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THE NAVY

The Magazine of the Navy of Australia

Anzac Fires for Effect

*Aircraft Carriers –
A Personal View*

*Australia's
Museum
of Flight*

*Frank Getting –
A Forgotten Submariner*

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THE NAVY

Volume 65 No. 3

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Front cover: The RN Trafalgar class SSN HMS TRIUMPH with the Type 23 class frigate HMS NORTHUMBERLAND. (RN)

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All letters and contributions to:

The Office of The Editor

THE NAVY

Navy League of Australia

GPO Box 1719

Sydney, NSW 1043

E-mail to: editorthenavy@hotmail.com

All Subscription and Membership enquiries to:

The Hon Secretary,

Navy League of Australia, NSW Division

GPO Box 1719,

Sydney, NSW, 1043

Advertising enquiries only to:

Mr James Rickards

0419 731 371, e-mail: james@rickards.net

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TESTING TIME AHEAD FOR NAVY LEADERS

After extensive public consultation in 2000 the Government produced a comprehensive Defence White Paper (*Defence 2000*) outlining the needs of the armed forces in the foreseeable future. In the following year and in 2002 terrorist attacks on an unforeseen scale took place in the United States and Indonesia and not unexpectedly the defence situation was reviewed and resulted in *Defence Update 2003*.

The update concluded that the principles of *Defence 2000* remained sound but some "rebalancing" of capability and expenditure would be necessary. The size, structure and role of the Defence Force was not to be fundamentally changed but greater emphasis would be placed on readiness, mobility, and the development of new capabilities.

An additional factor relevant to defence planning has been the attack on Iraq by United States-led forces including elements of the ADF. The ferocity of the attack and speed with which organised resistance collapsed and key areas occupied, surprised many observers. In the course of the war the RAN's diving unit, the Army's special forces and the activities of coalition air forces, including the RAAF, received particular attention and local publicity.

These events have taken place at a time when the Government is faced with the need to make a decision on a

number of defence equipment proposals involving ships, aircraft and army material, together with an increase in personnel for the latter. The decisions made will determine the attainment or otherwise of the objectives listed in *Defence 2000*.

A possible problem for the Navy is its association with the United States Navy: links forged during WW II have become steadily stronger as a result of equipment purchases (eg. the FFGs), shared technical knowledge, joint exercises, training courses etc. The RAN has however retained its independence and has never been seen as an adjunct of the USN.

During the past 12 or so months circumstances have brought the two Navies even closer together. It would be most unfortunate if decision makers thought the relationship was so close that, for example, in emergencies USN ships could provide the RAN with the capabilities lost when the guided-missile destroyers were de-commissioned and that the air warfare destroyer project could therefore be postponed indefinitely; the implications for the Navy and the shipbuilding industry scarcely bear thought.

No matter how close political and military relations are at the present time, it should not be forgotten that governments and administrations change and for the foreseeable future nations will continue to consider their own best interests before those of allies and friends.

Geoff Evans

The 2003 'King-Hall' Navy History Conference

'The Navy and the Nation'

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

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

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

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

Contact officer is Mr Dave Griffin on telephone (02) 62662654, Fax (02) 62662782, or on E mail address david.griffin@chr.defence.gov.au



HMS INVINCIBLE backgrounded by the 'Rock of Gibraltar'. The Invincible class aircraft carrier has been a good performer for the RN but it does have its limitations. The RN will soon begin construction on two replacement carriers for the three Invincibles which address the inadequacies of the Invincible through deck cruiser design. (RN)

Peter Hore, Associate editor of the UK based magazine WARSHIPS IFR, considers the condition of the British fleet in 2003 and its future ambitions. His article is a summary of a publication produced by WARSHIPS IFR on the RN in 2003 (see product review section)

The Royal Navy (RN) is undergoing a period of considerable transition, and a conscious decision has been made to take some risks in order to get where the British fleet thinks it ought to be in a 10 to 15 year time frame. Any analysis of the 'State of the Navy' must begin by looking to the far horizon, in order to explain the, sometimes painful, changes to be made within the next few years. Subject to any significant change in the world security situation, the UK government's finances and British defence policy, the intended shape of the front line fleet by 2012-2015 is likely to be the following.

SUBMARINES

- Four Vanguard Class nuclear-powered ballistic missile submarines (SSBNs) each capable of carrying 48 nuclear warheads. Some of the missiles carried are designated as having a sub-strategic role, which was allocated to the RN when the WE-177 nuclear bomb was withdrawn from the RAF in 1995. Only one SSBN will normally be on patrol at a given time.
- Ten nuclear-powered conventionally armed submarines (SSNs), about half of them the 1980s Trafalgar Class, and the rest belonging to the new Astute Class. All will come armed with Spearfish and Tigerfish torpedoes, mines if necessary, plus Tomahawk cruise missiles. Sub Harpoon may be replaced by a new anti-shiping missile.

AIRCRAFT CARRIERS

- One or two aircraft carriers, initially two Invincibles with a third of the class in deep reserve. All three have received

refits and extensive modernisation – ARK ROYAL emerged from refit in 2001 and is the current fleet flagship, ILLUSTRIOUS entered a two-year refit in October 2002 and INVINCIBLE is due to re-join the fleet in the northern hemisphere spring of 2003. All three could therefore be kept operational until at least 2012. There are only two carrier air groups, so these would have to be augmented by RAF planes to use all three in the carrier role. One of them, as proved by ILLUSTRIOUS in late 2001, could be used as an LPH, therefore making an ideal stand-in for HMS OCEAN when she is not available. However, budgets and scarce manpower will probably prevent all three Invincibles being kept in the front line. These venerable ships are due to be phased out as the new aircraft carriers – likely to be named HERMES and EAGLE – come into service between 2012 and 2015. With the Sea Harrier FA-2 having been phased out between 2004 and 2006, from about 2012 onwards the UK will be sending Joint Strike Fighters to sea.

DESTROYERS & FRIGATES

- About 30 operational destroyers and frigates, which means, allowing for some ships being in refit, around 26 available for front line deployment. This is a surprisingly high availability rate, but the RN believes that new maintenance cycles and practices, plus a different system of personnel management will achieve the target. By 2015 the escort force will consist of Daring Class (Type 45)



The Type 22 Batch 3 class frigate HMS CORNWALL. The four remaining Type 22 Batch 3 ships are expected to be retired from service by 2015. The previous 10 Type 22 Batch 1 and 2's have all been retired with many years left in their hulls. The Batch 3 versions are very capable ships and also have Flag and Staff facilities for control of operations. (RN)

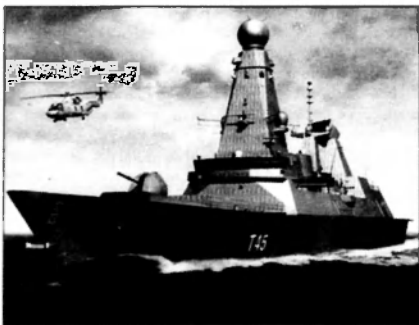
destroyers, modernised Duke Class (Type 23) frigates, and unmodernised Type 23s which will be in the process of being replaced by the 'Future Surface Combatant' (FSC).

AMPHIBIOUS SHIPS & 3 CDO

- A flotilla of new specialist amphibious shipping including two Albion Class assault ships (LPDs), the helicopter carrier (LPH) OCEAN and a new class of capable auxiliary assault ships and also Ro-Ro ferries.
- Going to war on these ships will be 3 Commando Brigade, Royal Marines, consisting of three commandos (light infantry assault battalions), engineers, logistic and artillery formations. The Special Boat Service (SBS) will also be retained.

MCMVs, SURVEY VESSELS & AUXILIARY SUPPORT SHIPS

- Five modern survey vessels, and about 20 Mine Counter-measures Vessels (MCMVs). Fifteen highly-capable Royal Fleet Auxiliaries, carrying fuel and ammunition.



A computer generated image of the RN's new Type 45 Daring class destroyer of which six are currently on order. By 2015 the Type 45 will be the primary surface combatant of the RN. However, concerns are being raised that six Daring's will not be able to fill the gap left with the retirement of 12 Sea Dart equipped Type 42's it is replacing. (BAE)

MARITIME AVIATION

- The RN will also be operating updated Lynx Mk 8 and Merlin Mk 2 helicopters, a battlefield support aircraft (the tilt-rotor Osprey and/or the EH-101 Utility Helicopter). By 2012-2015 a replacement for the Sea King Airborne Early Warning (AEW), probably the Hawkeye E-2 aircraft, should also be available.

This is an ambitious catalogue of capabilities, especially for a service that 20 years ago, in the depths of the Cold War, was virtually written off. In the short war between Warsaw Pact and NATO that most envisaged, leading to a nuclear exchange, there would be no time for sea power to have any effect and therefore no use for Navies. The future fleet laid out above is particularly ambitious, in assuming that there will be a stable and benign financial regime such as Britain has enjoyed for the last few years. But, even with the recent £3.5 billion budget increase the British armed forces were given in 2002, there are signs of strain and something will have to give somewhere. The number of RAF Eurofighters will almost certainly be cut, there will be cuts in the Army's heavy armour, and the RN, which has already suffered deep cuts, will not escape its share of further pain.

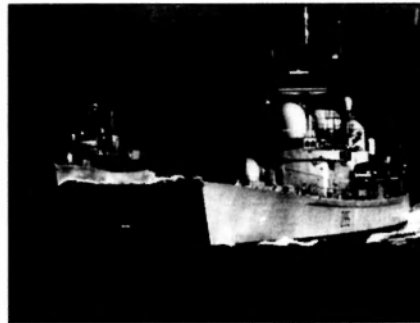


Her Majesty's Ships ARK ROYAL (rear) and LIVERPOOL (foreground) in the Persian Gulf. ARK ROYAL disembarked her Sea Harriers and ASW Sea Kings for Chinooks to support the Royal Marines operating in 'Operation Iraqi Freedom'. The flexibility of the Invincibles has served the UK well. (RN)

Since the early 1990s destroyer and frigate numbers have fallen from about 50, and even since the Strategic Defence Review of 1998, all of the Type 22 (Batch 2) Broadsword class frigates have gone, all of them with less than 20 years on the clock, some barely a decade old.

SHEFFIELD, the last survivor, was in November 2002 put into 'extended readiness' (next stop the scrap yard or sale to a foreign fleet). The Type 22 (Batch 3s) are even younger and there are rumours of sales to South American fleets. But they are powerful surface combatants, with command capability, which the RN values very highly. The likelihood is that the RN will hang onto them until the FSC starts to come into service and would rather see some of the unmodernised Type 23s go first.

The current number of MCM vessels will have to be vigorously justified if they are all to be retained. At least two will probably go, but again these are highly valuable vessels, especially when the RN is expecting to operate in coastal waters.



A Type 42 destroyer (foreground) and Type 23 Duke class frigate (background). These two classes of ships are the most common in the RN order of battle at present. In 2015 only a handful of Type 23's are expected to remain in service given the planned modernisation for some of the class. There is already talk of some of the earlier Duke class ships being sold to Chile. (Iain Ballantyne)

But, against the nagging anxiety of yet more cuts, must be balanced the optimism for the future. The new ships and aircraft are only possible because the tide of strategy has turned away from land-locked stalemate with the Soviet Union in central Europe and towards expeditionary warfare. With the new era of maritime strategy the Royal Navy – which traditionally has not always been the best advocate of its virtues – has found its tongue, and has been able to explain to politicians in Whitehall what Navies are for and how they can be used. A Britain that wishes to be a world player must have a strong viable Navy.

MCJO & 'SWING'

Over the next 15 years the RN will need to continue its migration towards a concept endorsed in SDR – the doctrine of Maritime Contribution to Joint Operations (MCJO), which recognises the essentially joint nature of warfare in the 21st century. MCJO applies in both general war, against some well-defined enemy, and in operations against a more nebulous target, as we have seen in the 'War on Terrorism'. In joint operations, equipment, logistics, training, and exercises all flow from a common defence source to the Joint Force Commander (JFC). The JFC can draw seamlessly on assets from the Navy, Army or Air Force, and MCJO is the concept under which the RN provides for the strategic, operational and tactical application of maritime fighting power across the spectrum of conflict in support of the JFC, and all naval activity will be linked to this concept. Overall, MCJO aims to shape the RN, maximising its specific strengths, so that it can play its full part in joint warfare with the other services, and in combined warfare with allied forces. The RN has recently augmented MCJO with a new idea called 'Swing'. This is defined as the ability to configure a force, formation or unit to allow it to operate successfully, and cost effectively, across a range of mission types and roles.

Embodying this idea carries risks. In moving toward adaptable systems, it is clearly necessary to sacrifice some top-end performance in specialist areas for broader versatility across the spectrum of conflict. This will need to be done consciously on a case-by-case basis, recognising also that highly specialist systems may be rendered obsolete through policy change or technological shift. Similarly, becoming

jacks-of-all-trades and operating a versatile maritime force in prolonged low-intensity operations may cause sailors to lose their war-fighting edge in key specialist areas. 'Swing' is not in itself a formula for reducing hull numbers: One versatile unit can no more be in two different places than one specialist unit. However, the logic that underpins the concept bears repetition: If the RN accepts that the future strategic environment will be confused and unpredictable, then the only rational course of action is to develop and procure units, formations and forces that are inherently adaptable.

Technology will help ameliorate the problem of numbers, and it is pleasing to note that there is more innovation in ship design and in naval technology than in many other spheres of defence.

All-electric propulsion is one example where, in future, gas turbines and diesel generators will be distributed around the hull, the shafts being driven by electric propulsion. This will give flexibility in layout and survivability in case of damage. All-electric propulsion is being tried in the Research Vessel *Triton*. *Triton* herself is a trimaran, a hull form that is being considered for the FSC. Ships have always depended upon high technology, and modern warships with their extensive weapon and sensor fit, are no exception. The next step will be to fit all ships for Co-operative Engagement Capability (CEC), starting with the Type 23s in 2004. CEC will mean that all ships in a group share each other's data and the best weapon will be selected to take out a target – the sensor can be in one vessel and the shooter in another. With all the ships of a task force linked in a single network it is expected that the whole really will be greater than the sum of the parts. CEC will be the latest development in the Type 23, which, although originally intended to be a light frigate, is evolving into one of the best and most heavily armed general-purpose surface warships since WW II.

BIG RISKS TAKEN

However, with a large number of legacy systems, some still left from the era of the Cold War, something drastic must be done to achieve the goals the RN has set itself. Clearly the Navy's leaders have decided that a degree of enhanced risk is acceptable.



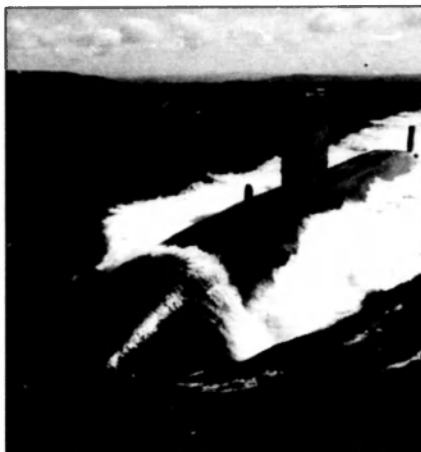
Two RN Sea Harrier FA-2s undergoing in flight refuelling. The FA-2 version is equipped with a new air search and target acquisition radar and carries the AMRAAM (Advanced Medium Range Air-Air Missile), two of which can be seen below each aircraft. This combination makes them the best air superiority fighter in Europe. Sadly, the FA-2 is to be withdrawn from service early and will not be replaced until the arrival of the F-35 JSF next decade. (RAAF)

TYPE 42s SOLDIER ON

The Sea Dart area-defence missile is more than 25-years-old and after the fitting of Infra Red fuses there will be no further improvements. The Sheffield Class (Type 42) destroyers that carry Sea Dart are desperately needed to help fill the layers of defence of a task force. For this reason alone, provided the cost is more like the £20 million which informed sources say it will be, HMS NOTTINGHAM (of Lord Howe island fame) will be repaired. HMS BIRMINGHAM, however, has already been decommissioned and cannibalised for spares and other Type 42s will follow soon. This will undoubtedly leave gaps in the RN's air defences until the Type 45 Darings start to become available. However only six of these much needed ships are planned, for in-service dates between 2007 and 2011, and clearly the UK Government needs to order more at once. Some of the later Type 42 (Batch 3) ships will still be in service as the first Type 45s come in. But all twelve Type 42s must be replaced, so a second batch of six Type 45s is needed. Otherwise this neglect of the RN's air-defence might cost thousands of lives if, or rather when, war breaks out.

THE DEMISE OF THE FA-2 SEA HARRIER

The demise of the FA-2 is another example of a dangerous gap opening in the RN's capability, and of the risk being accepted. Widely acclaimed as Britain's best fighter, certainly until Eurofighter is fully operational, it has been a shock to learn that the FA-2 Sea Harrier will be withdrawn from service between 2004 and 2006. This is at least six years before the JSF becomes available. In the meantime the UK's carrier-borne aircraft will be upgraded from the RAF



The nuclear powered attack submarine HMS TRAFALGAR on the surface. Nearly all of the RN's Trafalgars will be Tomahawk capable in the not too distant future with the Trafalgar class expected to serve on to 2015 alongside the new Astute class SSN. (RN)

Harrier GR-7 to GR-9 standard. However, the fact that the GR-9 will be armed with the very latest smart and precision weapon, such as the Brimstone anti-armour missile, as well as the latest mark of Sidewinder air-to-air missile is good news, as is the UK government's continuing commitment to provide Joint Force Harrier (JFH) with both RN and RAF crews.

Of course the anxieties dissipate once the RN gets through the 2006-2012 gap. Naval officers who have lobbied and argued long and hard for the new carriers, together with a true air-superiority fighter must be 'cock-a-hoop', even if they are still keeping their fingers crossed.

The provision of specialist amphibious shipping is an area where there is much success to report. The LPH and LPDs are new, there is the new class of auxiliary landing ships, and Ro-Ros (as mentioned earlier). All the minor landing craft have been renewed. It seems almost churlish to note that the new amphibious ships are large slab-sided ships that do not appear to incorporate any stealth features to reduce their signatures. Their self-defence systems also seem somewhat puny, bearing in mind their 'high value unit' status.

A WORLD CLASS FLEET... JUST

Despite the risk-taking, the Navy which survived the advent of the submarine, the aeroplane, missiles and the nuclear bomb in the 20th century appears ready to make good its boast at the beginning of the 21st century that it is still 'a world class Navy, ready to fight and win'. This was clearly demonstrated by the launch of cruise missiles from RN submarines against targets in Afghanistan (and more recently against Iraq), a landlocked country, and the deployment of Royal Marines there in 2001/2. As ever, luck will play its part in equal measure alongside the necessary high standards of training and new ships and aircraft with their innovations in technology, but no further erosion in any of these areas can be risked.



Four new EH-101 Merlin helicopters about to land in formation. The Merlin is currently in the process of replacing the Sea King in RN service. (RN)

ANZAC Fires for Effect

By CMDR Stu Wheeler RAN



HMAS ANZAC's Mk-45 127mm gun firing in anger at Iraqi positions on the Al Faw peninsula. This was the first naval bombardment mission conducted by the RAN in wartime for 31 years. (RAN)

At 0604 on 21 March 2003, the Western Australian-based frigate HMAS ANZAC, often called the 'Lighthorse', commenced naval gun fire in direct support of the Royal Marine battalion, 40 Commando, assault on Al Faw Peninsula in southern Iraq. CMDR Stu Wheeler of HMAS ANZAC details the ship's action.

The land assault on the Al Faw Peninsula began shortly before midnight on Thursday 20 March 2003. At the time HMAS ANZAC was tasked as 'Scene of Action Commander', guarding the massive offshore oil terminals known as Kaoot and Mabot. Operating in sight of both pumping stations, less than 12 miles from the Iraqi coast, ANZAC's task was to challenge and intercept any vessel that approached the terminals. As in previous conflicts with Iraq, there was a very real fear the Iraqi military would quickly sabotage and detonate the terminals, causing a massive environmental disaster and force the coalition ships to abandon the assault on the Al Faw Peninsula. Shortly before midnight, ANZAC was informed that the US Navy Special Forces (SEAL) had successfully seized vessels containing explosives and sea mines and took control of the giant oil terminals of Kaoot and Mabot, heralding the next phase of ANZAC's mission.

At 0130, under the surreal moon-lit stillness of the northern waters of the Persian Gulf, HMAS ANZAC received orders to proceed up-stream of the Khawr Abd Allah (KAA) waterway in company with the RN Type 23 frigate HMS MARLBOROUGH to a position close to the Al Faw Peninsula and prepare for gun action. Having just weathered a heavy dust storm and covered with a red patina of Gulf filth, HMAS ANZAC slowly entered the waterway, surrounded by a glossy-black sea, brightly lit under full moonlight. At only 4

knots, with no navigational lights and the ship fully darkened, ANZAC crept upstream. For the 16 mile transit up the KAA, ANZAC was deadly quiet in case sea mines had been laid. With the ship closed-up at Action Stations and machinery running in a quietened state, ANZAC crept up the murky brown waters of the KAA to within seven miles of Iraqi-held territory. As ANZAC slowly entered the waterway, the sound of explosions and huge thuds rang clearly through the night, often shaking the ship with the percussion blows. Huge bright red and white flashes were seen in the distance and the air quickly filled with smoke and the acrid smell of cordite and sulphur. One of the lookouts said 'it was like standing downwind of a bush fire'. For two hours the ship glided through the watery obsidian, quietly breaking a gentle stream of the familiar long, bright green ribbons and plumes of phosphorescence. This was an eerie and unforgettable moment for the people of ANZAC. Secretly, we all knew the mission would be a defining point in our lives.

Once in position at 0530, HMAS ANZAC reported 'Guns Up, Ready for Call to Fire' to the Royal Artillery 'Forward Observer' (FO) on the nearby Al Faw peninsula. Shortly after dawn, ANZAC commenced firing her 127mm (5-inch) Mk-45 gun using high explosive shells aimed at military targets and, for the first time in 31 years, the Royal Australian Navy engaged in combat gunfire support. Over the next three days, ANZAC shook and shuddered as the firing of her 5-inch gun



A map showing the target positions and the ships involved. All ships had to navigate the dangerous passage up the Khawr 'Abd Allah waterway at night and in total silence as it was thought to contain an unknown number and type of sea mines. The RAN and RN ships were far more capable of conducting this mission than their target USN counterparts as the Anzac, Type 22 and 23 class of ships draw less water under the keel and thus able to navigate the shallower waters close to shore. (RAN)

launched barrages of high explosive shells in support of the Royal Marine battalion. 40 Commando. ANZAC conducted seven fire missions in total, with all rounds hitting Iraqi bunkers, destroying artillery strongholds and key military installations. An eighth mission on an Iraqi ammunition bunker was aborted due to suspected chemical weapons held in the facility. All of ANZAC's rounds fell on their military targets with none harming civilian infrastructure.

The Naval Gun-Fire Support began with HMAS ANZAC and was accompanied by the Royal Navy frigates HMS CHATHAM, RICHMOND and MARLBOROUGH. More than 70 rounds were fired during the missions in what has been dubbed 'Five-Inch Friday' in recognition of the damage done by ANZAC's 127mm gun.

After removing set targets with surgical precision, HMAS ANZAC continued to provide fire support to the Royal Marines as they fought their way through the Iraqi forces on the peninsula to seize the township of Al Faw and the deep water port of Umm Qasr. More action occurred over the following two days, when ANZAC conducted several fire missions to provide cover to the Royal Marine advance, including the silencing of an Iraqi 155mm medium artillery field gun that was firing on the commandos.

As HMAS ANZAC withdrew from the gun-line position she held for three days, the following message was received from 40 Commando - "The Al Faw Vegetation Belt has been successfully cleared of all enemy and the airport and other key military installations are now secure with no enemy

resistance. Success was largely due to aggressive use of Indirect Fire assets and the swift and lethal response of respective units. Your bombardment and destruction of key military installations had a huge impact on the ground and shattered the enemy's will to fight."

HMAS ANZAC - United We Stand.



The Type 23 frigate HMS RICHMOND fires her Mk-8 114mm gun at Iraqi positions. The naval gunfire support missions were conducted by the RAN and RN in support of the UK's Royal Marine Commandos. (RN)

Flash Traffic

Australia takes part in FBE Kilo

The RAN and Australia's Defence Science and Technology Organisation (DSTO) have participated in this year's US Fleet Battle Experiment (FBE)-Kilo.

FBE-Kilo, developed and executed by the US Navy Warfare Development Command (NWDC), was a three-week joint war fighting experiment, bringing together live field forces and computer simulations at various locations in the United States and the Pacific.

Coalition partners participated in one of eleven experimental initiatives being examined during FBE-Kilo. The Joint Fires Initiative implements a mix of both prototypes and current Navy systems and processes, to improve the execution of time sensitive targeting. It employs a sensor-to-shooter fires network using simulated and experimental platforms.

A key goal of this experiment was to enhance interoperability between the U.S. Navy and RAN, by experimenting with the integration of coalition forces in a digital fire network through information. This was achieved by the use of distributed modelling and simulation, and advanced networking capabilities.

Participating in the experiment was the Australian virtual ship, vANZAC, a simulated Australian frigate equipped with potential future capabilities, operated from the DSTO Fern Hill Laboratory in Canberra. "The goal is to achieve a higher degree of integration between the virtual ship and the Joint Semi-Automated Forces modelling and simulation capability maintained in the lab here at NWDC," said Dr. Darren Sutton, an Australian Scientist on exchange from DSTO to the NWDC.

The new NWDC modelling and simulation lab is co-ordinating the virtual participation of several other platforms, in addition to the vANZAC. A virtual next generation E-2C Hawkeye was generated from a mobile simulator parked next to the NWDC lab; a virtual next generation destroyer (vDDX) was generated at the Naval Surface Warfare Center in Dahlgren, Va.; and a virtual submarine and unmanned underwater vehicle added from the Naval Undersea Warfare Center in Newport. The simulations even included live video feeds from virtual Predator unmanned aerial vehicles (vUAV).

Each of these simulations were fed from the lab at NWDC to ships operating off Guam where shipboard systems were stimulated with actual radar, acoustic and electronic data, as if the actual platforms were participating in the event.

A number of RAN officers operated the experiment command and control, and intelligence, surveillance and reconnaissance systems (C2ISR) aboard the vANZAC in the Fernhill lab. They were supported by joint Australian and U.S. technical teams in both Canberra and Newport, and were represented in the experimental strike warfare commander's staff on USS BLUE RIDGE (LCC-19) which was operating in the Pacific Ocean by an RAN and a U.S. Navy officer.

The experiment explored intelligence, surveillance and reconnaissance management, including cross-cueing of coalition and US sensors and weapons through the time sensitive targeting process of "Find, Fix, Track, Target, Engage and Assess."

Through this initiative, the USN is able to assess the capabilities, strengths and weaknesses of coalition forces, and facilitate matching future missions with capabilities. This initiative also assists in determining coalition forces' interoperability requirements, and aids the RAN with their future transformation efforts and investment decisions, with a focus on the requirements for a credible surface land-attack capability.

As shown by the recent war in Iraq, the relevance of this experiment is even more significant. "The future of warfare lies in coalitions," said Sutton. This experiment helped "build relations, provide exposure and help to ensure that the RAN is able to more fully integrate its capabilities in future engagements."

Blohm + Voss delivers first Patrol Vessel to Royal Malaysian Navy

The German firm Blohm + Voss GmbH has delivered the Royal Malaysian Navy's (RMN's) first new MEKO patrol vessel. The incomplete patrol ship arrived in Malaysia on the back of a dock ship on April 1 for final outfitting at the partner shipyard Penang Shipbuilding & Constructions Naval Dock Yard. Final outfitting as well as

the sea trials will be carried out by Penang Shipbuilding.

The vessel is the first of a series of six for the RMN. The ship was laid down in Kiel on November 13, 2001, and has been built according to the Blohm + Voss developed and patented MEKO® concept. It has a displacement of 1650 tonnes and is especially suited coastal/littoral duties.

The patrol vessels have a length of 91.1 m, a beam of 12.85 m and a draught of 3.4 m and are equipped with two Caterpillar diesel engines each producing a 5450 kW of power. With two CP propellers a speed of 22 knots can be reached. The crew comprises 78 with a reserve of 15. The vessels will be mainly used for the protection of sea traffic in the Strait of Malacca. Stealth technology has been made use of to reduce the radar signature.

Indian stealth warship launched

India has launched its first indigenously built stealth warship.

The ship, christened INS SHIVALIK after one of India's Himalayan peaks, has been built at the state-run Magazon Dock Ltd. (MDL) near Mumbai.

INS SHIVALIK is part of a national naval project to build and deploy three stealth warships. INS SHIVALIK is expected to be commissioned by December 2005.

"INS SHIVALIK will play the dual role of offensive and defensive combat and it also has the capacity to attack in-shore targets," said an Indian Defence Ministry Officer.

Further details of the ship were not available, but sources said it was likely to be fitted with the 300-kilometre (180-mile) anti-ship cruise missile Brahmos, being jointly built by India and Russia.

Taiwan submarine purchase stalled

A plan by Taiwan to purchase eight conventionally powered submarines from the United States is understood to be 'on the rocks' after Washington supposedly demanded US\$340 million in fees for the deal.

Taiwanese military authorities have rejected the demand, which they termed "unreasonable". Taiwan was willing to pay US\$28.5 million in fees.

The cost of the deal is estimated at three to four billion US dollars.

Fees demanded by the United States are for the drafting of the detailed purchase plan and evaluating the deal, a local Taiwanese paper reported.

In April 2001 US President George W. Bush approved the sale of eight diesel-electric submarines to Taiwan as part of Washington's most comprehensive arms package to the island since 1992.

It is understood a group set up by the United States to facilitate the deal called off a Taiwan visit some time between late March and early April due to the difference on the fees.

Washington had planned to open the bid for the arms deal this month, with the winner announced early next year so as the first submarines could join the Taiwanese Navy in 2010 at the earliest.

Taiwan had expressed interest in purchasing Collins class submarines from Australia long before the US offer but the application was rejected by the Australian government based on its one-China policy. It was reported at the time that Taiwan wanted eight Collins and was willing to pay AU\$58 billion.

North Korean ship captured by RAN

Thirty crew members of a North Korean ship were remanded in custody after their vessel was seized in a drug bust involving elite special forces and the RAN Anzac class frigate HMAS STUART in wild seas off Australia's east coast.

SAS troops stormed the vessel from an RAN Seahawk as a naval and police boarding party clambered up the side of the ship from dinghies.

The drama ended a five-day pursuit in mountainous seas from the coast off Victoria, in the southeast corner of Australia, to the east coast off Newcastle in New South Wales.

Two New South Wales Police Officers were injured in the operation, which the authorities described as extremely dangerous.

The Tuvalu-flagged *PONG SU* is alleged by police to have been the 'mother ship' of a drug ring which landed 50kg of heroin worth \$80 million at Lorne in Victoria.

PONG SU was taken under Navy control to Sydney where the crewmembers were taken ashore and arrested, ending a joint services



A Tactical Tomahawk Block IV cruise missile, conducts a controlled flight test over the Naval Air Systems Command (NAVAIR) western test range complex in southern California. The Tactical Tomahawk, the next generation of Tomahawk cruise missile, adds the capability to reprogram the missile while in-flight to strike any of 15 preprogrammed alternate targets, or redirect the missile to any Global Positioning System (GPS) target coordinates. It also will be able to loiter over a target area for some hours, and with its on-board TV camera, will allow the war fighting commanders to assess battle damage of the target, and, if necessary, redirect the missile to any other target. (USN)

operation which police say has cracked a major Asian drug ring.

The vessel seized was believed to be the 'mother ship' in which the heroin was actually brought into Australian waters and then off-loaded by dinghy.

Police believed the seizure of the vessel and the arrest of 34 people – the captain, 29 crew and the four men in Victoria last week – also represents a disruption of an organised narcotic syndicate.

The apprehension and arrest of the crew may also provide further evidence of official North Korean Government involvement in illegal narcotics trading said US Secretary of State Colin Powell



The MV *PONG SU* (foreground) was intercepted in a joint operation between Australian Customs, AFP, and elements of the Australian Defence Force, including Special Forces and HMAS STUART (seen in the background). The *PONG SU* was taken to Garden Island in Sydney, where further investigations are still being carried out. (RAN)

recently. It is believed by the US that drugs are now being sold by the cash strapped communist dictatorship as a means of earning hard currency.

Roman ship excavated intact

Archaeologists have unveiled the oldest shipwreck ever recovered in the Netherlands, an astonishingly well-preserved Roman military transport that sank along the banks of the Rhine 18 centuries ago. Although other ships have been found in what was the sprawling Roman Empire, the flat-bottomed barge is one of the few found north of the Alps.

The ship was built about A.D.180 when Marcus Aurelius passed the throne to the emperor Commodus.

"What's really exciting is that the type is slightly different from others that have been found," said maritime archaeologist Andre van Holk, who oversaw the excavation. "It's longer and thinner."

The ship's 75-foot-long exterior is intact, as is a masthead and the iron nails. The ship held no cargo when it sank, but the narrow construction and other remains – including a decorated chest complete with lock and key – suggest it may have been used by a paymaster sailing upriver with supplies for military camps and bases along the Rhine.

The ship, along with its wooden mooring, was found in De Meern, about three miles west of Utrecht, near what

was once the site of a Roman military camp.

The Romans first arrived in the region at the time of Julius Caesar, about 53 B.C., and the Rhine later became one border of the Empire.

Several Roman watchtowers have been discovered along the river in the same area. One apparently was burned during an uprising by local tribes about A.D. 69.

PLAN submarine deaths

The Chinese submarine accident in which 70 crew died may have been due to a malfunctioning diesel engine air intake which sucked all the oxygen out of the hull, a Chinese Navy official said.

Investigators believe the crew died within two minutes, after submarine No. 361 descended on a training mission two weeks ago. All the victims were found at their posts, with no signs of struggle, suggesting that death came upon the men quickly and or perhaps unexpectedly, the official said.

The accident occurred during a training mission on or around April 16, but was not discovered by the Chinese Navy until 10 days later with the sub drifting just below the surface.

The No. 361 Ming class submarine was taking part in a drill near the Neichangshan islands off north-eastern Shandong province in the Bo Hai Sea, east of North Korea. The crew had been instructed to maintain radio silence during training to practise concealing their location.

The Chinese military publicly attributed the tragedy to mechanical failure, giving no further explanation, but Western naval specialists familiar with diesel-powered submarines said the official's account was plausible.

The official said the submarine had charged its batteries from its diesel engine using a snorkel just below the surface. Diesel power is switched off in preparation for descent because diesel requires oxygen to burn. In this case, mechanical failure is believed to have caused the diesel power to continue running while the snorkel had been stowed, depriving the hull of its oxygen and suffocating the crew.

The No.361 submarine was built in 1995, making it one of the newer of the Ming class that China produced from

1971 to 1996. Intended for patrols and coastal defence, it is copied from the decades-old Soviet Romeo class, which was based on a German U-boat produced in 1944.

The Ming class usually holds nine officers and 46 sailors, suggesting that other technicians or staff officers were aboard for this exercise.



A People's Liberation Army-Navy Ming class diesel electric submarine about to dock. The loss of the No.361 is the most serious submarine accident that the PLAN has suffered in what was one of the PLAN's newer submarines.

Romania to get ex-RN Type 22 frigates

Romania and the UK have finally signed an agreement to reactivate and upgrade two ex-RN Type 22 Batch 2 frigates for sale to the Romanian Navy.

BAE Systems Customer Solutions & Support is prime contractor designate for the £116 million package, with Fleet Support Limited (FSL) at Portsmouth (a joint venture between BAE Systems and VT Group) subcontracted for the reactivation and first-phase modernisation of the two ships, HMS LONDON and HMS COVENTRY.

With Romania due to join NATO next year, the acquisition of the very

capable frigates will give Romania's obsolete Navy a significant leap in capability. Once in service, the two 4,200-ton frigates will enable the Romanian Navy to integrate and interoperate with NATO forces operating in the Black Sea.

LONDON was retired from RN service in 1999, with COVENTRY following in 2001. Both ships are currently laid up in Portsmouth, UK with many years left in the hulls.

The pre-transfer refit package, worth more than £20 million to FSL, will address the overhaul of the platform and reactivation of various legacy equipments, installation of reconditioned Rolls-Royce Tyne and Olympus marine gas turbines, and a limited first-phase combat system modernisation. COVENTRY will be docked by FSL in August and is due to be delivered to Romania at the end of 2004. LONDON will dock in March 2004, with delivery to follow in May 2005.

An Oto Melara 76/62 Super Rapid dual-purpose medium-calibre gun will be installed forward (where four Exocet launchers used to be fitted). Equipment being removed from the ships as part of the reactivation includes the two six-barrel Seawolf launchers and associated systems. The GWS 50 Exocet missiles fitted during their RN careers have been removed.

A second-phase upgrade is planned to take place in Romania around 2008-09. This is expected to focus on improving the ships' capabilities to operate as flagships – through



The Type 22 Batch 2 frigate HMS SHEFFIELD. Two other identical Batch 2 Type 22s, LONDON and COVENTRY, have been sold to Romania. They will undergo modification to take much of the British weaponry and surveillance systems off and replaced with others such as a 76mm Oto Melara gun and VL Mica missiles. (RN)

enhanced, command, control and communications facilities – the addition of new air-defence and anti-ship weapons, and an improved electronic warfare suite. It is understood that the French VI. Mica missile may be used in place of the ship's original Sea Wolf system.

The sale agreement includes a five-year industrial partnership programme under which BAE Systems will undertake to work with Romanian industry to establish business partnerships, enable transfer of technology and improve market access.

BATAAN breaks Harrier embarkation record

Operating as one of two forward-deployed Harrier carriers in support of Operation Iraqi Freedom, BATAAN became the Harrier carrier, embarking the most Harriers on a large deck amphibious ship ever.

"When we came into theatre, we had 26 Harriers and the USS BONHOMME RICHARD (LHD 61 had 22," said Lt. Larry Young, BATAAN's aircraft handling officer. "One of our squadrons, VMA-542, transferred custody of two Harriers to BONHOMME RICHARD, so both ships would have equal numbers." Now that we are getting ready to depart, we now have those two Harriers back onboard."

BATAAN's flight deck and hangar bay can get a little crowded with 26 Harriers.

"Real estate is a premium on the flight deck, and this ship was never designed to carry so many Harriers, but we've been able to accommodate them, get the mission accomplished," said Young.

Young said the flight deck crew rewrote the book on how to move and arrange aircraft to meet operational commitments.

"We developed a plan and made it work," said Young. "The key was to make the flight deck a 'ready deck' through use of the night move crew. If it weren't for them moving the aircraft around at night to set up for the day crew, we wouldn't have had a ready deck first thing in the morning and be ready for the mission. We have moved aircraft 24 hours a day since we came into theatre."

Splitting the crew into a day shift and a night shift was the answer.

"This was a unique experience. We



An AV-8B Harrier aircraft hovers above the flight deck of the amphibious assault ship USS BATAAN (LHD 5) as the pilot makes a vertical landing. The BATAAN was dubbed 'The Harrier Carrier' during Operation Iraqi Freedom, as it broke the record for the number of Harriers embarked. On deck can be seen 15 Harriers; however BATAAN was able to embark 26 leading up to the war (USN).

were putting our heads together to figure out how to move the Harriers and get them to the correct spots for their missions," said Chief Aviation Boatswain's Mate (Handler) Raymond Stallings, night crew leading chief petty officer. "For the last four months, we've had at least nine people on the night crew performing up to 15 aircraft moves a night. Everyone came together and made it work well above expectations."

This great teamwork and attention to detail is what led the BATAAN to successfully complete 5,000 mishap-free aircraft moves.

German AIP system tested

The first of four Type 212A attack submarines for the German Navy, U-31, has conducted its first set of sea trials of its fuel cell air-independent propulsion (AIP) system.

Initially focusing on propulsion tests in the shallow waters of the western Baltic, the trials are due to lead into a phase of deep-water operations scheduled in late July. U-31 will head to Norway and operate from Kristiansand, Stavanger and Bergen. Royal Norwegian Navy facilities will then assist in trials of the submarine's sonar and fire and weapon control system, torpedo firing and assessments of the sub's overall acoustic levels during deep dives.

The latter are expected to prove that the subs have very low radiated noise levels, largely by virtue of the AIP system, but also because of the seven-

bladed, low-noise screwback propeller and the very clean lines of the 56m, 1,450t-displacement submarine. Even the standard MTU 16 V-396 diesel motor used for sprinting and to charge the boat's lead acid battery is mounted on a swinging deck platform, attached to the hull with double elastic mounts to minimise noise and vibration.

The AIP system developed by HDW and Siemens consists of nine polymer electrolyte membrane fuel cells developing 30-50kW of power each. A process of 'cold combustion' takes place at around 80°C inside the cells, as hydrogen ions are conducted to a cathode where they react with oxygen from liquid oxygen tanks (carried between the outer hull and pressure hull) to produce electrical power.

HDW claims that the fuel cells are nearly 100% efficient, only producing water as a by-product and reusing generated heat in a closed circuit to release more hydrogen. It is understood, the only noise generated comes from pumping cooling water and running



The German Navy's first Type 212 submarine departing for trials of its AIP system (HDW)

ventilator fans around the system. However, the key feature of the AIP is that it allows the boat to cruise and operate submerged for long periods – believed to be up to 17 days – without needing to snorkel to charge its batteries.

U-31 will return to Kiel in mid-March 2004 for final fitting and rectification of any anomalies or defects that the trials uncover ahead of handover, currently scheduled for the end of that month. U-32 is slated to follow in May 2005 and the other two of the class will be commissioned in 2006.

Russian naval squadron in Indian Ocean

Russian warships from the Pacific and Black Sea fleets have left port to begin a long-planned deployment into the Indian Ocean, culminating in a major exercise with the Indian Navy.

It is the largest out-of-area deployment undertaken by the Russian Federation Navy in a decade; fuel shortages and lack of maintenance have placed severe restrictions on the Navy's ability to undertake long-distance deployments in recent years, and those ships in a seagoing condition have generally been restricted to short periods of sea time in home waters.

However, senior naval officers are keen to resume 'show the flag' deployments, albeit on a limited basis, to demonstrate the Navy's continued ability to deploy into areas where Russia sees a strategic interest.

The Udaloy-class destroyers, MARSHAL SHAPOSHNIKOV and ADMIRAL PANTELEYEV sailed from their base port Vladivostok on 6 April accompanied by the tanker VLADIMIR KOLECHITSKY. This was followed by the departure of the Slava-class cruiser MOSKVA, the Krivak-class frigate PYTLIVA, the Kashin-class destroyer SMETLIVY and the Ropucha-class landing ship TSEZAR KUNIKOV from Sevastopol.



The Russian Udaloy class destroyer ADMIRAL PANTELEYEV makes her way through the Indian Ocean. The Russian Navy's large deployment to the Indian Ocean is meant to be a signal to the world that the Russian Navy is still a force to be reckoned with.

The tanker IVAN BUBNOV and the ocean-going salvage tug SHAKHTER departed Sevastopol earlier.

Busy times at IZAR

The Spanish shipbuilder, IZAR, has laid the keel of the FRIDTJOF NANSEN, the first of a series of five F-310 class frigates for the Royal Norwegian Navy. The order for the five ships came in June 2000, after IZAR won an international competition to provide the Norwegian Navy with the ships.



The keel of the first of a series of five F-310 class frigates for the Royal Norwegian Navy, FRIDTJOF NANSEN, is laid at the IZAR yard in Spain (IZAR)

Although the F-310 design is based on the F-100 air warfare frigates for the Spanish Navy, which incorporates the AEGIS combat system, the class' primary focus is anti-submarine warfare. The class is also equipped for anti-surface and peace missions.

The construction of the ships is shared between IZAR FERROL and a number of Norwegian shipyards, all of which produce modular blocks which are then sent to IZAR where they are assembled in the slipway.

The launching, the sea trials and the delivery take place in Spain. In the case of the last two vessels the procedure will be reversed. IZAR will send blocks to Norway where they will be assembled. The launching, the sea trials and the delivery of these final units will take place in Norway.

In other IZAR news, the company recently launched the F-100 class air warfare frigate BLAS DE LEZO, third of four F-100 frigates being built for the Spanish Navy.

The launching of the F-103 took place 15 months after the laying of the keel with the ship due to be delivered in December 2004. On launching, the ship was approximately 80% complete, a high percentage possible due to the integrated construction system developed by IZAR.

Following the launch of the third frigate, the yard laid the keel of the fourth unit, named MENEZ NUNEZ. This ship is scheduled for launch in

September 2004 while the commissioning, which will herald the end to the F-100 program, is scheduled for February 2006.



The third Spanish F-100 class air warfare frigate BLAS DE LEZO, is launched from the IZAR shipyard (IZAR)

Last Oberon retires

The Chilean Navy has retired the last of two Oberon-class diesel-electric submarines (SSKs) ordered from the UK and delivered in 1976, leaving its submarine force temporarily reduced to only two German-built Type 209 boats. Two Scorpene-class SSKs that were ordered late in 1997 at a cost of US\$450 million are currently under construction in France and Spain by DCN and Izar with deliveries scheduled for the end of 2004 and the beginning of 2006 respectively.

O'BRIEN, the last Oberon-class submarine in service in the world (after Australia, Brazil, Canada and the UK retired their Oberons), spent most of 2002 moored in the Talcahuano naval base with a reduced crew on board. Retirement is not the result of technical problems, as was the case with sister vessel HYATT, retired in 1998, but part of measures being taken to reduce costs and refocus resources to other naval projects.

Thai Navy cuts back Corsair fleet

The Thai Navy is maintaining only four of its 18 A-7 Corsair fighter jets because it is not worthwhile to repair all of them. Part of the maintenance budget will be diverted to buy a Dornier patrol plane.

A Navy source said the four jets were being maintained with parts removed from the other Corsairs.

Navy Chief Adm Thaweesak Somapa decided not to buy new parts because the Corsairs' service life would end in the next five years.

The 18 Corsairs were ordered from the United States five years ago after they had been in use for over two decades. The jets have been deployed at the Sattahip naval base, Chon Buri.

Adm Thaweesak has sought permission from Defence Minister Gen Thammarak Isarangkura Na Ayudhaya to withdraw 300 million baht from the 700-million-baht budget for maintenance of the Corsairs to buy a Dornier patrol plane from Germany instead.

The Navy chief's predecessor, Adm Prasert Boonsong, said the Corsairs had served the Navy well. However, maintenance had been put off during his term because of problems between the US and a Greek aircraft repair company.

New Chinese destroyer launched

The first Type 052C guided-missile destroyer for China's People's Liberation Army Navy (PLAN) has been launched from the Jiangnan shipyard in Shanghai.

Hull No 170 entered the water on 29 April and was moved to an alongside berth to complete fitting out. A second Type 052C is reported to be at an advanced stage of build.

The Type 052C is expected to mark a new era for the PLAN with the introduction of a phased-array radar and extended-range air-defence missile system.

Four fixed phased-array panels, fitted around the main superstructure block, use electronic scanning, in the form of 'pencil beams', to give full 360 degree coverage.

Initial observations of Hull No 170 suggest the presence of a forward vertical-launch missile system.

Speculation continues as to the exact type of missile that the class may use. Some sources suggest the Russian-made SA-N-6, but the indigenously developed FT 2000 or HHQ-9 are also candidates.

Other notable features include the installation of two Type 730 close-in weapon systems and a single 100 mm gun with a low radar cross-section turret. There is also a new type of anti-ship missile launcher cradle positioned amidships.

This could mean that Hull No 170 may be fitted with a new supersonic anti-ship missile or the further developed 'Eagle Strike-3'.

Australian Budget 2003

The Australian 2003/04 budget released on May 13 increased defence spending, by \$1.1 billion, to \$15.8 billion for the financial year 2003/04. The 2000 Defence White Paper Maritime Forces Goal will be met now and in the future through a number of activities.

In 2003/04 these will include:

- delivery of additional Evolved Sea Sparrow surface-to-air missiles
- continued enhancements to Collins Class submarine platforms and sensors and,
- delivery of a digital hydrographic database.

Other activities, with outcomes in future years, include:

- selection of the patrol boat replacement,
- continuation of the FFG upgrade program,
- progression of the project to fit a mine and obstacle avoidance sonar in the Anzac Class FFH,
- initial installation of the Harpoon anti-ship missile system in an FFH,
- redevelopment of HMAS ALBATROSS facilities and,
- establishment of a naval ammunition facility at Eden, NSW.

The commitment to Operation Relentless II has been scaled back because no suspected illegal entry vessels (SIEV) have arrived in Australian waters since December 2001. \$17.8 million, down from \$22.3 million in 2002/03, has been provided to enable the ADF to continue operations to deter unauthorised boat arrivals and strengthen Australia's borders.

While funding has been reduced contingency arrangements remain in place to reinforce the force elements if the threat increases again.

The impact, if any, of this funding reduction in terms of ship support to Op Relentless II is not yet known.

Logistics and support funding has been augmented for a number of platforms including the Collins Class submarine. This will allow the ADF to conduct sustainable operations at an operational tempo higher than that envisaged by the Defence White Paper.

Operation Safebase, enhanced protective security measures for Defence personnel and facilities, has also received increased funding. This mainly relates to increased guarding, patrolling and protective searches.

For personnel, \$40 million has been allocated over the next four years (\$10 million in 2003/04) to fund initiatives intended to increase Navy's personnel retention rates.

Navy is currently below the

personnel strength target outlined in the Defence White Paper, and continues to have high separation rates. These initiatives will include work practice, workforce structure and training, being particularly targeted at employment groups experiencing critical shortages.

Budget commitments to other programs, including intelligence capabilities and increased port security, will indirectly affect Navy's operations.

By LEUT Kate Ryan, Navy News

USN activity in Western Australia

As Operation Iraqi Freedom was winding down, several ships and submarines of the United States Navy began the long trek back home via WA.

The first vessel to arrive was the Los Angeles class submarine USS KEY WEST (SSN-722) at HMAS STIRLING on 14 April for R&R after an 80 day submerged cruise in which they launched several Tomahawks against Iraq. This was the second visit to STIRLING by the KEY WEST, which left on 21 April.

On 22 April HMAS STIRLING hosted another submarine, the USS LOUISVILLE (SSN-724). This was the second visit to Fleet Base West by LOUISVILLE, the first was in 1991 after LOUISVILLE became the first submarine to fire Tomahawks during Operation Desert Storm. Operation Iraqi Freedom saw LOUISVILLE conduct Tomahawk attacks for the second time against Iraq.

On 29 April the CONSTELLATION Battle Group arrived at Fremantle and Bunbury for their only Australian visit. The Kitty Hawk class carrier USS CONSTELLATION (CV-64) with Carrier Air Wing Two (CVW-2) embarked entered Fremantle Harbour leading two Ticonderoga class cruisers, the USS BUNKER HILL (CG-52) and USS VALLEY FORGE (CG-50). The Supply class fast combat support ship USS RAINIER (AOE-7) anchored in Gage Roads. The Arleigh Burke class destroyer USS MILVUS (DDG-69) docked in Bunbury.

There were minimal protests as the battle group arrived, and the tight security was evident as more than 10,000 people were turned away due to no public tours on any of the ships during their stay.

For the CONSTELLATION, this was her ninth and last visit to Western Australia prior to her decommissioning in late 2003. Carrier Air Wing Two is to transfer to the USS RONALD REAGAN (CVN-76) when she

commissions on 12 July 2003.

This was the last visit by the F-14D Tomcats of VF-2 Bounty Hunters who, after 31 years of Tomcat operations, will be converting to the F/A-18E/F Super Hornet on their return to America in late May 2003, when they will be redesignated Fighter/Strike Squadron Two (VFA-2).

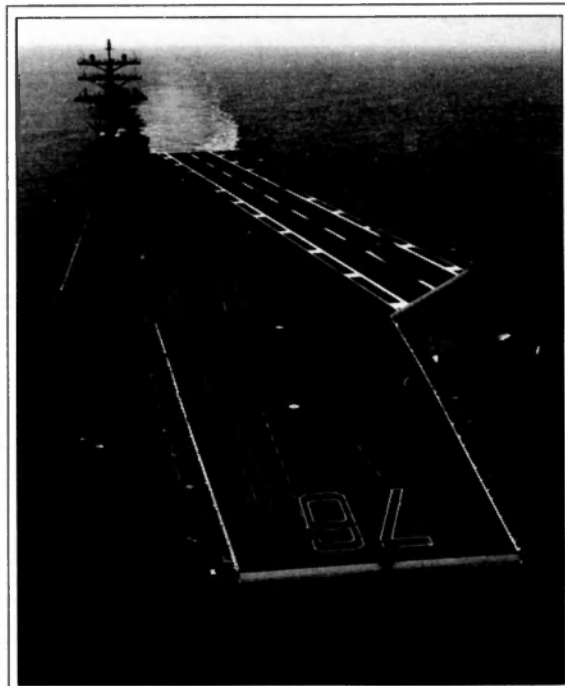
After seven days of R&R and to a large crowd around the harbour, the CONSTELLATION and her battle group departed 5 May for the last part of her cruise home.

By Ian Johnson

Inquiry launched into SSN collision

A board of inquiry is being set up by the UK Royal Navy to find out why a British nuclear powered attack submarine (SSN) collided with an object, possibly an iceberg, while at sea. The Trafalgar class SSN HMS TIRELESS, which was reported to be on patrol in the Arctic when the collision occurred, returned to Faslane naval base, on the River Clyde, in Scotland, for repairs.

The submarine, which was commissioned in 1986 and had subsequent refits in 1996 and 1999, suffered minor damage to her ballast tank during the collision. It is understood that none of the crew was injured in the collision and that there was no threat to nuclear safety posed by the damage.



Sailors aboard the Pre-commissioning Unit (PCU) RONALD REAGAN (CVN-76) took the world's newest aircraft carrier out to sea for the first time during build-up sea trials off the coast of Virginia. REAGAN Sailors and Northrop Grumman Newport News Ship Builders worked side-by-side testing systems to ensure the warship can operate around the world for the next 50 years. (USN)



Naval Station Roosevelt Roads, Puerto Rico (Apr. 30, 2003) - An Airman exchanges salutes with Cmdr Tom McDonough, Commanding Officer of Fleet Composite Squadron Eight (VC-8), prior to the departure of the last active TA-4 Skyhawk in the U.S. Navy. The jet, which served the Navy and U.S. Marine Corps for more than 30 years, has been donated to the Glen Martin Aviation Museum in Baltimore. (USN)

"The vessel was submerged and hit a free-floating object", a spokeswoman from the UK MoD revealed, refusing to comment on whether or not the object was an iceberg. Why this happened is a matter for the board of inquiry. "These submarines have electronic sensor equipment and sonar on board which help in sensing objects", the spokeswoman concluded.

Last November, TIRELESS's sister submarine, HMS TRAFALGAR, ran aground near the Isle of Skye, off the West Coast of Scotland. The British Government said it would cost five million pounds to repair the grounded nuclear submarine, which is expected to return to service at the start of 2004.

In November 2000, the Government withdrew five of the Royal Navy's 12 SSNs because of fears of a problem with reactors. The vessels were subsequently given the all clear.

THE MARITIME STRATEGY INQUIRY – (I)

The inquiry into Australia's maritime strategy policy by the Defence Sub-Committee of the Parliament's Joint Foreign Affairs, Defence and Trade Committee, announced on 1 September 2002, conducted public hearings in Canberra, Sydney and Melbourne in March. Navy League members were invited to appear before the sub-committee in Canberra and Melbourne (the Navy League submission was published in the January-March issue of *THE NAVY*).

Following a review of the 2000 Defence White Paper (*Defence 2000*) earlier this year the Government issued *Defence Update 2003*. The review confirmed the thrust of the 2000 White Paper (see From the Crows Nest this issue) and there was no suggestion of changing the existing defence policy, of which a maritime strategy is the cornerstone (it did however, leave the way open to postpone projects). Coming as it did while the parliamentary inquiry was underway, it could be thought the work of the sub-committee was unnecessary and that its findings, due to be reported to the Parliament later in the year would be irrelevant. This would be a mistake.

In the course of its investigations the sub-committee received 37 written submissions from organisations (including Defence) and individuals as well as supplementary submissions and heard views expressed at the public hearings. At a time of international uncertainty and change, a time when governments are attempting to determine the measures necessary to combat terrorism without neglecting their responsibilities for national security, when regrettably the United Nations Organisation has been weakened, the Parliament's Defence Sub Committee has the opportunity to assess dispassionately the information made available to it and to make a valuable contribution to the nation's security in a restless world.

THE MARITIME STRATEGY INQUIRY (2)

It was pleasing to note that a number of submissions concerned the Australian merchant shipping industry. Most referred to the need to have suitable ships available in times of emergency and the factors making this an objective difficult to achieve.

The Navy League also referred to the subject in its submission and in *THE NAVY* which has published articles over the years concerning the need for a viable Australian owned/controlled shipping industry and expressed regret at the steady decline in Australian flagged shipping.

An Unnecessary Risk

Following the occupation of Iraq by Coalition forces the Australian Defence Minister accompanied by the Chief of the Defence Force and the Secretary of the Department set off by air to the Middle East to visit ADF personnel in the area.

During another war, in August 1940 three Australian Cabinet Ministers including the Army and Air Ministers, together with the Chief of the General Staff, were killed in an air crash at Canberra, a serious loss at the time.

For many years the principals of many large companies and organisations, also husbands and wives with families in some cases, have avoided travelling together by air. Although very much safer in 2003 than in 1940, aircraft continue to come to grief from time to time (many years ago the writer had a personal experience of such a happening).

It is surprising that the three principal members of the nation's defence organisation were allowed to travel together to a strife-torn area and alleged hotbed of terrorism. No-one is irreplaceable, not even cabinet ministers or admirals and generals, but the loss of all three together or maybe even one would have caused the Government to look very careless.

How Times have Changed!

The writer read with interest reports that some ADF personnel including sailors had rendered themselves ineligible for active service in the Middle East by refusing to have injections as a safeguard against anthrax. Warships do not carry 'spare' personnel – there is no room for such luxuries – so disruption and expense was inevitable as personnel exchanges took place.

Once upon a time naval personnel lined up outside the sick bay, shuffled forward to the Medical Officer and his SBA assistant; then swab in with the needle (occasionally painless rather depending upon the state of the needle), over and out.

At times someone would faint on the way to the medical officer, disconcerting to others in the line, but this play was to no avail and there was no escape. It was however, better than being smitten with some unpleasant disease later on.

The recent exercise of choice by subordinates must surely be of concern to defence force commanders lest it be carried to extremes on some future occasion.

OBITUARY

LCDR Alan Burrows, RFD, VRD, 16/11/1925 – 7/3/2003
Alan Herbert Burrows served the Navy, the Navy League and the Cadet organisation for the greater part of his life. He joined the RAN as a sailor during World War II and was Commissioned before the war ended. He entered the RANR when training resumed after the war and at the same time assisted what was then the Navy League Cadets as an instructor. Reorganised and renamed Australian Sea Cadets Corps, Alan was appointed Executive Officer of the Victorian Division of the ASCC in 1953 and Senior Officer of the newly-formed Naval Reserve Cadets from 1975 until 1985; he was then on the RANR Retired List.

A long-time member of the Victorian Division of the Navy League, Alan was State president 1973-1976.

Alan Burrows was educated at Wesley College, Melbourne, and in the post-war years engaged in business activities before becoming Associate to Victorian Supreme Court Judge William Kaye, who also served in the Navy during World War II. Alan is survived by his wife, Ann, an American citizen who he married in 1957.

Next year marks the 40th anniversary of Australia's largest naval heritage museum at HMAS ALBATROSS near Nowra on the south coast of New South Wales. The museum has grown spectacularly in that time to the point where it is now the country's largest aviation – and regional – museum ranking alongside some of the country's finest cultural heritage institutions. Housed within a \$13 million complex is the country's most comprehensive Fleet Air Arm (FAA) archive and aircraft collection, complemented by rare and iconic heritage artifacts.

In common with many service museums the Fleet Air Arm Museum (FAAM), as it was initially known, was begun by volunteers drawn together by a common interest in collecting, preserving and displaying their shared heritage. These early efforts were encouraged by the Base Commander at the time, Commodore Andrew Robertson who had managed to gather together memorabilia and a number of obsolete airframes, which were housed initially in a World War II vintage Bellman hangar. This was in those days a most uncommon activity as heritage was deemed then to be of little importance to the military. The Fleet Air Arm Museum is now one of Australia's oldest military aviation museums, second only to the RAAF Museum at Point Cook.

Fittingly, the FAAM was officially opened to the public in 1974 by Admiral Sir Victor Smith, the then Chairman of the Chiefs of Staff Committee and who is also recognised as being the 'father' of the Fleet Air Arm. These were tentative beginnings with operational requirements, as ever, taking priority. After several moves the Museum was finally relocated to the present site at the north-eastern boundary of

HMAS ALBATROSS on a concrete area known as the 'Dummy Deck'. The latter, which is deemed now to be a landscape element of cultural heritage significance, dates from the late 1940s and had been used to help train sailors of the Aircraft Handling Branch in the art of moving aircraft in very confined spaces (viz. the deck of an aircraft carrier).

Towering above the Dummy Deck today is the museum's massive 6,000 m² display hangar incorporating modern restaurant, library-archive, administration, workshop and theatre-conference facilities, all of which overlook the Naval Air Station's (NAS) active military airfield. As the birthplace of the RAN's Fleet Air Arm the NAS is the optimum location for an aviation museum, which serves also as the FAA's principle heritage repository. With sweeping views of the Station and its active runways the museum is imbued with an ambience that is seldom found in other museums and, which provides added context for the museum's thirty display aircraft.

In 1989, following a Defence Wide Review of heritage operations, the museum was re-established as an independent not-for-profit organisation owned and operated by a newly formed parent company known as the Australian Naval Aviation Museum Foundation (ANAMF). What must have seemed like a good idea in those halcyon days of corporate largesse has since proved to have been a flawed notion with the ANAMF's directors having to come to terms with the harsh reality that there never was, or likely ever will be, sufficient trading income and sponsorship to cover the museum's outgoings. The inescapable truth of the matter is that there are no professionally run museums in this country that can pay their own way and the ANAMF is not – never was – going to be an exception in this regard. Museums like Sydney's Powerhouse, the National Maritime Museum, the Australian War Memorial are all kept afloat by massive recurrent government subsidies, as is the RAAF Museum at Point Cook.

The ANAMF however, has – since the time it began operating in 1989 – always been burdened with the unrealistic expectation of a having to pay its own way, a situation made all the more worse by the recent loss of its principle sponsor (HIH Insurance) and skyrocketing insurance premiums. Unlike most other nationally significant museums the ANAMF receives no recurrent or public sector funding whatsoever and has had to try and survive entirely on its trading and fundraising income, the latter being derived mostly from the two airshows it runs each year in conjunction with the Navy.

The Museum is now run by just two full-time staff assisted by about half a dozen salaried part-time personnel and volunteers. As the country's largest aviation museum the company's Board of Directors – comprising mostly retired and serving naval personnel – decided in 2000 (with CN's concurrence) that the institution should broaden its collecting and display interests to encompass other aspects of Australian aviation, especially as there seemed little prospect of any governmental initiatives in this regard. In keeping with this policy shift the decision was also made at that time to change the institution's name from the Australian Naval Aviation



A Sea Venom fighter-bomber outside of the Museum's main exhibition hangar. The Sea Venom is but one of the many interesting and historically significant aircraft owned by the Museum.



Part of the impressive collection of aircraft housed at the Australian Museum of Flight.

Museum to Australia's Museum of Flight (AMoF). Directors felt too that there was likely to be more public interest in aviation as opposed to just naval aviation in which case, increased patronage would also help enhance the institution's viability. What remains unchanged however, is the Board's determination that the institution should continue serving as the FAA's principle heritage repository, a point that is underscored by the fact that there are now more naval aircraft preserved in the AMoF than there ever were in ANAMF.

Visitors to the museum are reminded that the Navy's association with the South Coast dates back to the beginnings of the last century while the region's aviation links are even older. Aviation pioneer Lawrence Hargrave conducted his boxkite experiments at Stanwell Tops just an hour's drive north from Nowra while it was from Seven Mile Beach, nearby, that Kingsford Smith departed (in the *Southern Cross*) in 1934 on his pioneering trans-Tasman flight. Squadrons from the RAAF, the RN's FAA and the USAAC were based in and around Nowra during World War II and indeed, it wasn't until the late 1940s that advance elements of the RAN's FAA began occupying the site now known as HMAS ALBATROSS. Coincidentally Nowra's first landing ground, opened in 1934, is also located alongside Albatross Road just a short distance to the north of the NAS.

The museum is currently embarked on an ambitious exhibition redevelopment programme, which it hopes to complete this year, coinciding with other global commemorative initiatives marking the year's centenary of powered flight. These new displays, which reflect four overarching themes (viz. Defence, Society, Technology and History), will also include audio and audio-visual interactives. New exhibits have been sourced from around the country, several national and state institutions having generously agreed to loan iconic artifacts from their own collections. Amongst the collection loaned by Museum Victoria for example is the Wright Flyer engine from the first aircraft ever to fly in Australia; the only stock original Wirraway trainer; and the Lockheed 12 once owned and operated by the former Australian naval aviator Sidney Cotton.

Much effort has been expended in recent years on bringing the facility up to scratch in terms of prevailing conservation and security standards. When the current redevelopment programme is completed later this year the ANAMF's museum should rank as one of the country's finest regional museums and, an institution that reflects considerable credit on the RAN.



A Westland Wessex helicopter is suspended from the roof as part of the Museum's many display aircraft. Also visible is a Fairly Gannet carrier borne ASW aircraft.

FRANK GETTING – A Forgotten Submariner?



It is 'three cheers' for HMAS OXLEY as she departs Portsmouth, England on her delivery voyage to Australia on February 8, 1928 with Frank Getting serving as her Executive Officer.

History correspondent, Vic Jeffery, looks at one notable RAN officer who possibly should have had a Collins class submarine named after him. The story of Frank Getting is very interesting and the argument for a submarine name compelling.

Whilst the former Royal Australian Navy personnel honoured with the naming of the Collins-class submarines are all worthy recipients, I have always thought that a submariner among the six would have been most appropriate.

This year marks the 61st anniversary of the loss of the heavy cruiser HMAS CANBERRA during the Battle of Savo Island and the death of its Commanding Officer, CAPT F.E. (Frank) Getting, RAN.

Frank Getting was a member of the RAN's first officer intake in 1913 from boys born in 1899. Born at Manly, NSW on July 30, 1899, Getting's classmates included future senior officers such as Burnett, Collins, Dechaineux, Feldt, Long and Showers.

Getting saw active service in World War One aboard the British battlecruiser HMS GLORIOUS in 1917 before joining the fledgling RAN submarine arm in the 1920's. He was already well known in Australian naval circles as a boxer and for his fighting spirit.

Posted to England to stand by the new submarine OXLEY, the 27-year-old Lieutenant Getting was OXLEY's First Lieutenant when the boat commissioned on April 1, 1927 under the command of CMDR H.R. Marrack, RN.

After initial service with the Royal Navy's 5th Submarine Flotilla, OXLEY in company with her sister boat OTWAY, finally sailed from Portsmouth for Australia on August 2,

1928. At that time their delivery voyage was the longest unescorted passage undertaken by British submarines. They were ordered to make the voyage on the surface with no diving to be undertaken enroute.

During their delivery voyage they encountered very heavy weather in the Bay of Biscay and on reaching Malta it was discovered both submarines had developed cracks in their engine columns and they were laid-up in Malta for the next eight months.

During this time of inactivity and repairs, now promoted to Lieutenant Commander, Frank Getting assumed command of HMAS OXLEY, which gave him the distinction of being the first Australian to command a RAN submarine.

HMA Submarines OXLEY and OTWAY finally arrived in Sydney on February 14, 1929 and were sadly paid-off into reserve later that year due to reductions in defence spending caused by the economic recession.

Finally they were transferred to the Royal Navy on April 10, 1931 due to the difficulty and expense of maintaining the boats in reserve. This effectively ended the submarine career of Getting and seeing the dream of the RAN to have its own submarine arm fade into obscurity for another three decades.

The intervening years saw Getting attend the Naval Staff College and the Imperial Defence College in 1934 before joining the heavy cruiser HMAS CANBERRA as Executive

Officer in 1936 for a three year posting.

Between 1939-41 he commanded the Hong Kong-based Royal Navy armed merchant cruiser HMS KANIMBLA, the former Australian coastal liner which later serving in the Royal Australian Navy as a Landing Ship Infantry.

Promoted to Captain in 1940, Getting was appointed Deputy Chief of Naval Staff on relinquishing command of HMS KANIMBLA, where he replaced Captain Joseph Burnett, RAN who had been appointed Commanding Officer of the light cruiser HMAS SYDNEY (II). Captain Getting held this position until he assumed command of HMAS CANBERRA in June 1942 the ship having been in a long overdue refit since February.

His detailed knowledge of CANBERRA, which he had gained from having served aboard the cruiser as the Executive Officer previously, was most valuable as the gravity of the Japanese threat saw him miss the luxury of a post refit work-up period.

When HMAS CANBERRA steamed out through Sydney Heads for the last time under darkened skies she had experienced only two days carrying out day and night main armament gunnery firings off Sydney and a week of inclement Melbourne weather which had restricted her anti-aircraft firings.

HMAS CANBERRA had missed the Battle of the Coral Sea due to her refit and sailed for New Zealand where it joined US Rear Admiral Turner's amphibious force at Wellington. The ships sailed three days later bound for the planned assault of Guadalcanal and Tulagi.

In company with the light cruiser HMAS HOBART, CANBERRA participated in Operation Watchtower engaging the Japanese during the American landings at Guadalcanal on

August 7, 1942.

Two days later on the night of August 9 HMAS CANBERRA was one of the covering South Force, which saw seven Japanese cruisers and one destroyer under the cover of darkness slip silently past the American destroyer pickets. They encountered the patrolling heavy cruisers HMAS CANBERRA and USS CHICAGO along with the destroyers USS BAGLEY and USS PATTERSON with the element of surprise.

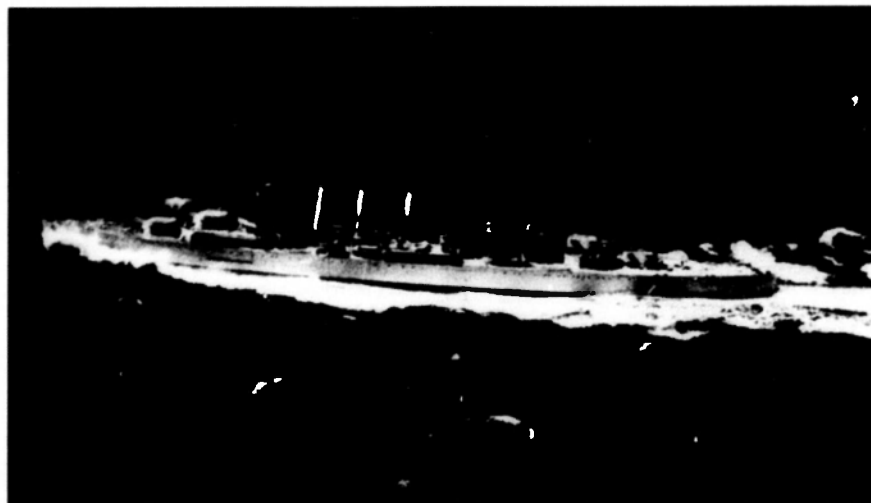
All hell broke loose at 0142 on August 10 when the Japanese fired flares, launched torpedoes and opened fire on the unsuspecting allied ships.

Captain Getting had retired to his sea cabin, a deck below the bridge, at midnight and was on the bridge within seconds. The orders were given 'load, load, load!', 'full ahead' and then 'hard to starboard' with torpedoes passing down either side of the ship and with three Japanese heavy cruisers only 1500 metres away.

As CANBERRA started to work-up to full speed, two explosions, the first from a direct hit from an 8-inch shell on the bridge killed the gunnery officer Lieutenant Commander Donald Hole instantly, badly wounding Midshipman Bruce Loxton and mortally wounding Captain Getting. Coupled with a loud second detonation, a torpedo, on the port side disabled the ship before it fired a shot with all steering and power lost throughout the ship - all within three minutes.

The crippled CANBERRA came to a halt, listing eight degrees to starboard and on fire amidships as the ship absorbed at least 27 hits from 8-inch shells, all on the port side which saw the cruiser left as a drifting hulk.

Captain Getting, still conscious and with one leg almost blown off was still on the bridge and insisting he would be all



The heavy cruiser HMAS CANBERRA at speed as she ploughs through a Southern Ocean swell in the Great Australian Bight.



The listing and smouldering HMAS CANBERRA as she appeared on the morning of August 10, 1942 after absorbing tremendous punishment only hours before.

right until eventually he told his executive officer Commander John Walsh to 'carry on' and 'do what he could'.

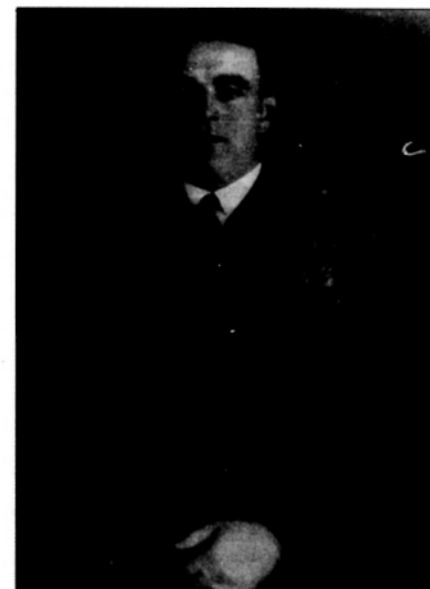
Postwar research reveals that it was almost certain that the torpedo which disabled HMAS CANBERRA was fired in error from one of the escorting USN destroyers, the 19 fired by the Japanese cruisers either being avoided or missing the 10,000 cruiser.

CANBERRA burnt throughout the night with her crew valiantly fighting the fires with buckets.

Daylight saw the cruiser dead in the water, listing and enveloped in smoke. Three USN heavy cruisers, ASTORIA, QUINCY and VINCENNES, had been lost. With the withdrawal of the invasion convoy and the covering force, planned for later that day, the decision was made to abandon the ship and sink her with torpedoes and shelling. And even then it required a major effort to dispatch the crippled cruiser.

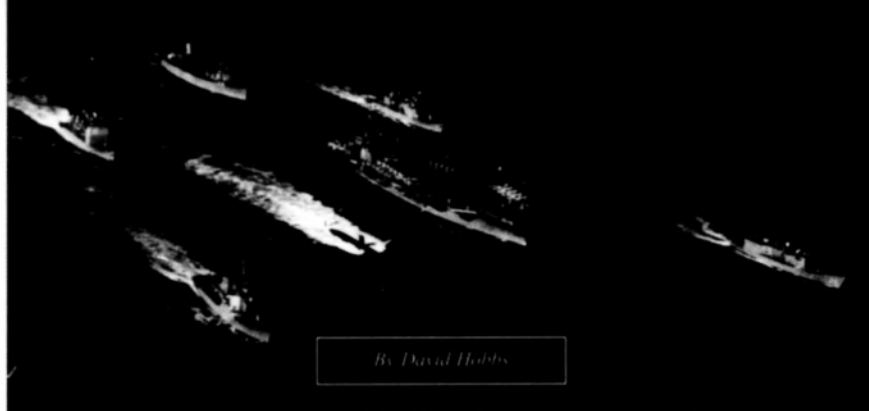
Captain Frank Getting was transferred to the American transport USS BARNETT with other seriously wounded crew members and later died of his wounds whilst the ship was enroute to Noumea. He was one of 83 of CANBERRA's crew, which were lost.

The circumstances of the loss of HMAS CANBERRA did not warrant the relegation that Captain Frank Getting's name has subsequently suffered. His fighting spirit would have been a fine tribute to this virtually forgotten Australian submariner and his name a most fitting selection name for one of Australia's Collins-class submarines.



Frank Getting pictured in his ceremonial uniform whilst serving as a Lieutenant Commander in the Royal Australian Navy.

Aircraft Carriers - A Personal View



By David Hobbs

A USN CBG (Carrier Battle Group). The USN has found a better use of the English language when they refer to ships in company as a 'Battle Group', implying mutual support by ships of disparate strengths rather than some weakness in the capital ship that requires it to be 'escorted'. (USN)

Following the announcement that BAE Systems has been selected to lead the industrial team that will design and build two new aircraft carriers for the Royal Navy, David Hobbs, a former Royal Navy carrier pilot now a historian, writer, broadcaster and curator of the RN Fleet Air Arm Museum, takes an objective look at the role aircraft carriers will play in the twenty first century and dispels some of the myths that have surrounded them.

Great Britain invented the aircraft carrier because 70% of the earth's surface is covered by water. A fusion of ships and aircraft, therefore, offered the best way of deploying tactical aircraft where they were needed, when they were needed with sufficient immediate technical and logistical support to sustain them in action or whilst poised awaiting action. Nothing has changed.

Aircraft operating from ships were conceived to extend a fleet's ability to fight a war at sea but they soon demonstrated their ability to spread their influence over 'asymmetric' targets on the land. It is no accident that the only British aircraft able to attack mainland Japan in World War II came from the decks of the RN's aircraft carriers. Their potential for projecting power has only recently been fully comprehended by British politicians and those 'air minded' people who believed that air power was only viable when 'imprisoned' in a land locked base are now beginning to see the limitations of such an argument.

In the 20th century, only Britain, the USA, Japan and, to a limited extent, France successfully designed and built aircraft carriers, equipped them with aircraft and used them in action. All built their first ships with British technical help. Other nations have imported ships, aircraft or training with great success and some, notably Germany, attempted to create a carrier force but failed.

Definition

The term 'aircraft carrier' accurately defines what such a vessel does; it does not describe the scale at which it is capable

of doing it. It applies to both a 1944 'MAC-Ship' capable of operating in the local defence of a convoy with three or four Swordfish aircraft and to the USS NIMITZ with its air group today. Such an imprecise name gives rise to misunderstanding since no two commentators are likely to have the same preconceived ideas about the vessel they are describing. It is easy to 'type-cast' carriers and to mentally 'pigeon-hole' them as strike, anti-submarine, helicopter, assault, replenishment or relief ships incapable of change. Nothing could be wider of the mark and pages could be filled with examples of ships that have moved easily between these roles or even carried out several concurrently.

Few of the tasks carried out by aircraft carriers resembled those for which they had been intended. Their ability to carry them out is strength, not a weakness. Other warship types such as battleships and cruisers enjoyed periods of dominance but faded when evolving technology and their limited range of capabilities left them behind. Unlike them, aircraft carriers have absorbed new technologies and advanced from strength to strength. A carrier battle group has within it the ability to operate aircraft that can fight in roles across the spectrum of war fighting, deterrence and humanitarian relief. It can also sustain action with technical and logistic support. Asked in 1966 what the role of his command was, the Captain of HMS ARK ROYAL stated that it was to "travel enormous distances at high speed when ordered and to carry out any task on arrival in the operational area". A better definition would be hard to find.

Legacy

The equipment deployed by any armed force is the legacy of decisions taken by previous generations, often faced with very different circumstances. The present Invincible class, built to a mediocre specification as anti-submarine vessels in a Cold War context, are a good example of a bad design. It suffered from a lack of focus; failed to appreciate the immense value of size and constrained the ability of these ships to offer the intervention capability that British foreign policy has always relied upon. At the time of their construction, a number of medium sized Navies looked for affordable carriers to replace their war-built ex British light fleet carriers. It is a damning indictment that none even short-listed the Invincible design, although Australia briefly agreed to buy the name ship at a "give-away" price in 1981 after a short-sighted defence review.

Even here though, carrier flexibility worked and ships intended to replace the awful Tiger class Command/Helicopter/Cruisers proved much better ships that had the advantages of a carrier hull, albeit in small measure. This allowed the three ships to operate Sea Harrier STOVL fighters and even AEW (Airborne Early Warning) helicopters in addition to anti-submarine helicopters. Recent improvements include the enlargement of the flight deck and bomb rooms after the removal of the Sea Dart SAGW (Surface to Air Guided Weapon) system which has allowed the embarkation of an enhanced air group including RAF GR-7 Harriers.



HMS ILLUSTRIOUS with a mix of RN FA-2 Sea Harriers and RAF GR-7 Harriers. The mixing of air groups has produced good results that will be carried over from the concept stage to the doctrine stage when the RN introduces its new aircraft carriers. (RN)

A Joint Force of up to 16 Sea Harriers and GR-7 Harriers is regularly carried although 'tailored air groups' including anything from Chinook to Lynx helicopters can be deployed.

The other 'legacy' with which the RN lives today is the loss of the CVA01 carrier project in 1966. The first ship was to have been named QUEEN ELIZABETH although this was not made public at the time. This would have kept alive the

[Obsolete gun-armed cruisers left over from WWII, they were modified at 25% the cost of the cancelled CVA01 to carry four Sea King helicopters, which could be operated one at a time from a cramped flight deck aft of a box-like hangar. They were probably the worst warships operated by the RN in the modern era and represent a design of which the Service should be ashamed. Why the carrier CENTAUR, which was in reserve at the time, or the incomplete LEVIATHAN were not commissioned as helicopter carriers is beyond comprehension. Both could have operated up to 20 Sea Kings.]

tradition that the first 'capital ship' laid down in a particular reign is named after the Sovereign. She would have been a national asset, capable of operating aircraft from all three services including Joint Strike Fighters procured jointly for the RN and RAF and was to be fitted with a Joint National Command facility. Her cancellation, after 10 years work and when the design was ready for industrial tender, followed the notorious 1966 Defence Review. Part 1 of this stated:

"Experience and study have shown that only one type of operation exists for which carriers and carrier-borne aircraft would be indispensable; that is the landing, or withdrawal of troops against sophisticated opposition outside the range of land-based air cover. It is only realistic to recognise that we, unaided by our allies, could not expect to undertake operations of this character in the 1970s - even if we could afford a larger carrier force".

Quite apart from the fact that 'experience and study' showed no such thing, Part 2 of the same document said:

"The aircraft carrier is the most important element of the fleet for offensive action against an enemy at sea or ashore and makes a large contribution to the defence of our seaborne forces. It can also play an important part in operations where local air superiority has to be gained and maintained and offensive support of ground forces is required".

These two contradictory statements hardly reflect the considered reflections of a 'joined up' Government. Sixteen years later, "unaided by our allies", British forces were undertaking "operations of this character" in San Carlos Water liberating the Falkland Islands. The scenario might have been written to illustrate the fundamental importance of QUEEN ELIZABETH, indeed her existence might have acted as the deterrent that would have prevented the war, but it fell to two much less capable ships, HERMES and INVINCIBLE, to make the operation possible. Unfortunately, several generations of British naval officers have been brought up with the assumption, from this legacy, that carriers were somehow "not allowed" in Britain. After decades of being a "small-ship" Navy with a few small carriers, it will not be easy for the 'ship handlers' to grow into the new carriers in 2012 and it is they, rather than the aircrew who will struggle to achieve the new ship's potential.

Analysis of future requirements

Defence Reviews in Britain in 1957, 1966 and 1981 failed to offer a viable structure for the armed forces or a realistic policy for them to implement. "Looking into the future" is not easy. A planner looking forward for the life of a major warship, say 30 years, in 1932 would have had to predict the rise to power of Hitler in Germany, appeasement, militarism in Japan, the end of US isolationism, the Second World War with Russia as an ally, the Cold War with Russia as an enemy, the Korean War, the decline of the British Empire and the Suez Crisis! On a tactical level, the demise of the battleship and the rapid development of aircraft, radar and guided missiles were significant. Similar prophesies in our own era made in 1980 might not have included the South Atlantic War, the end of the Cold War and the spread of regional conflicts requiring western intervention. They should have placed more emphasis on counter-terrorist operations however. Since 1945, British forces have been in action against "stateless" terror groups in Palestine, Malaya, Kenya, Cyprus, Aden, Borneo, the Former Yugoslavia, Northern Ireland, Sierra Leone and others.



The winning design for the RN's new aircraft carrier to replace the *Invincible* class. The ship's design can be traced back to the lessons of the 1982 Falklands War and the limitations the RN suffered in having small carriers. The first RN CVF is due to be operational in 2012. (BAE)

If looking into the future is so difficult, what can we do to future proof our forces? Experience of the recent past can be analysed in a process known as 'hindcasting' in the USA, and we can look for weapons systems that survived the period like those I have illustrated. Aircraft carriers not only survived the 20th century but also continued to grow in importance and capability. Battleships did not. Aircraft carriers, in a variety of forms and shapes, are important national assets. The very fact the future carriers, CVF, are seen today as the cornerstone of Britain's future defence posture 37 years after the 'death' of CVA01 illustrates that their importance has transcended the opposition of ill-informed politicians.

Myths

Several myths have been rebutted in the previous paragraphs. Others, sometimes mentioned by those unfamiliar with carrier operations, need to be laid to rest.

- In the right place. Experiences abound where carriers have put tactical aircraft in the right place at the right time. The defence of Kuwait against Iraqi aggression in 1991 by VICTORIOUS, CENTAUR and BULWARK is just one of dozens of British examples. Those with a 'fortress mentality' have to realise that a carrier battle group does not need to be within sight all the time to be effective.
- Vulnerability is the most common myth, usually associated with comments about eggs in baskets. Facts reveal a different picture with only eight British carriers lost in the Second World War, representing a smaller percentage of those deployed than any other warship type. Only two of these were part of a balanced task force with a full air group in action at the time of their loss. Two others were miss-employed ferrying

RAF aircraft and one old ship had no aircraft on board but relied on the RAF for a fighter defence which proved ineffective against Japanese carrier-borne aircraft. Since 1945 no potential enemy has demonstrated the ability to locate a British carrier in action, let alone attack it.

- Carriers need support and 'escorts'. So do land based expeditionary air forces, that is why the RAF maintains its own Regiment of specialist soldiers. It also needs transport aircraft, engineers to build facilities at temporary air bases, oil tankers and specialist ammunition carrying ships to carry bulk logistics. As is often the case, the USN has found a better use of the English language when they refer to ships in company as a 'Battle Group', implying mutual support by ships of disparate strengths rather than some weakness in the 'capital ship' that requires it to be 'escorted'.

One last myth concerns deck landing. Once propellers, straight decks and crash barriers made deck landing a difficult and dangerous operation for the unpractised. The British inventions of the angled deck and mirror/projector sight changed all that and the RN has not felt the need to operate a training carrier since 1956. Techniques can be practised ashore and I made my first catapult launch and arrested landing off Puerto Rico having sailed from the UK over a week before in HMS ARK ROYAL. Several of my contemporaries joined carriers in the Far East before making their first 'trap'. The 'system' would have hardly allowed that to happen if there were to be a significant risk of failure. Besides that was over 30 years ago; in 10 years time equipment automated landings and equipment will be that much better. We are, after all, confidently expecting to operate unmanned aircraft from ships by then!

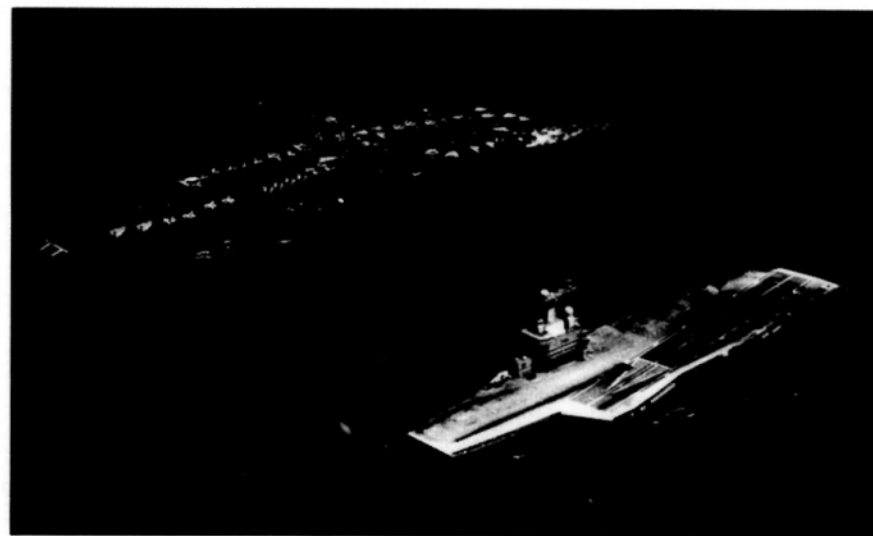
The Future Carrier (CVF)

The Royal Navy began to make tentative plans for new carriers after the South Atlantic War revealed flaws in its legacy equipment. At first, three ships of about 30,000 tons were considered but the growing importance of intervention operations led to deep studies as part of the Strategic Defence Review (SDR) of 1998. In consequence plans have been taken forward for two much larger ships capable of operating tailored air groups made up from Joint Forces, including Joint Force Harrier and its successors. Studies by two industrial groups evaluated both CV designs, with catapults and arrestor wires, and STOVL designs. In October 2002, the UK Government elected to take forward an "adaptable" design, based on the CV hull but fitted initially with a ski-jump for STOVL operations. At the same time, the STOVL version of the F-35 Joint Strike Fighter (JSF) was chosen as the fast jet component of the air group. The CV version is a more capable aircraft but will not be available by 2012 when the UK needs the first ship to be at sea and operational. To cover against the possibility of its acquisition in future, the CVF is to be capable of "easy" adaptation to take catapults and arrestor wires. Given the inability of the CV JSF to be available in time, one wonders why so much time, effort and money was expended in less 'future proof' options when the adaptable carrier seems such a common sense approach. It may well be that the ships will operate both versions of the type, capitalising on their relative strengths. Unlike earlier types, the JSF has sufficient commonality between sub-types to make this a viable proposition.



The amphibious assault ships USS KEARSARGE (LHD-3) and USS BATAAN (LHD-5) sail in formation. The USN has approximately 11 'marine carriers' that can also act as small sea control ships through the employment of ASW helicopters and Harrier fighters. They can also act as command ships, hospitals and humanitarian relief ships. The carrier's ability to re-role is a further demonstration of its inherent flexibility. (USN)

On schedule in January 2003, the UK Government announced that design work would be taken forward by an industrial group led by BAE Systems with Thales as a partner. They will now work on a detailed design before the next milestone, which will be a contract to construct two ships, expected in 2004. The first metal is expected to be cut in 2005, after which the first ship is to be launched in 2009 for completion and commencement of a trials programme in 2011. The first ship is to be operational in 2012 and the second in 2015. INVINCIBLE and ILLUSTRIOUS are already over 20 years old and the second CVF is planned to replace ARK ROYAL in 2015, by which time she will be 30 years old. There is no room for shippage.



(From L to R) USS ENTERPRISE and the French aircraft carrier CHARLES DE GAULLE during operation Enduring Freedom in the Arabian Sea. The use of the aircraft carrier in operations in Afghanistan proved again the carrier's ability to be in the right place at the right time despite the targets dwelling within a land locked country. (USN)

In addition to the JSF, the Maritime Airborne Surveillance and Control (MASC) Project is of critical importance to the CVF's ability to operate autonomously. The decision to opt for a ski-jump is not necessarily fatal to the possibility of buying E-2C Hawkeyes from the USN since the type has demonstrated the ability to launch from a ski-jump built ashore at NAS Patuxent River during the 1980s. Whether it can do so regularly at sea will be an interesting question for the Project Group to study.

Size does matter and the CVF design that is emerging reveals a ship of over 50,000 tons with about two thirds of the capability of NIMITZ for about one third of the cost. A balanced air group of about 50 aircraft is possible. This is an exciting prospect from British designers who could well be producing a ship that is both affordable and effective. Other Navies cannot but take notice and the design is likely to be a long-standing one with export potential.

The USN perspective

With 11 strike carriers in service and another building together with 11 helicopter carriers also capable of operating STOVL Harriers, the USN is easily the world's largest carrier force. It has consistently built big ships 'future proofed' against changes in aircraft design and air group composition. Work is proceeding on evolution from the Nimitz design to CVNX: a new large hull designed to take advantage of the latest technology. Recent statements from the Pentagon have, however, shown that the Bush administration is convinced that carriers remain the essential core of the fleet's combat capability but are by no means convinced that big carriers are the way forward. The Nimitz design can be traced back to the aborted United States project of 1949 and as well as being expensive to build, they are extremely manpower intensive, and therefore costly, to operate. Only one shipyard is capable of building them. Cruise missiles, spy satellites and other new

technologies have reduced the size of air groups and recent studies have focused on the possibility of procuring a larger number of smaller carriers with construction being shared between a larger number of shipyards. Present plans call for the USN to deploy more than 20 battle groups in the war against terrorism. Only half these can include carriers and the procurement of ships like the British CVF would make a lot of sense. Using the rough order of costing mentioned earlier, six CVF hulls could be purchased for the cost of two Nimitz giving the potential to embark 300 rather than 150 aircraft and be in more places at once. These numbers, or some like them are causing a lot of thought in the Pentagon at present. USN air groups would probably comprise a mix of F-35 JSF/E-2C and EA-6B (or its replacement) types. The F-35 is a very capable fighter, even in its STOVL form and overcomes many of the earlier limitations of STOVL aircraft. The USN may well procure this version as well as the CV variant to deploy in larger numbers on helicopter carriers for specific operations. Significant changes may be evident soon and we may see co-operation between the UK and USA on carrier design as close as that on the F-35 Joint Strike Fighter.

A long look into the 21st century

Aircraft Carriers need no host nation support, they can poise out of sight 'over the horizon' waiting for the political decision to act. They can operate 'tailored' air groups capable of operations at long ranges that counter detection by any but the most sophisticated opposition unlikely. Should Government decide not to act, they can fade away quietly without embarrassment. Those who favour long range bombers as an alternative forget that carriers can persist in operation, can ferry and land troops with helicopters, counter submarine surface ship and air threats, provide humanitarian aid and support national diplomacy. 'Showing the Flag' is powerful adjunct to foreign policy as those who have seen a US carrier on a visit to their shores will agree. Aircraft carriers are a two-stage weapons system in which the ship gives range, poise and sustainability. The embarked force gives a whole spectrum of offensive and humanitarian capabilities 'from the sea' that are difficult for a potential enemy to counter and often impossible for land based air, a long way away, to replicate. They may change their size and shape as much over the next ninety years as they have over the past ninety but their future is secure.

The use of carriers as sea-base platforms is set to expand and it will be interesting to see how Australia, emerging as one of the most significant medium powers will change her force structure. Once a member of the 'carrier club', she paid off MELBOURNE with her Skyhawks, Trackers and Sea Kings in 1982 without replacement. She has recently selected the JSF as a potential replacement for the F-111 and F/A-18. If she logically chooses the F-35C tailhook or carrier version, will it be shackled to a land base or will its true potential be realised as part of a joint force operating from a sea base? If she wanted to, could she afford it? France is in the market for a second carrier and may well lean to the CVF design, especially with Thales taking a place in the project management. Brazil and India have old carriers and want to replace them.

The JSF must be the only logical choice for the manned element of the British Future Offensive Aircraft System (FOAS), another key element of the SDR. How very sensible to procure the carrier version with its longer range and to operate it, when necessary, from the CVF. I cannot see why anyone would not want to!



The RAN's last aircraft carrier HMAS MELBOURNE. Australia used to be an experienced member of the 'carrier club' but made the en-lightened decision not to replace MELBOURNE or her capability. Since then more nations have joined the carrier club then left it. (RAN)

Hatch, Match & Dispatch

HATCH TOOWOOMBA Launches



The ninth ANZAC class ship built by Tenix Defence Systems has been launched at Williamstown, Victoria. The ship, TOOWOOMBA, was launched on Friday 16 May 2003 by Mrs Ms Judy Blight.

Speeches on the day were given by Tenix Group Managing Director - Mr Paul Salteri; Chief of Navy - Vice Admiral Chris Ritchie; Victorian Premier - The Hon. Steve Bracks MLA; and the Minister for Industry, Tourism & Resources - The Hon. Ian Macfarlane MP.

Tenix Defence Systems is building 10 ANZAC class ships eight for Australia and two for New Zealand.

TOOWOOMBA is expected to start sea trials in a year after her fitting out at the Williamstown dockyard.

MATCH RANKIN joins the fleet



Crew members march onto the newest commissioned submarine in the RAN, HMAS RANKIN (RAN).

The Commissioning of the sixth Collins Class submarine HMAS RANKIN into the Australian Fleet on Saturday 29th March, marked the successful completion of the construction phase of the Collins Submarine program. It also marks a major

milestone in Australia's submarine capability. The Collins Submarine program is the largest and most complex single engineering project undertaken in Australian history. It has produced six of the world's most advanced conventionally powered submarines and it has established a strategic indigenous industrial capability that is critical to Australia's security.

The strengths of many individual Australians and Australian companies have contributed to this success. They have faced and overcome many challenges and created a modern conventional submarine force that is second to none.

It is the first class of ship to be designed and built to meet Australia's unique strategic environment, and it is the first time that the Australian Navy has taken the role of 'parent Navy'.

The techniques used in production of the Collins Class are at the leading edge of their fields. The program has challenged traditional thinking and it has demanded well thought out solutions. There have been some understandable delays, but the core program has been delivered within the budget agreed by Government in 1987.

Through the outstanding efforts of the Royal Australian Navy, the Defence Science and Technology Organisation, the Department of Defence, the Australian Submarine Corporation and its sub contractors, the United States Navy and most importantly the submariners who serve in the Collins Class Australia has acquired a very potent submarine force.

The commissioning of HMAS RANKIN concludes the first phase and marks the beginning of the next phase.

Phase 2 of the Collins program is successful operation of and support for the submariners who serve in the Collins Class and their submarines, the sustainment of the industrial capability that underpins the force, and preparation for the next class of submarines. As a large country surrounded by water with long trade routes and a small population Australian security strategy has no option but to be at the leading edge. This takes time, and we need to start now.

MATCH YARRA Commissions

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

YARRA was launched in Newcastle in January 02. The 720-tonne fibreglass warship was built at ADI's Carrington shipyard.

Her hull is designed to withstand tremendous underwater shocks. YARRA's hull is single skin without any ribs or reinforcing frames and has a very low magnetic signature and noise levels.

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

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

PRODUCT REVIEW

Fly Boy

By Geoff Litchfield

Printed by Banyule Printers

Available from numerous specialist outlets, by reference to the author, on tel. (03) 9439 9736

www.flyboy.com.au

Price \$39.60 incl GST.

Reviewed by John Bird

Fly Boy, the story of the author's working life, an eventful, interesting, sometimes exciting and not infrequently hazardous life, a story that takes us from his childhood, through a career as a Navy 'flyboy', and finally to his years as a commercial airline pilot. A story worth the telling and worth reading.

One quickly realises from the sometimes naive form of expression, that the author is not a professional writer, he is after all a flyer, and it is perhaps unfortunate that he elected not to have the volume commercially published. That process would probably have eliminated the odd typo, some questionable punctuation and lapses of grammar. These comments are made in the context of this writer's belief that the work is worthy of formal publication.

The author's Navy career makes fascinating reading and the lay person will particularly find great interest in some aspects of aircraft carrier operations. One gathers the impression that he and many of his colleagues were a little cavalier in their approach to their work from time to time, but considering the dangers always present and the loss of so many of their colleagues, that is perhaps understandable.

There are some interesting apparent discrepancies between script and photographs in some instances and as an amusing aside, the Scots in Lossiemouth would be fascinated to hear that they enjoy an English autumn!

The section of the narrative dealing with commercial flying covers a lot of ground and it seems a pity that such a fulsome career was cut short by the 1989 pilots strike. Some of the author's exploits during this period would appear to rival his Navy flying and passengers should perhaps be grateful that they are not privy to events unfolding 'up front'. Flying in New Guinea appeared to be a particularly hazardous affair.

Some general critical comment, sentence construction is, from time to time, a little unusual and some particularly long sentences required a re-read to access their message. Some chapters would have been better for being broken into sections, since there were cases where the sudden jump from one subject to the next in adjoining paragraphs, left one wondering whether the previous episode had in fact finished. Alternatively a better lead in to the new subject would have helped.

The lay person may well find the very detailed, sometimes very technical and at times repetitive coverage of cockpit drills and navigational procedures a little tiresome, as maybe would some professionals.

All criticisms aside, the story, covering the first 59 years of the author's life, and thereafter, a life embracing two careers and two marriages, a life with a touch of 'Boys Own' about it, is again, a story worth the telling and worth reading: I enjoyed it.

The Odd Angry Shot

DVD

Roadshow Entertainment

Director Tom Jeffrey

Book by William Nagle

SRP\$24.95

Reviewed by: Lionel Hutz



The Odd Angry Shot is one of the most renowned war movies of all time, as voted by military movie buffs all over the world. It is known for its humour, realism and emotion. Seeing the movie on DVD and in wide screen was like seeing it again for the first time.

Directed by Tom Jeffrey the film is based on William Nagle's novel.

Starring Graham Kennedy, Bryan Brown, John Hargreaves, John

Jarratt, Graeme Blundell, Ian Gilmour and Richard Moir. *The Odd Angry Shot* is set in the late 1960s during the Vietnam War and was made with the complete co-operation of the Australian Army and RAAF (which adds immeasurably to its realism).

Examining mateship and camaraderie of Australians in combat the DVD focuses on Harry (Graham Kennedy) an experienced SAS corporal who is serving his second tour of duty in Vietnam. In his new section of regular soldiers is the naive Bill (John Jarratt); the easygoing and laconic Bung (John Hargreaves); the blunt hard-living Rogers (Bryan Brown); the pragmatic and matter-of-fact Dawson (Graeme Blundell) and the youthful innocent Scott (Ian Gilmour).

These soldiers, despite being highly trained, find themselves ill prepared for the harsh realities of armed combat and when the first odd angry shot rings out and claims one of their own, they realise that their protective shield of humour is in fact no defence at all.

Beautifully restored for DVD, *The Odd Angry Shot* special features include an audio commentary by Director Tom Jeffrey and cast member Graeme Blundell, a Script to Screen featurette, Dossier: From Book to Film featurette, the original theatrical trailer and cast and crew biographies. I found no screen freeze ups during the movie or any pauses brought about by chapter progression. The transfer from film to DVD is well done.

The DVD also contains many historical facts about the film's release and the public reaction to it, particularly the WA State Governor's refusal to allow it to be played for the visiting young Prince of Wales due to the 'inappropriate language'. *The Odd Angry Shot* was an absolute hit for its day and is still a fantastic romp.

The musical score for the movie is excellent with Normie Rowe's song 'Yesterday', written specially for the movie, never sounding better.

The language in this movie is very Australian as is the relationships between the characters. It is rather refreshing to see a movie which isn't full of 'Americanisms' or how the US won every war single-handedly.

The Odd Angry Shot is rated M15+, has a running time of approximately 88 minutes. It features scene selection and English subtitles for the hearing impaired.

This movie cannot come more highly recommended. It is doubtful that we will ever see an Australian big screen war movie like this again. Not just because of the perceived reluctance/inability of our Defence Force to aid in such a project again but because of the very big shoes left behind by *The Odd Angry Shot*.

Anzacs

DVD

Roadshow Entertainment
SRPS9 95 - 3 disc box set

Starring an outstanding Australian cast including Andrew Clarke, Megan Williams, Tony Bonner, Ilona Rogers, Robert Coleby, Mark Hembrow, Jon Blake, Jonathan Sweet and Paul Hogan, in what was his first dramatic role, ANZACS, tells the story of love, valour, triumph and true Australian humour.

No television drama in Australia's history has matched the magnitude and the compassion of this once in a lifetime event - ANZACS.

Nothing in Australia's history, before or since approaches the scale of drama and tragedy of our participation in the Great War of 1914-18. Over those four turbulent years, our holdest and brightest young men freely went to war half a world away. After the blood of Gallipoli, they were thrown in amongst the millions of soldiers on the Western Front. There against all the odds and in defiance of all expectations, they developed into a military force beyond peer. While all great armies of Europe crumbled around them, somehow this small band of civilian volunteer soldiers forced the issue and shaped the outcome of that terrible war.

Said Producer Geoff Burrowes "Australians during the Great War were a feisty vibrant lot. They were filled with the excitement of being a new people in a new nation, in a continent they were still coming to grips with - they were fabulous characters and a treasure trove for us to draw upon for our telling of the story of ANZACS. Out of 60 battalions in the AIF we chose the Victorian 8th, known as 'blood on the bandages' after their colourful patch, which was red over white. The 8th was to be the home away from home for the men whose fortunes, fair and foul, we would follow through the war."

ANZACS DVD SPECIAL FEATURES:

- An introduction by Producer Geoff Burrowes
- History In The Making - The Making of ANZACS
- Dolby 2.0 sound and Fullscreen 4:3 transfer
- English subtitles for the Hearing impaired and scene selection.

NAVY SEALS

Documentary
\$39.95

Magna Pacific
Available on Video and DVD
Reviewed by James Rickards

Showcasing the techniques, training and battlefield expertise of the US Navy SEALs, this new documentary DVD and Video set provides a fascinating insight to the world of the US's elite fighting force.

Using footage of training missions and war time activities not previously made available, this new series from the Discovery Channel covers all facets of Navy Seal history and engagements including their rigorous training routines, combat service, battle techniques and field weapons.

Engaging and entertaining, the Discovery Channel's unparalleled access to the training facilities of the Navy SEALs gives the series a greater level of authenticity and insight than the majority of recent modern warfare documentaries or made for cable specials.

While the voice-over narration at times falls into the trap of sensationalising the achievements of the SEALs and their place in special forces history, enthusiasts will enjoy the candid interviews and insights provided by current and former SEALs discussing their own experiences and memories of service.

Analysing the role of the SEALs in US engagements including Vietnam, Granada and the Gulf, the DVD/Video set is a must for those intrigued by the fortitude and specialist abilities of the US Navy's pride and joy both on land and in the sea.

K19: The Widowmaker

DVD

Available in stores now
Reviewed by James Rickards

Based on a true story, K19 provides an interesting and sometimes terrifying insight to the party politics of Cold War Russia during the development of its nuclear submarine fleet. Led by Harrison Ford and Liam Neeson, the film's retelling of the K19 disaster identifies a Soviet Navy corrupted by ruthless bureaucratic decision-makers driven by dangerous party philosophy.



Stepping away from his good-guy roles of the past, Ford plays the film's antagonistic by-the-book Captain sent to take command of K19 from Liam Neeson's more liberal and personable leader, after a missile-firing test fails to impress the soviet brass.

As the ill-fated submarine is sent to sea to test its durability and nuclear abilities, a clash of wills begins between the two Captains, with Ford and Neeson making the most of a rather bland script which

attempts to highlight different soviet ideologies.

Although offering a spectacular breaching sequence through the ocean's ice cap, much of the film is centred throughout the claustrophobic surrounds of the K19 engine rooms, where the crew must begin sacrificing themselves to seal a radiation leak they cannot repair.

Despite looking and sounding terrific on DVD, (the ice breach should definitely get the walls rattling) the film itself never quite reaches the heights of more recent and successfully engaging submarine thrillers.

For enthusiasts of the genre and fans of naval history, the DVD's extras are a welcome addition, providing a series of documentaries on both the creation of several of the film's key scenes, as well as the history of the real K19 and its crew.

The DVD's commentary track provided by director Kathryn Bigelow also offers significant insight to the technical aspects of the film, and is interesting listening for those intrigued by the production process.

Despite the considerable source material and creative talent involved, K19 is an enjoyable yet ultimately

unremarkable two hours, suitable for genre fans and enthusiasts of historical dramas.

Black Hawk Down - Special Edition

DVD

Available in stores now
Reviewed by James Rickards

The new special edition *Black Hawk Down* DVD box collection is everything fans of the enthralling Ridley Scott directed war film have been waiting for.

With almost an extra 12 hours of footage including deleted scenes, making of documentaries and detailed interviews, the *Black Hawk Down* three disc set is an absolute must for fans of modern war storytelling.

The new collection also includes an intriguing feature-length commentary track by members of the US Rangers and Delta Force whom the film is based upon.

Taken from Mark Bowden's successful non-fiction novel of the same name, *Black Hawk Down* recreates the US Government's doomed attempt to extract a Somali warlord by US Rangers and Delta Force operatives from the heart of militia territory in 1993.

Detailing a mission quickly spiralling out of control following the crash of a Black Hawk helicopter, the young soldiers found themselves overwhelmed and trapped by hundreds of Somali militia, engaged in a firefight which was to last over 24 hours.

As much a story of bravery and heroism as an exploration of the confusion and terror experienced in battle, *Black Hawk Down* is an unsentimental portrait of a dark moment in recent American military history which resulted in significant shifts in US Ranger operations and government foreign policy.

Guide to the Royal Navy 2003 WARSHIPS IFR

Magazine

HPC Publishing

Price 4.50 pounds + 1 pound P&H

Payment Methods: Cheque made payable to HPC Publishing or by Credit Card (MasterCard, Visa, American Express)

Order from:

HPC Publishing (W1)

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UK

Tel: +44 1424 720 477

Reviewed by Max Hansen

Warships Guide to the Royal Navy 2003 is a 'special edition' magazine put together by the team behind *Warships International: Fleet Review* with generous assistance from RN Public Relations. In outlining the state of the Royal Navy, the magazine contains sections on ship profiles (by force element and class) as well as more general features on current and future issues. Recent Gulf deployments, the gap in air defence leading up to the new Type 45 destroyers, future warship designs, and the controversy over the 'flawed decision' to retire the FA2 six years early are just some of the range of topics covered. Interestingly, the Royal Navy's future ambitions feature prominently, with some very innovative and promising designs and concepts.

Warships Guide to the Royal Navy 2003 has the usual array of facts, statistics and images, the latter being contributed by well-known British maritime and naval photographers. It is a bit of a shame though that the majority are black and white, with only 16 pages in colour, but obviously in this type of publication and format there is a need to keep production costs within acceptable limits.

Warships Guide to the Royal Navy 2003 provides an excellent snapshot of the state of the Royal Navy in 2003 and where the British fleet thinks it ought to be in 10 to 15 years time. Many readers who closely follow naval developments and those with a keen interest in the RN will find little that is new here, and the detail a bit thin. Having said this, it is perhaps a tad unfair to write-off the magazine on this basis, since one cannot expect to find mounds of detail and a wealth of colour images in a magazine of this type. These Guides do provide easily accessible and concise reference material relating to the RN, and the 'trainspotters' amongst you will no doubt relish the photography, computer generated images, and comparing the relative merits of competing designs for future warships. Some may balk at the cover price - the Aussie dollar does not translate well from pounds sterling - but in my view, if the Royal Navy and its plans for the future are your thing, then it is well worth it.

THE EMPEROR'S CODES Bletchley Park and the Breaking of Japan's Secret Cyphers

by Michael Smith

Price: \$24.95

Published by Bantam Books, London and distributed in Australia by Random House.

Reviewed by: Vic Jeffery

A must! That is the only way I can describe this 411-page soft cover book which is highly recommended reading. Supported by 35 photographs it is an enthralling account of how the Japanese super-encrypted codes were broken in World War II.

Author Michael Smith, himself a former codebreaker presents a fascinating account of the role of British and Australian codebreakers in breaking the Japanese codes. He draws heavily on recently declassified British files from the Public Records Office, Australian secret official histories and the memories of many still surviving codebreakers.

For years the Americans have claimed they broke the majority of the Japanese codes and ciphers which 'cut two years off the war in the Pacific'. This of course was never challenged as the British remained silent and steadfastly refused to release their files on their wartime codebreakers. One reason being that they could continue to intercept the communications of other countries with impunity.

The strong Australian presence in the codebreaking field is clearly exhibited in this book and the once hush-hush FRUMEL (Fleet Radio Unit, Melbourne) is openly discussed along with other wartime Australian installations. Of course, the RAN's Captain Eric Nave features prominently in this book, being the pioneer of Japanese codebreaking during the inter-war years, commencing in 1924.

Michael Smith points out the British shared their successes with their American allies, but it was a one-way street as the US Navy did not return the compliment, deliberately preventing the work of its own codebreakers from reaching the main British and Australian codebreaking centres.

Smith claims that senior members of the US Navy blocked the exchanges of material to ensure they received the credit for the military successes as a result of the codebreakers painstaking work.

He goes on to say "It is impossible to argue, as American historians do, that the Allied codebreaking operations cut two years off the war in the Far East without accepting that the difficulties placed in the way of co-operation, both with the British and their own military, by elements of the US Navy, must have cost many lives, the majority of them American."

"The Emperor's Codes" is a real eye-opener and is a great read.

STATEMENT of POLICY

NAVY LEAGUE OF AUSTRALIA

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

The Navy League:

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

As to the RAN, the League:

- Supports the concept of a Navy capable of effective action off both East and West coasts simultaneously and advocates a gradual build up of the Fleet to

ensure that, in conjunction with the RAAF, this can be achieved against any force which could be deployed in our general area.

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

The League:

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

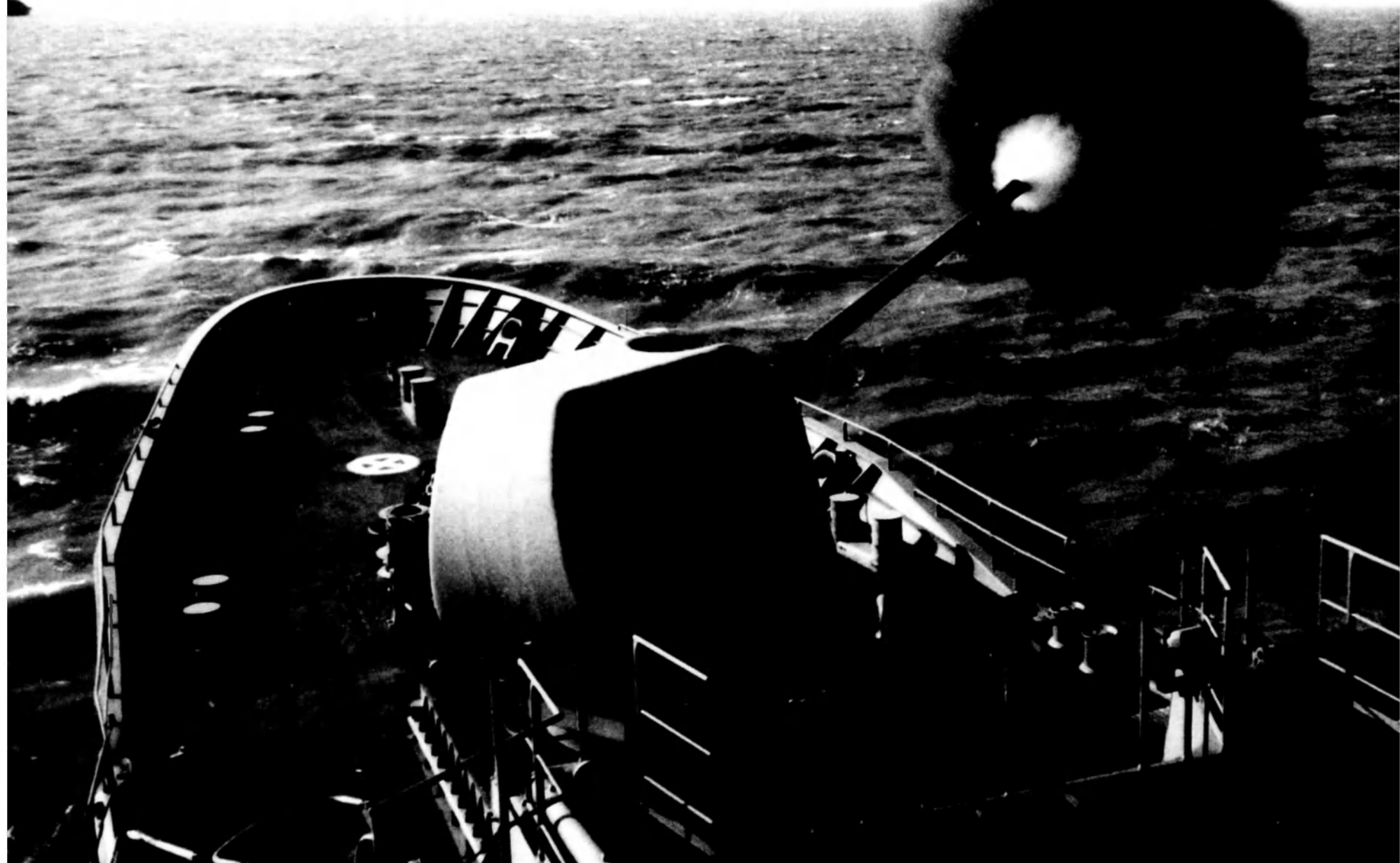
While recognising current economic problems and budgetary constraints, believes that, given leadership by successive governments, Australia can defend itself in the longer term within acceptable financial, economic and manpower parameters.

HMAS KANIMBLA's Sea King helicopter flies over a RN Type 22 hatch 3 frigate during recent operations in the Persian Gulf. (RAN)



The RAN Battle Ensign flies from the mast of HMAS ANZAC during her gun action in the Persian Gulf during Operation Falconer (the Australian name for the US led Operation Iraqi Freedom). ANZAC conducted seven fire missions over 21-23 March. A total of 46 rounds were fired by ANZAC on the Al Faw peninsula with coalition units firing a total of 77 (ANZAC, RICHMOND, MARI BOROUGH, CHATHAM). The longest range target was engaged at approximately 18kms away from the ship. (RAN)

A shell caught in flight by the camera as HMAS ANZAC's Mk 45 gun fires on Iraqi positions. The Mk 45 gun on the RAN ship was able to produce more firepower than the RN Mk 8 gun employed on the three other supporting RN frigates in both range and high explosive. The naval gunfire support missions provided valuable indirect fire to Royal Marines fighting towards the port of Umm Qasr. (RAN)



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www.netSPACE.net.au/~navyleag

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THE NAVY



The Magazine of the Navy League of Australia

*Creswell, A
Remarkable Life*

*Russia's SSBN
Force*

*The FY-04
USN*

*A Merchant Navy
for Australia*

Australia's Leading Naval Magazine Since 1938

ISSN 1322 6231



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04

The RAN has chosen a DMS/Austal design for its new Armidale class patrol boat. 12 boats are to be built in WA with the first expected into service around 2005. Their names will be ARMIDALE, BATHURST, BINDABERG, ALBANY, PIRIE, MAITLAND, ARARAT, LANCESTON, LARRAKIA, WOLLONGONG, CHILDIRS and BROOME. (Austal)



The Commanding Officer of HMAS PARRAMATTA, Commander Mike Noonan RAN, leads his crew in a cheer after the ANZAC Class Frigate was delivered by Tenix Defence at Williamstown, Australia, on 20 June 03. (Tenix)



THE NAVY

Volume 65 No. 4

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

Front cover: The Ticonderoga class cruiser USS PORT ROYAL (CG-73) steams into position alongside the aircraft carrier USS JOHN C. STENNIS (CVN-74) to begin underway replenishment (UNREP) operations. Cruisers, destroyers and frigates of a battle group often receive supplies and fuel from the carrier. It is this ability to resupply while at sea that provides a Navy with the sustainability for any operation around the world in support of national interests. (USN)

The Navy

All letters and contributions to:

The Office of The Editor

THE NAVY

Navy League of Australia

GPO Box 1719

Sydney, NSW 2001

E-mail to: editorthenavy@hotmail.com

All Subscription and Membership enquiries to:

The Hon Secretary,

Navy League of Australia, NSW Division

GPO Box 1719,

Sydney, NSW, 2001

Advertising enquiries only to:

Mr James Rickards

0419 731 371, e-mail: james@rickards.net

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Email: chebbie_gnt@primus.com.au

State Branches:

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Telephone: (08) 9921 5772

Albany: Mr G R B Bott, 24 Karrakatta Road, Frenchman Bay, WA 6330

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DEFENCE PLANNERS UNENVIABLE TASK

For Many years the Navy League has maintained that the country's defence planners have an extremely difficult task – to plan the structure of a defence force without any clear idea of the course international events were likely to take.

While 'uncertainty' has been the watchword, even when governments approved a planned structure, the plan has seldom been carried out in its entirety, financial constraints always and from time to time a change in the international scene, eg. the Cold War, require a change in capability priorities.

Although terrorism has been a factor a number of countries have had to take into account for many years, and Australian Defence Ministers and planners have recognised this fact, the scale of the attack on New York in September 2001 had world-wide repercussions, not least in Australia with its close American connections.

Three years ago the Government produced a Defence White Paper – *Defence 2000* – said to be the most specific long-term defence funding commitment by any Australian Government for over 25 years. The paper was preceded by extensive public consultation and subsequently received wide community support. Among other things it acknowledged the threat posed by terrorism (although its extent could not have been foreseen) and endorsed the long-standing maritime strategy policy, a policy requiring significant naval and air capability. The White Paper also outlined plans to reorganise the Army to provide greater flexibility and to increase the ADF's amphibious capability.

The broad thrust of *Defence 2000* was confirmed earlier

this year in *Defence Update 2003* but understandably, given repeated acts of terrorism in the Middle East, Indonesia and elsewhere, it has been reviewed again; the result of the review is expected to be known at about the time this issue of *THE NAVY* is published. Also due is the report of the Defence Subcommittee of Parliament's Joint Foreign Affairs, Defence and Trade Committee into maritime strategy (reference is made to both *Defence Update 2003* and the JCFADT review in the July-September issue of *THE NAVY*).

Over many years successive governments have often been accused of under-funding defence; whether or not the accusations were justified is beside the point – every year governments are required to consider a score of competing demands for funds and make decisions even if it means taking risks in some areas.

Extreme acts of violence have brought home to everyone the unsettled state of the world. It would seem essential at this time for the present government to look well into the future and to avoid decisions that may harm the country's ability to defend itself against aggression unlikely, though this may be in the immediate future, the demands of a capable defence force and anti-terrorist measures are not mutually opposed aims and can be met if the country's people are determined enough.

In conclusion, Australia is not a major power in world terms and its geographical situation – an island in a vast oceanic area thousands of kilometres from Europe and North America – indicates Asia is the direction in which the collective gaze of Australians should be focused.

Geoff Evans

Russia's SSBN Force

By Glenn Levick

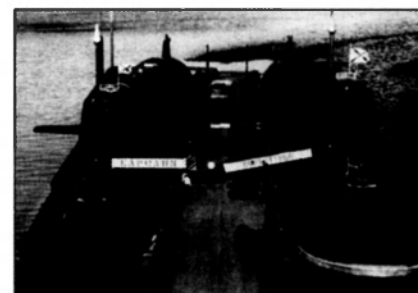
The Raketnyy Podvodnyi Kreiser Strategicheskogo Naznacheniya (RPKSN), or Strategic missile-armed submarine cruiser force had, its official beginnings in 1954. It later went on to number dozens of units within a generation, which were justifiably feared by the West. The shadow of the old guard that exists today is still in a transition phase that will ultimately shape its future. Glenn Levick takes a look at the Russian SSBN fleet that still exists in active service today and its future plans.

MODERNISATION AND REFORM

Even with the budgetary constraints now befalling the Russian military after the collapse of the USSR, the Strategic Forces, for the most part, have remained a priority for funding. Justified by the fact that they help make up the core of Russia's nuclear deterrent. In addition to this they remain the last vestiges of Russia's super power status and thus still retain prestigious value and political clout. A meeting of President Yeltsin's Security Council in 1998 decreed it would further enable the nuclear triad to remain a viable force until at least 2010. While holes have appeared in the strategic net that the former USSR provided, the Russian government has not let the system collapse totally.

However, the Navy's leg of that triad has been neglected. Their share of the overall defence budget has been gradually falling since the early 90's. In 1993 the Russian Navy had 23% of the defence budget. The current level is 11-12%.

Vladimir Putin's coming to power seems to have put 'the brakes' on the Navy's decline. During a visit to the Pacific Fleet at the end of August 2002, just three months after signing the Strategic Offensive Reductions Treaty (SORT), President Putin reinforced the importance the government attaches to reforming the Navy. He proclaimed, "It is time to recognise the role of the Navy in the defence of the country and cease treating it as a stepchild". He also identified inadequate allocations from the military budget as contributing to the serious problems faced by the Navy and characterised the failure to build new ships as a result of government neglect. The Minister of Industry, Science, and Technology, Ilya Klebanov also said, "The problems of the Navy [now] are the problems of the government and not only the Ministry of Defence".



The Russian Delta III class SSBN's (from L to R) KARELIA and VERCHOTURE



A Delta III class SSBN on its way to sea to mount a nuclear deterrent patrol. The Russian's claim that despite their under funded state that they are still able to mount two SSBN patrols at all times.

This new approach represents a significant shift from reform programs of the past, which at one time proposed limiting the role of the Navy to guarding maritime borders. In contrast, the current reform plans call for the Navy to resurrect its status as an oceanic power, assume a predominant role in nuclear deterrence in place of the land based SRF (Strategic Rocket Forces), and receive at least 20% of the defence budget. Putin's vision for the Navy, outlined in his 2007 Plan, details these ambitions, but whether or not the funding for them is ever realised is another story.

There is no certainty that Putin's plan will ever be totally fulfilled. Time is now critical for Russia's SSBN force as there is only so much time that they can keep putting off developing and building new systems if they wish to maintain an active fleet. If funding for the SSBN fleet remains only incremental or worse in the next decade then the Russian Navy may be faced with some interesting and possibly difficult decisions. A significantly reduced force falling to unprecedented levels in active hulls could be one bleak consequence.

Russian Navy Chief, Admiral Kuroyedov, estimates that continuation of the current level of funding would result in a fleet of no more than 12-16 SSBNs. He further stated that the Navy requires 12-16 subs as a bare minimum.

Any future force will likely remain within current basing trends, with the majority based in the Northern fleet and the rest in the Pacific. A force of 12 might see eight in the north and four in the east. A force of 16 may have nine based in the north and seven in the east.

A program of SSBN fleet modernisation began in the 90s and is now well underway, albeit very slowly. With the emphasis now on reform the forth-coming years should start to bear results, as long as the Russians continue to believe and support this capability's ultimate deterrent value.

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, 17 October 2003 at 8.00 pm

BUSINESS

- To confirm the Minutes of the Annual General Meeting held in Canberra on Friday 15 November, 2002
- To receive the report of the Federal Council, and to consider matters arising
- To receive the financial statements for the year ended 30 June 2003
- To elect Office Bearers for the 2003-2004 year as follows:
– Federal President
– Federal Vice-President
– Additional Vice-Presidents (4)
Nominations for these positions are to be lodged with the Honorary Secretary prior to the commencement of the meeting.
- General Business:
– To deal with any matter notified in writing to the Honorary Secretary by 7 October, 2003
– To approve the continuation in office of those members of the Federal Council who have attained 72 years of age, namely John Bird (Vic), Joan Cooper (Tas), John Jeppesen (NSW), Tom Kilburn (Vic) and Andrew Robertson (NSW).

ALL MEMBERS ARE WELCOME TO ATTEND

By order of the Federal Council
Ray Corboy, Honorary Federal Secretary, PO Box 309, Mt Waverley VIC 3149
Telephone (03) 9888 1977 Fax (03) 9888 1083



The massive Typhoon class SSBN SERVETAL on the surface. Three of the six Typhoons are said to be still operational.

THE CLASSES

There remain only three classes still 'active' in the Russian SSBN fleet today. A single remaining Project 667B (*Murena*) DELTA I is still listed as active but may be unserviceable from a fuel leak accident several years ago. Either way, its retirement is imminent.

The future for the Russian SSBN Fleet lies in the Project 955 Borey class. A recently reported revival in this program suggests the Russians now hope to have three Borey class SSBNs in service by 2010. This would indicate that two more hulls are about to start building, or due to start soon. The keel of the first of this new generation of SSBN (YURI DOLGORUKII) was laid down in late 1996 at the Sevmash shipyards. Although, due to funding shortages work stopped with no prospect for completion. However, the citizens of the city of Moscow sponsored the submarine's completion, given it is named after the 12th century Grand Duke that founded Moscow. The Russian Navy now expects to commission YURI DOLGORUKII by 2005 at the earliest.

It is unclear whether the new class will be fully armed as the concurrent program for the new ballistic missile to arm it needs to remain on schedule. If the new missile is delayed, then the new sub may be fitted in the interim with the SS-N-23, which currently arms the Delta IV SSBN's.

The Borey is understood to have a submerged displacement of 17,000 tons. It will measure 170m in length and be 13m wide. Crew complement will be 130. The latest Russian reports via *Janes Defence Weekly* indicate 12 missile tubes will be the standard for the new class. This would be the lowest number of missiles carried by any Russian SSBN since the DELTA I. The subs will have four torpedo tubes with a complement of 16 torpedos or guided missiles for self-defence. Russian sources also state the Borey will have a maximum submerged speed of 26 knots. The very latest achievements in underwater noise reduction will be incorporated making the Borey quieter than the Typhoon class SSBN. Sonar and combat systems will be comprehensive and advanced. And the primary nuclear powered and secondary electric propulsion appears to be the same kind fitted to the Typhoon class.

The new SLBM (Submarine Launched Ballistic Missile) to arm the Borey is known as the Bulava. It is believed it may also replace the RSM-52/SS-N-20 on the remaining Typhoon class. Earlier speculation suggesting a single warhead for this missile appears to be incorrect. A MIRVed warhead fit now seems to be expected according to Western intelligence sources.

The Bulava missile is based on the land based Topol-M/SS-27 ICBM (Intercontinental Ballistic Missile). With up to 70% commonality been sought in both weapons. Ultimately this would make production and maintenance cheaper and improve on service standardisation.

Of the Typhoon class SSBN's only three are considered 'in service'. The most recent news concerning the class was the relaunching in 2002 of TK-208, the lead boat of the class, now known as DMITRII DONSKOI, after 12 years in overhaul. It was put back to sea without missiles and is expected to become the test vehicle for the new Bulava SLBM. Testing of the new missile is hoped to start before 2005. This missile, as stated earlier, may eventually be fitted to the remaining Typhoon class as part of another upgrade to extend their useful lives as the RSM-52/SS-N-20 nears the end of its service life. The Typhoon class are typically fitted with 20 SS-N-20 missiles.

The backbone of the fleet for the next decade plus will be the Delta IV SSBNs. There are currently seven in commission but only four are considered operational. All were built between 1981-92. The class is currently undergoing an overhaul to keep them viable until at least 2015. So far two have been completed while another two remain in dry dock. However, further funding problems have been delaying overhaul completion. It is not unreasonable to assume this overhaul program may take until 2010 to complete.

Bringing up the rear of the current day fleet is the remaining force of Delta III SSBNs. Operational numbers range from five to nine depending on the source. Most of them are based with the Pacific fleet with the youngest hull now over 20-years-old. There does not appear to be any plan to overhaul them at this stage, which may indicate an earlier than expected retirement. Indeed one source claims that all will be retired by 2006. But the Russian naval hierarchy is known to alter its plans and even these old boats could be around for a lot longer than expected. The Delta III class has a standard fit of 16 x SS-N-18 SLBMs.

MISSILES

There are three SLBM types in active service with the Russian Navy. The RSM-52/SS-N-20 (in small numbers), the RSM-54/SS-N-23 and the RSM-50/SS-N-18. As of the end of 1997 the Russians had officially destroyed 60 SS-N-20 missiles. Another 20 were either removed or also destroyed.

Not much is known about the Bulava missile as it is still in the design phase. Often referred to as the Bulava-30, it is apparently to be a compact-sized solid-fuelled ballistic missile. It is being developed by the Topol-M ICBM designers of the Moscow Institute of Thermal Technology (MITT), in co-operation with the SLBM design team at the Makeyev Design Bureau.

The Bulava will replace the RSM-52V Variant-3 or Bark [NATO: SS-NX-28] which was to have been deployed on YURI DOLGORUKII. The Bark missile program was cancelled after four-successive test failures. While there were indications it might be resurrected, work on this weapon has

not resumed. It is hard to speculate on the Bulava missile's future designation within the Russian establishment. But one could assume a designation of RSM-56 in line with previous weapons and possibly the use of 'SS-N-28' by NATO.

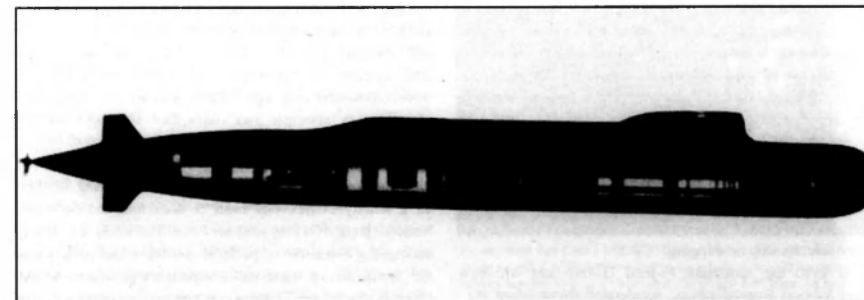
CONCLUSION

Despite the questionable condition of much of the present day SSBN fleet, the Russians claim to be able to put at least two SSBNs on patrol. To sustain and ideally improve on this, modernisation and reform are essential. It is also crucial if they wish to maintain an effective strategic nuclear first strike and deterrent capability. But any future force will be minor compared to that of the former-USSR which 10 years ago numbered 56 hulls.

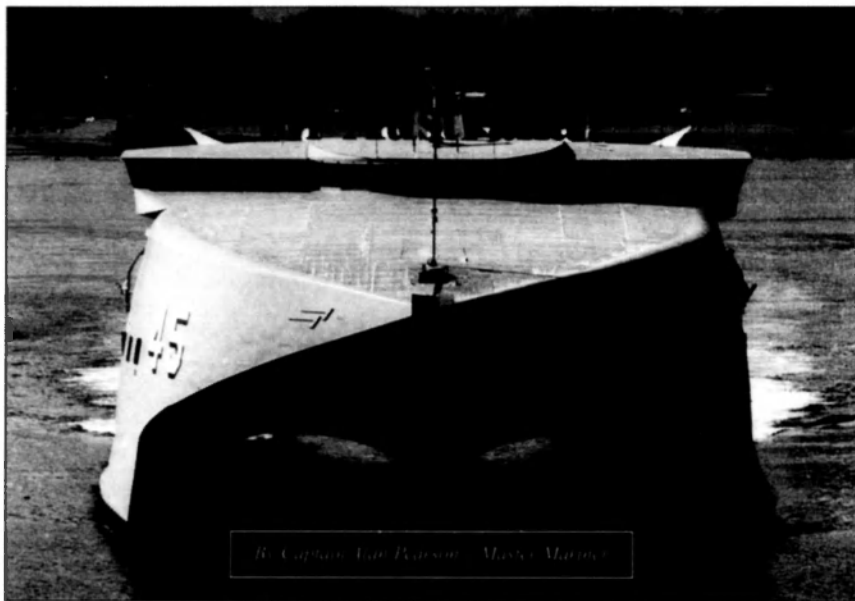


A large Delta IV class SSBN on the surface.

	SS-N-18	SS-N-20	SS-N-23
NATO designation	Stingray	Sturgeon	Skiff
Blindfold designation	RSM-50	RSM-52	RSM-54
Commissioned	1979	1984	1986
Submarine	Delta III	Typhoon	Delta IV
Propellant	Liquid	Solid	Liquid
Warhead number and yield	Mod 1, 3 x 200kt Mod 2, 1 x 450kt Mod 3, 7 x 100kt	10 x 200kt	10 x 100kt
Throw weight	1.65t	2.55t	2.8t
Max weight	Mod.1 - 6,500km Mod.2 - 8,000km	8,300km	8,300km
Accuracy	CEP 900m	CEP 500m	CEP 500m
Guidance	INS with full stellar correction	INS with full stellar correction	INS with stellar correction. Uses satellite navigation
Launch weight	35.3t	84t (missile alone)	40.3t
Height	14.1m	16m	14.8m
Max. Diameter	1.8m	2.4m	1.9m



A cutaway drawing of the new Borey class SSBN. The Borey is the future of the Russian SSBN fleet. The first is expected to commission around 2005.



By Captain Alan Pearson, Merchant Maritime

HMAS JERVIS BAY in Timor. Australia's developing and world leading 'fast cat' industry was able to supply the right ship at the right time for Australia's involvement in East Timor. Without such an industry devoted to Merchant Navy needs the operation could have been severely affected. (RAN)

Captain Alan Pearson examines the issue of the economic and military value of a Merchant Navy for Australia.

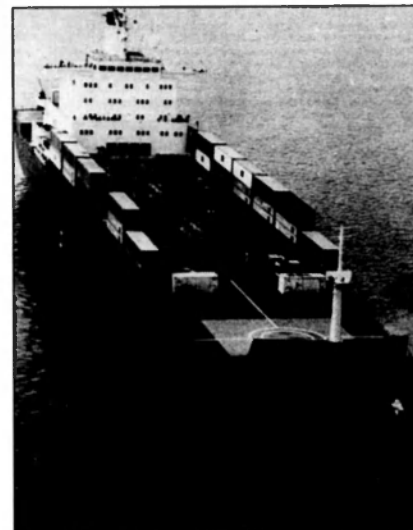
Globalisation and the world wide use of open registers (usually referred to as "flags of convenience") has changed the shape of merchant shipping forever and has led to the demise of many well known shipping Companies. Australia has not been exempt from this and the frequent use of "single voyage permits" has enabled the Australian coastal trade to be dominated by foreign owned ships.

In the harsh commercial world this is not necessarily a bad thing as it enables Australian commercial interests to select the most economic form of maritime transport yielding the lowest freight rate. For example Mr Lance Hockridge the former Head of BHP Transport in delivering the 2000 Boulton Lecture stated "BHP has in the past owned ships in order to capture the lowest cost, highest reliability solutions but now ship ownership is not the sole way of achieving this; a variety of models can be used, for example, the use of other providers' assets through various charter arrangements. BHP is supportive of a competitive Australian shipping industry but cannot continue indefinitely to support one that is not competitive." Since that date of course BHP Billiton has announced the divestment of its shipping interests. Additionally many Australian exporters prefer to sell their goods FOB (Free On Board) and thus it is up to the consignee to provide the ship or shipping.

In 1996 the Australian Federal Government withdrew fiscal support (capital grants, accelerated depreciation etc.) and thus any inducement to own or operate Australian

shipping. As a result Australian Shipping has all but disappeared and it is not likely to re-appear until it may become competitive in terms of operational costs and a taxation system, which is comparable to those overseas. Additionally at the present time there appears to be little interest in Australia in investing in ships or shipping. There is also a conspicuous lack of any definite shipping policy by successive Australian Federal Governments even though inquiries and reports have been commissioned *ad infinitum* and various prominent learned experts have dilated on the benefits of an Australian Merchant Navy. Indeed a new study entitled the "Independent Review of Australian Shipping" has just been announced. It will be Co-chaired by Mr Peter Morris and Mr John Sharp, Federal Transport Ministers in both Labor and Liberal Governments. They are due to report in February 2003. Perhaps one may recall the words of Otto Von Bismark who commented long ago "When you say you agree with something in principle you mean that you have not the slightest intention of carrying it out in practice".

In the light of this gloomy picture the question "Does Australia Need a Merchant Navy" has a hollow ring. In short on a strictly commercial basis it does not, but on wider National grounds it may well need one. The world is currently undergoing a measure of political instability and countries to our North are in some cases experiencing serious unrest. China is emerging as a stronger economic and military power and her claim to the whole South China Sea has sent shock



The ill-fated ATLANTIC CONVEYOR. Despite sinking with much of her valuable ammunition and helicopter freight still aboard ATLANTIC CONVEYOR off loaded her 'Harrier cargo' before being hit by two Exocet missiles. These Harriers later proved vital to the success of the UK. The value of the Merchant ship to military operations cannot be underestimated. (RAN)

waves through South East Asia. There has been a marked increase in the military capabilities particularly in the maritime sphere of a number of regional countries including India, China, Indonesia, Malaysia, Thailand and Taiwan.

Unfortunately crisis or emergencies when they do occur do so at short notice and there is little time to marshal the resources necessary to oppose or contain the emergency at short notice always supposing that such resources are readily available. The amount and size of the resources required for even a relatively small military operation are not sufficiently realised especially if the scene of the operation is distant from the home base. For example in the case of the Falklands War where no friendly base was close at hand, it required the taking up from trade (STUFT) of fifty-four ships ranging from large passenger liners, repair vessels and tankers to deep-sea fishing vessels (for mine hunting purposes). Even in the more recent case of East Timor, which was a peaceful operation, and close to Australia's shores it was necessary to charter a large passenger catamaran and much heavy equipment was carried in merchant vessels.

The need to protect such transport may put a heavy strain on resources. In the case of the Iran/Iraq War merchant shipping bore the brunt of heavy and sustained attacks. In 1986 eighty ships were hit and 52 seamen were killed. In 1987 the toll was heavier with one hundred and seventy-eight ships hit and 108 seamen killed. Altogether Lloyds listed 447 ships damaged in hostilities since the Iran/Iraq war spilled over into the sea-lanes. The worlds largest tanker SEAWISE GRANDEUR of 564,739 tonnes was hit twice. A US frigate

the USS STARK was hit by an exocet missile and 35 seamen killed.

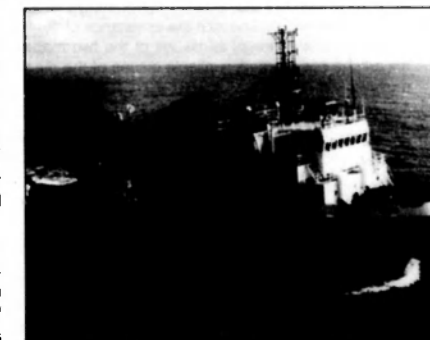
In the article *Australia's Maritime Doctrine - Part 6* published in the October-December (Vol.64) Edition of the magazine *THE NAVY* which details chapter 9 of the RAN's maritime doctrine there are several excerpts in the section headed "Maritime Logistics" which are relevant and are therefore paraphrased here.

Naval forces are therefore largely self-sustaining for long periods if supported by an underway replenishment group and the "pull" forward of mission critical stores. This contrasts with the "push" system used for land forces where the fundamental unit of combat is the soldier who has limited capacity for self-support.

Australia's strategic circumstances reinforce the truism that the sea remains the principal medium for the movement of large quantities of material. This means that much logistic effort, whether directed towards maritime combat forces or not, will be by sea. Shipping must thus be considered a joint logistic asset. Its protection may well become a critical issue within a campaign that has few other apparent maritime dimensions.

In the section headed "Ships taken up from trade" it states: -

"support capabilities can be improved by taking merchant ships up from trade and converting them to the extent required by the operation. These vessels cannot replicate the capabilities of built for the purpose replenishment but they can play a vital role in maximising the capacity of the latter by acting as re-supply units between shore bases and the operational area. If vessels are to be taken up from trade, then mechanisms need to exist for their identification within the national register and charter or requisitioning. In these circumstances the possession of a substantial national flag fleet can be an important strategic advantage. Merchant vessels can also be employed to provide sealift for the movement of land forces and their logistic support. Nations



The merchant ship LADY VALISIA. During Australia's involvement in East Timor a number of ships were taken up from trade to support the Australian military logistics train. It is understood that despite East Timor being within 'Hercules range' from Australia more than 80% of the forces' needs were supplied from the sea by ships such as the LADY VALISIA. (RAN)

with smaller merchant fleets may be forced to purchase or charter ships for these purposes from overseas, an expedient which can be difficult to achieve in emergencies."

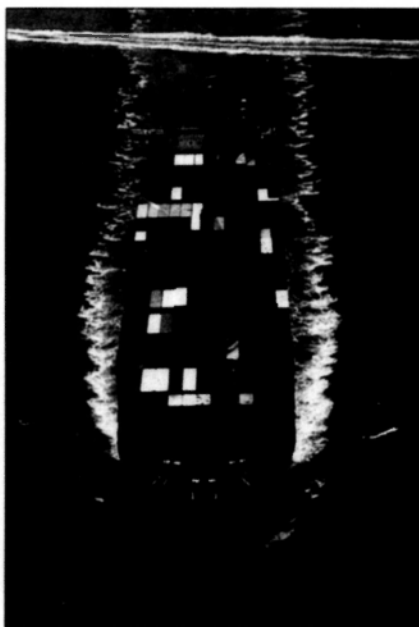
These are fine sounding words but the hard reality must be faced that Australia's merchant fleet is now largely non-existent and the size and type of the ships currently comprising the Royal Australian Navy must limit its operational capacity.

While the size and shape of Naval resources can only be a matter for Government Policy, the return of merchant shipping to the Australian Register must depend on the willingness of those interested to invest in shipping. This will only occur if shipping can operate profitably in the world economic climate. This depends on two factors: -

(1) Government policy regarding taxation, depreciation, Investment inducements etc.

(2) Flexibility in the manning of ships consistent with accepted standards of safety.

Crews of ships, especially ships such as tankers and container ships, are now reaching the minimum that can operate with safety. For example Korean ships now operate with crews of twelve and these will soon be reduced to nine. The Korean maritime authority proposes that ships will not carry seamen but only 'Operations officers' and all these will be "Dual Purpose" equally at home in navigational or engineering functions. All maintenance will be shore based. Economic pressures will dictate a flexibility in manning that has often been the scene of disputation in the industrial field but is essentially the path that Australia will have to follow if the Australian Red Ensign will once again fly over the stem of merchant ships.



A near fully laden merchant ship leaves port. Being an island nation Australia's economic stability and future is reliant on sea transport, and its protection. Having an Australian Merchant Navy should thus be an important part of any Government's economic and military outlook.

WANTED URGENTLY



Back Issues of "The Navy" Magazine and its predecessor "The Navy League Journal of NSW"

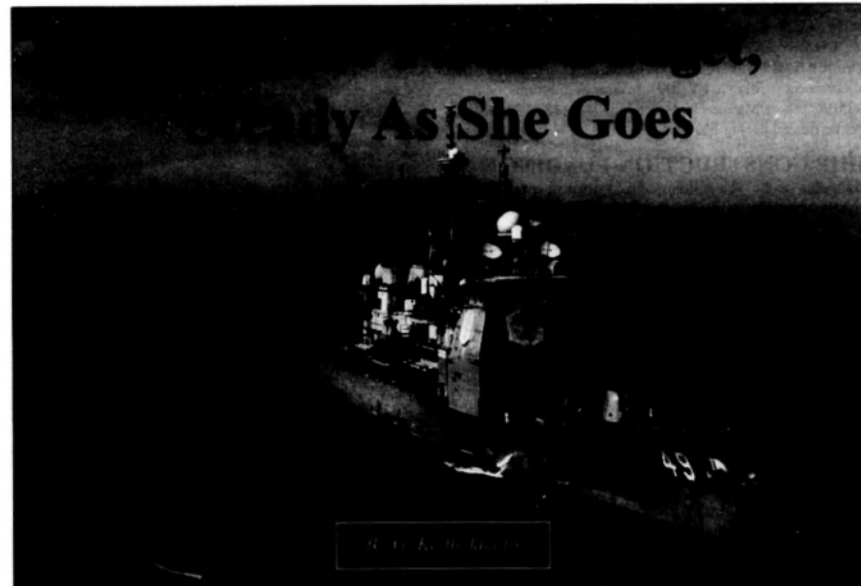


As a Navy League Centenary Project the Victoria Division, on the initiative of its President, Commander John Wilkins RFD** and with the assistance of the NSW Division and the State Library of NSW is compiling a consolidated index of all issues of the two magazines from 1920 to the present, and hopes to provide microfiche copies of all available issues of the magazines and of the index to major libraries and selected museums in Australia.

The project is well on the way being 90% complete as regards copying the magazines and 75% complete as regards the index, but the league has not been able to locate copies of the following issues:

<i>The Navy League</i>	1920 Volume 1	Nos 1, 4, 5, 8-11
<i>Journal of NSW</i>	1921 Volume 2	Nos 1, 4, 6, 7, 10, 12
	1922 Volume 3	Nos 1- 4
<i>The Navy</i>	1938 Volume 1	No 5
	1954 Volume 18	Nos 9-11
	1955 Volume 18	Nos 1, 2
	1956 Volume 19	Nos 4, 10, 11

If any of our readers have, or know where we can locate, any of the missing copies, please notify the NSW President, Otto Albert, at the address listed on page 1 of this magazine (or by fax) and he will take the matter from there. The copies can either be made available on loan to the NSW Division so they can be copied onto microfiche or, if they are not required as part of a collection, they can be donated to the State Library of NSW which already has the most complete sets of the two magazines.



The Ticonderoga class cruiser USS VINCENNES at sea. The first five Ticonderoga class cruisers are armed with the Mk-26 twin arm launcher making them incapable of using the Tomahawk cruise missile. This fact alone means that the USN will be retiring the first five before 2005 with two decommissioning this year. Having plenty of life left in their hulls, and with their impressive SPY-1/Aegis/SM-2 combination still in perfect working order they would make a great buy. (USN)

The US Navy's Fiscal Year 2004 budget may be considered the last of the 'legacy' programme budgets as the service enters into the era of Transition. Anchored by the doctrine of 'Sea Power 21' - comprising three major concepts: Sea Strike, Sea Shield and Sea Basing - there are critics who believe the Navy's Admirals are spending their monies in all the wrong places in regard to the future fleet and Joint Operation demands. Based on recent experience in Afghanistan and Iraq, there may be a lot to be said for this criticism.

"Winning the Global War on Terrorism is our Number One priority. Our naval forces will play a leading role both in this historical struggle and in preparedness for future threats to our national security by contributing precise, persistent, and responsive striking power to the joint force, strengthening deterrence with advanced defensive technologies, and increasing operational independence through sea basing. This is the Naval Power 21 vision", according to Chief of Naval Operations Admiral Vern Clark.

The US Navy faces a number of issues. One of these is 'quantity versus quality' in the number of vessels it can keep in commission and attain "Naval Power 21" (or 'Global Concept of Operations' (Global CONOPS) as it is referred to sometimes). The new Global Concept of Operations requires a fleet of about 375 ships, to be organised into 37 independent groups (Carrier Battle Groups, Surface Action Groups, Amphibious Ready Groups, etc) - compared to 15 to 17 groups today. However, battle force ship numbers declined from 313 in FY-2002 to 292 in FY-2004 planning. Only seven new ships are funded under FY-2004 thus 375 ships seems a long way out. The USN is currently in the process of planning for three new ship classes. The DD (X) new generation destroyer, a 10,000 tonne ship; the LCS (Littoral Combat Ship) for inshore naval operations and the CG (X) new generation cruiser using the same hull as the DD (X).

US Navy decommissions this year include five Spruance DD, two Ticonderoga CG, two Los Angeles and Sturgeon SSNs, two LSD amphibious ships and four TAGOS research ships, with gains of four Arleigh Burke DDG and one Scawolf class submarine (USS JIMMY CARTER) and the first Virginia class submarine (SSN-774).

FUNDING IN 2004

The proposed biannual budget for the US Navy and Marine Corps for Fiscal Year 2004 budget is US\$114.72 billion, a US\$10 billion increase over Fiscal Year 2002. The largest increase is a nearly US\$3 billion increase in the US Navy's Research, Development, Test & Evaluation (RDT&E) budget, rising from US\$11.3 to US\$14.1 billion. Within the RDT&E budget, Engineering and Manufacturing development absorbs most of the increase in funding (from US\$3.6 billion to US\$6.2 billion). Gaining the greatest share are the new DD (X) missile destroyer, Joint Strike Fighter (F-35B/C) and Command, Control, Communications & Intelligence (C4I) programmes

Why the great increase in RDT&E? In large part, the Fiscal Year 2004 budget is the last 'legacy' programme budget under the Department of Defense modernization initiatives under the guidance of US Secretary of Defense Donald Rumsfeld. The heavy RDT&E budget reflects new

procurement programs that will begin in fiscal year 2005-2007, including the new CVN-21 class super-carrier (CVN-78), LHA (replacement) and Maritime Pre-positioning Force (Future) (MPF (F)) ship programmes scheduled for procurement funding in FY-2007. In aircraft programs, 64 new F-35B/C (Navy/Marine Corps version) and 117 V-22 Osprey will be funded during FY-2005-09.

SHIP CONSTRUCTION FUNDING

Highlights of the Shipbuilding and Construction (SCN) and aircraft procurements for the year include:

- One x Virginia class (SSN-774): FY-04 reflects a multiyear contracting effort for seven boats over FY 2004-08, with plans in hand to raise annual orders to two SSNs per year from FY-07 to meet a national security requirement for A55 sub fleet. Funded at US\$2.64 billion, with plans for eight SSN-774 for FY05/09 at US\$19.84 billion cost.
- Three x Arleigh Burke Flight IIA class (DDG-51): Last six ships to be funded between FY04 and FY05 budgets, allowing sooner transition to DD (X), initial RDT&E funding under FY05 (as with Littoral Combat Ship corvette).
- One x San Antonio class (LPD-17): new generation Amphibious Landing Ship Dock (LPD), replacement class for 41 ships of four classes now in service. Funded at US\$1.192 billion this year, average ship costs are US\$800 million but it is hoped this will decline to about US\$750 million by 2008. USS SAN ANTONIO (LPD-17) was christened July 19th this year.
- Two x Lewis & Clark T-AKE: new class replaces AFS designated cargo and food stores and AE-designated ammunition ships. Three T-AKE already funded and lead ship due for delivery in May 2005.

Other important programmes:

- Trident SSGN Conversion: USS OHIO (SSBN-726) will be the first of four SSBN conversions to SSGN configuration OHIO entered Puget Sound Naval Shipyard for conversion in November last year and will return to service in 2007, to be followed by FLORIDA (SSBN-728), GEORGIA (SSBN-729) and MICHIGAN (SSBN-727). Funded at US\$1.236 billion.
- Cruiser Conversion: modernization of Ticonderoga class cruisers beginning with sixth ship (BUNKER HILL, CG-52). First five will be retired by 2005. Major upgrades include Cooperative Engagement Capability (USG-2) and SPY-1D improvements.



The US Navy's newest and most advanced submarine, Pre-Commissioning Unit (PCU) VIRGINIA (SSN-774). VIRGINIA was delivered to the USN on 16 Aug 03. (Electric Boat)



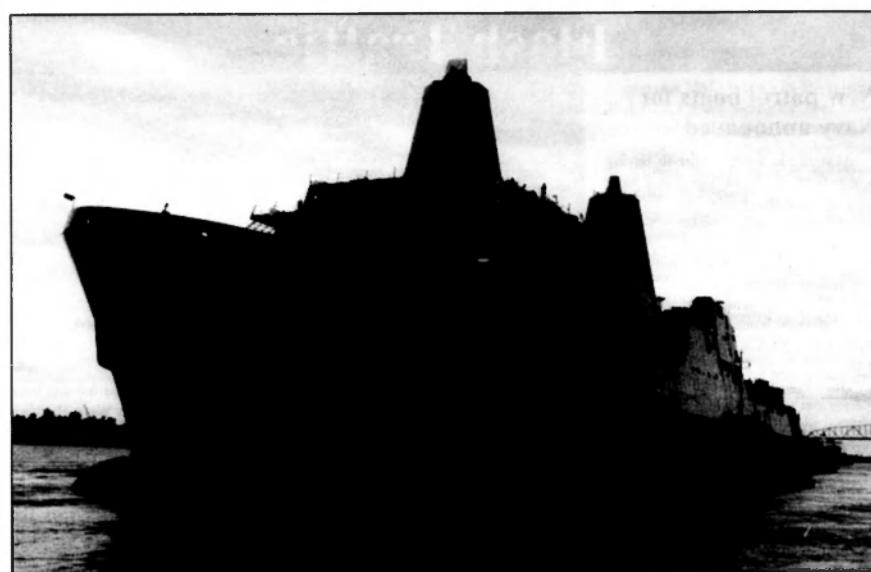
A computer generated image of Raytheon's preliminary design for the USN's LCS requirement. (Raytheon)

- CVN-21 Carrier: Funded at US\$1.497 billion in FY04 in long-term procurement costs, the new design will include an electrical generation and distribution system with zonal electrical distribution (ZEDS) and removal of steam driven auxiliaries and aircraft launch/recovery systems; electromagnetic aircraft launch system; new and enlarged flight deck and projection of increased sortie generation rate at sustained levels of 160 to 220 sorties per day, and a surge capacity of 270 to 310 [that is 50% above today's rates and four times Vietnam era rates!]; potential for enhanced laser weapon retrofits; and, manpower reduction by 500 to 900 sailors, including one-half reduction in reactor compartment personnel due to workload reductions associated with the new propulsion plant. Split procurement funding is planned under FY07/08, with initial operational capability in 2014.
- Littoral Combat Ship (LCS): Down selection to three competitive design teams: Raytheon IDS, Lockheed Martin NE&ES and GD-Bath Iron Works as contenders. US\$158 million RDT&E in FY04 with planned nine ships at US\$3.954 billion in FY05/09 planned. As many as 56 corvettes might be built, with LCS Lead (prototype) built under FY05/06 (split US\$216 million funding).

AIRCRAFT PROGRAMMES

In aircraft programmes, 196 F/A-18E/F Super Hornet and 56 G (Growler) are planned for FY05/09 at US\$18.48 billion. Nine MV-22 (USMC) and two CV-22 (Air Force) Osprey (US\$1.65 Bn.) and 14 UAV systems (Pioneer) plus VTUAV (Fire Scout) are included. The USN will move into Global Hawk-Navy and Broad Area Maritime Surveillance (BAMS) during FY05/09, along with Sea Based Penetrating Surveillance (UCAV-N) and submarine launched Unmanned Underwater Vehicles (UUV) in FY05. Aircraft rebuilds include E-2C Hawkeye 2000 (two), six MH-60R and 13 MH-60S (VERTREP) Black Hawk upgrades and continued EA-6B Prowler avionics and aircraft SLEP (Service Life Extension Program) efforts.

Major offensive missile procurements include: Tactical Tomahawk (267), JSOW (429), SLAM-ER (84; phase out in FY05) and JDAM (12,326). Tactical Tomahawk is just getting underway with over 425 being bought each year from FY06. JASSM procurement begins in FY07.



The amphibious transport dock ship Pre-Commissioning Unit SAN ANTONIO (LPD-17) floats along the Mississippi River at Northrop Grumman Ship Systems Avondale Operations in New Orleans. This new class of ship will be used to replace 41 ships made up of four different classes. (Northrop Grumman)

USMC

The counterpart Marine Corps doctrine to the USN's Global Ops is called "Marine Corps Strategy 21", combining the concepts of Expeditionary Manoeuvr Warfare with Ship-to-Objective Manoeuvr (STOM) to allow future Marine Air Ground Task Groups (MAGTFs) to greatly increase operational tempo and flexibility to allow manoeuvre forces to move directly against deep inland objectives (as done in Iraq).

The current Corps force remains steady at three Marine Expeditionary Forces (MEF) and four Marine Expeditionary Brigades (MEB), although FY03 saw an increase of one battalion (to 71). Two USMC F/A-18 Hornet squadrons are deployed onboard USN carriers at all times. Of the 175,000 Corps active forces, some 32,000 Marines are deployed on 110 ships and bases around the world on any given day. As of 30 July, the Marine Corps Reserve had 19,191 personnel activated in support of worldwide operations.

Procurement of the Advanced Amphibious Assault Vehicles (AAAV) prototype was funded under FY03 and special tooling funding is covered under FY04/05 with first vehicle procurement under FY06 (18 vehicles) rising to 90 vehicles in FY09. Initial AAAV in service should be reached in FY08 and Full Force Operational Capability in 2018. Humvee (HMMWVA2) funding includes 1,792 vehicles and a Light Armoured Vehicle (LAV-25) SLEP has begun.

The USMC's Corps artillery is also being modernised with continued procurement of Lightweight 155mm Howitzers (LW-155), at 60 guns in FY04 and 110 in FY05 and continuing through FY07. The lighter weight, increased lethality and smaller footprint of the new howitzer reduces strategic seafight space required for the guns. One HIMARS rocket launcher is included in FY04 and FY05, with full

production to begin in FY05 (15 systems), offering an indirect fire support system with 30 to 60-km range and with C-130 airlift ability. Predator ATGM (Anti-Tank Guided Munition) production continues, with 526 in FY04 and 673 in FY05 and production planned well past 2010.

One cannot miss the obvious - Corps inland operations in Iraq were immensely successful, both in open desert terrain and urban warfare conditions - superbly supported by both M-1A1 and LAV-25 vehicles. While the Corps has operated the LAV-25 for sufficient years to implement a SLEP programme, the US Army is just now fielding its first Stryker Brigade units based on the same vehicle.

Overall, this coming years budget for the USN is a "Steady as She Goes" effort, just before a vast new Transition era begins in 2005.



An EA-6B Prowler electronic warfare aircraft. The USN will provide a SLEP for the Prowlers while waiting for the new F/A-18G electronic warfare aircraft dubbed 'the Growler'. (USN)

Flash Traffic

New patrol boats for Navy announced

Australia is a step closer to buying a new fleet of bigger, faster and more capable patrol boats to increase surveillance and better protect Australia's coastline.

Defence Minister Robert Hill said a partnership between Defence Maritime Services and Austal has been selected as the preferred tenderer to build and support the Navy's replacement patrol boats.

The new aluminium boats will operate out of Cairns and Darwin and will be armed with the Rafael 25mm Typhoon stabilised cannon and equipped with state-of-the-art communications systems. They will be able to operate in a greater range of sea conditions and will improve Navy's capability to intercept and apprehend vessels suspected of illegal fisheries, quarantine, customs or immigration offences.

"The fleet of 12 new boats will also carry two smaller sea boats to allow Navy crews to conduct boarding and surveillance missions," Senator Hill said.

"The Navy will be able to operate the new Armidale class boats for a combined total of 3,000 days per year, plus have the capacity of an additional 600 days for short notice tasks. This compares to an average 2,700 operational days per year currently undertaken by the existing Fremantle boats."

The boats are expected to be built at Austal's Henderson yard near Fremantle, Western Australia, and have a range of 3,000 nautical miles, a 25 percent increase over the existing boats.

Senator Hill said the staged tender process has been an intense battle between the three short listed companies, which included ADI and Tenix, which has highlighted how competitive Australia's small vessel shipbuilding industry is.

"The DMS/Austal offer was evaluated ahead of Tenix by a tender evaluation group on the basis that it offered the best value for money in meeting Defence's patrol boat requirements in line with the criteria in the request for tender."

DMS/Austal will have an obligation for through life maintenance and support for the 15-year life of the boats. Subject to final negotiations, the total cost will be about \$550 million. The cost of the build is within the Department's funding allocation.

DMS is a joint venture between Serco and P&O Maritime Services that provides port services wherever the Navy has bases in Australia, including refuelling ships, the provision of alongside services, tugs, water taxis, lighters and general harbour services. Austal is a successful Australian builder and exporter of fast passenger ferries, luxury yachts, patrol craft, and other commercial vessels.

"The decision to acquire and support the new Patrol Boats underlines the Government's commitment to improve the capabilities of the Australian Defence Force and deliver real security outcomes for all Australians."

The tender evaluation group that recommended the selection of DMS/Austal as preferred tenderer was chaired by a senior Defence officer and included probity advice from the Australian Government Solicitor and a legal adviser from Clayton Utz. The Defence delegate subsequently accepted this recommendation.

DMS/Austal has undertaken to meet the targets set out in the request for tender for Australian Industry Involvement percentages of 90 per cent in the support phase and 65 per cent in the build phase.

Defence will enter contract negotiations with DMS/Austal to resolve outstanding issues with a view to entering into a contract in November 2003.

Being some 14.8m longer than the Fremantles, and fitted with an active ride control system including fin stabilisers and trim tabs, the new patrol boats will be able to operate in a greater range of sea conditions, further improving their use at sea. They will have a capacity to carry up to 20 extra people in additional accommodation, whereas the Fremantles have no dedicated additional accommodation.

The stabilised TYPHOON MK-25 gun system will enhance the operational capability of the Armidale class Patrol Boats with greater accuracy to help them better protect Australia's coastline

compared with the modest capability of the Bofors 40mm unstabilised gun on the current Fremantle class patrol boats.

The first Armidale class patrol boat is expected to be delivered in the first half of 2005.

Competition throughout this process has been intense - highlighting the fact that Australia has a competitive small vessel shipbuilding industry.

INACT delivers to USN, again

Incat of Tasmania has handed over to the USN a 98 metre Wave Piercing Catamaran now known as HSV 2 SWIFT, Incat Hull 061.

Guests at the handing over ceremony were welcomed on board HSV 2 SWIFT by His Excellency The Honourable Sir Guy Green, AC, KBE, CVO, Governor of Tasmania.

With the Royal Australian Air Force band playing, flags flying and the usual pomp and ceremony associated with such events, the 80 or so US officers and crew were joined by representatives of the Australian Defence Force, invited guests and the entire Incat workforce.

During the ceremony Commander Clark Price, the Captain of the craft, assumed command, delivering his orders before the Hoisting of Colors, signifying that the US Navy had accepted US Navy Vessel HSV 2 SWIFT.

The ceremony, during which guests were seated on hay bales, was followed by an Aussie themed 'barbie' complete with the ubiquitous gum trees and Hills Hoist on deck!

Speaking of this latest High Speed Vessel to hoist the Stars and Stripes, Rear Admiral Paul Ryan, Commander Mine Warfare Command, US Navy said "the name SWIFT is most appropriate, because of its high speed, it reached 47 knots on sea trials."

Admiral Ryan referred to the old Navy adage that 'Speed is Life', saying that "speed is a force multiplier, reducing the transit time to theatre, and therefore increasing the time on station".

Mr Clifford, Chairman of the Incat Group of Companies and Executive Vice President of Bollinger/Incat USA, told the assembled guests of plans for



The 98 metre Wave Piercing Catamaran HSV 2 SWIFT, Incat Hull 061. (Brian Morrison, Warships & Marine Corps Museum, Tas)

further Incat-built military vessels. "The US Navy is interested in many new ships, ships that will be known as Littoral Combat Ships (LCS). SWIFT is not a Littoral Combat Ship, it is however, a forerunner of that class, and any candidate considered for that class must first exceed the specifications of this ship. That will be no easy task. Bollinger/Incat USA and Incat will be presenting in due course our Tasmanian designed ship of the future to the United States Navy," he said.

The High Speed Vessel (HSV) HSV 2 SWIFT will serve operationally as an interim Mine Warfare Command and Support Ship (MCS), and support transformational mine warfare modular mission payload initiatives. In support of Navy experimentation, the HSV will be used to explore concepts, capabilities and military utility associated with the advanced hull and propulsion technology integrated with advanced communications in support of the Littoral Combat Ship (LCS) program.

For the Marine Corps, the HSV will conduct a series of limited-objective experiments, exercises, demonstrations and training events that develop interoperability potential of high-speed vessels with causeways, watercraft, amphibious ships and other shipping. Experimentation data will be used to access the military utility of HSVs and future joint and naval military operations or applications.

The HSV is capable of maintaining an average speed of 35 knots or greater, loaded with 500 tons, consisting of 350 personnel and military equipment. A minimum operating range of 1100 nautical miles at 35 knots is required by

the contract, as is a minimum transit range of 4000 nautical miles at an average speed of 20 knots. Furthermore, she must be capable of 24-hour operations at slow speeds (3-10 knots) for experimentation with unmanned autonomous vehicles, and to support dedicated and emerging organic mine warfare missions.

A stern ramp capable of on/off loading directly astern or to the starboard quarter is fitted. The ramp is capable of loading/unloading a multitude of military vehicles up to and including M-1A1 main battle tanks.

SWIFT is also fitted with a load compensating crane capable of launch and recovery of small boats and unmanned vehicles up to 26,000 lbs. whilst underway. The crane is capable of lifting up to 22,000 lbs. to and from the flight deck.

Perhaps one of the most impressive features of SWIFT is the NAVAIR certified helicopter flight deck for operation of MH-60S, CH-46, UH-1 and AH-1 helicopters. An area protected from the weather for storage and maintenance of two MH-60S helicopters has also been provided to enhance aviation operations in day, night and instrument meteorological conditions.

With sea trials, Navy acceptance, and crew certification complete SWIFT will now deploy and commence routine operations. The vessel will operate with crews stationed at Naval Station Ingleside, Texas, and Naval Amphibious Base Little Creek, Virginia.

HSV 2 SWIFT is the fourth Incat Wave Piercing Catamaran to enter Military service.

In 1999 the Royal Australian Navy chartered the 86 metre Wave Piercing Catamaran HMAS JERVIS BAY (Incat Hull 045) for use during the East Timor crisis. The vessel seized the attention of the worldwide military, enabling them to witness the potential of the Wave Piercing platform to perform various military logistics roles.

In 2001, joint forces from the US Military awarded to Bollinger/Incat USA the charter for a High Speed Craft to be used as an evaluation platform for various trials and demonstrations for the different forces involved. The 96 metre Wave Piercing Catamaran HSV-X1 JOINT VENTURE became the benchmark for future Fast Sealift acquisitions, thanks to her high operational speed, long-range deployment capabilities, combined with a high deadweight capacity.

JOINT VENTURE has excelled during her deployment in the Persian Gulf in support of Operation Iraqi Freedom. Just hours after Operation Iraqi Freedom began, JOINT VENTURE sped into the shallow Persian Gulf waters near the southern Iraqi port of Umm Qasr, acting as an afloat forward staging base for Marine Fleet Anti-Terrorism Security Teams and Navy SEAL commandos.

On 14 November 2002, the US Army took acceptance of its first Theater Support Vessel TSV-1X SPEARHEAD made by WA based firm Austal. The craft is part of the Advanced Concept Technology Demonstrator (ACTD) program, a joint effort by the acquisition and operational (war fighter) communities within the Department of Defence. Typically ACTD's begin by identifying significant military needs and then matching them with current commercial technology or other programs ready to focus on military application.

RAN presents War relics to Australian War Memorial

In a ceremony at the Australian War Memorial to coincide with the King Hall Naval Conference, Captain Peter Lockwood, Commanding Officer of HMAS ANZAC, presented a range of military relics from Operation Falconer, Australia's contribution to the coalition

to disarm Iraq. Captain Lockwood said the ceremony was an opportunity to commemorate the recent service of Navy people in the Gulf.

"The presentation of these relics will provide the Australian War Memorial with a comprehensive historical record of the Navy's proud contribution to the Coalition efforts in the Middle East," Captain Lockwood said.

"This commemoration in our national war memorial will ensure the recent active service of Naval personnel in the Gulf is remembered for future generations of all Australians.

"This will assist in helping those generations to understand what today's sailors have experienced," CAPT Lockwood said.

The relics presented included a five-inch shell casing engraved with names of all crew-members from HMAS ANZAC, a ceremonial life ring from HMAS DARWIN, a sea mine and the life ring from an Iraqi tug signed by one of the boarding parties from HMAS KANIMBLA.



One of 'the relics' presented to the AWM was one of these sea mines captured from an Iraqi tugboat by one of the boarding parties from HMAS KANIMBLA. The LUG mine was amongst the most numerous in Iraq's arsenal carrying a charge of 145kg. This type of mine is anchored at a minimum of 3 metres from the surface and designed for maximum damage to the ship's hull. (RAN)

First contract for Collins class fix

Head of the Defence Maritime Systems Division, Rear Admiral Kev Scarce, has announced that a contract has been signed with the Australian firm Sonartech Atlas for selected sonar capabilities in the replacement combat system for the Collins class submarine.

RADM Scarce said that the contract with Sonartech Atlas - valued at \$22.5 million - is the first of four major

contracts to be finalised over coming months.

"The contract with Sonartech Atlas represents a small but critical part of the new system.

"They will provide the Submarine Acoustic Transitory Event Processing System (SATEPS) - a unique Australian invention which provides unparalleled capabilities in detecting other submarines and pinpointing their location," he said.

The \$400 million dollar replacement combat system project was agreed by Government last year. It provides for a significant capability enhancement on the existing combat system, identified in 1999 as the principal technical challenge for the Collins class. It also provides for further improvements to the sonar processing solution currently installed, until the replacement system is introduced.

The replacement combat system will be sourced through the United States Navy. It is based on the Raytheon CCS Mark II tactical command and control system that is currently being used by the United States Navy.

A Foreign Military Sales case to supply the CCS Mark II has been agreed with the United States Government.

A further three major contracts - covering other sonar, servers and hardware and installation - will be signed over coming months.

This schedule provides for the replacement combat system to be introduced progressively as part of the submarines' routine docking program from 2006.

In other Collins class news, all submarines of the class have been cleared to sail after a precautionary check on underwater valve maintenance.

This followed earlier advice from the Australian Submarine Corporation that maintenance on the valves had not been carried out strictly in accordance with manufacturer's specifications.

The Navy has now been informed by the Australian Submarine Corporation that it has checked maintenance records and conducted testing on the valves, and has assessed the submarines as safe to go to sea.

The Chief of Staff to the Maritime Commander, Commodore Nigel Perry said that the Navy took the decision to

recall a submarine into port to undertake the precautionary valve testing for the safety of the men and women serving in submarines.

Precautionary testing was also carried out on other submarines already in port.

"The Navy is pleased that the submarines have been assessed as safe to go to sea so quickly".

"It is vital, for the safety of all Navy personnel, that the correct quality and safety management processes are taken seriously", he said.

New RNZN vessels to civilian standards

Half a billion dollars worth of new vessels for the Royal New Zealand Navy will be built to civilian, not military, standards.

NZ Defence Minister Mark Burton revealed this in answer to written parliamentary questions.

Mr Burton said components in the vessels, like their weapons, communications and aviation capability, would be of military specification, but the ships would be built primarily to civilian standard.

He said they would mainly be used for patrol work and training, and the proposed multi-role ship would also undertake military and civilian seafit tasks.

Mr Burton caused an outcry from opposition MPs in Parliament when he avoided answering questions about the standard the ships would be built to.

In January 2002 the Government announced a plan to spend up to NZ\$500 million on new Navy ships.

The Navy would get a large multi-role seafit-capable vessel to replace the frigate CANTERBURY, at least two offshore patrol vessels and four or five inshore patrol vessels or an upgrade of the inshore patrol fleet.

Six bidders are interested in the project with the successful bid expected to be announced early next year.

HMCS VICTORIA ordered to Esquimalt

HMCS VICTORIA has sailed from Halifax to her new homeport of Esquimalt, a 7,350 nautical mile voyage via the Panama Canal.

It is the first submarine to be based permanently on Canada's West Coast since 1974. "HMCS VICTORIA will enhance the effectiveness of the West Coast fleet immeasurably," said Vice-Admiral Ron Buck, Commander of Canada's Navy.

HMCS VICTORIA, was the first of four submarines acquired from the United Kingdom in 1998, replacing Canada's 1960s vintage Oberon class submarines.



HMCS Submarine VICTORIA heading through the Panama Canal en route to her new home port of Victoria, B.C. It is the first time a Canadian submarine has been stationed on the west coast since 1974. (RCN)

"Acquiring these modern submarines provides Canada with an effective subsurface capability and an important strategic asset for at least the next two to three decades," added Vice-Admiral Buck. "There is no substitute for the stealth, endurance, versatility, and combat capability of a submarine."

The transit of HMCS VICTORIA allowed for a better understanding of the boat's performance in a variety of climatic, ocean and weather conditions. Data collected on the submarine's habitability and system effectiveness in temperate to tropical weather and water conditions has already proved useful in planning future operational deployments.

VSE begins Kidd transfer

VSE Corporation has announced that it has been awarded a U.S. Navy delivery order for US\$8.1 million to begin reactivation availability planning services in connection with the sale and transfer of four Kidd class DDGs to the Taiwan Navy. The delivery order requires VSE to provide advance planning services, upgrades and alterations planning, towing, industrial services, services supporting the Taiwan Navy reactivation planning and management team, and reactivation site project planning support.

Work will be performed by the BAV Division of VSE under BAV's ten-year, US\$1.1 billion Navy contract to support the reactivation and transfer of ex-U.S. Navy ships to foreign Navies.

VSE Chairman, President and CEO/COO Don Ervine said, "Since 1995 BAV has transferred more than 30 ships to foreign governments, including the transfer of five ex-U.S. Navy ships to Taiwan. The BAV Team offers worldwide capabilities, including the management of overhauls in foreign shipyards, to accomplish the mission of the Navy's ship transfer program, and we are delighted to begin work on this very important national defence effort to transfer four DDGs to the Taiwan Navy."

Victor III scrapping begins

Engineers have begun dismantling a nuclear submarine scrapped from Russia's Pacific fleet as part of a Japanese-funded project, a senior Japanese foreign ministry official said.

With the recycling of the Victor III-class submarine at the Zvezda ('star' in Russian) plant near Vladivostok, the implementation of the Russian-Japanese project 'Star of Hope' has begun.

While Japan has been funding a nuclear submarine-recycling program for 10 years, too little has been done so far.

Over the past decade, Japan has devoted 20 billion yen (US\$169 million dollars) to this program. Four billion yen has been used to set up a nuclear recycling plant, but the remaining 16 billion has not been used to this day.

Not a single nuclear submarine has been recycled and only very recently has there been any progress.

Japan has earmarked 800 million-yen for the 'Star of Hope' project over the next 18 months.

There are 41 decommissioned nuclear submarines in the Russian far east, 36 of which ... present an extreme risk of nuclear contamination.

The Zvezda plant is the only recycling facility for nuclear submarines in the region.

TALWAR commissions

Delivery of the Indian Navy's first of the three Krivak class stealth warships has taken place.

The first of the 4,000-tonne displacement stealth class warship christened INS TALWAR is already operating with the Indian Navy.

The Krivak class warship will give the Indian Navy a greater capability being equipped with surface-to-air, anti-ship and land attack missiles.

The three warships were to be inducted in the Indian Navy almost 18 months ago but this delivery was delayed as the Indian Navy refused to take possession of the warships after one of its main anti-aircraft missiles, the Shipil, failed during test flight.

Officials said that the fault in the missiles has been rectified and some more test firings would be conducted in the presence of the Indian Naval Chief.



The new Indian Navy modified Krivak class stealth frigate TALWAR.

'Heads roll' after Chinese submarine disaster

Several high-ranking Chinese naval leaders have been dismissed in the wake of a submarine accident in which 70 sailors perished (see THE NAVY Vol 65 No.3 p11).

The Navy of the People's Liberation Army (PLA) will now be commanded by Zhang Dingfa, previously a joint commander, Chinese media said.

Zhang replaces Shi Yunsheng.

Hu Yanlin also replaces Yang Huaqing as the Navy's political commissar, the reports said.

The central committee of the Chinese Communist Party approved the changes without offering a reason for the reshuffle.

The pro-Beijing Hong Kong daily newspaper Wen Wei Po, said that the commander of the PLA's northern fleet, Ding Yiping, had been dismissed and replaced by Zhang Zhannan, once the head of the PLA's training programs.

According to the newspaper, quoting "Beijing sources" the northern fleet also changes its political commissar.

Observers say these changes are linked to the submarine disaster, discovered on May 2, in the Bohai Sea off northeastern China in which 70 sailors are said to have died.

The submarine had been taking part in an exercise close to the Neichangshan Islands when it developed technical problems, official reports said.

US urges Taiwan to buy second hand

Quoting a leading Defence magazine, a Chinese-language newspaper said the US government has suggested to Taipei that it buy second-hand subs from Spain or Italy to meet its defence needs between now and 2012.

US officials made the suggestion because although it has approved the sale of eight diesel-electric subs to Taipei, Taiwan's military will not have the budget until 2006 and production won't begin until 2012.

US Navy Rear Admiral John Butler, program executive officer for submarines, told the defence magazine the US has told Taiwan that as soon as Taipei has the budget, Washington will invite manufacturers to submit plans.

"Taiwan's reply was that they expect to get the budget by 2006," he said.

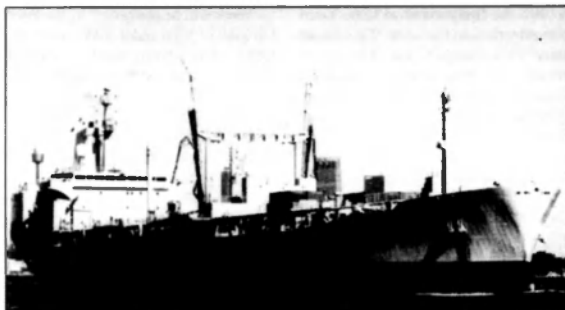
"The US plans to start producing the eight conventional subs at the pace of one sub a year in 2012. Production costs plus training and support totals US\$7 billion," the magazine said.

RFA Tanker fleet to be non-compliant

The British Ministry of Defence plans to flout international shipping regulations on the phasing out of single hull tankers by operating its aging flotilla of naval support oil transporters into the next decade.

The government has decided that the Royal Fleet Auxiliary's nine veteran single-hull oil transporters will see worldwide service until as late as 2010 while defence mandarins push through a review of the Royal Navy's future supply needs.

Three of the smaller 30-year-old oilers with International Maritime Organisation category two status are



The RFA BAYLEAF, in Sydney Harbour. The BAYLEAF and her sister ships of the 'Leaf' class will remain in service until approximately 2010, seven years after international shipping regulations banned large single hulled oil and fuel carriers such as these. It should be noted that the RAN's HMAS WESTRALIA is a sister ship to the Leaf class. (Brian Morrison, Warships & Marine Corps Museum, Tas)

due for scrapping next year under single-hull phasing-out arrangements.

Another six tankers rated IMO category one oil tankers would be phased out by 2005 under the accelerated proposals or 2007 under the present agreement.

The Ministry's move effectively rips up a long-established voluntary protocol that British naval and auxiliary vessels comply with international agreements on preventing ship pollution.

Civil servants and Rolls-Royce executive Anne Holden in the early evaluation phase of the MARS, or Military Afloat Reach and Sustainability, defence review are as yet without a plan for tanker replacement orders by 2010.

Warships and naval auxiliary vessels are outside the control of the Marpol 73/78 International Convention for the Prevention of Pollution from Ships, but article 3 of the treaty calls on governments to operate these vessels "in a manner consistent, so far as is reasonable and practicable, with the present convention".

"All we can do is encourage governments to follow international regulation adopted by the commercial industry," said International Maritime Organisation spokeswoman Natasha Brown.

UK Armed Forces Minister Adam Ingram confirmed in a written answer to the House of Commons in March that keeping the RFA tankers in service for another seven years would not comply with Marpol conventions.

The following month he reiterated that "it continues to be Ministry policy that, where practicable, we comply

with shipping acts and associated regulations."

The RFA said the government had played a key role in implementing IMO regulations and retained a "great concern" for crew safety and the marine environment.

"Plans are in hand to progressively replace the single hull tankers with double hull vessels," said RFA spokesman Paul Parrack.

"The MARS program will see the introduction of further double hull vessels to replace current ships."

Three of the Royal Fleet Auxiliary single skin oilers, the Rover class, set to continue worldwide duties this decade, were built in the early 1970s by Tyneside builder Swan Hunter and four Leaf class single-hull tankers were built in the early 1980s.

US Navy announces DD(X) S-Band radar

The US Navy has decided to use S-Band rather than L-Band technology for the volume search radar that will be on the next-generation destroyer, DD(X). This higher frequency radar will improve the ability of the destroyer to track aircraft and missiles and to counter-attack shore-based gun or missile batteries that attempt to strike the ship.

"The shift to S-Band technology is a very carefully considered, logical decision which seeks to ensure every investment dollar is leveraged to achieve near term and long term goals," according to the Assistant Secretary of

the Navy, Research Development and Acquisition John Young. "The decision effectively creates a radar roadmap for the Navy which draws on extensive, successful experience with S-Band on Aegis, provides enhanced capability for DD(X) as well as a future growth path, and supports the advancement of radar technology necessary for the CG(X) cruiser. Our industry partners, Northrop Grumman, Lockheed Martin, and Raytheon have been exceptional in working cooperatively to allow this decision to be made, demonstrating their understanding of the benefits to the fleet and the priority they place on supporting the Navy and Marine Corps."

USS CONSTELLATION decommissions

'America's Flagship', USS CONSTELLATION (CV-64) was decommissioned Aug. 6 after 41 years, nine months and 11 days of naval service in a ceremony at Naval Air Station North Island.

Former President Ronald Reagan presented a Presidential Flag to the ship in 1981, and tagged CONSTELLATION with the nickname 'America's Flagship.'

Ironically, the newly commissioned USS RONALD REAGAN (CVN-76) will replace CONSTELLATION when it arrives in San Diego next summer.

Commissioned at New York Naval Shipyard Oct. 27, 1961, CONSTELLATION is the third ship to be christened with the name, and bears the motto "Spirit of the Old, Pride of the New." It has seen service in the Vietnam War, Operation Desert Storm, Operation Southern Watch, Operation Enduring Freedom, and most recently, returning from a deployment in support of Operation Iraqi Freedom.

Since its commissioning, nearly 120,000 Sailors and Marines have served aboard "America's Flagship." The arresting gear aboard has amassed an impressive 436,000 'traps', or landings.

Connie, as the ship is known to the crew, departed San Diego Nov. 2 for its 21st and final deployment. It arrived in the Arabian Gulf Dec. 17, and remained on station for four months before departing April 17 and returning to San Diego in June.

CONSTELLATION was the first to



Sailors aboard USS CONSTELLATION (CV-64) 'man the rails' during the ship's decommissioning ceremony. The ceremony, held at Naval Air Station North Island, San Diego, marked the end of the carrier's nearly 42 years of service. During CONSTELLATION's commissioned service, she completed 21 deployments and most recently completed combat operations in support of Operation Iraqi Freedom. CONSTELLATION will be towed to Bremerton, Wash. where she will remain in Puget Sound Naval Shipyard. CONSTELLATION is the second oldest aircraft carrier in the US Navy and was one of only three remaining conventionally powered aircraft carriers in its arsenal. (USN)

launch air strikes in support of Operation Iraqi Freedom. Connie subsequently flew more than 1,500 sorties, dropping more than 1.7 million pounds of ordnance on strategic military targets. In addition, Connie produced, packaged and dropped about 600 million leaflets over Iraq, more than 25 for every man, woman, and child in Iraq.

CONSTELLATION has been honoured with more than 30 awards, including one Presidential Unit Citation,

one Southwest Asia award, two Battle 'E's, seven Armed Forces Expeditionary awards, three Navy Expeditionary Service awards, six Meritorious Unit Commendations, three Navy Unit Commendations, six Vietnam Service Awards, and six Republic of Vietnam Unit Citation (with Palm) for Gallantry.

"Today is a day to be proud of Constellation's crews, both past and present," said commanding officer, Capt. John Miller. "The legacy of CONSTELLATION is evident in the

pride and history of its crews and mission. I am as proud to have served as commanding officer, as each and every Sailor aboard has the right to say 'I am proud to have served on America's Flagship.'

In approximately a month, after the lowering of the commissioning pennant and ship's colours, and after the last watch is secured, Connie will be towed to an inactive ships' facility in Bremerton, Wash.

The keynote speaker at the decommissioning ceremony was U.S. Congressman Randy 'Duke' Cunningham. (R-Calif.). In 1972, then-Lt. Duke Cunningham was a Navy F-4J pilot with Fighter Squadron (VF) 96 aboard Connie.

Cunningham and his radar intercept officer, Lt.j.g. Willie Driscoll, downed three enemy MiG-17s. That, combined with two earlier kills, made them the first aces of the Vietnam War and the first ever to accomplish that feat with all missiles.

HMS SPLENDID bids farewell

HMS SPLENDID sailed away from the Gareloch for the last time on the 19 August 2003 following 22 years of sterling service with the Royal Navy.

With her 45 metre decommissioning pennant flying proudly in the breeze, Commander Paul Burke eased HMS SPLENDID away from a Faslane quay for one final time en route Plymouth where this SSN will begin decommissioned life in HM Naval Base Devonport.



The RN SSN HMS SPLENDID. (RN)

Prior to her last farewell, and as is tradition in the Royal Navy, a decommissioning ceremony was held to mark the successful completion of her service and to give thanks to the brave men who have served in her. It was with considerable pride that the men of HMS SPLENDID paraded at her decommissioning ceremony on Thursday 14 August in front of six Admirals. The current Flag Officer Scotland, Northern England and Northern Ireland, Rear Admiral Nick Harris MBE served as the 1st Navigator of HMS SPLENDID and saw action in the Falklands campaign in 1982.

HMS SPLENDID has seen plenty of action since commissioning in 1981. During the Falklands she conducted vital surveillance operations in the South Atlantic as the Task Force desperately sought early warning of impending aircraft raids.

Following this 'hot' war she continued to provide service to the nation in the Cold War carrying out many missions, for which the results remain secret to this day. However, it was following the end of the Cold War and during her second commission that HMS SPLENDID was to see further action and fame.

She was the first UK Submarine to be fitted for and with Tomahawk Land Attack Missiles (TLAM) and was the first UK Submarine to use them in anger in the Kosovo campaign in 1999. Later in what was to be her final patrol, HMS SPLENDID fired again in anger, this time successfully destroying targets of the Iraqi regime.

Queen presents new Colour to RN

Her Majesty The Queen presented the Fleet with a new Colour aboard the helicopter carrier HMS OCEAN in Plymouth Sound on 23 July 2003. 20 other ships of the Royal Navy were drawn up for review off Devonport, while hundreds of spectators braved inclement weather to watch the ceremony from the shore.

The flag, first presented to the Fleet by King George V in 1926, and replaced by Her Majesty in 1969, comprises a silk Royal Navy White Ensign adorned with the Crown and Royal Cipher.

When presenting the Colour, Her Majesty expressed her particular sympathies to those Service families bereaved by the fatalities suffered during the recent operations in Iraq. Accompanied by HRH The Duke of Edinburgh and Admiral Sir Jonathon Band, Commander in Chief Fleet, the Queen was greeted by a 21-gun salute from the frigate HMS NORFOLK and inspected Guards of Honour and the Royal Marine Band.

The ceremony was relayed on large television screens to the large crowds gathered on the shore of the Sound, from where the English fleet sailed 415 years previously during the reign of the first Queen Elizabeth to meet the threat of the Spanish Armada.

US Navy christens PCU VIRGINIA

"In the name of the United States, I christen thee, VIRGINIA. May God bless her and all who sail in her."

With those words and a swing of a champagne bottle, PCU VIRGINIA (SSN-774) sponsor Lynda Johnson Robb, wife of former U.S. Senator Charles S. Robb of Virginia and daughter of former President Lyndon B. Johnson, christened PCU VIRGINIA on 16 Aug.

VIRGINIA is the ninth ship to bear the name. Six previous VIRGINIA's served in the U.S. Navy and two more served in the Confederate States Navy. This VIRGINIA is far different from those ships, and despite its resemblance to a Los Angeles or Seawolf-class submarine, it is far different from other submarines, as well.

VIRGINIA is lighter than the



PCU VIRGINIA in the water at her christening ceremony. (USN)

Seawolf-class submarines. It is also longer by 24 feet and has a beam six-feet less than its predecessor. VIRGINIA has a payload of 40 weapons, and can accommodate special operations forces, an Advanced SEAL Delivery System (ASDS) and unmanned undersea vehicles. VIRGINIA and its 132-member crew can launch Tomahawk land-attack missiles from 12 vertical launch system tubes and Mark 48 advanced capability torpedoes from four 21-inch torpedo tubes.

Status of USN Pacific Fleet Aircraft Carriers

With most of the USN back home, the after affects of Operation Iraqi Freedom have begun to show, as the surge of ships to the Persian Gulf left the USN short of ships in other areas.

As the Pacific based aircraft carriers USS ABRAHAM LINCOLN (CVN-72) and USS KITTY HAWK (CV-63) returned to their homeports for extended overhauls, and the USS CONSTELLATION decommissioned on 7 August, it has fallen to the three remaining Pacific Fleet Aircraft carriers to cover the gap.

USS NIMITZ (CVN-68) remains in the Gulf and was due to leave there in late August after being replaced by the Atlantic fleet carrier USS ENTERPRISE (CVN-65). After NIMITZ returns it is expected to enter overhaul status for several months.

USS JOHN C. STENNIS (CVN-74)

operate out of San Diego, California.

KITTY HAWK will complete her extended maintenance period at Yokosuka, Japan, in late September 2003 while the ABRAHAM LINCOLN is scheduled to finish her overhaul in early 2004.

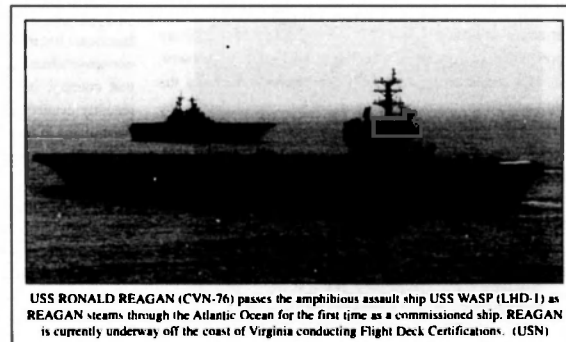
By mid 2004 there will be only four operational aircraft carriers in the Pacific Fleet, USS KITTY HAWK, based in Japan, USS ABRAHAM LINCOLN, USS JOHN C. STENNIS and USS RONALD REAGAN, with the fifth carrier, USS NIMITZ in overhaul.

The strain is most telling on the Carrier Air Wings (CVW). Carrier Air Wing Nine is now embarked onboard CARL VINSON after only six months off the JOHN C. STENNIS for a Gulf Deployment. In the past 24 months the squadrons of Carrier Air Wing Nine have been deployed for nearly 18 months and it is slowly taking a toll on men and equipment. After their current deployment is planned that Carrier Air Wing Nine will move to the RONALD REAGAN in January 2004.

Carrier Air Wing Two was onboard CONSTELLATION and was due to transfer to the newest carrier in the fleet USS RONALD REAGAN, but with the higher tempo of operations Carrier Air Wing Two, with several new F/A-18E/F Super Hornet squadrons, has been assigned to the ABRAHAM LINCOLN once its overhaul is completed in early 2004.

Carrier Air Wing Eleven is with USS NIMITZ in the Gulf as part of a seven-month deployment. Carrier Air Wing Fourteen is with USS JOHN C. STENNIS conducting workups prior to her Gulf deployment in early 2004. Carrier Wing Five is based in Japan in is supporting the KITTY HAWK.

By Ian Johnson



USS RONALD REAGAN (CVN-76) passes the amphibious assault ship USS WASP (LHD-1) as REAGAN steams through the Atlantic Ocean for the first time as a commissioned ship. REAGAN is currently underway off the coast of Virginia conducting Flight Deck Certifications. (USN)

Observations

By Geoff Evans

ILLEGAL IMMIGRATION – A DIFFERENCE IN NUMBERS

From time to time a small craft is detected approaching the Australian coast and believed to be carrying folk who have not complied with immigration procedures.

The Government quickly asserts its determination to protect the country's integrity, the media becomes agitated, the Opposition demands a Coastguard and the armed forces are called in to arrest or drive the intruders away.

Our American friends have a similar problem, but on a rather different scale. The June issue of the prestigious US Naval Institutes journal *PROCEEDINGS* refers to what is stated to be the "largest migration of illegal aliens by maritime means in modern history". The article goes on to say "since 2000 alone an estimated 234,000-350,000 Ecuadorians have attempted to leave their country by maritime means with the intent of entering the United States illegally."

It seems even the US Navy and Coast Guard are unable to cope with an influx on this scale – in addition to existing commitments – and it is suggested priority must be given to persuading South American governments concerned to discourage illegal migration "preferably with incentives, but by penalty of law if necessary."

One wonders how Australia would cope with even a fraction of the numbers involved in the Americas.

THE SHIPPING INDUSTRY

This issue of *THE NAVY* is expected to coincide with the release of a report on the Australian Shipping industry by two former Federal Transport Ministers, Peter Morris and John Sharp, Labor and National Party Ministers respectively, both are well-qualified to address the troubles of an extremely important industry.

In the April-June 2002 issue of *THE NAVY*, *Observations* referred to the numerous Acts and Regulations that bedevil Australian ship owners; it might be expected the Morris/Sharp report will have given attention to this significant problem, also to a recent (August) High Court decision enabling the Industrial Relations Commission (IRC) to determine the working conditions of foreign crews on foreign-owned ships operating in Australian waters. The authority now resting with the IRC will require that body to make decisions unlikely to please all the time, but hopefully commonsense will prevail and the decision accepted.

British shipping has also been receiving attention. The July issue of the Master Mariners' *MELBOURNE LOG* carries an item on a review of the industry by Vice Admiral Sir Christopher Morgan, Director General of the UK Chamber of

Shipping. After a period of "seemingly terminal decline" increased tonnage of both UK owned and flagged ships, 'younger' ships, an increased cadet intake – the first for many years but with issues concerning the employment of officers and ratings still under discussion and urgently needing solutions. The government is given credit for its shipping policy ".....the main, if largely unsung, transport policy success of the government."

The Morris/Sharp Report on the local industry should make interesting reading.

AUSTRALIA AND INDONESIA

Since World War II few, if any, countries have received as much attention from the Australian media as Indonesia and understandably so, given its proximity, geographical composition – several hundred thousand islands with more than six thousand inhabited – and a population well in excess of 200 million people living in conditions quite different to those enjoyed in Australia. For various reasons the media has often been highly critical of Australia's neighbour.

In view of the obvious strategic importance of Indonesia to Australia and in response to the Government's desire to strengthen relations with Indonesia at a non-government level, the Navy League in 1980 moved to establish a link with Indonesia similar to those it had with Navy Leagues in Europe, North America, New Zealand and South Africa. Attempts to do so took place over a number of years but in the end, despite interest shown by several retired senior officers, the League was unsuccessful, in the main because there was no organization remotely resembling the Navy League with which it could negotiate; it must also be said that at the time not all Indonesian Ministers were well-disposed towards Australia.

Due to the persistence of both Labor and Coalition Governments – notably the work of the Ministers directly involved and their Departments – Australia's relations with Indonesia became closer during the 'nineties' at 'official' and non-government levels despite almost continuous turmoil in that country, including several changes in leadership. Very recently events and responsible media reporting have caused Australians to better appreciate Indonesia's problems while in turn, Indonesians have a better understanding of Australia and its people.

There are important developments as the future of the two countries is inextricably linked whatever happens in other parts of the world. Although well-intentioned the Navy League was probably too impatient 23 years ago and wanted quick results; this is not always possible when dealing with people of other cultures. The lesson was learned.



CRESWELL, A Remarkable life



By Commodore B. G. Gibbs AM, RAN (RET)

Australian Navy Foundation Day 'CRESWELL ORATION'

The following address was given to the Navy League of Australia's Victorian Division on the occasion of the 102nd anniversary of the 'Australian Navy's' foundation.

Any analysis of the performance of our Australian military leaders in the past should include an assessment of their performance under the stress of action and policy making. Indeed, this has occurred in a number of analyses undertaken by several recognised military historians in fairly recent years.

The analyses to which I refer were in respect of a number of First World War and Second World War leaders, the names of whom will be familiar to most:

- Chauvel,
- White,
- Sturdee,
- Monash,
- Bridges,
- Morshead,
- Lavarack,
- Robertson,
- Scherger,
- Wilton,
- Vasey,
- Herring,
- Rowell,
- Blamey,
- Henry Gordon Bennett,
- Creswell.

No Australian naval officers reached positions of senior command in the First World War, and in the Second World War, only Collins and Farncomb commanded the Australian Squadron in action.

Admiral Sir John Crace RN commanded the Australian Squadron during the Battle of the Coral Sea, but although he was born in Australia, he was a Royal Navy Officer detached to the Royal Australian Navy and he returned to Britain soon after the battle.

The three Chiefs of Naval Staff during the Second World War were all British Officers.

During the Second World War Collins was Commodore Commanding China Force in 1942 and in 1944 and 1945 he was Commodore Commanding the Australian Squadron in important battles in the Pacific.

As Australia's senior naval commander during the Second World War it seems unfortunate that the performance of Collins has received somewhat less historical attention than those leaders to whom I have referred. However, as the military historian, D.M. Horner, points out, we do have Collins' autobiography, "As Luck Would Have It".

Vice Admiral Sir William Creswell, as First Naval Member of the Australian Naval Board during the First World War, had little opportunity to command Australian Naval Forces in war.

That being so, one could be excused for wondering why his performance has, like that of the leaders to whom I have referred, been the subject of such close scrutiny. The answer, again according to Horner, is because the history of Creswell demonstrates the problems of senior policy-making faced by Australia's top naval officers during the First World War.



Rear Admiral William Rooke Creswell.

In his Doctoral thesis, the historian Stephen Webster in 1976 described Creswell in the following terms:

"As First Naval Member of the Australian Naval Board, Rear Admiral Sir William Rooke Creswell (1852-1933) played a key role in the direction of local naval operations and policy during the First World War. Creswell's long and colourful career, beginning in the Royal Navy of Queen Victoria, then in Australia's motley colonial naval forces, and finally as the senior officer of the Australian Navy - mark him as the single most important figure in the gestation, early development and first testing of the Royal Australian Navy. By virtue of his long, continuous involvement in the debate surrounding Australian naval defence, no other figure, politician or naval officer, played such an influential part."

Over the years, much has been written about Creswell's achievements while holding high office, but rather less about his earlier life.

Known as the "Father of the Australian Navy", William Rooke Creswell was born in Gibraltar on 20th July 1852.

He was the third son of Edmund Creswell, the colony's Deputy Postmaster General.

Although there is no evidence to support such an association, it nevertheless seems likely that Creswell was given the second Christian name of Rooke in memory of Admiral Sir George Rooke, who, in 1704, led a combined force of seamen and marines, resulting in the capture of Gibraltar from the Spaniards.

While of no particular relevance, yet nonetheless of some interest, is the fact that the action, which became known as the Battle of Gibraltar, was later selected as the only Battle Honour to appear on the Royal Marine Colours.

Admiral Sir George Rooke died in 1709, five years after the capture of Gibraltar.

Creswell received his early education at Gibraltar and it is not unreasonable to assume that the naval and military environment prevailing at 'The Rock' at that time, would have played some part in his inclination to pursue a career in one of the Services.

Indeed, in 1864, when Creswell was 12 years of age, his father made the decision to send him home to England to be coached for service in the Royal Navy.

In December 1865, at the age of 13, Creswell joined the Training Ship BRITANNIA, from which he graduated as a midshipman, 18 months later. Creswell's first ship was the PHOEBE, a 35-gun screw frigate, which at the time, was deployed to the North American Station, as part of Admiral Sir Phipps-Hornby's Flying Squadron.

It was while serving in the PHOEBE that Creswell, in 1869, first visited Australia.

Creswell later served in the MANOTAUR in the Channel Fleet, and then as a Sub-Lieutenant, he was appointed to the THALIA on the China Station.

It seems that the young Creswell was exceptional as an athlete, and indeed, research reveals that while serving in the Thalia, he won a 440 yards hurdle race, an event open to the whole of the combined Fleet on the China Station. Of some incidental interest is that, as the winner, Creswell was presented with a cup donated by the Grand Duke Alexis, who at the time was serving in the Russian Navy.

Service on the China Station occasionally required that action be taken against Chinese pirates. In one such action Creswell, who at the time was temporarily serving in the gunboat MIDGE, was severely wounded and in recognition of

his distinguished conduct, he was promoted to the rank of Lieutenant.

Upon recovery from his wounds Creswell was appointed to the Royal Naval College and later to HMS TOPAZE, as part of the Squadron then deployed to India for the visit by the Prince of Wales, later King Edward VII.

Creswell next served in HMS UNDAUNTED, Flag Ship of the East Indies Squadron. He was then appointed to HMS LONDON, a Depot Ship stationed at Zanzibar during operations against East African slave traders.

Operations against the slave traders often required that naval parties operate in small boats with frequent absences from their parent ships, for upwards of a month at a time.

During the three years 1875 to 1878, Creswell was frequently involved in these activities, experiencing many brushes with Arab dhows. Indeed, one vessel he intercepted was found to be carrying a record cargo of slaves.

On another occasion, during which he and his crew landed ashore with the intention of liberating a number of slaves, Creswell and his party came under armed attack. One member of the party who was severely wounded, was saved by Creswell who helped him swim back to their boat.

Unfortunately, Creswell's health deteriorated during his service in the East Indies, to the point where it became necessary for him to be invalided back home to England. It so happened that the Royal Navy was at this time undergoing significant reductions and the prospects for young naval officers was not bright.

As a result, Creswell retired from the Navy in 1878, and in 1879, along with one of his brothers, he decided to migrate to Australia with a view to pursuing life as a farmer, which he did in Queensland for some years. It is said that he was a member of the first party of drovers to take cattle overland to the Northern Territory.

However, the call of the sea reasserted itself and, in October 1885, Creswell joined the newly formed naval service in South Australia, in the rank of Lieutenant Commander.

Thus began what can only be described as a truly distinguished Australian naval career, spanning as it did, some 34 years.

Upon joining the South Australian naval service, Creswell was appointed First Lieutenant of the small but heavily armed cruiser PROTECTOR.

In 1893 Creswell was appointed Naval Commandant, South Australia, serving in that capacity until 1900, at which time he transferred to the position of Naval Commandant, Queensland. During 1902 he also acted for a brief period as Captain Commanding the New South Wales Naval Forces.

It is noted that at the time of his appointment as Naval Commandant, Queensland, Creswell was also appointed in command of his old ship PROTECTOR.



The gunboat HMAS PROTECTOR, one of Creswell's commands which also participated in putting down the Boxer rebellion in China

Indeed, while under his command, the PROTECTOR was deployed to the China Station, in order to assist in suppressing the Boxer Rebellion. Upon return of the PROTECTOR to Australia, Creswell resumed his duties in Queensland.

On 1st March 1901, two months after the creation of the Australian Commonwealth, the Australian States transferred their local naval and military forces to the Federal Government.

While the amalgamation and development of the military establishments presented no major difficulties, and were immediately proceeded with, this was not so in respect of the naval units. This appears to have been due to the considerable confusion which existed in respect of naval doctrine among various Ministers of the Crown, and Members of the new Federal Parliament.

Victoria had, for half a century, developed what has been described as a "formidable" flotilla, and South Australia and Queensland had also supported the principle, apparently first enunciated in 1885 by Admiral Sir George Tryon of the Royal Navy, who commanded the British Naval force in Australian waters in 1886-87, that a separate Australian Auxiliary Squadron be formed and manned to the greatest extent possible by locally trained Australian personnel.

New South Wales, on the other hand, had maintained no permanent naval force, a situation which appears to have been largely due to the fact that Sydney was the base of the British Imperial Squadron; that the Commander-in-Chief's residence was there; and because strong economic and social interests combined in opposing transfer of the naval administration to the temporary seat of Federal Parliament in Victoria.

Indeed, locally, New South Wales did nothing of any significance in respect of the new Commonwealth Navy, until the United Kingdom gifted its Sydney base to Australia in 1913.

In 1887 a Colonial Conference was held in London. While, as a result of that Conference an Australian Auxiliary Squadron was formed, this did not realise Admiral Tryon's ideal of a locally manned and locally controlled Squadron. That this was so was hardly surprising so long as the Australian Colonies remained under mutually independent governments.

Creswell has been variously described as essentially a seaman, trained in the Navy when masts and yards and sails were in use, and boat work was the order of the day. He was a practical sailor who believed in maintaining in seagoing order all of the ships and craft coming under his orders.

It has been further said that Creswell was characterised by indomitable courage and the persistent pursuit of his objectives. There is no doubt that he was very much a "man's man", but above all else he was a man of exceptional vision and the possessor of infinite patience.

For three years after the creation of the Australian Commonwealth, the Government used existing State Acts and Regulations to administer its defence forces with, in the naval sphere, a Naval Commandant in each State exercising control over the forces in his area, but with no officer appointed in overall command.

This interim period came to an end on 1st March 1904, when the Commonwealth Defence Act 1903 was proclaimed, bringing into force legislation necessary to administer the defence forces. At the same time the position of Naval Officer Commanding Commonwealth Naval Forces was created.

On 9th December 1904 an amendment to the 1903 Act came into force which, among other things, provided for a

change in the administration of the Naval Forces, by the replacement of the Naval Officer Commanding Commonwealth Naval Forces as the administering authority, with a Naval Board of Administration of three regular members, headed by the Minister of State for Defence.

The position of Naval Officer Commanding Commonwealth Naval Forces was abolished on 24th December 1904 and the position of Director of Naval Forces was created, in which was vested both administrative and inspecting duties.

On 12th January 1905 the Board of Naval Administration was constituted for the first time. It consisted of the Minister for Defence (Hon. J. W. McKay), as President, the Director of Naval Forces (Captain W. R. Creswell, CMG), and a civil member named as the Finance Member (J. A. Thompson Esq.). Commander F.H.G. Brownlow, Officer Commanding the Naval Forces, New South Wales, was named as Consultative Member.

At the time of Creswell's appointment as Director of Naval Forces, the local naval forces consisted of about 1000 men (nine-tenths of whom were engaged on a militia basis) and a few hundred cadets. The ships available were the CERBERUS, PROTECTOR, GAYUNDAH, PALUMA, COUNTESS OF HOPETOUN, CHILDERS, NEPEAN, LONSDALE and MOSQUITO.

The replacement of these vessels, all of which were launched between 1883 and 1891, was repeatedly urged by Creswell, who unfortunately found himself having to do so in the face of an almost bi-annual change of Ministers of Defence.

In urging the Government to take replacement action, Creswell suggested a program of construction over a period of seven years that would provide three 3000-ton cruiser destroyers, sixteen torpedo boat destroyers and fifteen torpedo boats.

In 1906 the Australian Government sent Creswell to England to study naval developments.

While his aspirations for a distinctly Australian element to the sea power of the Empire received sympathetic understanding from the First Sea Lord, Admiral of the Fleet, Sir John Fisher, they received scant consideration from the Committee of Imperial Defence.

Undaunted by lack of enthusiasm in England, Creswell persisted, and supported by the Australian Government, continued to further his plan to establish a strong local Navy. Meanwhile, pending a final decision, Prime Minister Deakin set aside the sum of £250,000 for expenditure on harbour and coast defence.

In November 1908 Andrew Fisher succeeded Deakin as Prime Minister. Using Deakin's savings and taking advantage of the Colonial Naval Defence Act (1865), which empowered the colonies to maintain men o'-war, he immediately ordered the building of two 700 ton, 27 knot torpedo-boat destroyers.

In 1909 Britain became alarmed by the rapid increase of German naval power. It was a challenge which could not be ignored and the Admiralty requested Parliament to take exceptional measures to secure the safety of the Empire. It was decided to convene an Imperial Conference in London, and in advance Australia offered a Dreadnought or any other form of help recommended by the Conference.

The Conference met on 28th July 1909, and for the British Dominions of Australia and Canada it proved a momentous occasion. It led to those countries forming independent Navies, over which they exercised full control, but it was

agreed that they should operate as an integral part of the Royal Navy in time of war.

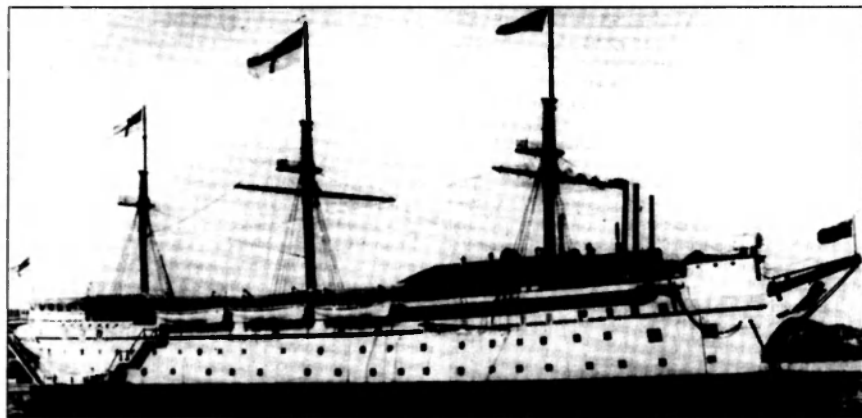
In discussion, it was recommended that the whole system of Pacific Ocean defence should be remodelled by the creation of three Fleet units, one on the Australia Station, one on the East Indies Station and a third on the China Station. Each unit was to consist of a battle cruiser, three second-class cruisers, six destroyers and three submarines. The Dreadnought offered by Australia was to be flagship of the Australian unit and that offered by New Zealand was to be flagship of the China unit. The East Indies and China units would remain under direct Admiralty control as squadrons of the Royal Navy, but the Australian unit would be paid for and controlled by Australia and eventually *fully manned* by Australians.

Thus, at long last, the formation of a purely Australian Navy was agreed upon and Admiral Tryon's principle, that personal service was an essential part of any colonial naval force, was acknowledged. The era of payment in cash for naval protection was ended.

The following year a further Imperial Conference reached final agreement on the status of the Australian fleet, and on 10 July 1911 His Majesty King George V granted the title of 'Royal Australian Navy' to the Permanent Commonwealth Naval Forces. Creswell was promoted to Rear Admiral in 1911 and Vice Admiral (Retired) in 1922. In 1911 he was made a Knight Commander of the Most Distinguished Order of St Michael and St George (KCMG), and then, in 1919, the year in which he retired, he was made a Knight Commander of the Most Excellent Order of the British Empire (KBE).

In a reconstituted Naval Board Creswell was named First Naval Member, Captain B. M. Chambers, RN, Second Naval Member, Engineer Captain W. Clarkson, Third Naval Member, Staff Paymaster H. W. E. Manisty, Finance and Civil Member and Naval Secretary.

In 1912 the ex-clipper ship SOBRAON was acquired, renamed TINGIRA and commissioned as a Boys' Training Ship. On 1st March 1913 a Naval College, providing for the training of Australian naval officers, was opened at Geelong in Victoria. Among the first boys enrolled were two future Admirals, John Augustine Collins and Harold Bruce Farncomb.



The Boys Training Ship TINGIRA (ex- Sobraon). In 1912 the ex-clipper ship was acquired and renamed TINGIRA

In July 1913 all Royal Navy Establishments in Australia were transferred to Australian control.

Creswell was 67 years of age at the time of his retirement to a farming property in Silvan, situated outside Melbourne. The loss of two of Creswell's three sons during the 1914-1918 Great War was a heavy blow to Creswell. Randolph, a Captain in the Camel Corps, was killed whilst serving in Palestine in November 1917. Colin, a Naval Lieutenant, who served in submarines, was lost in August the same year. A third son, Edmund, who served as a Lieutenant in the Australian Pioneers, was severely wounded at Bullecourt in France, in May 1917.

During the remaining years of his life, Creswell continued to take a keen interest in issues of public importance. Among other things, he propounded a scheme, which he advocated most assiduously, for giving the Murray River direct communication with the sea by extending the Coorong Channel to Lacedpede Bay.

Creswell died on 20 April 1933, in his 81st year, and is buried in Brighton General Cemetery, Melbourne, Victoria, together with his daughter Margaret, who died on 5 April 1913, aged 20 years, and his wife Adelaide, who died on 14 February 1945.

Captain (later Admiral) Bertram Chambers, Second Naval Member of the first Naval Board appointed on 11 March 1911, said of Creswell:

"His life story is one which should be held in remembrance by coming generations of naval officers, for his career was unique and one which can never be duplicated for the conditions which led to the creation of the present Australian Navy can hardly arise again in any other part of the British Empire."

Creswell's place in history as the professional father of our Navy is secure and publicly acknowledged by the commissioning of the naval establishment HMAS CRESWELL, at Jervis Bay, in 1958.

I believe that, were he alive today, Creswell would applaud the motto assigned to the Establishment which bears his name:

'HONOR INTEGRITAS VIRTUS'
(Honor, integrity, virtue)

PRODUCT REVIEW

The Final Countdown

DVD

Available from www.forcevideo.com.au

Reviewed by Ian Johnson



In the August-October 1980 edition of *THE NAVY* Michael Meliar Phelps said in his review of *The Final Countdown* "Don't miss this one: it will be money well spent." Over 22 years later that statement still stands.

For those that have not seen the movie over the years, the USS NIMITZ (CVN-68) sails into a time distortion and arrives a day before the 1941 attack on Pearl Harbor. With a confused crew, her captain (Kirk Douglas) must decide to either ignore what is happening or launch an attack on the Japanese Task Force approaching Hawaii, thus changing history.

Even with a time travel storyline *The Final Countdown* holds its own, and in many respects the aerial sequences are better than in *Top Gun*. With a great cast including Kurt Douglas and Martin Sheen and major assistance from the USN in filming the movie, this film showed for the first time modern carrier operations on what was then the world's largest aircraft carrier.

Now with the transfer of *The Final Countdown* on DVD, one of the finest military based movies is now in Widescreen and in stereo.

The aerial scenes between the Japanese Zeros and the F-14A Tomcats are worth the price of the movie. With the age of *The Final Countdown*, many people are watching this movie to see the older aircraft and squadrons that are no longer in service in the USN. One of the best USN based movies ever produced, even despite its age, *The Final Countdown* is worth getting a copy for your DVD library.

Liberty call

Bonds of Friends and Allies

By Ian Johnson

Price: AUD \$60 + PP

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364 pages

Reviewed by: Lionel Hutz

Liberty Call is a well researched book containing all USN, US Coast Guard, Marine Corps and Sealift Command ship visits to WA since 1975 to 2002.

The book is divided into two sections. The first details the history and background of the visits from the aircraft carrier USS CORAL SEA in 1975 through to the visit of the nuclear powered submarine USS JEFFERSON CITY in June 2002. The second section is a very detailed reference guide to every ship, submarine and aircraft type, including squadrons, which have visited Western Australia, including their fate as at 2002.

Liberty Call is 365 pages long and illustrated with over 200 photographs.

A chapter is devoted to the main port of Call, Fremantle, and the city of Perth with maps of the ports and surrounding areas.

LIBERTY CALL

BONDS OF FRIENDS AND ALLIES



IAN JOHNSON

The book is a fascinating guide to the USN's use of WA as a Liberty Port with over 280 vessels making over 650 visits to WA.

The forward is written by The Hon. Kim Beazley MP who says: "Ian Johnson, an enthusiastic naval historian, has done us an immense service by both providing a history of the deployments for the strategically inclined and photographs and class descriptions for those of a more maritime bent... This book is therefore a useful addition to Australian maritime history as well as introducing this important part of our joint activity to a wider audience."

"This book brings together the vessels and personnel of a historical world maritime power and a friendly people in a beautiful part of Australia. Readers will enjoy this." We can't agree more.

WARSHIP 2002-2003

Edited by Antony Preston

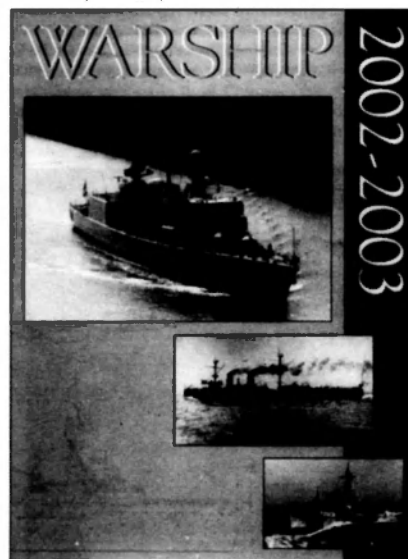
Published by Conway Maritime Press,

64 Brewery Road, London N7 9NY, England

Recommended price (UK) 30 pounds.

202 pages with more than 180 illustrations

Reviewed by Vic Jeffery



Evolved as a quarterly publication by Conway Maritime Press and the nearby National Maritime Museum in Greenwich, England to make better use of the superb Conway Picture library coupled with the resources of the Museum.

Devoted primarily to the post-sail era, *Warship* continued until 1979 as a quarterly publication before the decision was made to convert it into a hard cover annual of which *Warship 2002-2003* is the 25th volume.

Warship has, and continues to attain a very high level of editorial content with a variety of quality contributors and as in past volumes, is lavishly illustrated with high standard black and white photographs.

Supported by an in-depth Editorial, *Warship 2002-2003* follows a proven format of feature articles and a review section, which comprises Warship Notes, Reviews, and Navies in Review 2002-2003.

Some of the articles included in the current edition are: 'The Riddle of the Shells: The Approach to War, 1882-1914' by Iain McCallum, 'The Aircraft Transport *Commandante Teste*' by John Jordan, 'The Battle-class destroyers' by George Moore, 'German Motor Minesweepers at War, 1939-1945' by Pierre Hervieux, 'Defeat in the Atlantic?': Anti-submarine warfare 1917-1919' by D.K. Brown, and 'Armstrongs and the Italian Navy' by Peter Brook.

My one disappointment with this volume of *Warship* is that the feature article 'The Riddle of the Shells' which has caused endless controversy since the *Battle* of Jutland in 1916 is only Part One! This part traces the Royal Navy's dissatisfaction with the 10-hour bombardment of Alexandria in 1882 and its subsequent hunt for effective fuzing for its heavy shells. Appetite whetted, one sadly now has to wait for Parts Two and Three which will appear in the next two eagerly awaited editions of *Warship*.

George Moore's article 'The Battle Class Destroyers' is an analytical look at the evolution and circumstances of the construction of these controversial fleet destroyers which naturally includes Australia's Anzac and Tobruk.

Pierre Hervieux provides an interesting insight into the World War Two German 'raumbotte' (or R-boats). These active motor minesweepers played a major part in the fighting in coastal waters.

'Warship Notes' as always, is somewhat of a wealth of information and a wonderful source of debate. Included in this edition is the campaign to save Britain's last Victorian gunboat HMS GANNET and the BISMARCK controversy. The traditional British accounts of the battleship's demise being brought about by gunfire and torpedoes, is challenged by American investigators in favour of scuttling charges.

Another interesting two-and-a-half page entry in this section is 'Soviet Submarine Programmes 1945-90' by Antony Preston covering the Red Navy's submarine fleet during the Cold War with 104 projects listed.

'Naval books of the Year' lists 12 in-depth reviews of new titles in this latest edition leading with an interesting title, 'Stalin's Ocean-Going Fleet,' covering Soviet naval strategy and shipbuilding programs between 1935-1953 by Jurgen Rohwer and Mikhail S. Monokov.

Warship 2002-2003 concludes with its traditional 14-page 'World Navies In Review' section by editor Antony Preston. He looks at recent naval developments around the world covering Western Europe, The Americas, Russia, Middle East and Indian Ocean, Asia-Pacific Region (including Australia) and African Navies, with a total of some 45 countries.

Traditionally, *Warship* is a superb treasure trove for anyone with an interest in naval history. This edition is no exception. Entertaining, and highly recommended reading.

Sea Harrier Over The Falklands

By Commander 'Sharkey' Ward DSC, AFC, RN

Re-printed and published by Cassell Military Paperbacks

Price \$20.00 approx

Reviewed by Ian Johnson



From bringing the Sea Harrier into service with the Royal Navy to over sixty combat missions in the South Atlantic, 'Sharkey' Ward goes into detail about the effects of bad decisions on operational units due to ignorance of the Sea Harrier's capabilities by Flag Officers, and how inter-service rivalry with the RAF limited the RN's Fleet Air Arm's effectiveness to nearly nothing at the very time it was needed

the most. He shows the successful use of the Fleet Air Arm in protecting the Task Force, and destroys the myth of the use of land-based aircraft protecting a naval task force in the middle of the ocean.

This book should be mandatory reading by anyone interested in how not to go to war.

'Sharkey' Ward doesn't mince words in *Sea Harrier Over the Falklands*. He freely admits that he had to fight the Flag Staff on HMS Hermes as much as he did the Argentinean Air Force, even to the point when orders from Hermes would have put both the Task Force, and his pilots in 801 Squadron in extreme danger of losing the war. He puts the Vulcan bombing missions into perspective, as well as the failure of the Royal Navy's public affairs office to tell the British public about what the Task Force was doing down in the South Atlantic Ocean.

Many of 'Sharkey' Ward's comments could well describe the armed forces of any country, including Australia. Yet he knew he was fighting a losing battle with both the Flag Staff and the MOD bureaucracy and frustrated with the lack of opportunity provided by the Fleet Air Arm and the RN he left the service, a great loss to the Royal Navy.

Sea Harrier Over the Falklands is a thought provoking read and a realistic insight into the Falklands War without the victory propaganda. Thoroughly Recommended.

The Face of Naval Battle

The Human Experience of Modern Warfare at Sea

Edited by John Reeve and David Stevens

Allen & Unwin 2003

Soft Cover, 363 pp Illustrated

Reviewed by Paul D. Johnston

The first thing that strikes the reader about this particular book is the wide range of experience and expertise of those who have contributed to its writing. The editors have chosen

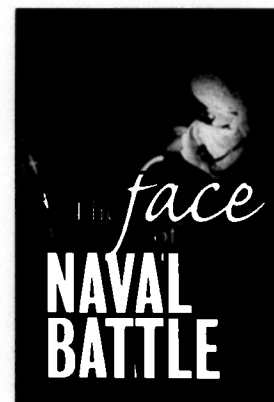
well when constructing this book as to whom to use and where to place these in-depth and often profound descriptions of naval actions, command, control and the various challenges faced by those who answer the call of the sea and the service of their nation.

The combined writers have successfully striped away the ageless propaganda so often mistaken as truth in historical recounts proving material in a refreshing perspective. In doing so the blinkers of race, ethnicity, religion are ignored and do not obscure the vividly revealed challenges faced by friend, foe or ally alike. Broached are the International and domestic challenges and pressures of the various eras faced by politicians, ordinary people and military leaders either in times of peace and also in times of conflict which have ultimately served to shape so much of international history.

The writer's ability to avoid jingoistic rhetoric and attitudes of assumed superiority work towards assuring that a broad scope of fact has been examined. The German, Russian, Chinese and Japanese Navies and their subsequent highs and lows are also explored without animosity recognising their technical, leadership and military contributions towards modern naval warfare.

Whether it be from a periscope, a stifling and confined engine room, from the air or a ships bridge the perspective derived in the heat of battle is examined and discussed providing an evoking perspective of events, attitudes, fears and folly as observed and felt by sailors of all ranks and nations. As one contributor points out it is difficult to recreate a sea battle, to make a scale model or walk over a naval battlefield to appreciate what has occurred and to etch it successfully into the collective memory.

A large contributor to the success of this book has been that it is an easy read while still encompassing depth of detail and providing a broad and informed series of arguments. Extending from times before Nelson until now the span of analysis is excellent whilst not condemning the book to being a boring history nor a sensational novel. *The Face of Naval Battle - The Human Experience at Sea* comes as highly recommended not only for the historian and tactician but also for those whom enjoy healthy stimulus and a smooth style of prose.



STATEMENT of POLICY

Navy League of Australia

The strategic background to Australia's security has changed in recent decades and in some respects become more uncertain. The League believes it is essential that Australia develops 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 ASFAN countries, PNG and the Island States of the South Pacific.
- Advocates a defence capability which is knowledge-based with a prime consideration given to intelligence, surveillance and reconnaissance.
- Advocates the acquisition of the most modern armaments and sensors to ensure that the ADF maintains some technological advantages over forces in our general area.
- Believes there must be a significant deterrent element in the Australian Defence Force (ADF) capable of powerful retaliation at considerable distances from Australia.
- Believes the ADF must have the capability to protect essential shipping at considerable distances from Australia, as well as in coastal waters.
- Supports the concept of a strong modern Air Force and highly mobile Army, capable of island and jungle warfare as well as the defence of Northern Australia.
- Supports the development of amphibious forces to ensure the security of our offshore territories and to enable assistance to be provided by sea as well as by air to friendly island states in our area.
- Endorses the transfer of responsibility for the co-ordination of Coastal Surveillance to the defence force and the development of the capability for patrol and surveillance of the ocean areas all around the Australian coast and island territories, including the Southern Ocean.
- Advocates measures to foster a build-up of Australian-owned shipping to ensure the carriage of essential cargoes in war.
- Advocates the development of a defence industry supported by strong research and design organisations capable of constructing all needed types of warships and support vessels and of providing systems and sensor integration with through-life support.

As to the RAN, the League:

- Supports the concept of a Navy capable of effective action off both East and West coasts simultaneously and advocates a gradual build up of the Fleet to

ensure that, in conjunction with the RAAF, this can be achieved against any force which could be deployed in our general area.

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

The League:

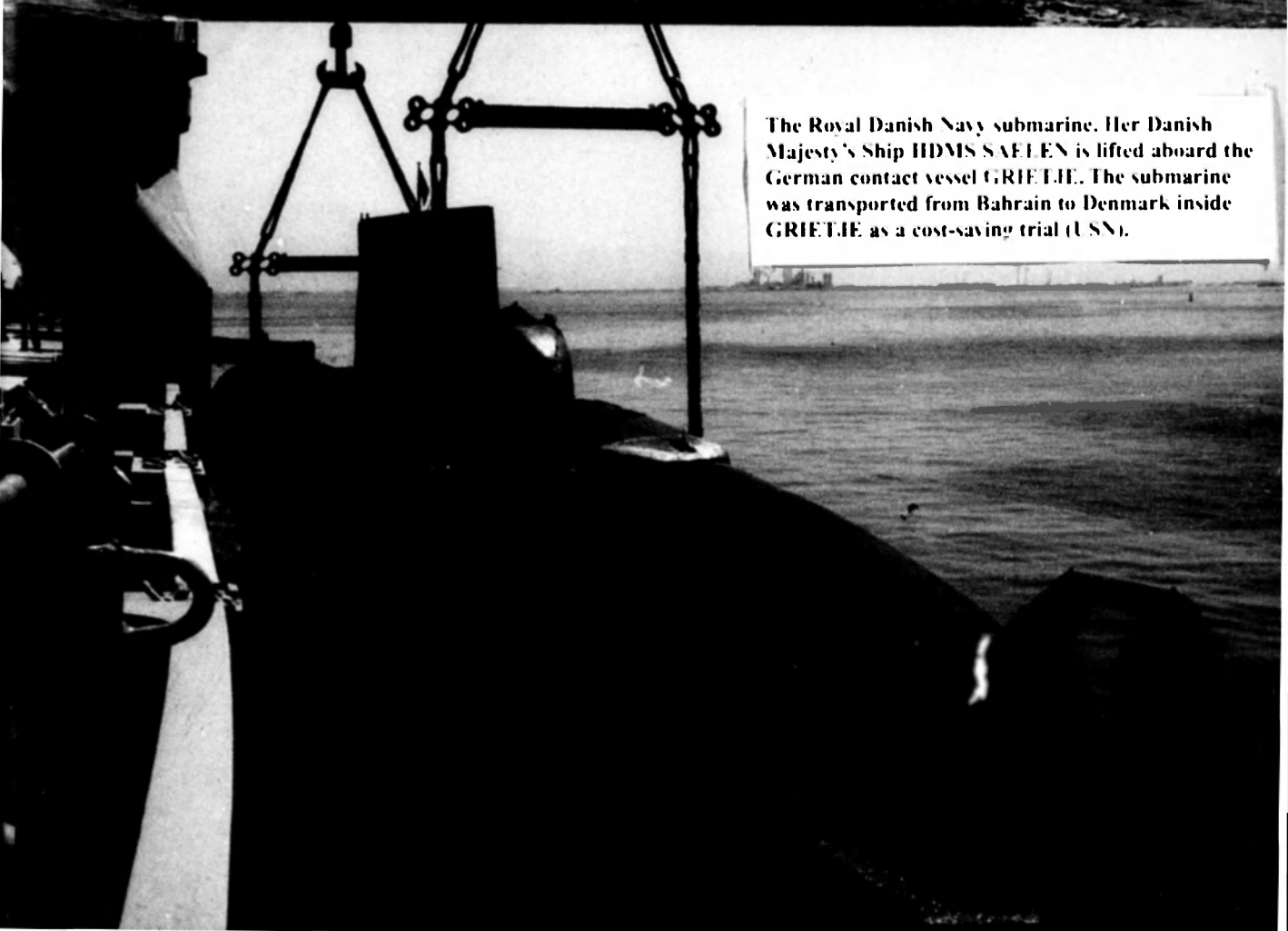
Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in our national defence capability including the required industrial infrastructure.

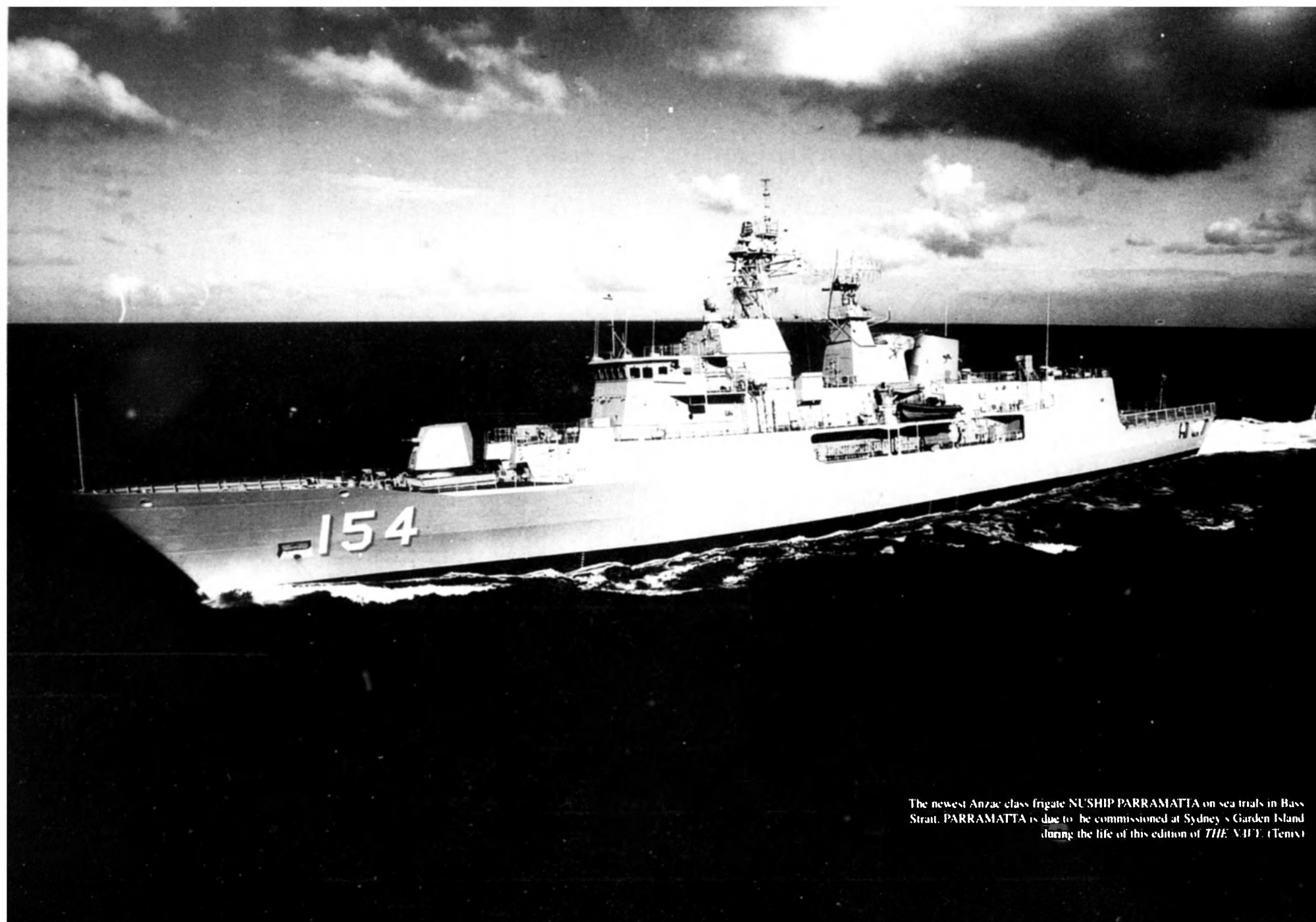
While recognising current economic problems and budgetary constraints, believes that, given leadership by successive governments, Australia can defend itself in the longer term within acceptable financial, economic and manpower parameters.

The Japanese Maritime Self Defence Force Asagiri class destroyer SAWAGIRI leaving Melbourne after a port visit. SAWAGIRI was also accompanied by the Hatsuyuki class destroyer HAMAYUKI. (Kevin Dunn, Fleetline)



The Royal Danish Navy submarine, Her Danish Majesty's Ship HDMS SÆLEN is lifted aboard the German contact vessel GRIETJE. The submarine was transported from Bahrain to Denmark inside GRIETJE as a cost-saving trial (USN).





The newest Anzac class frigate NUSHIP PARRAMATTA on sea trials in Bass Strait. PARRAMATTA is due to be commissioned at Sydney's Garden Island during the life of this edition of *THE NAVY*. (Tenix)

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