuclear energy officials have appealed to a US Government plan to provide funds for scrapping Russia's decaying and potentially dangerous nuclear powered submarines. Russia has been struggling to deal with its aging SSN and SSBN fleet which environmentalists charge are leaking dangerous amounts of radioactivity into the Pacific and Atlantic Oceans.

There are over 150 decommissioned nuclear powered subs floating in ports owned by the navy's Pacific and Southern Fleets.

Discussions on a time table for the aid was to have been discussed in March however, NATO attacks on Serbia meant that the Russian Prime Minister cancelled his trip to the US mid-flight as a protest at US involvement in the strikes.

Russian estimates of disposal of one SSN amount to US$8 million.

According to Russia's Atomic Energy Commission about 30 submarines are in urgent need of disposal. Early build submarines such as the November, Echo and Hotel are in urgent need of safe disposal with other submarines such as early Charlie and Victor class SSNs next on the list.

**RNZN Fleet Plans**

According to Jane's Defence Weekly (JDW) of 10 March, the RNZN is formulating plans to pursue the acquisition of two second-hand ships to enter service as the frigate CANTERBURY pays off in 2005. JDW states that the RNZN's long term plan to operate a single class Navy has to be revised.

Quoting Rear Admiral Fred Wilson, the RNZN's Chief of Naval Staff, the re-expected defence weekly reports that an interim solution is inevitable. "I believe the future will be to plan for two pairs of combat ships, each pair being replaced after about 15 years apart. This will avoid problems of block obsolescence and funding peaks that are inherent in a combat force of one class of ship."

The RNZN's Development and Operations Division is likely to be asked to investigate the availability of "pre-loved" ships as part of a longer term replacement strategy. According to Captain Gary Collier, there is no possibility of running CANTERBURY on beyond 2005.

**USS WINSTON S. CHURCHILL**

The Arleigh Burke Flight IIA class guided missile destroyer, WINSTON S. CHURCHILL (DDG 81), was christened and launched on 17 April during ceremonies at Bath Iron Works. Janet Langhart Cohen, wife of Secretary of Defense William Cohen, is the ship's sponsor and Lady Mary Scunies, (Churchill's youngest and last surviving child), served as honorary sponsor for the United Kingdom. They were joined by a host of dignitaries, including Secretary Cohen, British Secretary of Defence George Robertson; Secretary of the USN Richard Danziger, RN First Sea Lord Sir Michael Boyce; and Chief of US Naval Operations Adm. Jay Johnson.

WINSTON S. CHURCHILL is the fourth American warship to be named in honour of an Englishman. The armed merchantman ALFRED went into commission in December of 1775 as the first ship of the Continental Navy. It was named after Alfred the Great, the English king who has been called "Father of the Royal Navy." During the Revolutionary War, Continental frigate RALEIGH was named in honour of Sir Walter Raleigh, while another frigate was named EFFINGHAM in honour of the British Earl of Effingham, who resigned his commission rather than fight against the American colonists.

WINSTON S. CHURCHILL is the 31st ship of the Arleigh Burke class and the 18th of the class to be built by Bath Iron Works. With a crew of 22 officers and 324 enlisted personnel, WINSTON S. CHURCHILL will be homeported in Norfolk, Va., as part of the U.S. Atlantic Fleet upon commissioning in the year 2000.

**HMS BRAVE Decommissions**

HMS BRAVE returned home to Devonport on 22 March at the end of her final operational deployment.

After 13 years in the Royal Navy, the Type 22 Batch 2 frigate has been decommissioned. In keeping with Royal Navy tradition, the ship marked her last entry into her home port by flying her paying off pennant.

During a distinguished career, HMS BRAVE saw action in the Gulf War and deployed all over the globe, including the Adriatic, the South Atlantic and the Caribbean. In 1996, the ship was involved in the seizure of a record breaking £50 million worth of cocaine while on West Indies Guard Ship duty. HMS BRAVE, the ninth warship since 1588 to bear the name, became non-operational on 1 April.

This is the second Type 22 Batch 2 frigate to decommission early to comply with the UK's recent strategic review. Who will eventually buy these magnificent ships, still with another 15-20 years left in the hulls, is anyone's guess.

**First Operational Firing of UK Tomahawk**

The commencement of military action by NATO against the Serbian military in Kosovo saw the first operational firing of British Tomahawk cruise missiles. The
military operations. The submarines are believed to have fired seven to 10 missiles.

**Exercise Thrust '99**

The USN Blue Ridge (LCC 19) kicked off Exercise Tandem Thrust '99 in the Pacific Ocean on March 15 and which continued until April 4. Tandem Thrust is a biennial exercise designed to enhance joint task force commanders' ability to function as joint task force commanders under the US Pacific Command's two-tier command concept.

The exercise involved more than 12,000 personnel, 18 ships, and 110 aircraft from the US military, the Australian Defence Forces, and the Canadian Navy. Embarked aboard Blue Ridge, Commander US 7th Fleet was in charge of the combined task force.

Tandem Thrust was held in two phases. The first phase was a command post exercise (CPX) held between March 15-32.

The second phase of Tandem Thrust was the field training exercise which took place from March 26 to April 4. This phase involved the actual movement of air, ground, and naval forces from the US and Australia in a joint and combined environment.

The operation involved rescuing American and Australian citizens and assisting fictitious defense forces in restoring their territorial integrity.

"In today's dynamic and multidimensional combat environment, it is more important than ever for our forces to be able to operate together jointly," explained Vice Adm. Walter F. Doran, Commander, US 7th Fleet.

Tandem Thrust enables us to do that, bringing together forces from the Navy, Army, Air Force and Marine Corps in a challenging joint environment.

Doran added that with near constant need for armed forces involvement in hot spots around the globe, combined efforts of US and coalition forces are needed to assist in conducting military operations.

"With the participation of Australian Defence forces, Tandem Thrust enables us to exercise in this realistic combined environment," said Doran.

The Canadian Navy served as the opposition force throughout the exercise.

Tandem Thrust is the largest regularly scheduled joint-combined exercise in the Western Pacific. It continues to be the centerpiece of the USN's 7th Fleet's training to function as a Joint or Combined Task Force.

Approximately 1000 Australian Navy and Air Force personnel participated in TTV9. The four participating RAN ships were HMAS PERTH, SYDNEY NEWCASTLE and SUCCESS. They were supported by three RAAF P-3C patrol aircraft from 92 Wing.

An 18 personnel Clearance Diving Team (CDT) element also attended. They were involved in operations that included Cladesteins Beach Recon, EOD, Flyway missions, fast rope/parachute and boat insertions.

There were also a number of personnel from the newly formed Deployable Joint Forces Headquarters (DJFHQ) under the command of COMFLOT. This was their first international exercise since their inception.

There were approximately 800 Canadian Navy and air force personnel aboard three Canadian Navy ships and one patrol aircraft serving as the maritime opposition force for TTV9. The ships were HMCS HURON, CALGARY and PROTECTOR.

**USN Commissions New Destroyers**

The US Navy has commissioned two Arleigh Burke-class Guided Missile Destroyers, USS PORTER (DDG 78) and USS HIGGINS, in a ceremony attended by [Sponsors and government officials](https://www.usnavy.mil/). The event, held on March 15 in the Pacific Ocean, continued until March 22.

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**SSBNs May Convert to Conventional Role**

Senior USN officials may soon approve a plan to convert four Ohio-class Nuclear Powered ballistic missile submarines (SSBNs) to a conventional role. The plan is to convert the subs from ballistic missile carriers to Special Forces and Tomahawk carrying platforms, SSNS. Nearly 154 Tomahawk cruise missiles, 104 Special Forces troops and their equipment and a Command and Control centre to replace the 24 Trident D4 missiles are envisaged in the plan.

The plan itself would not only meet the requirements of the Strategic Arms Reduction Treaty 2 (START 2) with Russia but save the USN from millions in new build costs.

The projected net cost is between $1.2 billion and $1.5 billion and produce an enhancement on the war fighting capabilities of the USN plus the ability to remain at sea for 80% of the year.

**More Silver Bullets Please**

Pentagon officials have received emergency funds to replenish US military's dwindling stocks of Precision Guided Munitions (PGMs).

The increased funding is going towards the purchase of more ships launched Tomahawk, more of the newly introduced Joint Direct Attack Munition (JDAM) and more Conventional Air Launched Cruise Missiles (CALCMs) for the USAF.
The call came from use in last December's Operation "Desert Fox" and the carrier's own "Operation Allied Force" against Serbia.

"We're running out of cruise missiles and CAEMLD's said Navy Capt. Bert Joiner, Commander Naval Warfare Testing Centre, China Lake, Calif. "In Kosovo and Iraq and these smaller conflicts, we're using up a lot of standoff weapons and PGMs to avoid US casualties."

Before Operation Desert Fox the USN had 2,300 Tomahawks however since last December more than 425 Tomahawks, nearly five years worth of production, have been used. The USN has been given US$21 million to remanufacture 324 older Block I, Block 100 Block IC and 200 Block 1 TASM (Tomahawk Anti Ship Missile) missiles to the Block IIIC version. The conversion of the TASM is the most expensive, at US$1 million each, while the others will cost half that amount. For the TASM, nothing from the wings forward has to be replaced. The whole 624 missile conversions will take two years to complete by which time Raytheon is expected to start production of a new Tomahawk missile.

As THE NAVY went to press it was revealed that Congress was considering going further than the military's request adding 300 brand new build Block III missiles, converting another 200 Block II and converting all 525 TASM to Block III land attack variants.

Vietnamese Boost Military

The Vietnamese Navy is set to receive two modified Tarantul II corvettes from Russia. The two 450 tonne corvettes will join two other Tarantul I corvettes which have been in service since 1996. The new ships will be armed with the new SS-N-25 Swifthadle ASM, SA-N-9 Gauntlet SAMs, a 105 mm gun, two 30 mm anti-aircraft guns and torpedoes. According to the Russians, design work on the new corvettes commenced in 2000.

This order comes on the heels of a recent US$100 million purchase from North Korea of two second-hand Sang-o mini submarines and in what could be described as an escalation in the region's arms race, an unspecified quantity of Scud C missiles.

Melbourne Unsafe from Serb Protests

A planned visit to Melbourne by the Ticonderoga class cruiser USS PRINCETON last April had to be cancelled and the ship diverted to Hobart due to concerns protests from Melbourne's Serbian Community.

The order to divert to Hobart and join the carrier, USS CARL VINSON, the US 7th Fleet Command as a result of violent protests against the US Consulate in Melbourne and reports of planned protests against the ship. Melbourne Unsafe from Serb Protests

JMSDF Fires on North Koreans

On 23 March two "suspicions" North Korean ships, which had entered Japanese territorial waters, were challenged. The vessels gave an armament of two twin launchers for the JSN-2 missile, a twin launcher for the JSM-10 missile and a 20mm gun.

India Despatches Carrier to Persian Gulf

India has sent its aircraft carrier INS VIRAAT, to the Persian Gulf for the first time as part of its attempt to increase its influence in the region. The trip was accompanied by the Kashin II class destroyer INS RANVIJAY and the replenishment ship INS SHALIKHSTI.

"India would like to have greater interaction with its neighbouring militaries for there is much to share", said a un-named senior Indian defense official.

On returning from the Gulf the carrier is expected to conduct joint manoeuvres with the French carrier FOCH off the western coast of India.

New ASM Defence

US Defense scientists are working on a new form of ASM (Anti-ship Missile) design involving a wall of water. Called the Water Barrier Ship Self Defense System, it involves launching a rocket propelled line charge 100m from the ship which explodes causing a wall of water to be formed.

According to the scientists, model testing has demonstrated the ability of the water barrier to defeat incoming fragments and projectiles. Tests conducted on a TOW anti-tank missile validate the scientist's claims and demonstrated the destructive effects of the water plume. Scientists are investigating other applications for the water plume such as torpedo defence, mine countermeasures and non-lethal use against small craft.

Land Attack Standard Missile Go Ahead

The USN has been given the go ahead for modification of 800 SM-2 Block IIII Standard missiles in the new Land Attack Standard Missile configuration LASM.

Fired from a MK-41 VLS the missile is a normal SM-2MR anti-aircraft missile modified with a new warhead, low drag nozzle and GPS in order for it to hit targets out to 140m. The missile is intended to provide land forces with rapid precision force support.

Charles de Gaulle Achieves 20kts

The French nuclear powered aircraft carrier CHARLES DE GAULLE has reached over 20kts on speed trials during March. The trials were late as a propulsion failure delayed the ship up for eight weeks. French Navy officials said the new trials confirmed that the carrier's previous problems had been rectified. Auxiliary electrical pumps, used to circulate water around the vessel's secondary circuit, were responsible for the delay but are now working well.

The ship is expected to conduct aircraft landing trials soon with Super Etendard fighters and then with the new Rafale.

UK Awards Trimaran Demonstrator's Contract

Vosper Thornycroft has been awarded a US$21.3 million contract by the UK MoD (Ministry of Defence) to build a trimaran demonstrator to assess the merits of the trimaran hullform. The vessel will have a length of 90m, a beam of 20m and displace 1,100 tonnes.

The demonstrator will test the new hullform as a possible replacement for the Type 23 frigate post 2010.

Initial research on the new hullform has indicated that savings could be made in reduced life cycle and acquisition costs as well as providing better sea keeping, reduced signature, better survivability and a more flexible layout.

The fundamental advantage of the trimaran is that it resolves the dichotomy of minimum resistance, where a long slender hull is the optimum shape, against deck space and stability. It achieves this by using outgainers to provide stability and a main hull optimised to provide speed.

The ship will be powered by a 4MW diesel-electric propulsion unit for a maximum speed of 20kts. The vessel is due to undergo testing in September 2000.

Proposed upgrades:

• CG 47-51
• VLS, ERGM (Extended Range Guided Missions), LASM (land attack Standard Missile), Tomahawk and SM-2.
• CG 59-64
• Navy Theatre Wide Missile Defence (4 ships) and Navy Area Wide (2 ships).
• SM-3 plus Area Air Defence Commander Battle Management System.
• CG 52-57
• Upgraded Navy Theatre Wide Missile Defence, SM-3 and Battlefield Management System.
• CG 65-73
• Area Theatre Wide Missile Defence, ERGM, LASM and SM-2.
Contract Signed for 2nd Penguin Acquisition

The Department of Defence has exercised an option worth $76 million to buy additional Penguin antitorpedo-bullet (ATB) missiles and related equipment for the Navy’s ANZAC Ship helicopters, the Kanut SH-2G (A) Super Seagull.

A contract for additional missiles was signed by the Vice-President of Kongsberg Defence and Aerospace AS of Norway, Mr Vidar Sandengen, and the Director General Helicopter and Guided Weapons, Mr Gunnar Tuisk, in Canberra.

The contract for Phase 2 of the project follows the initial contract for $79 million signed with Kongsberg in February last year which provides for 2nd Penguin.

The missiles, with a range of better than 30 km, will provide extra savings on unit costs of Penguins.

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opened/removed to allow access to vessel services. Colbeck & Gunton have installed single leafed hinged fire doors, single and double sliding fire doors, gaullotine fire dampers, engine room fire dampers, fire hatches and smoke baffles throughout the ship forming the best structural fire protection system available for high speed aluminium craft.

A marine approved Thorn Solid State Fire Detection system which monitors a combination of smoke, break glass, heat and flame detectors, and has been installed. The three levels of fire extinction devices are provided as listed below:

- Portable hand held extinguishers
- Fire hydrants and fire hose reels and
- Overhead fire sprinkler systems and CO2 gas flooding system for the engine rooms.

Conclusion

The introduction of a high speed catamaran will complement Australia's ability to move troops and equipment in the most effective manner and will support the increased levels of preparedness recently announced by the Federal Government.

The new vessel will participate in a range of ADF exercises including 'Crocodile 99' later this year. There is also scope to use it in the provision of support for disaster relief operations within Australia.

The Department of Defence has charted the catamaran for a two year period. It will be based in Darwin from the end of June and commissioned into Naval service, with two crews of 20 Navy and Army personnel. As mentioned training of the crews took place at the Australian Maritime College, Launceston. Additional, onboard training will take place under the supervision of an experienced check captain.

"This charter represents a further investment by Defence in Australian industry and technology," said the Minister for defence Mr John Moore. "It increases the operational effectiveness of the ADF and boosts linkages between the Defence Force and local industry. It also provides the ADF with an opportunity to trial and evaluate high speed, multi-hull technology for a range of military applications, in a realistic operating environment."

The United States Navy and Royal Navy are also considering the multi-hull concept for sea transport operations and have expressed interest in Australian catamaran designs.

"Australia is internationally renowned for advances in the development of this type of vessel which offers an innovative solution to current defence requirements," Mr Moore said.

### Superstructure

The aluminium superstructure is supported on vibration damping mounts and was configured to provide seating for up to 876 passengers and a crew of 24 people.

A full width wheelhouse is fitted with central and wing control positions for docking. A variety of entertainment, navigation, radio, control and monitoring equipment has been provided to suit the owner and Classification Society requirements.

The spacious air conditioned crew mess, located under the bridge can be accessed via a private stairwell leading from the bridge or alternatively, from the forward starboard passenger ramp.

Access to the main passenger areas may be gained through dedicated passenger gates located aft; two aft staircases from the vehicle deck; or alternatively, two forward ramps from the vehicle deck.

### Ride Control

Passenger comfort has again been increased significantly with the introduction of the 86 metre wave piercing catamaran. Part of the improvement can be attributed to the enhancement of the Maritime Dynamics Inc. ride control system now installed on 21 INCAT car ferries.

The system consists of an active trim tab mounted at the transom of each hull, which provides trim and motion damping. Interestingly, the operator can adjust the gain on pitch, roll and heave motions to optimise the performance of the system for a specific sea condition, wave direction and speed. The optimisation obviously results in enhanced ride characteristics.

Ride has also been enhanced by increasing the waterline length of the ferry. For example, since the early 74 metre car ferries the waterline length has been increased by more than 17 metres (15%).

### Safety and Fire Protection

**JERVIS-BAY** is equipped with four of the world's most advanced Marine Evacuation Systems (MES) and six, 100 man lifeboats.

The system, supplied by Lifesraft Systems Australia, has proven itself under international scrutiny and is without doubt the fastest and safest available. The MES and rafts fitted ensure that 900 people can be evacuated in under 12 minutes - a time which is significantly less than that required by the IMO standard. Further, the system reduces the full load minimum evacuation crew to 24 people.

Each MES can be operated individually by a single crew member at a local evacuation station or alternatively, the entire system can be activated from the bridge. A significant safety feature incorporated into the MES is that when deployed, the liferaft (connected by the slide) is securely positioned 12 metres out from the hull of the ship, as opposed to deploying alongside. All MES units are removed, inflated, tested and reinstalled every year.

The 100 person rafts are fitted at the aft port and starboard heave mounts and was configured to provide seating for up to 876 passengers and a crew of 24 people.

A variety of entertainment, navigation, radio, control and monitoring equipment has been provided to suit the owner and Classification Society requirements.

The spacious air conditioned crew mess, located under the bridge can be accessed via a private stairwell leading from the bridge or alternatively, from the forward starboard passenger ramp.

Access to the main passenger areas may be gained through dedicated passenger gates located aft; two aft staircases from the vehicle deck; or alternatively, two forward ramps from the vehicle deck.

### Ride Control

Passenger comfort has again been increased significantly with the introduction of the 86 metre wave piercing catamaran. Part of the improvement can be attributed to the enhancement of the Maritime Dynamics Inc. ride control system now installed on 21 INCAT car ferries.

The system consists of an active trim tab mounted at the transom of each hull, which provides trim and motion damping. Interestingly, the operator can adjust the gain on pitch, roll and heave motions to optimise the performance of the system for a specific sea condition, wave direction and speed. The optimisation obviously results in enhanced ride characteristics.

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A marine approved Thorn Solid State Fire Detection system which monitors a combination of smoke, break glass, heat and flame detectors has also been installed. The three levels of fire extinction devices are provided as listed below:

- Portable hand held extinguishers
- Fire hydrants and fire hose reels and
- Overhead fire sprinkler system and CO2 gas flooding system for the engine rooms.

### Conclusion

The introduction of a high speed catamaran will complement Australia's ability to move troops and equipment in the most effective manner and will support the increased levels of preparedness recently announced by the Federal Government.

The new vessel will participate in a range of ADF exercises including 'Crocodile 99' later this year. There is also scope to use it in the provision of support for disaster relief operations within Australia.

The Department of Defence has charted the catamaran for a two year period. It will be based in Darwin from the end of June and commissioned into Naval service, with two crews of 20 Navy and Army personnel. As mentioned training of the crews took place at the Australian Maritime College, Launceston. Additional, onboard training will take place under the supervision of an experienced check captain.

"This charter represents a further investment by Defence in Australian industry and technology," said the Minister for Defence Mr John Moore. "It increases the operational effectiveness of the ADF and boosts linkages between the Defence Force and local industry. It also provides the ADF with an opportunity to trial and evaluate high speed, multi-hull technology for a range of military applications, in a realistic operating environment."

The United States Navy and Royal Navy are also considering the multi-hull concept for sea transport operations and have expressed interest in Australian catamaran designs.

"Australia is internationally renowned for advances in the development of this type of vessel which offers an innovative solution to current defence requirements," Mr Moore said.

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**Principal Dimension and Capacities**

<table>
<thead>
<tr>
<th>Principal Dimension/Capacity</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length overall</td>
<td>86.62 m</td>
</tr>
<tr>
<td>Length waterline</td>
<td>76.41 m</td>
</tr>
<tr>
<td>Beam overall (excluding fenders)</td>
<td>26.00 m</td>
</tr>
<tr>
<td>Hull beam</td>
<td>4.33 m</td>
</tr>
<tr>
<td>Depth (mid)</td>
<td>6.75 m</td>
</tr>
<tr>
<td>Hull centreline to vessel centreline</td>
<td>10.83 m</td>
</tr>
<tr>
<td>Draft (U.S.K.)</td>
<td>3.60 m</td>
</tr>
<tr>
<td>Fuel capacity (approx.)</td>
<td>4 x 15,350 l</td>
</tr>
<tr>
<td>Long range fuel capacity (approx.)</td>
<td>2 x 245,000 l</td>
</tr>
<tr>
<td>Emergency generator fuel capacity (approx.)</td>
<td>2 x 857 l</td>
</tr>
<tr>
<td>Fresh water capacity</td>
<td>5000 l</td>
</tr>
<tr>
<td>Saddle capacity</td>
<td>5000 l</td>
</tr>
<tr>
<td>Lubricating oil storage capacity</td>
<td>2 x 833 l</td>
</tr>
<tr>
<td>Passengers (1000 maximum, reduced to 800)</td>
<td>876 people</td>
</tr>
<tr>
<td>Crew</td>
<td>24 people</td>
</tr>
<tr>
<td>Vehicles</td>
<td>200 cars or a combination of cars and up to four coaches</td>
</tr>
</tbody>
</table>

Abbreviations: MCR = Maximum continuous rating

1 = one, m = metres, kW = kilowatt hour

---

**Trial Results**

<table>
<thead>
<tr>
<th>Test / Rating</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lightship</td>
<td>47.5 knots @ 94% MCR</td>
</tr>
<tr>
<td>Two way average speed (370 tonne deadweight)</td>
<td>42.19 knots @ 94% MCR</td>
</tr>
<tr>
<td>Typical Performance</td>
<td></td>
</tr>
<tr>
<td>Service speed (350 tonne deadweight)</td>
<td>43 knots</td>
</tr>
<tr>
<td>Fuel consumption</td>
<td>212 grams/kW hour</td>
</tr>
<tr>
<td>Fuel consumption: .350 tonne deadweight, per sea mile @ 44 knots</td>
<td>0.21 lines</td>
</tr>
</tbody>
</table>
Book Reviews

AUSTRALIA'S NAVAL INHERITANCE

Imperial Maritime Strategy and the Australian Station. 1900-1999
By Nicholas A. Lambert
Publisher: Maritime Studies Program
Dept of Defence (Navy)
Review: M G Bryant

In recent years there has been a small revolution in the field of Australian naval history. This revolution has resulted from reviews and conferences of the Maritime Studies Program and the work of the Naval History Directorate. Together these organisations have revitalised the study of Australia's naval history to the benefit of the Royal Australian Navy.

An example of the fine work being currently undertaken is the latest volume in the series paper's in Australian Maritime Affairs. This volume authored by Nicholas A. Lambert, an internationally known and respected naval historian, is a compilation of documents, principally from the Public Records Office, dealing with the naval defence of the Australian colonies in the period through to 1909.

The volume shows, in documentary form, the battle between the Admiralty and Australian Government in their desire to create an Australian navy. They reveal in part, the reasoning behind the Admiralty's opposition to the establishment of an independent navy, including strategic control and personnel. However, what the Admiralty failed to appreciate was the national desire of Australia to have its own navy, not just a visiting squadron of British warships.

Nicholas Lambert has prefaced Australia's Naval Inheritance with a lengthy article tracing the naval relationship between the Australians and the Admiralty. The perspective of the article, principally British, provides a good balance to some of the more nationalistic appraisals that have been written in Australia.

The publishing of this work has made available to Australian scholars documents which otherwise may only be available in the United Kingdom and will prove to be an invaluable research resource. The period covered by the documents in Australia's Naval Inheritance is also significant in that these were the years leading up to and immediately following Federation. An important component was the defence of the colonies.

If there is criticism that could be made, it is that a better product could have been produced if this work could have been produced by a commercial publisher. This is a criticism levelled more at Australia's commercial publishers, who would rather publish second rate stories than first rate naval history.

Australia's Naval Inheritance is an excellent work and builds on the previous publications of the Maritime Studies Program and that is highly recommended to anybody interested in the history of the Australian Navy and Australia's road to nationhood. I am looking forward to seeing future publications from this series.

Editor's Note: Copies of Australia's Naval Inheritance may be obtained from Naval History Directorate, Department of Defence (CP-3-4-411, Canberra ACT 2600).

CANADA AND THE BATTLE OF THE ATLANTIC

By Roger Sarris
Publisher: Art Global and Department of National Defence
Review: Joe Stracsek

If there was a battle that was crucial to the outcome of the war in Europe it was undoubtedly the Atlantic Ocean. Victory or defeat would be determined by the U-Boats ultimate victory for the Allies. Defeat, whilst not leading to an ultimate Allied defeat, would have resulted in a far greater loss of life and longer war.

The naval victory in the Atlantic helped shorten the war and reduce the human suffering. The role of the Royal Canadian Navy has often been overlooked or understated, as has the role of most Commonwealth countries in the Second World War. Many as RAN DEMS gunner serving in the Atlantic has memories of the small Canadian escorts battling not only the U-Boats but also extremely poor weather conditions and at times uncooperative merchant ships, in an attempt to get the vital supplies through.

Canada and the Battle of the Atlantic tells the story of the Royal Canadian Navy in this momentous struggle. Above all else it is a human story. A story of life, struggle, and death at sea. Whilst some readers may question the retelling of such a story after 50 years, it is important to remember the service rendered by sailors and the roles played by the Navy in war.

Roger Sarris has written a book about these human elements as much as it does the history of the events he describes. It is illustrated with a large variety of photographs clearly depicting the many aspects of the war at sea. From those who commanded adshore to the ships and men who fought the war at sea. Canada and the Battle of the Atlantic is highly recommended.

PORTSMOUTH WARSHEIPS 1900-1950

By Syd Goodman
Publisher: Halvinghouse House, Lower Moor Way, Tivetston, Devon, EX16 6JS, United Kingdom
E-mail: www.halvinghouse.com
Reviewer: Ross Gillett

This is a 150 page book, a pictorial survey of many of the Royal Navy warships that operated from the historic port. Each illustration is captioned with a brief history of the ship, with all of the 180 photos reproduced from the Goodman collection, a 40,000 photo library amassed over a century.

The publishers have also released a companion volume, Portsmouth Warships 1900-1950.

The Royal New Zealand Navy (RNZN) is a small but efficient service, with a proud history of naval operations, dating back to the actions of the RNZN-maned light cruiser HMS ACHILLIES at the battle of the River Plate in 1939.

The RNZN of today is busy accepting into service two major programs that will see it become the most modern and capable, with the Royal New Zealand Navy. The first is the new SH-2G Super Seasprite helicopter. Replacing the elderly Wasp helicopters, the SH-2G represents a quantum leap in capability, and will introduce an anti-ship missile capability to the RNZN.

The second major program is the ANZAC ship program. This joint New Zealand/Australian project will see the construction of ten ships at Williamstown in Victoria, from components manufactured in both countries. Eight ships are destined for the RAN, with two more, HMAS Ships TE KAHA and TE MANA, being delivered to New Zealand.

It was originally envisioned that New Zealand would exercise an option in the contract and order one or two additional ANZAC frigates to replace the aging LEANDER class frigates. Wellington and Canterbury Wellington was commissioned in 1969 while Canterbury was commissioned into the Royal Navy as HMS BACCHANTE in 1971, before being transferred to the RNZN in 1982. Instead a New Zealand cabinet decision saw the option not exercised.

This has left the RNZN with the two new ANZAC frigates, Wellington due to pay off in late 2000 and Canterbury due to pay off in 2005. With the Navy's made-to-order case that a minimum of three ships were required to allow the Navy to carry out even a bare minimum of operational tasks, together with cabinet's refusal to fund the construction of new ships, plainly some other avenue needs to be sought.

One option is to acquire second hand warships to replace the LEANDER's when they pay off. It has been reported that the RNZN is studying such options with an eye to introducing them in the 2005 timeframe. If a decision is taken to pursue this option, what ships may be available?

The fall of the Berlin Wall in 1989 and the resulting demands for a "peace divided" have seen the world's navies shrink dramatically. Hundreds of ships have been scrapped or sold off to buyers around the world. The once mighty US Navy has paid off more than 300 ships since 1989, with similar, smaller reductions in other Western and Warsaw Pact navies.

Amongst the most popular ships to be sold off in other navies have been the frigates of the US, with several dozen BRONSTEIN, GARCIA, KNOX and PERRY class frigates transferring to other countries. On a smaller scale the UK has sold off members of the LEANDER, AMAZON and BROADSWORD classes, while the Netherlands has sold KORTENAAR class frigates in both Greece and the United Arab Emirates.

The sale or transfer of these ships, together with those of other declining naval powers, has seen the number of ships that may be available for purchase by New Zealand dramatically reduced.

To understand which ships are available or which may become available it is necessary to examine the requirement they would have to fill. New Zealand is a maritime trading nation, with the vast majority of all imports and exports travelling by sea. Whilst there is no perceived threat to local shipping routes, further afield the
same cosy situation may not always apply. Many of New Zealand's major markets are located in north-east Asia, Japan, South Korea, Taiwan and China. The continuing multi-lateral dispute over the Spratly islands, through which much of the region's maritime traffic must pass, is an example of an area in which future problems may lie.

In addition, New Zealand has been a beneficiary of UN Maritime operations in the past and may be called upon to do so in the future. Such operations require a vessel capable of making a meaningful contribution to the operation, and prudence dictates a reasonable level of self-defence capability.

The waters of New Zealand's 200 kilometre Exclusive Economic Zone are home to vast stocks of fish, and may support other resources such as seabed minerals. To patrol and protect these resources, the vessels used must be capable of operating in the notoriously stormy waters off New Zealand.

Taken together, this suggests that a replacement for WELLINGTON and CANTERBURY should be a well-armed frigate design, of at least 3,000 tonnes, with good seakeeping qualities and capable of operating in the stormy waters off New Zealand.

The Type 22 Batch 2 frigate HMS BEAVER during the 1988 Naval Bicentennial Salute in Sydney (M. schwartez)
Observations

By Geoffrey Evans

The People Problem

In a lengthy association with the RAN the writer has observed a great many changes, mostly not always resulting in a more effective navy.

One of the most important areas of change - perhaps the most important - is that of personnel: the most sophisticated equipment is wasted without someone to decide how and when it is to be used - although it seems even decision-making is becoming a task for computers rather than humans.

When the writer joined the navy during World War II the destroyers in which he served had a complement of over 300 all men of course. Her 1900's frigate namesake, a slightly larger and potentially more lethal warship, was manned by little more than half this number - including women, restricted to dream (and shore leave) by seagoing sailors until recent times.

A gradual move from steam to other forms of propulsion - and a very rapid advance in electronic technology - are among the changes that have reduced the requirement for seagoing personnel in all modern navies. In the RAN the demise of high-complement ships - cruisers and aircraft carriers - has also reduced the demand, compensated in part by a need for increased shore-based training facilities and the necessity of more frequently upgrading the skills of personnel.

The present RAN workforce is 13,400 men and women with a target of 14,000. A comparatively small number measured against employment in many industries and commercial organisations, it is reasonable to think recruiting would not be the problem for the navy - and the ADF generally - that it has become.

Interest, particularly among young people, in the armed forces as a career or form of employment seems to have declined from the late 'seventies onwards. A period during which youth unemployment has remained fairly high. Table 1 indicates the extent of the decline (see next page).

Failure rates, in enlistments as a percentage of applications, are due initially to inadequate numeracy and literacy skills followed by medical rejections as the recruiting process continues.

Table 1. indicates the extent of the decline (see next page).

While there are numerous factors influencing recruiting for the ADF, changes in society are without doubt the main cause of problems and seem likely to continue. The quest for material gain has become much more important, authority tends to be distrust and resentment, "globalisation" and nationalism compete and cause confusion, affluence does not appear to have been matched by a corresponding desire to help the less-fortunate - or to serve the nation.

Pay and conditions. For "Old Navy" personnel both have improved almost beyond recognition, but even so pay is reported to be unattractive to would-be applicants as well as causing retention problems in respect of those already in the Services. ("Oastage" is the new word). Following a lengthy inquiry, extensive changes are taking place, too complex to discuss here, but designed to reward skills and, financially at least, to make the Services competitive with civilian occupations.

The writer learned to his surprise that events such as the Gulf War and the more recent "Balkans" operation, instead of attracting more recruits has had the opposite effect. It would seem that unless the Australian society undergoes some fundamental changes and becomes less materialistic, less in need of constant entertainment and more conscious of the world in which it is a geographically large but in other respects a small part, then it has a somewhat belated future.

Melbourne - Uncertain Welcome

The diversion of the American cruiser PRINCETON from Melbourne to Hobart earlier this year did not help the city's reputation as a friendly place to visit. Quite the reverse.

The precautions necessary to protect the crew of visiting warships, alleged, without foundation, to carry nuclear weapons, not forgetting the disgraceful episode involving the British aircraft carrier ARK ROYAL, when tugs refused to enable the ship to berth must surely have influenced the thinking of hundreds of young men and women about Melbourne hospitality.

The precautions taken and decisions made to divert ships away from Melbourne are no doubt warranted but it is not to the credit of the vocal groups that cause the problems.

The SYDNEY Inquiry

This "Observer" does not pretend to have read every one of the nineteen volumes of submissions and statements made to the parliamentary inquiry into the loss of the Australian cruiser SYDNEY, following an engagement with the German auxiliary cruiser KORMORAN in November 1941. He did however read many of the papers and in particular the final report issued in March 1949, itself a sizeable document of over 300 pages.

The Defence Sub Committee of the Joint Standing Committee on Foreign Affairs, Defence and Trade which carried out the inquiry, states in the opening paragraph of its conclusion and recommendations that it is aware the report "may not put an end to the wilder speculations that surround this matter". In this regard the writer is of the opinion it would have been better to continue the report to the 10 pages containing the conclusions and recommendations, each of which is supported with an adequate explanation, and omit most if not all the 172 pages elaborating on the reasons, many of which repeat the "wild speculations". Retention would not appear a good way to reduce the large number of theories which will no doubt continue to be argued.

The sub committee clearly accepts that the reason SYDNEY was placed in a position enabling her inferior opponent KORMORAN was well armed but with limitations of a merchant ship to cause her loss, will never be known. It makes 18 recommendations of which those relating to a search for SYDNEY and KORMORAN (nos. 10 to 15 incl.) are particularly important.

In the first place, the writer has reservations about the need to find the wreck, or indeed the desirability of doing so. He has in mind that one of the greatest maritime tragedies of all time, the loss of the TITANIC and over 1,500 lives has, since discovery of the wreckage, developed into a form of entertainment. Rather than be memorialised, as proposed, over time SYDNEY and KORMORAN could well become objects of curiosity and money-making in an increasingly materialistic world.

Also, given the uncertainty surrounding the site of the engagement, any search will require resources and facilities likely to be costly. In this regard it would seem wise to place undue pressure on the ADF to be a provider as it is already stretched coping with today's rather more pressing security problems.

With regard to ways of commemorating the heavy loss of life resulting from the SYDNEY-KORMORAN engagement recommendations nos. 16 and 17, the writer wonders if it is appropriate to select any particular ship to receive special attention: Many Australian sailors lost their lives during World War II in a variety of circumstances, but in the end no sacrifice can be said to be greater than another.

Tabel 1.

<table>
<thead>
<tr>
<th></th>
<th>1978/9</th>
<th>NAVY</th>
<th>1998/7</th>
<th>NAVY</th>
<th>1999/00</th>
<th>NAVY</th>
</tr>
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<tr>
<td>ADF</td>
<td></td>
<td></td>
<td>ADF</td>
<td></td>
<td>ADF</td>
<td></td>
</tr>
<tr>
<td>1978/9</td>
<td>8,058</td>
<td>1,770</td>
<td>24,524</td>
<td>5,866</td>
<td>3,409</td>
<td>1,201</td>
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<tr>
<td>1998/7</td>
<td>18</td>
<td>17.25</td>
<td>18.2</td>
<td>18.3</td>
<td>25.5</td>
<td></td>
</tr>
</tbody>
</table>

Notes: 1998/9 figures date to follow a similar pattern.

The unemployment rate was lower in 1978 than at present.
Out of the Past
HMAS LEEUWIN (II)

By Vic Jeffrey

At the mention of HMAS LEEUWIN (II), most people immediately think of the new RAN Survey ship of that name. Not so.

HMAS LEEUWIN (II) was a World War II Naval base located several kilometres further up the Swan River than HMAS LEEUWIN - shore establishment at east Fremantle, on the Northern side of the river in Western Australia.

Commissioned on September 7 1942, by Commander C P Hearn (CQ of HMAS LEEUWIN) the base was to act as a tender to her larger sister. It occupied the premises of one of WA’s most prominent yacht clubs. The Royal Freshwater Bay Yacht Club located at Keane’s Point in the prestigious leafy Perth riverside suburb of Peppermint Grove.

The Royal Freshwater Bay Yacht Club was the most suitable and only position close to Fremantle that could be used for harbour and coastal patrol work. With a state of the war emergency in June 1942, the site was requisitioned by the RAN.

A number of new buildings were added to house personnel and maintenance workshops to service patrol craft. The upstairs area of the yacht club housed the ratings who marched in July 1942. The downstairs area became the officer’s wardroom with the annexe becoming the ship’s office and spare quarters.

The rallying of boat owners and other citizens considerably assisted the building of the small and efficient depot at minimal cost to the government. It was commanded by Lieutenant Commander Roland Smith, the former Commodore of the Freshwater Bay Yacht Club located at Keane’s Point in the prestigious leafy Perth riverside suburb of Peppermint Grove.

Patrol vessels from LEEUWIN (II) performed various duties by day both in and out of the inner harbour patrol. Patrols of the inner and outer harbour boom defence nets, patrols of prohibited areas used by USN floatplanes, Gate Roads - where despatches, mail and relief crew ferried to naval vessels in the outer harbour, and sweeps as far as the South Passage and Garden Island.

Some of the privately owned vessels taken up by the Naval Auxiliary Patrol were: ALTAR, AVALON, AVANT, DOLPHIN, GLADMORE, GREEK, HALYCON, HIAWATHA, JAMES INNES, KIMRA, MARLIN, MIAMI, PETER PAN, PINAFORTE, SEAFARER, SIESTA, TEMERAIRE, WINNILYA and VLAMING. Two of these vessels: SIESTA and GLADMORE were lost to fire during their NAP service.

From June 1944 the NAP was reduced to a minimum as modern patrol vessels entered service and the threat of attack diminished.

One of the relics, which still stands today, from that era in the 3.5-inch deck gun from the Dutch submarine K XI which was decommissioned in Fremantle on 10 April 1945 after having arrived on 22 March 1945.

Purchased by a Mr McMinn of the New York Junk Co. through the Australian disposals commission. Captain Harold Tilley of Fremantle’s company was contracted to strip the submarine.

On berth in Fremantle at a premium, K XI was towed to LEEUWIN (II) where she was secured to allow stripping to commence. At 670 tons and a length of 180 ft 60 metres, the K XI was the largest vessel to ever ascend the Swan under the Fremantle traffic and railway bridges.

A grateful Captain Tilley, a club member, was so appreciative of the cooperation received, allowing him to erect tents for his workmen and allowing them to use the facilities, offered the submarine’s deck gun to the club. The gun was subsequently removed and located overlooking the Swan River where it still stands today.

The white ensign was lowered for the last time at LEEUWIN (II) when Commodore C J Pope, the Naval Officer in charge of Fremantle, addressed the ship’s company and performed the ‘paying off’ ceremony on 6 March, 1946. Thus closing another chapter in the RAN’s history.

Patriot vessels PETER PAN (nearest Camera), unidentified Launch astern, with KIMRA and WINNILYA (outboard) across at HMAS LEEUWIN (II).

(Photograph courtesy of WA Newspapers via Vic Jeffrey)
Hatch, Match & Dispatch

This edition sees the addition of a new regular feature entitled HATCH, MATCH & DISPATCH. Given the large number of ships due to launch (HATCH), commission (MATCH), and decommission (DISPATCH), we decided to create a photo record of these events as a regular feature; when we can. We hope you enjoy it.

HATCH

The newly commissioned HMAS JERVIS BAY in her navy colours. (RAN)

The newly commissioned HMAS HUON entering the water at ADI's Newcastle facility. (ADI)

The new minehunter NORMAN entering the water at ADI's Newcastle facility. (ADI)

STUART launching from Tenix's Williamstown facility. (Kevin Dunn, Tenix)

Mrs Ivy Hayes, sister of Teddy Sheean, with our latest Collins-class sub SHEEHAN being launched in Adelaide. (Rann Communications)

MATCH

The newly commissioned min-hunter HMAS HUON. (ADI)

The newly commissioned HMAS JERVIS BAY in her navy colours. (RAN)

DISPATCH

The former HMAS ONSLOW now forms part of the exhibits at The National Maritime Museum at Sydney's Darling Harbour following her recent decommissioning. (Jeff Melifont, National Maritime Museum)

The flag being lowered for the last time at the decommissioning ceremony for HMAS PLATYPUS. (RAN)
The Navy League: trade.

The League believes it is essential that Australia develops capability to defend itself, paying particular attention to maritime defence. Australia is, of geographical necessity, a maritime nation whose prosperity strength and safety depend to a great extent on the security of the surrounding ocean and island areas, and on seaborne trade.

The Navy League:

- Believes Australia can be defended against attack by other than a super or major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication to our allies.
- Supports the ANZUS Treaty and the future reintegration of New Zealand as a full partner.
- Urges a close relationship with the nearer ASEAN countries, PNG and the Island States of the South Pacific.
- Advocates a defence capability which is knowledge-based with a prime consideration given to intelligence, surveillance and reconnaissance.
- 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 island 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.

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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.

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STN ATLAS ELEKTRONIK
An F/A-18 Hornet flies over HMAS ANZAC during the recent FCP 99 (Dennis Hersey, DPAO)
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Front Cover: HMAS WALLER leaving Darwin Harbour during the recent KAKADU ’99 exercise.

(c)APH Erik Kennedy RN)

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(c)APH Erik Kennedy RN)
THE FUTURE

As the new millennium approaches the RAN finds itself on the verge of a significant capability replacement, minesweepers, Anzac, LPAs, submarines etc. Whilst numerous attempts have been made to demonstrate that the replacement submarine industry is alive and well. It is now clear that on effect, the majority of programmes are either finished or in the final stages. As a result, this has led to a sense of urgency for the importance of not only the capability itself but also the role it plays in the overall maritime environment.

In this scenario, the Collins class submarine is one of the most significant programs. The Collins submarine is a class of submarines designed and built for the Royal Australian Navy. They are known for their advanced technology and capabilities, including a range of new and improved weapons systems.

The Collins class submarines are designed to operate in a variety of environments, including the deep ocean and near-shore areas. They are equipped with a range of advanced technology, including advanced sonar and navigation systems, as well as a range of weapons systems.

One of the key features of the Collins class submarines is their ability to operate in a variety of environments. They are designed to operate in shallow waters, as well as in deep ocean environments. They are also designed to operate in a range of weather conditions, including strong winds and heavy seas.

The Collins class submarines are designed to meet the needs of the Royal Australian Navy for a long time. They are designed to operate for up to 30 years, and are expected to remain in service until at least 2020.

Despite the challenges faced by the Collins class submarines, many experts believe that they will continue to play a significant role in the future of the Royal Australian Navy. They are expected to remain a key component of the RAN's submarine force for many years to come.

Dear Sir,

With reference to LEUT Gillard’s helpful letter regarding K.W. Austin’s query about IK? I feel that some further information may clarify the position.

The two letters dropped from the time alphabet are O and J. Surprisingly not ! However, the Eastern Standard Time zone was not kept by the four eastern states. The Collins is only one of the many submarines that have been involved in this sort of operation. It was designed to operate in the deep ocean and was able to do so successfully.

In the early 1940s, the Collins submarine was one of the most significant programs in the Royal Australian Navy. It was designed to operate in a variety of environments, including the deep ocean and near-shore areas. It was equipped with a range of advanced technology, including advanced sonar and navigation systems, as well as a range of weapons systems.

The Collins submarine is one of the most significant programs in the Royal Australian Navy. It is designed to meet the needs of the Navy for a long time. It is designed to operate for up to 30 years, and is expected to remain in service until at least 2020.

Despite the challenges faced by the Collins submarine, many experts believe that it will continue to play a significant role in the future of the Royal Australian Navy. It is expected to remain a key component of the RAN’s submarine force for many years to come.

Mark Schweikert

FROM OUR READERS

IK?? Again!?! K?

Dear Sir,

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Mark Schweikert
The Government's acceptance of the McIntosh/Prescott operational submarine capability and this in my view would have been delayed and some industry was briefed on July 23rd and has been receiving outstanding support from the USN and their various industry participants are involved. We are receiving high priority. As a start, the Maritime Personnel Executive at my request is conducting a trial of a three-watch regime.

In order to provide a framework to accomplish the team's mission, I have established the hierarchy of forums to coordinate agreed actions and to monitor progress. At the top of this hierarchy is the Submarine Alliance Board (SAB). The SAB brings together key Defence and Industry representatives at Board level. To manage the resolution of issues that have been identified as having a significant impact on the achievement and supportability of Submarine Capability.

The Board is comprised:

- RADM PD Briggs (Chairman)
- RADM J R Lord
- RADM R Lamacraft
- RADM W A G Dovers
- RADM G Smith
- DR B Schofield
- Mr Tomy Hirst
- Mr H Oiff
- Mr M Irving

The SAB will provide direction, review progress and manage resources within Defence and Industry to achieve the mission.

The remainder of the hierarchy consists of five forums covering operations, personnel, combat system, platform systems and in-service support.

Report Card on the Submarine Project

On 3 June 1987, a contract was signed with the Australian Submarine Corporation (ASC) for the design and construction of six submarines and associated supplies and services for the RAN. The submarines are based on the Kocksms (Sweden) design fitted with combat systems supplied by Boeing Australia Ltd, formally Rockwell Systems Australia (RSA).

The current shareholders in ASC are Kocksms 49%, AIDC 48.45% and RCI Limited, a wholly-owned subsidiary of James Hardie Industries Limited, 2.55%

The first submarine, HMAS COLLINS, was formally delivered on 15 July 1996. The second submarine, HMAS FARNCOMB was delivered on 15 December 1997 and the third HMAS WALLER was delivered on 30 April 1999. DECHAINEAUX is mid-way through contractor sea trials, SHEEAN was launched at ASC on 1 May 1999 and setting to work systems and equipment prior to commencement of sea trials later in the year. The final submarine RANKIN is 94% structurally complete, coming together in ASC's outfitting hall and scheduled for launching mid 2000.

In excess of 70% of the platform work and 45% of the combat system work has been undertaken in Australia. A 3% offset's obligation applies to the imported element of the combat system.

The total approved project cost in December 1998 prices is $450.4 million with ASC $424.4 million of this represents the current price of the contract with ASC whose current shareholders are Kocksms 49%, AIDC 48.45% and RCI Limited, a wholly-owned subsidiary of James Hardie Industries Limited, 2.55%.

The submarines are being assembled at the Australian Construction Facility at Port Adelaide which was officially opened in November 1989.

The contract with ASC requires work amounting to $3196.2 million (December 1995 prices) to be placed in Australian industry. $3212.4 million (December 1995 prices) worth of Australian work has already been committed which exceeds the contractual commitment.

Of 1000 new jobs were created at ASC but lack of further orders or new work means that some of these have begun to be laid off. Several thousand Australians also gained work through subcontracted work.

More than 100 Australian companies are participating in the program. The work being done in Australia has introduced significant new skills to Australian industry such as specialised steel production, complex welding, fabrication and machining techniques, software development.
and processes associated with producing electronic and electro-optical systems.

Work at HMAS STIRLING in WA on a Magnetic Measurement Range, Magnetic Treatment Facility and an Underwater Tracking Range, is complete. These facilities are now available for the conduct of Collins Class trials and to support the submarines and other RAN Ships through life.

Other facilities associated with the program, including a Submarine Training and Systems Centre in WA and a Land Based Test Site and Combat System Simulator in HMAS WATSON, in Sydney, are also complete and in use for proving systems and for conversion training for the crews of the new submarines.

Whilst accepting the significant number of shortcomings and problems to be fixed, the news is not all bad — there are a number of successes and technological achievements that have been realised through this project, such as:

- Dynamic Performance. The underwater manoeuvrability of the submarine exceeds the contracted requirements in many areas. The Collins divises deeper, goes faster and turns quicker than any known submarine of its type.

- Integrated Ship Control Management and Monitoring System (ISCMMS). The ISCMMS, software based ship management system, regarded originally as one of the highest risk areas, has been a success. It is the only known, fully automated ship control system in existence: it works well and a great deal of interest is being expressed in it by our allies.

- Habitability. The habitability standards of the Collins Class are equal to or better than any other conventionally powered submarine.

- Anechoic Tiles. The anechoic tiles developed by DSTO in co-operation with ASC have so far proved a great success. They are designed specifically for Australian operating conditions and illustrate how the RAN, DSTO and industry are capable of working together to produce a first class product.

- Steel Development, Production and Welding. Although based on a Swedish formula, the steel in the Collins class has been locally developed and produced. It has taken the production and welding of high strength steel in Australia to new, and higher levels. From a Quality viewpoint the welding carried out by Australian welders at ASC has a rework rate of between 0.1 and 0.3 percent against an industry standard of 39. Australian welders are performing between 10 and 30 times better than their overseas counterparts.

Australian Industry Involvement (AIL). Prior to this project, the AIL level in major defence projects seldom exceeded 12-15%. The initial goal for the Submarine Project was 60%, Defence contracted for 70% and have actually achieved some 729.

SUBSAFE Program. Based on the US system but further developed to meet Australian requirements, the Australian SUBSAFE program, introduced for the Collins Class, is probably the most comprehensive and well documented system of its type in existence.

- Industry Quality Standards. Many industries that were forced to raise their quality control and assurance to international standards in order to participate in the project are now finding that their quality accreditation has resulted in their winning competitive tenders on the world markets.

The Australian technology knowledge base has been named for past distinguished officers and sailors of the RAN.

HMAS COLLINS was named for past distinguished officers and sailors of the RAN.

HMAS COLLINS on the ASC Shiplift, 1993. (RAN)

The new submarines have been named for past distinguished officers and sailors of the RAN.

<table>
<thead>
<tr>
<th>Name</th>
<th>Number</th>
<th>Keel Laid</th>
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<tr>
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<td>SSG 77</td>
<td>1995</td>
<td>1999</td>
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<td>SSG 74</td>
<td>1991</td>
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<td>SSG 75</td>
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<td>DECHaineux</td>
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<td>SHEEAN</td>
<td>SSG 77</td>
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Collins Statistics

- Surfaced Displacement: 3350 tonnes
- Dived Displacement: 3350 tonnes
- Length overall: 77.8 metres
- Beam: 7.8 metres
- Draught: 6.8 metres
- Diving Depth: 130 metres
- Speed: 20+ kts
- Surface: 104 kts
- Steering: 161 kts
- Bow: 204 kts
- Machinery: Diesel-electric; 3 Hedemora VB 210 18 cylinder diesels; 5.4 MW. Jeumont Schneider main motor; single shaft
- Range: 90000 nm at 10 kts
- Complement: 42 plus 5 trainees
- Weapons: 6 forward tubes for Mk 46 torpedoes and Sub Harpoon missiles
- Combat System: Rockwell Advanced Combat System (now Boeing)-Scylla suite by Thomson-Siemens

Before and after. Note the new more pointed after hull casing modification on HMAS COLLINS compared to HMAS WALLER (left). This is hoped to further reduce flow noise and cavitation around the propeller (CAPT Erik Kennedy RN & RAN Communications)
In the decades since the first use of helicopters at sea, their roles and capabilities have grown immensely. Looking at the pioneering helicopters of the 1940s and 1950s, it is hard to imagine that they were the beginning of a path that would lead to today's multi-tonne, multi-million dollar helicopters.

Today's Seahawk, Super Lynx and Super Seasprite helicopters contain some of the most complex computer technology to ever fly and are as expensive as front line jet fighters. The capabilities they offer have revolutionised naval combat, extending the reach of even quite small naval vessels beyond the horizon and acting as the quintessential 'force multiplier'.

It is a truism that no part of a warship's armament receives as much use as its embarked helicopter. In war and peace, the ship's flight is an indispensable part of maritime operations. Over the horizon targeting to search and rescue, mail runs to surveillance, personnel transfers and anti-submarine warfare, all are part and parcel of the naval helicopter career. Such is their utility that strenuous efforts are made to incorporate a helicopter into even the smallest of new warships.

Adding to the capabilities of the smallest of embarked helicopters are the lethal anti-ship missiles they can carry. Small missiles such as Penguin, Sea Skua and Maverick, carried by the Super Lynx, Seahawk and Super Seasprite, are deadly to smaller vessels such as patrol boats and fast attack craft, as the destruction of a large part of the Iraqi Navy at the facetectously named Battle of Babysan Island demonstrated. There was no glorious battle, the missile and strike craft of the Iraqi Navy were simply caught on the water and wiped out for no coalition losses.

The larger missiles such as Sea Eagle, Exocet and Harpoon can be carried by larger helicopters such as the Super Puma and Sea King, and have proved their lethality in the Falklands conflict and the actions in the Persian Gulf. Major warships have been crippled and sunk by these missiles, and the future promises to introduce even faster, longer ranged and deadly ship-killers.

THE REGION

The navies of the Asia Pacific have, with several notable exceptions, been slow to take up the challenges and capabilities of embarked helicopters. The blue water navies of the United States, Canada and Japan have been enthusiastic helicopter operators for decades, with Canada and Japan pioneering the operations of large Sea King helicopters from destroyer and frigate sized vessels. Other regional navies with a long tradition of embarked helicopter operations include New Zealand (Wasps), Australia (Scout, Bell 206, Wessex and Sea King from the carrier MELBOURNE) and India (Alouette, KA-25 Hormone, KA-27 Helix and Sea King from frigates and aircraft carriers). The other navies in the Asia Pacific have lagged behind in the use of embarked helicopters, however, this is changing.

In recent years more navies have undertaken the acquisition of modern multi-role helicopters, including Malaysia, South Korea, Taiwan, China and Thailand. In addition, many of the established helicopter operators are expanding and modernising their helicopter fleets. Given the scope of these activities a short review of each Navy's aviation capabilities may be in order.

JAPAN

Japan has the most modern and capable fleet in the Asia Pacific region. The Japanese Maritime Self Defence Force operates a large fleet of frigates and destroyers, numbering more than 50, is supported by a capable submarine force and a large and sophisticated maritime aviation arm. The JMSDF operates large numbers of helicopter equipped destroyers, equipped with the SH-60J Seahawk helicopter which has replaced the SH-3A Sea King. A total of 54 Seahawk and 39 Sea King helicopters are in service (the latter now operating from shore bases). The large destroyers of the SHIRANE and HARUNA classes each operate three Seahawk helicopters, with most others operating a single Sea Hawk. In addition, ten large Sea Dragon mine-sweeping helicopters are in service, and can be embarked from the new OSUMI class amphibious ships.

The JMSDF operates a fleet of more than 90 land based P-3C Orion aircraft while a small number of Shin Meika US-1A flying boats remain in service. While there is no intention at this time to operate fixed wing aircraft at sea, it has been noted that the OSUMI class could be fitted with a ski-jump to assist in the operation of VSTOL type aircraft.

INDIA

India has operated fixed wing aircraft and helicopters from aircraft carriers for several decades. In addition it operates a mix of Russian and western helicopters from several classes of frigates and destroyers of Russian, western and indigenous design.

The new Indian ALH-3 will replace the Alouette in Indian Navy service and will be armed with ASMs, torpedoes and ASW sensors.

The Royal Australian Navy is currently undertaking an expansion of naval aviation. In addition to the Sea King, Seahawk, Squirrel and B206 helicopters currently in service, the Super Seasprite is on order to provide an enhanced anti-surface warfare capability. The RAN for many years relied on the carrier MELBOURNE for maritime aviation operations, and her retirement in the 80's left a substantial gap in capability. The Sea Kings were too large to operate from the unmodified FFG's, leaving them to operate Bell 206 and Squirrel utility helicopters until the introduction into service of the Seahawk in time for the Gulf War.

The RAN inventory includes 16 S-70B-2 Seahawks operating from the six ADELAIDE class frigates and the first two ANZAC class frigates, seven SE50 Sea Kings, of which one periodically embarks in the replenishment ship SUCCESS, six AS350 Squirrel utility helicopters which embark on the ADELAIDE class and a small number of
The Royal New Zealand Navy has finally taken delivery of five interim SH-2G Super Seasprites to fill the gap before the arrival of the new Leonardo Frigate-class frigates commissioned annually. This has been quite a long time coming, with the initial purchase of nine SH-2F Sea Knights in 1973, and the 1986 purchase of five SH-2G Super Seasprites. The remaining helicopter capable ships in the fleet are only fitted with platforms, and lack hangars and maintenance facilities.

To deal with this growing threat, the Royal New Zealand Navy has embarked on a major expansion, with a large number of new frigates and destroyers under construction. All of these new classes are designed to operate helicopters, most commonly the Harbin Z-144 Haihui, a licence-built version of the Chinese Type 051B. The Royal New Zealand Navy is equipped with the world's largest fleet of SH-2G Super Seasprites, with a total of 55 aircraft deployed on board the two frigates, four interim SH-2F Sea Knighs, and five SH-2G Super Seasprites.

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THAILAND
The Thai Navy seems poised for a major expansion of naval aviation, with the delivery of an aircraft carrier and new nuclear submarines being planned. The acquisition of a Chinese-designed 11,500 tonne aircraft carrier CHAKRI NAREUBET is a major new step for the region's navies. It was the first aircraft carrier to be commissioned into a South East Asian navy since the Indian acquisition of the former HMS HERMES in 1986, and the first new carrier to enter service in the region since HMAS MELBOURNE. Built by the Spanish shipyard that built Spain's PRINCIPE DE ASTURIAS, the new carrier will be operated by the Norwegian Aviation Services (Navy). The carrier is equipped with four Sea King helicopters, which are used for ASW and support missions. The initial purchase of nine Sea Kings has been supplemented by additional licence-built versions designated Zhi-9K and the latest Zhi-10, which can be armed with a variety of missiles, including the APRY-2 anti-ship missile. The carrier is also equipped with the Chinese-made SH-2G Super Seasprite helicopters, which are in service with the Royal New Zealand Navy and will be used for ASW and support missions.

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A USN SH-60 Seahawk fires a Penguin ASM. Seahawk is used by four regional countries, none of which use the Penguin except Australia but from its SH-2G Super SeaKings are armed with air-to-air missiles and can be lifted with a helicopter/two. However, the status of this order remains unclear, as do the requirements. For those countries not so well endowed with these systems, opening up a new range of tactics and capabilities when confronted with meteorological conditions known as ducting.

The operation of helicopters is a major step forward for many countries in the region by the recent economic developments in maritime surveillance and utility transport. The SeaKings were acquired in 1996 for maritime surveillance and utility transport and support duties, while six S-70B helicopters will provide a framework for developing this capability. The numbers and capabilities of the helicopters operated in any country will increase over the next few years, as the numbers and capabilities of the helicopters operated in any country will remain uncertain in the current economic climate.

The Asia Pacific has witnessed substantial growth in the numbers and capabilities of the helicopters operated. The operation of helicopters is a major step forward for smaller Navy’s, opening up a new range of tactys and roles. The ability of the frigates to defend themselves against modern anti-ship missiles introduced after Australia’s FFGs had entered service.

A substantial amount of the work to be undertaken by Australian industry will include high technology work associated with improved combat systems for the ships and local manufacture of the combat system.

The Australian industry Program for the FFG Upgrade will place Australian companies in a good position to provide through-life support for the ships and importantly, the ability to maintain a local shipbuilding and overhaul capability. Mr Moore said.

All six FFGs will be upgraded at ADI’s Garden Island Facility in Sydney and associated warfare support and training centres will also be upgraded.

The project includes:
- Better defences against anti-ship missiles, torpedoes and mines;
- Enhancements to overall reliability of the ships, making them more cost-effective to operate, maintain and support; and
- Improvements to living conditions on board.

The first ship, HMAS ADELAIDE, will begin the upgrade in mid-2002 following a three year detailed design and equipment acquisition phase. The final FFG should complete upgrade in late 2005 or early 2006.

**CONCLUSION**

**Flash Traffic**

$897 Million frigate upgrade contract

ADI has won an $897 million contract to upgrade the RAN’s six Adelaide Class Guided Missile Frigates (FFGs).

This project includes:

- Better defences against anti-ship missiles, torpedoes and mines;
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**DSTO helps Navy see threats**

A Defence Science and Technology Organisation (DSTO) developed software system will allow the RAN to optimise the performance of its radar and communications systems when confronted with meteorological conditions known as ducting.

Ducts can cause radars to propagate to anomalously long or short ranges. DSTO’s Surveillance Systems Division (SSD) recently handed over the software, known as the Tropospheric Refractive Effects Prediction System (TREPS) to Navy in a ceremony that marked the end of the development project.

TREPS exploits atmospheric meteorological information, such as air pressure, temperature and humidity, to model where atmospheric ducts occur and how strongly they are. The software uses this ducting information to predict the effects on microwave propagation and the performance of radar and other microwave systems.

The significance for defence is that radio waves, such as radar, can be trapped in a duct and propagate along a path following the curvature of the earth’s surface, instead of travelling in a straight line. This bending of the radio wave path is caused by the refractive properties of the atmosphere and sometimes results in waves bouncing along the sea surface for long distances.

“This software system allows officers aboard ship to understand how ducting is influencing the various systems on board and how to get best use out of them,” DSTO’s team leader Dr David Phillips said. “For detecting a sea-skimming missile, the decision might be either to switch on the radar or to rely on a passive ESM system. Ducting also has implications for communicating with other vessels or aircraft,” he said.

Ducting is a very common phenomenon in the first few tens of metres over the oceans surrounding Australia. In addition, elevated ducts commonly occur at heights of hundreds or thousands of metres above the surface.

**Tomahawk demonstrates V2K compliance**

A U.S. Navy Tomahawk cruise missile demonstrated year 2000 (V2K) readiness recently in an operational test launch from the Naval Air Warfare Center Weapons Division sea range off the coast of southern California, USS SAN FRANCISCO (SSN 711), a submerged Los Angeles-class submarine launched the Tomahawk. The missile flew a land attack mission profile to the Naval Air Warfare Center Weapons Division land range at China Lake, Calif.

The test is one of several conducted this year that has demonstrated Tomahawk’s readiness for the year 2000.
During the test, all clocks associated with the launch process were advanced to 00:29. The test mission was fired the next day with all system clocks indicating March 1, 2000. Although all equipment had been initially tested and certified, Y2K compliant in a laboratory environment, this was the first beginning-to-end Y2K deployment of the system culminating in an actual launch of a Tomahawk from a Fleet submarine.

TE KAHa to the Gulf

The NZ Government has agreed to contribute the new frigate HMNZS TE KAHa to the United Nations mandated Multinational Interception Force (MIF) in the Gulf.

The MIF assists in policing and enforcing the UN sanctions on Iraq. The vessels are in place to encourage Iraq to comply with UN resolutions requiring the dismantling of its weapons of mass destruction.

TE KAHa sailed on June 28 for Darwin where she took part in KAKADU 99. The frigate then deployed to Singapore to take part in the FPDA exercise STARDEX.

Following that exercise TE KAHa deployed to East Timor but is still expected to spend eight weeks on duty with the MIF in the Gulf.

The RNZN has contributed to the MIF on three earlier occasions: HMNZS WELLINGTON in 1995/96; CANTERBURY in late 1996 and then in late 1998 a six-man boarding team HMNZS WELLINGTON in 1995/96: KAHA deployed to East Timor but is still expected to spend eight weeks on duty with the MIF in the Gulf.

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Type 42 upgrade announced, Type 45 DDG planned

With Britain's withdrawal from the European Horizon collaborative frigate project an upgrade to its Type 42 class DDGs is now warranted to keep them in service until a replacement can be found.

The RN was planning on replacing the Type 42 at the turn of the century but now must press the ships into at least six more years of service.

British Defence Procurement Minister Baroness Symons said: "The PAAMS missile system will provide our new Type 45 destroyer with the best air defence capability, and will be effective well into the next century. The system's advanced technology will create or sustain around 1000 jobs in the UK, and help to keep this country in the front rank of the aerospace and electronics industry."

"Work on the UK warship programme, the Type 45 Destroyer, is being taken forward by a MoD Integrated Project Team working closely with industry. Smart Procurement principles are being followed to ensure that the warship will be available to deploy the PAAMS system at the planned in service date in 2007."

EX KAKADU 99

KAKADU 99 was the largest concentration of maritime units in Australian waters this year. The KAKADU exercise series is conducted every two years and provides a unique and valuable opportunity to progress RAN preparedness whilst enabling interoperability with our regional navies. This year the RAN invited eight regional countries to participate in KAKADU 99 for naval training activities and manoeuvres in the Timor Sea over a ten day period from 2 - 12 August 1999.

The KAKADU exercise commenced with building up individual ships' performances in a realistic, multiple-asset environment and then moving toward a graduated series of training activities, weapons firing and a structured freeplay period. The objective of KAKADU 99 was for both Australian and foreign naval units to improve their operational effectiveness in a concentration training environment.

LIST OF PARTICIPATING UNITS:

AUSTRALIA

RAN

HMAS BRISBANE, DARWIN, SYDNEY, ANZAC, ARUNTA, FARNCOMB, WALLER, GAWLER, CESSNOCK, ASCUDTI

EXPLOITATIVE Ordnance Disposal element, HSR16 SQU 2 S-70B2 Seawolf helicopters, 72 SQN 1 S-70B-28 SEAWOLF electronic training aircraft. TARGET SERVICES GP 2 G ATGM Leapers RAAF

75SQN RAAF TINDAL 10 x F/A-18 Hornet fighters, 1 and 6 SQNS RAAF AMBERLEY 3 x F-111 strike aircraft, 10 SQN RAAF EDINBURGH 2 x P. 3C Orion aircraft.

NEW ZEALAND:

RNZN

HMNZS TE KAHa, CANTERBURY, ENDEAVOUR, 2 x SH-2F Seaportin helicopters RNZAF

No 75 SQUADRON 8 x A-4K Skyhawk. No 5 SQUADRON 2 x P-3K Orion aircraft.

SINGAPORE:

RSN

R S V L A I N T (P89), VALOUR (P89) Victory-Class missile corvettes

R A F

6 x T/ A-4SU Super Skyhawk fighters.

1 x 300 MPA Maritime Patrol Aircraft

INDONESIA:

TNI-AU

KRI NALA (FFG 363)

PAPUA NEW GUINEA:

PNGDF (ME)

HMNZS STEADLER (PC03)

BASILISCIC PC04) Pacific-class Patrol Craft

PHILIPPINES:

PN

BRP BACALOD CITY (LC 550)

Logistic Support Vessel, BRP RICARDO (PS) Peacecraft Class Offshore Patrol Vessel

OBSEVATORS:

THAILAND

SOUTH KOREA

MALAYSIA

THE NAVY

RSN launches two more subs

The second and third submarines of the Republic of Singapore Navy (RSN), RSS CONQUEROR and CENTURION, have been launched at Kockums, Shipyard in Karlskrona, Sweden.

RSS CONQUEROR and CENTURION, like their predecessors, RSS CHALLENGER which was launched earlier on 26 Sep 97, will undergo further refurbishment and tropicalisation to extend their operational life span.

The submarines will be operating in different conditions when they return to Singapore. Warm tropical waters around Singapore are more conducive to active growth of marine barnacles on metal surfaces. The high salinity of the waters also makes the pipes and valves in the submarine more susceptible to corrosion. These problems can be addressed by replacing the steel pipes and valves with copper nickel iron unites to reduce corrosion programme. "Submarines represent one possible solution for harnessing technology to meet our defence needs. They require relatively small but highly trained crews, which fits our manpower profile in Singapore. Submarines have the potential to be a key component of the Republic of Singapore Navy's overall strategy of building a balanced, capable and technologically advanced Navy."

Two carriers for India

The Indian Security Cabinet Committee has approved the plan for the construction of a 32,000 tonne "Air Defence Ship" (ADS) to be built at Cochin Shipyard for approximately Rs20 Billion (US$476 million).

The Indian Chief of Naval Staff said that the ADS was the number one construction priority for the Indian Navy. The ADS, aircraft carrier, will incorporate modular building techniques from DCN of France in order to cut construction from nine years to five.

It is designed to operate 16 combat aircraft and 20 helicopters. It will utilise the Short Take Off But Arrested Recovery (STOBAR) system using a ski jump to assist in take off and an angled flight deck and arresting wires for recovery.

It is expected that the carrier will operate the MIG-29K Fulcrum to give India its first carrier-borne stealth capability. The carrier will be commissioned in 2003, and will be the second permanent carrier for the Indian Navy. The first, INS VIRAAT, was commissioned in 1986 and will be decommissioned in 2005.

Developed by Russia, the MIG-29K is a multirole fighter that can operate from short takeoff and vertical landing (STOVL) aircraft carriers. The Indian Navy has ordered two of the aircraft, with an option for four more, from Russia.

India is also planning to purchase a second carrier, the INS VAGIRI, which is expected to be commissioned in 2013.

The Indian Navy is scheduled to take delivery of the carrier by 2015.
It is expected that within the next two years another destroyer and frigate will be added into reserve effectively halving the Navy's strength.

To combat this naval official from Chile have signed Memorandum of Understanding (MoU) with the Argentine Navy to hold joint training exercises and undertake joint procurement of surface vessels.

Under the MoU the countries will establish a team to manage the construction of warships, as well as negotiate shipbuilding contracts to reduce costs through larger orders. If successful, this new arrangement may mean both countries no longer rely on the US or Europe for warships. This is particularly important for Chile which was intending to buy the RN's decommissioning Type 22 batch 2 frigates. However, this plan was cancelled following the UK's intention of former turner ruler Augusto Pinochet.

China unveils export frigate

At the recent Middle East IDEX defence exhibition, the China Shipbuilding Trading Company unveiled an export design for a new 1,400 tonne guided-missile frigate.

The design is believed to be aimed at Pakistan as a counter to the Indian Navy's Delhi class DDGs, improved Krevik III FFGs, and the Project 116A and 25A vessels, all representing a very powerful striking force of 17 ships.

Images of the vessel obtained by remote underwater vehicles have shown the boat broke in two, possibly from impact with a passing ship and high pressure at great depth. However, malfunction or human error cannot be ruled out. It is hoped that further study of the wreck will reveal more. All 69 crew members of the DAKAR died.

Chilean fleet size plummet

At the end of last year the Chilean Navy retired two of its eight major surface units into reserve. LATORRE (ex-HMS GLAMORGAN, County class destroyer) and GENERAL BAGUEDANO (ex-HMS ARANDE, Leander class frigate).

The cost of the repair job was won by the ship's builders Tennix. Both ships are now capable of operating on their gas turbines at full speed.

Indian Navy conducts exercise near Pakistan

In an unprecedented move the Indian Navy has changed its traditional naval training area on the east coast to the west coast near the border with Pakistan. The naval force being moved for "training exercises" consists of Kilo class submarines, destroyers and frigates.

Although said to be routine, two Indian Navy officials, many believe the ships were moved to the west coast to provide a ready strike force against Pakistan and to be close to any possible war zones.

Tensions have been rising since both countries tested nuclear weapons and more recently with border incursions and fighting in Kashmir and the downing of a Pakistani Atlantic Maritime Patrol Aircraft. The Indian carrier VIRAAT is said to be on a week's notice to sea with a full complement of Harriers in case of a "tense situation in the region".

The Indian Navy's also has increased surveillance flights over the region using Tornado T-42U "Bear" and IAI UH-1B "May" aircraft.

Frigate for sale

The former RNZN frigate WAIKATO is for sale by tender. Built in Belfast and launched in 1965, the ship was decommissioned by the RNZN earlier this year. Potential bidders have shown interest in using the former frigate as a floating naval museum, a nightclub, a hotel or as a wrecking vessel. It could also be sold for scrap.

In other RNZN Type 12 frigate news, the frigate CANTERBURY has finished modifications to allow her to operate an SH-2F helicopter from her flight deck. The rebuild consisted of upgrading the hangar and deck handling equipment. CANTERBURY was deployed to KAKADU 99 with her Seaplane.

Spanish Navy growing

The Spanish Navy has achieved two significant milestones recently with the launch of the second Galicia class amphibious transport and the keel laying of the new F-100 frigate.

The LPD CASTILLA is scheduled to begin sea trials shortly and expected to commission in June 2002. CASTILLA differs from its sister ship GALICIA by having an AEGIS combat system.

An artist's depiction of the Spanish Navy's new F-100 frigate with an AEGIS combat system.

The 13,815 tonne LPD can carry four NH-90 helicopters or six medium sized helicopters. It has a crew of approximately 190 and can embark 468 marines.

The 5,706 tonne F-100 frigate, ALVARO DE BAZAN has had its official keel laying ceremony with the ship expected to be launched in October 2000 with a commissioning date of September 2002.
The new frigate is equipped with a Lockheed Martin SPY-1D multifunction radar and is the first ship in Europe to use the AEGIS system. The ship is also armed with a 48-cell Mk-41 VLS for Standard SM-2MR Block IIIA and Evolved Sea Sparrow Missiles (ESSM). Along with eight Harpoon, a Mk-45 naval gun and four 323mm torpedo launchers she will also embark a Merkava 20mm CIWS. The inclusion of this weapon represents a continuing endorsement of gun CIWS despite many navies doing away with this system and relying solely on ESM.

**USN EW Crisis**

The USN is asking for US$361 million in emergency funds to keep the US Military's only EW (Electronic Warfare) jamming aircraft flying.

During the recent operation, 50 of the USN's 90 EA-6Bs were deployed to the region to provide the NATO operation with EW support. The use of over half the force has strained crews, systems and aircraft maintenance schedules so much that the USN has asked for funds to not only keep the EA-6Bs flying but to upgrade a number of training aircraft for operational use.

Part of the reason for the extensive use of the EA-6B was the realisation that Russian electronics engineers had provided upgrades to the Serbs which allowed them to see and, in one case, shoot down stealth aircraft. After the loss of a F-117A, which Pentagon Officials unofficially credit to a modified SA-3 SAM system, future stealth missions and said how fast you can give us a low cost version of the F/A-18 to do the EA-6B mission, using systems in use on the aircraft or used for the EA-6B.

Boeing is hoping to have an aircraft produced and operational by 2006. Current shortages of EA-6Bs are so acute that recently the USS CONSTELLATION went to sea without EW aircraft support. The carriers' EA-6Bs self deployed to South Korea rather than sitting to be deployed to the region by the carrier.

More power for Sea Harrier

The RN has received authorisation to study the need for an engine retrofit for some of its FA.2 Sea Harrier fighters. The Sea Harrier's current Pegasus Mk.104/106 engine experiences a sharp decline in performance in hot and humid conditions. This narrow vertical recovery safety margins to a critical degree when ordnance is brought back.

The Boeing Super Horntet is tipped as the USN's new EW aircraft to be known as the F/A-18G (Boeing).

**US approves more ship transfers**

Egypt, Greece, Turkey and Taiwan are some of the countries shortlisted to receive excess USN ships at little to no cost by the US House of Representatives.

The naval vessel transfer legislation is part of an annual US disbursement of free or cut rate surplus military equipment known as the Excess Defence Articles (EDA) program. From 1990 to 1995 the US transferred nearly US$7 billion of excess military equipment under the EDA program.

The following countries have recently been approved for grant transfers of warships: Greece, the Knox class frigate CANNOLE; Poland, the FFG-07 class frigate CLARK; and Thailand, the Knox class frigate TRUETT.

Cut-rate vessel sales of warships include: Egypt, the Newport class LSTs BARBOUR COUNTY and PEORIA; Mexico, the Newport class LST NEWPORT and the Knox class frigate WHIPPLE; Taiwan, the Newport class LST SENCHEYDA; and Turkey, the FFG-07 class frigates FLATLEY and JOHN A. MOORE.
The guided-missile frigate HMAS MELBOURNE (FFG-05) entering the Port of Fremantle on August 26 for a four day visit on her return to Australia after a four month Arab Gulf deployment as part of the United Nations Multinational Maritime Interception Force (UNMIF).
While the regrettable deterioration in relations between Minister and Departmental Head has captured the headlines, the newly appointed Submarine Project Director, Rear Admiral Peter Briggs, an experienced submariner, has tackled his difficult task energetically and hopefully our new submarines will be heading for calmer waters than exists at present.

An Undiplomatic Gesture

True or otherwise, media reports in July that Defence Minister Moore wanted to replace Defence Department Secretary Barratt and that the latter had been offered the post of High Commissioner in New Zealand, was not flattering to the New Zealanders.

Mr. Barratt would most likely be an excellent representative for Australia in New Zealand or anywhere else, but such an appointment in the prevailing circumstances could only be seen as very undiplomatic.

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, 12 November, 1999 at 8:00 pm

BUSINESS

1. To confirm the Minutes of the Annual General Meeting held in Canberra on Friday, 13 November, 1998

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 1999

4. To elect Office Bearers for the 1999-2000 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 Honourary Secretary by 2 November, 1999
   - To approve the continuation in office of those members of the Federal Council who have attained 72 years of age, namely Gwen Hewitt (WA), Arthur Hewitt (WA) and Joan Cooper (Tas).

ALL MEMBERS ARE WELCOME TO ATTEND

By order of the Federal Council

Don Schrapel, Honourary Federal Secretary, PO Box 309, Mt Waverley VIC 3149

Telephone (03) 9888 1977 Fax (03) 9888 1083

By David Watt

Spending an afternoon with the CO of AUSCDT ONE, LCDR Jonathon Peacock, dispelled some myths and preconceptions of the role CDTs play in peace and war.

In a most appreciated tour of AUSCDT ONE's facilities and equipment, and in a frank informative discussion, LCDR Peacock demonstrated that Clearance Divers are not so much 'Special Forces' as commonly displayed by Hollywood, but rather a group of highly skilled underwater specialists called upon to undertake selected high-risk tasks. Their "enemy" is less an adversary's soldiers and bases, as the bombs, mines and obstacles he throws against the ADF.

The visit also emphasised to me that the CDTs are not just about training for war - they have demanding peacetime responsibilities that keep them alert and prepared - all AUSCDT operational elements are at very short notice to deploy within Australia and overseas in support of operational and civil contingencies.

CDT Structures

There are currently two Clearance Diving Teams in service in the Royal Australian Navy, AUSCDT ONE, based at HMAS WATERHEN in Sydney, and AUSCDT FOUR, based at HMAS STIRLING in Western Australia. Each team consists of four officers, 9 senior sailors and 36 junior sailors, divided into three operational elements: Mine Countermeasures (MCM), Maritime Tactical Operations (MTO), Under Water Battle Damage Repair (UBDR), plus a headquarters and training element.

Each team is administered by Commander Australian Mine Warfare and Clearance Diving Forces, but is operationally commanded by Maritime Commander Australia. The clearance diving teams have the flexibility to combine elements from AUSCDT ONE and AUSCDT FOUR for operations - such as where the scale of the task requires a large concentration of forces including Vietnam and the Gulf War in 1991. Additionally, clearance divers are posted on rotation to their units for example the - the Mine Hunter Crusader have six CD personnel embarked to locate, recover and render safe mines for exploitation if required. These personnel are either used in addition to or in conjunction with the ships fitted remotely operated mine disposal vehicle.

The roles of CDT elements

The Mine Countermeasures (MCM) element consists of around 16 sailors and is responsible for the location and disposal of mines in shallow depths where mine hunters cannot operate effectively, airborne disposal of drifting mines, and the recovery and rendering safe of enemy mines for intelligence purposes. Once mines are found, the CD's determine whether to raise to surface, tow ashore and then render safe for intelligence purposes, or if not wanted for exploitation, CD's can place charges and dispose of or mark the mine and report its positions to higher command. The MCM element has the capability to provide limited self protection in operations - but generally operate in a permissive environment. If there is a higher level of threat
they will generally conduct their operations in conjunction with other ADF asset support.

CDs check target areas by searching the seabed methodically using the Jackstay method involving the laying of two lines of wire which are attached to the seabed to form a grid on the seabed. Divers slowly swim parallel to each other, dragging a stinger between them. An alternate and often preferred search method is the use of an underwater sonar system to locate and identify targets of interest. All diving equipment used for SCUBA must have a low magnetic and acoustic signature - right down to the spanner used to work on the masts - so as to not to detonate the modern range of underwater explosive devices. CDs use a derivative of the USN Mark 16 semi-closed circuit rebreather called the A8000. The set, which provides a nitrogen-oxygen mixture to the diver with a constant partial pressure of oxygen, provides optimal bottom time to the diver during search and recovery operations. The capability to dive on a helium and oxygen mixture to greater depths is currently under development.

The Maritime Tactical Operations (MTO) element, comprising around 14 sailors, performs a number of clandestine missions in support of amphibious-advanced force operations including clandestine beach reconnaissance, underwater survey, and obstacle clearance. The reconnaissance of prospective beach landing sites is a major task for the CDs with the information essential to the success of amphibious landings. Prior to a joint or combined amphibious-advanced force landing the MTO will conduct reconnaissance to identify the slope of the beach, the depth of the water, underwater obstacles, sea conditions and enemy defences. Because of the threat inherent in such operations, the MTO element is required to maintain a clandestine posture (including the LAR V oxygen rebreather set producing no bubbles) and are armed for self-defence with an array of appropriate weapons, but only used if the mission is compromised. Beach landing areas are marked using IR strobe markers, and, if required, the MTO element will prepare breach charges on obstacles to be set off immediately prior to the landing.

The Underwater Battle Damage Repair (UHDR) element provides diving support to Fleet Units and defence agencies such as DSTO. The element is capable of underwater ship maintenance activities - such as propeller clearance and hull surveys; underwater ship repair activities - such as propeller changes, and stabiliser changes; underwater salvage such as that performed on the RAFAF 707 that crashed off Fast South in 1991 for submarine rescue operations. These skills also enable the element to be employed in a threat area to conduct repairs on ships such as damage from propeller strike or battle damage from enemy ordnance. The UBDR element maintains an extensive suite of equipment to perform the aforementioned tasks.

The disposal of Explosive Ordnance and Improvised Explosive Devives are core skills performed by all operational elements. AUSCDT ONE provides EOD (Explosive Ordnance Demolition) and IEDD (Improvied Explosive Device Disposal) support on the Eastern Seaboard for all ordnance found in a maritime environment be it shipborne, under water or naval ordnance. This 24 hour/7 day duty watch is called out many times each year during peacetime and while they have had false alerts such as having the brave divers of 'suspect' boxes of business cards many old munitions have been found. This core capability can be used in war to provide commanders with flexibility for bomb disposal past the beach landing.

**Development Issues**

Australian CDs maintain a technological improvement program among the best in the world. CDs work extensively with the DSTO to maintain knowledge of mine development and techniques for disposal and these are incorporated into team training activities. Navy's 1999/2000 Forward Procurement Plan identifies a number of items that will enhance the CDs' capability including:

- The Clearance Divers' Tactical Communications.
- The Underwater Search and Rescue System.
- The Mine Counter Measures Underwater Computer System to provide computerised data logging capability for divers.
- The latter system will eventually allow CDs working undersea to have access to computerised databases and an improved GPS system that will allow mines once located to be identified and marked. The information will then be downloaded to other ADF command systems for use by commanders and their planning activities such as amphibious landings.

Longer term, DSO and the CDs will examine other options to improve CD effectiveness including advanced unmanned delivery vehicles and remotely operated submarines. CDs intend to revise the parachuting capability to allow the delivery of CDs to fleet units at long range using parachute load follow techniques.

**Becoming a Clearance Diver**

The high level of skills, fitness and dedication required by clearance divers means that selection and training is one of the hardest roads to follow in the Australian Defence Force. Sailors, Soldiers and Airmen can apply to become CDs either by transferring service category, or new recruits can apply to join as a CD on recruitment into the RAN. Having successfully completed the SCUBA Air Diving (SAD) course candidates commence a 25 week CD acceptance test. On average this course has a 50% pass rate. On completion CDs attend a 25 week Basic Clearance Diver course at HMAS PENGUIN. On the successful completion of this course, which about 30% of volunteers fail, the Divers are then posted out to either AUSCDT ONE or AUSCDT FOUR CDs who

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"David Willis a former Army Intelligence Corps Major with a Special Forces background. His last posting was as the Special Operations Officer. He currently runs a corporate intelligence firm training and providing intelligence to the business world.

http://www.corporateknowledge.com.au"
The USS STARK after being hit by two Iraqi Exocet missiles in 1987. The list was from the crew using too much water to fight the fire. (USN)

The arrival of The Royal Australian Navy’s Sea Training Group aboard HMAS MELBOURNE was accompanied by a sense of foreboding from those on board.

At 0630, universally clad in green coveralls, the 45 strong group boarded the Frigate in Jervis Bay. The Ship’s Company knew how well they were about to be subjected to a gruelling 36 hours of Warfare. Damage control and boarding operations to determine their Operational Level of Capability...

“Hands to Minefield action stations...” rang out over IMC. MELBOURNE’s main broadcast system. The PWO explained to the Ship’s Company that shortly they would be conducting a minefield transit to exit the bay and all Self-Protective Measures were to be put in place. All of MELBOURNE’s Ship’s Company should by now be well versed in these requirements, designed to reduce the likelihood of accidental actuation of a mine in a mine danger area as well as minimising the effects of injury to personnel and damage to the ship, should a mine strike eventuate.

This of course is an exercise, though with Sea Training Group on board, events are very real to MELBOURNE’s Ship’s Company. Sea Training Group (STG) comprises up to 60 sea-riding personnel made up primarily of Lieutenant Commanders and Warrant Officers. It is a daunting prospect for many to be under the scrutiny of such a qualified team of trainers and this provides the basis of STG’s reputation. Each member of the group is experienced and highly proficient in their area of expertise, be it tactical operations, engineering, logistics or medical.

Despite the general perception to the contrary, STG have adopted the catch-cry “we’re here to help”, providing assistance, advice and evaluation of ships’ teams in every department on board.

All RAN major fleet units are subject to workup training guided by Sea Training Group. This is typically a five-week period following post refit sea trials and the combat system qualification period. Ships are “worked up” in a graduated series of exercises that build up from relatively low-level, stand-alone serials, and graduate to more complex, whole ship scenarios incorporating warfare and damage control. This process is designed to develop, improve and hone the efficiency of individual ship’s departments and to inspire the ship to operate as a team.

The ships’ teams are critically evaluated twice in this period, the first towards the end of Week Two in a Work Up Progress Evaluation (WUPE). The WUPE is designed to identify, at an early stage, which areas the ship will need additional STG coverage to eventually achieve the
Damage Control exercises are vitally important to the survival of the crew and the ship. (USN)

During their temporary stay on board, STG are accommodated in the empty hangar that quickly resembles a medevac. The decision was made to recall the S-70B-2 Seahawk from a surface search mission, to land on, and evacuate the casualties.

When not at sea, the STG reside primarily at Maritime Headquarters. Focused on improving efficiency and maintaining standards for the RAN fleet, the responsibility and workload entrusted to the STG members is extremely high. Even the most seasoned of STG provide the most efficient forum for STG to visit and evaluate the most number of ships in one period. The group is here to help.

The STG also train operations in anti-air and ASW drills. (RAN)

A view of the damage suffered by the USS STARK. Note the extent of the damage by the officer off to the left on the main deck. Damage Control exercises are vital to ship and crew survivability. (USN)
Twilight of the Battleships

Launched in the midst of World War II as a direct counter to the Imperial Japanese Navy's super battleships Yamato and Musashi, the Iowa class battleships have been used repeatedly over the intervening years in every major conflict up to and including the Gulf War. What now for these veterans, which having been placed in reserve since 1992, cause many an emotive discussion amongst naval circles, veterans and the public?

Originally planned as a class of six, weighing in at 45,000 tons a piece (57,000 full load displacement), all the Iowas were laid down between June 1940 and December 1944. They were USS IOWA (BB-61), USS NEW JERSEY (BB-62), USS MISSOURI (BB-63), USS WISCONSIN (BB-64), USS ILLINOIS (BB-65) and USS KENTUCKY (BB-66).

The ILLINOIS was scrapped while on the slipway in August 1943. KENTUCKY was finished up to the bare hull stage which enabled her to be launched unceremoniously in January 1950. The latter's bow becoming very handy as a replacement when USS WISCONSIN damaged hers colliding with USS EATON (DD-510) in 1956. KENTUCKY was eventually scrapped in 1958 her engines being utilised in the building (DDE-510) in 1956. KENTUCKY was eventually becoming very handy as a replacement when USS ILLINOIS (BB-65) and USS KENTUCKY (BB-66).

The Iowas are powered by eight oil fired boilers powering through four double reduction geared turbines, rated at 53,000 shaft horsepower each. Four propellers drive these vessels at a reported speed of up to 35 knots, the fastest battleships ever built. The boilers also power eight turbo generators providing electrical power (10,000 kw) to over 900 electric motors aboard.

Protection aboard consisted of 12.2 inches of armour along the belt (17.3 inches of armour on the turret faces), angled to increase resistance to incoming shells. It is hotly debated whether this armour could withstand the 16 inch shells from their chief WW II adversary. The comparative lightness of the armour being a direct trade for speed, which was considered more valuable across the expanse of the Pacific.

The Iowas are crammed with the most impressive statistics ever assembled in a fighting ship. All for one purpose, to mount nine massive 16 inch/50 calibre guns, the most powerful guns ever mounted on a US ship, able to fire 2,700 lb projectiles over a distance of 22.8 miles (36 kms) every 30 seconds. Combined with this are sixteen 5 inch/38 as secondary armament as well as numerous 40 mm and 20 mm mounts for air defence.

As history shows these ships never went head to head with their expected foes as airpower soon became the deciding factor in the Pacific war. As refitted in the eighties all the 40 mm and 20 mm mounts were removed, air defence being carried out by the secondary armaments and four Vulcan Phalanx as well as hosting two twin 5 inch/38 mounts as a space saving measure upon the addition of the Tomahawk Armoured Box Launchers.

In the almost sixty years since their launch these impressive vessels have seen action regularly in every armed dispute involving the USN: Korea, Vietnam, Desert Storm and also in the shelling of Lebanon.

However, they have spent far more time laid up in reserve than in operational use. This is primarily due to the heavy running levels required which varied throughout their careers from nearly 5,000 in World War II to just over 1,500 in the eighties. During peacetime they were used primarily in the training role. In times of conflict, escort and more importantly the shore bombardment role.

Their most recent use was during "Desert Storm" where MISSOURI and WISCONSIN were used as platforms for the launch of Tomahawk cruise missiles, though only carrying 32 Tomahawks each, they played a very active part in the conflict by way of conducting shore bombardment. The two ships fired a combined total of 976 16 inch projectiles (a mixture general purpose and armour piercing) on Iraqi targets.

With the ending of the cold war came the scaling down or "right sizing" of the USN. It was decided that these time had come to retire gracefully, de-commissioned, placed in reserve with the rest of the mothball fleet. They were to be disposed of quietly, not into mothballs like so many of their kind but donated to maritime museums at various locations throughout the States. The most notable plan being to place USS MISSOURI in "Battleship Row" at Pearl Harbor joining USS ARIZONA. The symbolism evident, attesting to the commencement of the war in the Pacific and the end of the war, the formal 'Instrument Surrender' having been signed on USS MISSOURI's foredeck in Tokyo Bay. These decisions having been made, all four Iowas were struck from the Naval Vessel Register in January 1995.

The ensuing outcry from various battleship proponents commenced when it was realised this was more than just "being placed in reserve". This was the end of the line for the four giants, their re-activation would be near impossible after this step was taken.

Concurrent with the debate were the voices of the many cities and veteran societies around the US, which wished to obtain all four for preservation. Two Senate Committees turned their attention to these emotive arguments. The Senate Armed Services Committee (SASC), which must formally approve Pentagon decisions, argued that they should be retained and be placed back into the reserve fleet.

The other being the Senate Defense Appropriations Subcommittee, these being the keepers of the purse strings, opposed the use of ever dwindling Navy funds, should the Navy wish to return the ships to the mothball fleet and retain the logistics support required by the battleships (spare parts, ammunition storage, etc.)

Concurrent with this was a flurry of peripheral activity mostly dealing with ways of justifying and retaining these ships, searching for other roles, new ways...
A full cone broadside demonstrates the firepower these ships possessed and why they will be retained for a little while yet. (RAN)

to keep them from their eventual fates. One of the more radical being to convert them into STOVL (Short Take Off and Vertical Landing) platforms by building a hangar over the rear turret position with lifts to its roof to enable helicopters and/or AV-8B Harriers to take off.

Another suggestion being to convert their hulls to resemble the ill-fated 'Arsenal Ship' project as a massive mobile Tomahawk launcher. As far fetched as these seemed, they all contained some validity. With the USN's adoption of 'From the Sea' and 'Forward from the Sea' with its associated concentration on littoral warfare as its doctrine, it was very apparent to the USMC that the Navy was incapable of providing adequate fire support for their amphibious operations. The Marines demanded that the Navy retain the 'big guns' as the standard US Navy gun. The Mk 45 5 inch gun of the Spruance and Ticonderoga class ships was discovered in the Gulf War, unable to get almost all expected missile types in use.

The second requirement, retaining logistical support for the battleships, is often overlooked. This consists of both technical manuals, spare parts, repair facilities, manufacturing capability of expendables (i.e., ammunition) and a thousand other considerations. Some reservations were expressed regarding the availability of the guns, hammerhead cranes needed for repair work (the IOWA turret). As a result the majority of spare parts and the technical manuals have been consolidated and stored within the climate-controlled hulls of both NEW JERSEY and WISCONSIN. Other additional parts are being stored at various naval facilities across America, primarily California, Washington and Crane Indiana.

This became the official stance of the SASC. This was followed very quickly when the Defense Appropriations stated in their funding policy for the USN in November 1995 "None of the funds provided by this act shall be available to either return or to support logistics to return Iowa class battleships to active service". In direct opposition to this Congress directed through the National Defense Authorisation Act for Fiscal Year 1996, that the Navy was to:

- List and maintain at least two Iowa class battleships, those, which were in the best condition on the Naval Vessel Register.
- Retain the existing logistical support to keep these two battleships in active service.
- Keep them on the register until the Navy certifies that it has within the fleet a surface fire support capability which equals or exceeds capability that the Iowa class battleships would be able to provide to the USMC.

The above requirements were however, amended to read instead of "best condition" to "good condition". This was to allow the Navy to continue with the preparations to dispose of the two in poorer condition (NEW JERSEY and IOWA). This was the official stance of the SASC. This has concentrated on the ERGM program (Extended Range Guided Munition).

Back as far as the mid 80s experiments were carried out at the Army range in Yuma Arizona, where a functioning 16 inch/50 gun is located, with a radical 13 inch projectile fired through the gun with use of a discarding sabot. This proved highly successful in extending the range from 22.8 miles to over 36 miles. Not only that but 13 inch projectiles using two sabot can fire out to the 75-100 mile mark with great accuracy utilising a variety of guidance systems, GPS, infra red and laser designation.

These new ordnance is destined to be adopted by many navies worldwide, the RAN is awaiting developments with a view to adoption of the system for its vessels. This technology is expected to come on line sometime in 2002-2003. In conjunction with this is the development of the Land Attack Standard Missile. With these new weapons, combined and adopted, Navy officials consider this will meet the needs for fire support that the USMC seek and as such fulfilled the requirements of the initial directive. The USN expects to make the required certification between 2002-2003, then will remove the two remaining Iowas from the NVR.

**Conclusion**

These magnificent vessels have been occasional visitors to our waters and cities, both USS MISSOURI and USS NEW JERSEY having visited Fremantle, Hobart and Sydney prior to their final decommissioning. One cannot but impressed with their sheer size and beauty, the likes of which we will certainly not see again in an Australian port.
WALLER, ABCK Braden Cooper (17) cut the traditional commissioning cake. Ironically it was the 60th anniversary of the commissioning of the light cruiser HMAS PERTH I (ex-HMS AMPHON) at Portsmouth, England, on July 10, 1939.

Captain Waller was lost with PERTH in the Battle of Sunda Strait in a gallant action on the night of February 28/ March 1, 1942 when in company with the US heavy cruiser USS HOUSTON.

There was little rest for the newly commissioned HMAS WALLER as it sailed from Fleet Base West on July 13 for a five month south east Asian deployment, leaving from the same waters from which Captain Hec Waller departed when WALLER sailed from Australia for the last time.

Captain Waller sailed from Victoria Quay in nearby Fremantle Harbour at 0330 on February 14, 1942 (thus avoiding sailing on the 13th). Two weeks later after surviving the Battle of the Java Sea, the ship, hit by four torpedoes and countless shells, went down with Waller and many of his gallant crew in the Sunda Strait.

by Vic Jeffery

In our next edition of Hatch, Match & Dispatch MANOORA re-joins the fleet,

PERTH decommissions.

Australia's third Collins-class submarine, HMAS WALLER, during the commissioning ceremony at HMAS STIRLING (LSPH Darren Yates)
The strategic background to Australia’s security has changed in recent decades and in some respects become more uncertain. The League believes it is essential that Australia develops capability to defend itself, paying particular attention to maritime defence. Australia is, of geographical necessity, a maritime nation whose prosperity, strength and safety depend to a great extent on the security of the surrounding ocean and island areas, and on seaborne trade.

The Navy League
- Believes Australia can be defended against attack by other than a super or major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication to our allies.
- Supports the ANZUS Treaty and the future reintegration of New Zealand as a full partner.
- Urges a close relationship with the nearer ASEAN countries, PNG and the Island States of the South Pacific.
- Advocates a defence capability which is knowledge-based with a prime consideration given to intelligence, surveillance and reconnaissance.
- 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 island 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 a Collins class submarine.
- Supports the development of the mine-countermeasure 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.

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