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RESTORING NAVAL AIRPOWER

In the history of Australia's armed forces no subject has been argued for so long and generated as much heat as the need for Australia to have a carrier-based air capability.

The subject was first raised during World War II when the importance of the aircraft carrier in maritime warfare had been demonstrated time after time and appreciated by Australian defence authorities as much as anyone. It was not, however, until 1947 that the Chifley Government approved a naval aviation plan which included the acquisition of a carrier, as part of the Government's post-war defence policy. In the end of 1948 HMAS SYDNEY, formerly HMS TERRIBLE, was commissioned and the naval air branch was in business.

In the early stages of running the naval aircraft armoury, the question of manning the naval aircraft arose. During the war several RAN ships carried Walrus amphibious aircraft. Town and maintained by RAAF personnel with the assignment of observers and telegraphists, some thought this arrangement should continue in the new Navy, but others disagreed and wanted a self-contained arm structured along the lines of those which had proved so successful in the Royal Navy and the United States Navy. The RAN had its way.

With the development of these facilities, the acquisition of a second carrier - HMAS VENGEANCE on loan in 1952 until relieved by HMAS MELBOURNE in 1955 - and eventually appropriate air support forces, the RAN became a well-balanced and important part of Australia's defence arrangements. Nothing, however, was gained without prolonged and sometimes bitter argument, whether, at home or abroad, about replacing one as they became obsolete or anything else that enabled the Fleet Air Arm and the RAN to remain efficient and effective.

Some argument was based on cost, some on the alleged vulnerability of surface ships to air attack and by no means least, a belief that the Air Force could cope with all the requirements of the armed forces whether it be over the land or over the sea.

If equipment modernisation proposals generated warmth, the bombing of the boat that accompanied debate over replacement of the last of the carriers, MELBOURNE, a debate that eventually spread to the Parliament and into the community. At weeks of procrastination, including a short period in 1982 when a replacement carrier was actually on order, the end of a "siren" decision - which would in all probability have favoured the Navy's case - the Hawke Government immediately ordered disbandment of the Fleet Air Arm and made clear the RAN would not have a carrier.

It would be foolish to think five years later the Government regarded as no lesser decision. On the other hand, with the recent experience of Fiji and Vietnam and other similar incidents in our sphere of interest, the more thoughtful members of the Government and the Defence Department must have realised that an air capable naval vessel with the capacity to contain air arm structured along the lines of those which had proved so successful in the Royal Navy and the United States Navy, was commissioned and the naval air branch was in business.

No matter what was gained without prolonged and sometimes bitter argument, whether, at home or abroad, about replacing one as they became obsolete or anything else that enabled the Fleet Air Arm and the RAN to remain efficient and effective.

Some argument was based on cost, some on the alleged vulnerability of surface ships to air attack and by no means least, a belief that the Air Force could cope with all the requirements of the armed forces whether it be over the land or over the sea.

Several earlier discussions were the result of this decision - which would in all probability have favoured the Navy's case - the Hawke Government immediately ordered disbandment of the Fleet Air Arm and made clear the RAN would not have a carrier.
An historic, inspiring and unique part of our Australian heritage is at risk and needs support. The armed forces, ships, aviation — all have loomed large in the history of our island continent. All three are represented in Naval Aviation.

To operate aircraft from a tiny platform in the midst of a distant, often storm-tossed ocean, demands the highest skills in the aviation world. Indeed, when the RAN's aviation capability, now more than 70 years old, reached its full maturity with fixed wing aircraft carriers at the time of the Korean War, Australia was one of only six nations that could boast such a force.

Naval Aviation was and is powerful, spectacular, dangerous and an inspiration. Since the time during World War I when aircraft were first flown off platforms on the gun turrets of cruisers, the Fleet Air Arm, as it was later to become known, has epitomised the best in Australian know-how, initiative, teamwork and courage.

The Air Arm's highly skilled aircrew and shipboard personnel have been an inspiration to all who have observed them in action. Who could fail to be moved by the awesome sight of a carrier's flight deck crew operating at night in foul weather on a heaving, wet, rainy deck surrounded by moving aircraft, swirling steam, the roar of jet engines, the thump of the steam catapult and the scream of arresting wires?

Naval Aviation continues, but the memories of the early years — a unique chapter in this country's history — are fast disappearing. Fortunately however, the opportunity exists to save a significant reminder for posterity. We have that opportunity because examples of almost every type of aircraft flown by the Fleet Air Arm since 1948 have been saved from extinction.

A small but determined band of volunteers — both serving and former personnel, together with a handful of supporters — have begged, borrowed and donated their resources to preserve and restore not only one of the finest collections of historical naval aircraft in the world, but also equipment, photos, documents and other mementoes that record the history of the Fleet Air Arm.

Some of the many aircraft have been painstakingly rebuilt to flying condition, and now appear at air displays, giving the public around Australia the chance to view and appreciate them.

The whole collection, as assembled as "The Australian Naval Aviation Museum" is accommodated adjacent to the Naval Air Station HMAS ALBATROSS at Nowra, on the New South Wales South Coast.

It is a tribute to the imagination of those who have established the museum that it has become a major tourist attraction, drawing more than 70,000 visitors a year. Further, the significance of the collection had begun to win overseas recognition — highlighted by the recent invitation to establish an exchange relationship with the august Smithsonian Institute in Washington DC.

We owe the existence of the Australian Naval Aviation Museum to the extraordinary dedication of individuals who have contributed generously of their time and resources. These resources are, however, not unlimited, and there is an urgent need for support from the community as a whole.
This includes:

- Ship repair and modernisation services
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The museum's collection of smaller items and documents is at present housed in converted prefabricated huts. Some of the aircraft are temporarily accommodated in space hanger space, but others, including some of the rarest and most valuable aircraft, are standing in the open, exposed to all weathers. Unless action to protect them is taken soon much of the good work of recent years will be undone and the aircraft will be lost to posterity.

In the light of that danger and of the need for an appropriate setting for the collection, the Museum Foundation has formed a Capital Campaign Committee, led by major retired Naval officers and a number of Australian business leaders — its target, a capital sum of $2 million to build a permanent home for the museum at North Sydney. This sum will provide new hangars and a museum complex, with display, landscaping and ancillary facilities appropriate to the collection of this value and significance. The complex will further establish the Museum as an institution of national importance and enable it to expand its collection. Its stature as a visitor attraction will be enhanced, bringing interest and pleasure to future generations. In years to come naval Aviation will seem as distant and intriguing as the exploits of earlier pioneers and adventurers appear to us today. Plans for the Museum have been drawn up, and the work is ready to begin.

A nation-wide Capital Campaign Committee has been formed under the chairmanship of Rear Admiral Andrew Robertson, who has sub-committees in each State under the leadership of high profile business leaders, which plans to raise $7 million over three years.

It is anticipated that the first $1 million will be raised within the first year. Approaches already have been made to major companies and corporations and the response is excellent and most encouraging.

The official launch of the project is planned for September during a naval reunion at HMAS ALBATROSS.

The local community will be invited to make tax-deductible contributions as well as being given an opportunity to take up an offer of foundation membership at $125 a year.

The fully developed site will include outdoor facilities for family barbecues and a viewing area for the museum's Historic Flight. The major attraction will be the exhibits displayed on the 7500 square metres of ground floor space.

These will include 17 fully restored aircraft ranging in variety from a replica of a Spitfire to a Wessex helicopter and a Douglas Dakota C47 which will create an atmosphere of power from a bygone era.

Museum Curator Lt Cmdr Bob "Windy" Geale said the conversion of the new complex will allow the display of every item so far collected.

"At the moment only about 20 per cent can be seen by the 30,000,000 people who visit in each year," he said.

"There are six caches of memorabilia scattered around the base and we have no room to permanently house them.

"The new hangar will give us all the room we need as well as allowing space on the second floor for a library and elevated viewing platform which will overlook the 17 aircraft."

When completed the pride of the flight will be a Hawker Sea Fury, which in its day was the fastest production piston engine aircraft ever built.

Lt Cmdr Geale said the project would have got off the ground several years ago if an application for a grant from the Steel Industries Assistance scheme was successful.

"Despite all our efforts and the significant support given to us by Shoalhaven City Council, we failed to convince them of our need. Meanwhile our secondhand accommodation is getting older and our aircraft and large static displays are being ravaged by the elements.

"The enthusiastic band of unpaid volunteers is determined to raise the necessary funds and does not see it as a pipe dream. Complementing the museum is the much higher profile group of professional flyers who formed the Royal Australian Navy's Historic Flight which demonstrates living, breathing history accompanied by the roar of piston driven engines.

The flight now boasts seven aircraft in airworthy condition, a tribute to the 40 or so men who give up their leisure time to maintain them and get them in the air for open days and any special events.

They are led by Lt Cmdr Ken Alderman who has the responsibility of test flying each aircraft after it is cleared by the Department of Aviation.

Restoration, funded by the museum and private donations, is carried out in a hangar near the airfield. The hangar, to the uninitiated looks as if it contains a collection of scrap metal, some of which remotely resembles bits and pieces of aircraft.

Their tender loving care has breathed life into a Fairey Firefly, Westland Scout, Dakota, Grumman Tracker, Tiger Moth, a Harvard and a Sea Fury as well as bringing the occasional tear to the eyes of pilots of bygone eras who travel to HMAS ALBATROSS to see them take to the air.

"The labour component is the highest cost factor in maintaining the flight, and this is provided free by the volunteers, which is just as well because a propeller for the Firefly, for instance, would cost $10,000" Lt Cmdr Alderman said.

"The RAN has approved the formation of the Historic Flight, and provides financial assistance in the form of fuel and oils sufficient to allow 50 hours of flying training time.

"We are attempting to collect an example of every plane
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NAVAL AVIATION MUSEUM
A BRIEF HISTORY

In February, 1974 the Commanding Officer of HMAS ALBATROSS, Captain A. J. Robertson initiated a project to establish the RAN Fleet Air Arm Museum. It was decided to locate the museum in a hangar which at that time was surplus to requirements. Once the site had been selected work progressed rapidly until the museum was ready to be officially opened.

On 2nd December, 1974 the official opening was performed by Admiral Sir Victor Smith KBE, CB, DSO, who had served in the Fleet Air Arm as a Telegram Air Gunnery and Observer. A few months later the museum was opened to the general public. After the NAS Noosa H. Hangar fire in December, 1979 and following acquisition of replacement Tracker aircraft, the Museum Hangar was required as a replacement for the destroyed hangar. Consequently, the Museum aircraft were stored in various other hangars and the static displays were removed to various buildings. As the Museum assets had been dispersed around the Air Station, the decision was made to close the Museum.

This situation remained until late 1981 when work was started on relocating the Museum to a new site. Plans received a significant boost when, in March 1982 members of the 21st Construction Regiment RAE (SR) arrived at NAS Nowra and relocated an empty building to the area known as the 'Dummie Deck'. Two other buildings were added to the initial building, allowing an enthusiastic band of workers to convert the ancient World War II buildings into a Museum.

On 10th August, 1982 the Heritage Trust of the RAN Fleet Air Arm was raised by the Commanding Officer Commodore T. A. Dodwell AM. The Trust aims to preserve the story of Australian Naval Aviation and the RAN Fleet Air Arm and to present the story of the deeds and sacrifices of many Naval Air personnel who have served their sovereign and country both in war and peace.

The Museum was conceived and established by an enthusiastic band of volunteers from the Air Station who have donated much of their spare time and professional skills to restore the aircraft and exhibits. Since 1982 other vintage buildings have been moved to the site to provide further space for displays and storage of memorabilia. Ex-naval aircraft have been placed on static display outside the buildings and provide a real time link with the rich naval aviation history on display inside the buildings.

In July, 1987 the Heritage Trust agreed that a new museum complex was needed to provide the aircraft on display with protection from the elements and provide correct environment for displays of memorabilia. A National Capital Campaign to achieve this objective commenced in August, 1987.
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FLEET AIR ARM, 1948-1988

A Brief History

Australian Naval Aviation in the RAN dates back to World War I when HMAS ALBATROSS, SYDNEY and MELBOURNE were involved in early experiments to launch aircraft from their decks.

In 1924 the decision was made to build a seaplane carrier at Cockatoo Island Dockyard in Sydney. Displacing 6000 tons and able to accommodate nine seaplanes, HMAS ALBATROSS commissioned in 1929. The operational life of HMAS ALBATROSS extended only to 1933. Later she was transferred to the Royal Navy in part payment for the light cruiser HMAS HOBART.

From 1933 to 1935, RAN/RAAF Fleet Aviation was confined to operations of Seagull III seaplanes from the cruisers AUS-

In May 1947 the Government approved the formation of the RAN Fleet Air Arm. The plan called for two light fleet carriers, three carrier air groups, an Air Station at Nowra with a satellite airfield at Jervis Bay. An aircraft maintenance facility and training school was to be established at Schofields, west of Sydney.

HMAS SYDNEY was commissioned in December 1948. Embarked for the return journey to Australia was the 20th Carrier Air Group comprising 805 Squadron with Sea Fury, and 816 Squadron with Fireflies. In 1950 SYDNEY returned to the UK and embarked the 21st Carrier Group comprising 808 and 817 Squadrons. By the end of 1950 the RAN had one carrier and two fully operational air groups.

SYDNEY later deployed to the Korean war zone and operated two Sea Fury Squadrons and one Firefly Squadron. Meanwhile, the second RAN carrier HMAS MELBOURNE was being fitted in the UK to incorporate the new technology of catapult, angled flight deck and mirror landing system. HMAS MELBOURNE arrived in Australian waters in 1956 with two squadrons of Carrier Anti-Submarine aircraft and one squadron of Sea Venoms embarked.

As RAN/RAAF Fleet Aviation was not modified to accept the new generation of aircraft, Has your professional career been unnumbered? However, her career was far from finished, as she was recommissioned in 1962 as a fast troop transport and in that role
gave sterling service during the Vietnam conflict.

Other aviation events of the mid 50s were the acquisition of Vampire trainer and Bristol Sycamore helicopters. The Seagull was followed by the Wessex, ASW helicopters in the 60s. And the decision to acquire S2 Tracker and A4 Skyhawks in 1962, the RAN acquired four S2s and four A4s. By the end of 1961 the RAN had one carrier and two fully operational air groups.

Following the major refit, HMAS MELBOURNE was back at sea in 1969 with her new outfit of S2 and A4 aircraft to which were added S2 Tracker Anti-Submarine Warfare helicopters in 1975. A decision was made in 1983 not to replace HMAS MELBOURNE at the end of her operational life. Following that decision the fixed wing aircraft and Squadrons of the Fleet Air Arm were disbanded leaving Naval Aviation a mainly helicopter force.

Today's Fleet Air Arm comprises light utility helicopters (Squirrel) medium utility helicopters (Wessex) and ASW helicopters (Sea King). With the introduction of the Seas Hawk, the RAN will regain much of the capability lost with the S2 Tracker. The changing face of the Fleet Air Arm has resulted in a major change in the composition and structure of the Fleet. All major surface combatants being introduced into service will feature a flight deck and hangar to enable them to embark the new Sea Hawk.

SEA OTTER

Former RAN/RAAF Fleet Air Arm personnel with the Royal Navy in 1944. Three were purchased for air rescue duties aboard the carrier Sydney during the late 1940s but only two held at any one time. The advent of shipboard helicopters lessened the need for the amphibians and eventually all were withdrawn in the air-sea rescue role. The RAN Sea Otters were deleted in 1953.

WIRRAWAY

Former RARAF personnel transferred to the Fleet Air Arm in the late 1940s and early 1950s. Only one aircraft was lost. A20-141, renamed 904, which crashed at Nowra and was written off.

WIRRRAWAY were superseded in the training role by the Vampire and were all sold to Land Aviation Inc of New York in 1967.
TIGER MOTH
At least three Tigers were used by the RAN. A17 382 acquired on 13th October, 1948. A17 590 struck off from the RAAF on 25th February, 1949. and A17 692 taken on charge on 3rd March, 1954. All three were employed at Nowra and School's being suitable as instructional airframes and for minor flying duties.

SPITFIRE
Employed as land-based trainers and later for fire-fighting practice. Only 14 were eventually delivered with No 691 failing to transfer into the FAA. All ended their careers in the fireground, reportedly bulldozed into the ground.

SEA FURY
The last piston engine fighter bomber to be built in the United Kingdom, (he Hawker Sea Fury was first flown on 21st February, 1945. Orders were placed in 1948 for 101 RAN Fleet Air Arm examples out of a total of 615 manufactured. In Royal Navy service the Sea Fury entered service in August, 1947. During the Korean War, the type was successfully employed aboard the carrier Sydney, as ground attack aircraft and as fighters against MiG-15 jets.

DC-3
Four ex RAAF DC-3 Dakota aircraft were transferred to the RAN on 1st December, 1949 (A65-43), and 11th April, 1950 (A65-23), and on 23rd February, 1968 (A65-90 and A65-123). A65-23 was converted by the Fairey Aviation Co of Australia at Bankstown, NSW, as a flying classroom for Firefly AS6 observer training. This work involved four stations for navigation instruction and four for anti-submarine detection. Other modifications included sonar buoy racks under the wings, and a half door allowing the use of a hand-held camera. A65-43 was subsequently altered along the same lines.

VAMPIRE
Five Vampires for the RAN were delivered in 1954. These were followed by another in 1957. These were followed by another in 1957 (to replace one machine lost in an accident on 7th August, 1956), and four British built in 1959. The initial six were designated T34As, an equivalent of the RAAF T33 and the four British-built Vampires as T22s. Eventually, 13 of the type were flown.

GANNET
In RAN service the Gannet combined its anti-submarine duties with the search role. With a spacious weapons bay, each aircraft could carry two homing torpedos or depth charges. As such the Gannet was the first British-designed and built naval aircraft able to carry all weapons, (except wing mounted rockets) internally. Although Gannets were gradually withdrawn as first line anti-submarine aircraft in the British fleet from 1958, the RAN aircraft continued in service until 1967, despite attempts in 1959 to run down the entire Fleet Air Arm. During 1962-63 further moves were made to withdraw both Sea Venoms and Gannets from Melbourne and use the latter as an anti-submarine carrier, with Westland Wessex helicopters.

SEA VENOM
The Sea Venom was the first all-weather jet fighter in both the RAN and RN. All RAN aircraft were delivered to Australia aboard the carrier Melbourne during her delivery voyage. A total of 206 Sea Venoms of all types were built.

After arrival Sea Venoms equipped VT 805 and VT 808 all-weather fighter squadrons aboard Melbourne and VC 724 in the operational training role from HMAS Albatross. The aircraft remained in front-line service with the RAN until December, 1960, and in the RAN to 1967, when superseded by the US designed Skyhawk.

AUTOCAR
Two Autocars were delivered to Australia from the UK on the carrier Sydney on 7th June, 1953. Both were sold through the Department of Supply in October, 1963.

DC-3
Fairey Gannet aboard HMAS MELBOURNE.

GANNET

VAMPIRE /el trainer, XA-167, November, 1966 (PHOTO - ERIC ALLEN

SPITFIRE

TIGER MOTH

DC-3

SEA FURY

VAMPIRE
WESSEX

Originally produced for the Royal Navy as a replacement for the Whirlwind, the Wessex was developed from the Sikorsky S-58. As such it was the first helicopter ordered by the Royal Navy for the anti-submarine role. Deliveries to the RN commenced in 1960.

The first flight of RAN Wessex took place on 23rd November. 1962, with the first handover to Squadron HT 725 three days later. The remainder were delivered at the rate of three per month. By August 1963, HT 725 boasted nine Wessex and with ten examples in HS 817 Squadron. During the same month the first Wessex was embarked aboard the flagship Melbourne. During May, 1967, four Wessex were detached to the fast troop transport Sydney for her voyage to South Vietnam. In 1968 conversions of the Wessex 31A to 31B variant commenced with two helicopters being modified in the United Kingdom to incorporate an increased load-carrying capacity, improved sensor systems, communications and navigational aids and a more powerful engine. Twenty-one other Wessex were subsequently converted by Hawker de Havilland, Australia, the first flying in June. 1968. A few still remain in use. Wessex N7-217 is preserved as a static display at the Naval Aviation Museum.

IROQUOIS

Replacements for the Fairey Gannets, 34 Grumman Trackers were delivered to Australia by the carrier Melbourne in 1967.

Of the 52 Trackers held by the RAN since 1967, one was an S-2A model used as an instructional airframe. 15 others were S-2E models, nine of which were destroyed by the fire in “H” hangar at HMAS Albatross on 4th December 1979. A tenth, S-2A model used as an instructional airframe, was subsequently written off.

In March 1977, 16 S-2G models were purchased second-hand from the USN storage facility at Davis Monthan Air Force Base.

Only one Tracker, an S-2E, (A7-073) was lost at sea. All other Trackers were subsequently delivered to the RAN by carrier Melbourne in 1967.

SKYHAWK

The RAN ordered eight A-4G and two TA-4F model Skyhawks which were handed over in the USA on 26th July 1967. These aircraft were the first Skyhawks built for export. A second purchase was subsequently made in November 1971, comprising eight A-4Fs and two TA-4Fs, bringing the total strength to 16 A-4 single-seat and four TA-4 dual-seat aircraft. AEF models were modified to A-4F configuration.

Prior to the decommissioning of Melbourne on 30th June 1982, all Skyhawks had been withdrawn from carrier service and transferred to Nowra. The Federal Government announced on 3rd May 1983, that six of the remaining ten Skyhawks would be withdrawn by 30th June 1983, and four retained for target towing until 30th June 1984. All were subsequently sold to the Royal New Zealand Air Force on 29th June for $28.2 million. The 10 aircraft comprised eight A-4Gs and two TA-4Gs.

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MACCHI

Ten late production Macchi aircraft were allotted to the RAN, forming VC-724 training squadron. Two RAN Macchi were lost - A7-073 at Nowra on 28th December 1972, and A7-078 at Sussex Inlet on 28th April 1973.

The last three UH-1Bs were officially retired on 2nd September 1987, but were returned to service in 1988.

KIOWA

Four 206B-1 was delivered to the Fleet Air Arm between 1973 and 1976, but No 025 was lost on 28th July 1977. As a replacement one Army helicopter A17-005 was transferred to the RAN. This Kiowa was returned to Army Aviation in 1984.

HS-748

The two Fleet Air Arm aircraft, ordered as replacements for the Dakotas, were initially used as navigational trainers flying with VC-851 Squadron.

In 1977, the first RAN HS-748 was flown to the USA to be fitted with electronic warfare training equipment. The second aircraft followed shortly after. Both were delivered to the RAN by 1981. On 30th June, 1994, the two aircraft were to be transferred to the RAAF. However, both remain AFV operated.
AUSTRALIA'S DEFENCE IS MOVING WEST.

Announcing an outstanding opportunity for defence related industries.

The Western Australian Government is to establish a Defence Technology Precinct on 25 hectares of land at the Henderson Estate adjacent to the Marine Support Facility now under construction at Cockburn Sound, 30 km south of Perth.

Commercial ventures can obtain freehold land in the new defence precinct to establish a service and manufacturing base for the rapidly expanding armed forces presence in Western Australia.

Construction of the Centre Building is scheduled for completion in October, 1989. This building will house the central services for the precinct and R&D facilities.

Over the next 10 years, some $330 million will be spent on capital works and equipment at the naval base. Within 20 years it is projected that defence and infrastructure work in Western Australia will gross $3 billion and employ 3,000 people.

Proposed services, for which expressions of interest are invited, include transfer standard calibration, environmental testing and trials.

SQUIRREL

Six Squirrel helicopters were authorised in 1982 for service with HC 723. The first helicopter flew to NAS Nowra in May, 1984, with all operational by mid year.

As well as utility work, the Squirrel is flown from HMAS Morroby to assist in the survey role from 1987 and from the FFGs until arrival of the Seahawk in the late 1980s. Each Squirrel can carry two passengers in addition to the pilot and navigator.

SEAHAWK

Eight Seahawks were ordered in October, 1984, and another eight in May, 1986. Cost of first order was $317 million (1984). One Seahawk will be attached to each RAN FFG, with the capability for two helicopters in wartime. Deliveries are scheduled from mid 1988. The helicopters will become operational about May, 1989, and are expected to remain in service for some 25 years.

The Seahawk was developed from the US Army's Black Hawk for use aboard the US Navy's FFGs as the SH-60. The 16 RAN S-70B-2 versions will carry a different avionics fit than the US helicopters.
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*Opening 1988

NAVAL BICENTENNIAL SALUTE

The greatest peacetime gathering of warships ever seen in Australian waters will take place in the Bicentennial Naval Salute on Sydney Harbour from September 26th to October 4th.

Announcing this, the Minister for Defence, Mr Kim Beazley, said: “The highlight of the Bicentennial Naval Salute will be a review of the ships by the Duke of York on October 1 followed by a spectacular fireworks display.

“Replies to invitations by the Australian Government indicate that at least 32 warships will join 15 Australian ships for the event creating the most exciting Naval presence ever seen in Sydney.” Mr Beazley added.

France, Greece, Italy, Japan, Malaysia, the Netherlands, New Zealand, Pakistan, Papua New Guinea, the United Kingdom and the United States have confirmed that they will take part.

India plans to be represented, a small contingent of naval personnel will represent Nigeria and six other countries have still to indicate whether they can join the celebrations.

As well as being a major activity of the Bicentennial, the Salute is being organised by the RAN to commemorate Australia’s naval history and reinforce international bonds.

The Navy has prepared a comprehensive programme of social, sporting and ceremonial events including a public band concert and recitals, an international march, a hospitality programme and public inspection of the ships.

While the celebrations will not be confined to Sydney, it will be the focus. Many of the ships will call at other ports before and after the Sydney visit and State and local Bicentennial Committees in conjunction with local Naval Authorities will develop programmes for these visits.” Mr Beazley said.

“The Bicentennial Naval Salute will offer a golden opportunity for Australians to meet and give international visitors a traditional Australian welcome,” Mr Beazley concluded.

EXPECTED NAVAL SALUTE VISITORS TO DATE

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July/September, 1988
ICL's Networked Product Line - from personal workstations to mainframes - interworks and interconnects using the OSI Open Systems networking standard. ICL's open mindedness is backed by decades of market strength and product research specialising in Retail, Public Services, Manufacturing and Defence.

In Defence, ICL's battle tested command and control systems are in operation with the UK and NATO armed forces.
The first of the Royal Australian Navy's new S-70B-2 Seahawk helicopters is expected to be accepted about September or October of this year, with the first machine going into service at the Navy's Naval Air Station at Nowra on the NSW South Coast early in 1989.

The Australian Defence Forces, to date, have ordered 39 Black Hawks and 16 Seahawks with total project costs, if we roughly translate 1985 and 1986 prices to current dollar values, including past $1 billion.

The RAN Helicopter Project Director is Captain Vic Battese, who also acted as the RAN's resident project manager in the US, before becoming overall Project Director. With the project now launched up to make deliveries later this year, Captain Battese has again been living in the US, where, as Group Captain Williamson, he has been involved in one of the regular programme management reviews. Commander Paul Fothergill is the Deputy Director of the submarine warfare targeting surveillance Seahawk Submarine operations from the six FFG frigates, the last two of which are being built at Williamstown Dockyard, Vic.

The first contract for eight S-70B-2 Seahawks was signed on July 30, 1985, with a project cost of $US150m. The deal included an option to buy additional aircraft. This was taken up in May, 1986, under a new contract worth $US520m. Given currency changes and other costs due to the different rate, the project today is probably worth $600m or so in Australian dollars. The overall project costs include an allowance of around $50m to cover programme costs, if we roughly translate 1985 and 1986 dollars, with 1985 costs probably about $450m, $50m above the project cost. This was taken up in May, 1986.

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**WESTERN SAMOA PATROL BOAT**

Western Samoa received a new Australian-designed and built Pacific Patrol boat from the Chief of Naval Staff, Vice-Admiral Michael Hudson, at an official hand-over ceremony near Fremanet, Western Australia on March 19th.

The $3 million MV Nafanua was presented to the Secretary to Government Western Samoa, Mr Manusia Iulai during a ceremony at the Australian Shipbuilding Industries (ASI) shipyard where up to 12 of the new patrol boats are being built under the largest Defence Co-operation project ever undertaken by Australia.

The MV Nafanua brings to four the number of Pacific Patrol Boats presented to Pacific countries to assist them in policing their vital 200 nautical miles Exclusive Economic Zones (EEZs).

Announcing the hand-over, the Minister for Defence, Mr Kim Beazley, said he was particularly pleased by the way the boats had been received and by the way they were being put into service. "As more boats are brought into service by regional countries, opportunities will be taken by the Royal Australian Navy to exercise with the Pacific Patrol Boats."

The first boat, HMPNGS Tarangau, was presented to Papua New Guinea in May last year. A second boat, RVS Tikopia, was handed over to Vanuatu one month later and Papua New Guinea received its second patrol boat, HMPNGS Duper, the following October. Two more patrol boats will be presented to the Solomon Islands and Papua New Guinea later this year.

The Pacific Patrol Boat is 31.5 metres long, displaces 450 tonnes and has an operating range of some 2,500 nautical miles.

The boats already handed over are now patrolling their respective waters along with the Pacific Patrol Boats in the Cook Islands and which were built under the largest defence co-operation project ever undertaken by Australia.

Sixteen Sea Hawks will form the new 816 Squadron in 1989. Squadron 723, with 19 aircraft and 250 personnel, is at its greatest strength, but the rest of the Navy has only seven other aircraft in service.

The Squadron also operates Squirrel, Wessex and Bell Kiowa helicopters and two Hauker Sidney 746 fixed wing aircraft which perform a variety of functions from electronic warfare to fleet support.

The Sea Hawks were taken out of service in September when the Defence Department ruled they were no longer acceptable to both the Australian and New Zealand Governments. Mr Beazley said the purpose of the Pacific Patrol Boat project was a major component of Australia's co-operation with South Pacific countries to improve surveillance of territorial and regional waters. The project complemented RAN ship visits, RAAF P3 Orion flights and other related activities under the Defence Co-operation Programme.

"The excellent progress of the patrol boat project puts us closer to the realisation of our objective to assist regional surveillance and operation and to establish a network of regional maritime surveillance based on co-operation and compatible national efforts," Mr Beazley said.

"From the government has budgeted $16 million for defence co-operation in the South-West Pacific."

**IROQUOIS RETURN TO SHOALHAVEN SKIES**

Three Iroquois helicopters were taken out of mothballs recently and reassigned regular air force work at HMAS Albatross.

The 24-year-old aircraft will form part of 723 Squadron at the Naval Air Station to be used for pilot training, search and rescue and VIP transportation.

The Iroquois is the fifth type of aircraft to be handed over as part of the Defence Co-operation Programme, the other four being the Squirrel, Wessex and Bell Kiowa helicopters and two Hauker Sidney 746 fixed wing aircraft which perform a variety of functions from electronic warfare to fleet support.

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**SUBMARINE ESCAPE AT HMAS STIRLING**

The Navy's new $17.5 million submarine escape training facility at HMAS Stirling, south of Perth, Western Australia.

"This project reflects our determination to maintain and enhance the RAN's place among the world's foremost submarine operators," Mr Beazley said.

"As more boats are brought into service by regional countries, opportunities will be taken by the Royal Australian Navy to exercise with the Pacific Patrol Boats."
Our business is shipping
but we're not all at sea.

Today, shipping means more than ships. That may sound surprising coming from ANL, Australia’s national flag carrier, operating one of our largest fleets of container ships and bulk carriers.

However, we recognised some time ago that our customers require a lot more than ships. They need a total cargo handling service. One that can move goods to, from, and around Australia.

Not just wharf-to-wharf, but door-to-door. Efficiently and competitively.

Our response?
An intermodal transport system, coordinating sea, road and rail. A new concept requiring a considerable organisation on land like systems, equipment and people, just as dedicated as the ANL staff at sea.

That’s why almost half our people never go to sea. And that’s important, because without them, none of our ships would ever go to sea either.

We have people in customer service, finance, administration, marketing and sales. We have people who organise terminals, stevedoring, and work in industrial relations.

We have people skilled in computers and communications, to give you up-to-date information on your cargo’s progress. So, you see, you’re not just about ships. If we were, we wouldn’t be able to offer you a total shipping service.

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NAVAL POLICE — 75 Years Strong

by PETER MANGAN

BACKGROUND

The transfer of the Royal Navy Stores Depots at Garden Island, Spectacle Island and Darling Island to the Royal Australian Navy on the 1st July, 1913, brought about the formation of a special police force to take over the security functions of the Royal Marines. This force was originally titled the NAVAL DOCKYARD POLICE and survives 75 years later as the NAVAL POLICE.

Throughout its 75 years of service to the Royal Australian Navy, the Naval Dockyard Police and subsequently the Naval Police, have had a proud and unique history and still performs tasks that can be traced, unbroken, to the very beginning of European settlement of Australia in 1788 when Governor Arthur Phillip formed the Row Boat Guard.

The Row Boat Guard carried out a policing role and was made up of men who were formerly members of the Royal Navy. The Row Boats were located at Watson’s Bay, Goat Island, Garden Island, Cockatoo Island and were established to patrol the harbour and shores of Sydney Cove, and for the detection and prevention of smuggling and to prevent the passing of letters between convicts and the crews of ships laying at anchor and the prevention of convicts escaping the colony. These were the first Naval Police.

In 1840 the Row Boat Guard was replaced by the New South Wales Water Police which had been created by an Act of Parliament and was under the supervision of a Water Police Magistrate. With the amalgamation of the other police forces, the Water Police became part of the New South Wales Police Force in 1862 but continued to patrol Sydney Harbour and main areas such as Garden Island, Spectacle Island and Darling Island.

With the arrival of the Royal Marines Light Infantry in 1867, the security and police functions of the Water Police were taken over at the various Royal Navy Establishments. The Royal Marines continued in this role until relieved by the Naval Dockyard Police when Garden Island, Darling Island, Spectacle Island and Cockatoo Island were handed over to the Royal Australian Navy on the 1st July, 1913.

FORMATION OF THE NAVAL DOCKYARD POLICE

The concept of a special police force in the employ of the Royal Australian Navy was first developed in 1911 when preparations were being made for the historic 1911 Imperial Conference. In a letter outlining matters likely to be discussed by the Minister for Defence at the conference, Paymaster H.W.E. Manisty, Secretary to the Commonwealth Naval Forces, wrote:

‘Among the subjects which will probably come before Senator Pearce for discussion while in England will be the policing arrangements.

‘Generally the policing arrangements of all three establishments are carried out by Imperial Marines, and it is not proposed to have Royal Marines in the Commonwealth Forces and it will be necessary probably to have a Special Police Force to carry out this duty. The Force could be

(Photograph - H.M.A.F. Historical Collection)
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AWS is totally committed to becoming the prime contractor for the ANZAC Frigate project and AWS is totally committed to delivering the twelve ANZAC “M” Class ships on time.

We are committed to providing value for money through innovative, cost effective approaches towards the two navies’ requirements.

Our commitment also covers maximum industry involvement, technology transfer, skills development and job creation on both sides of the Tasman.

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effective resolution was found until the Naval Dockyard Police were appointed to the then_Flemish Naval Depot, in 1921. Before its commissioning on the 1st April, 1921, over 800 men had been employed at the Base and the Victoria Police established a permanent Police Station there. When the Victoria Police were removed by Naval Dockyard Police, an arrangement was entered into between the Naval Board and the Chief Commissioner whereby three members of the NDP all became supernumerary members of the Victoria Police.

The Commodore in Charge, Sydney, believed the Victoria Government's initiative would resolve his problems and made application to the Commissioner of the NSW Police Department to have all members in Sydney, made Special Constables of the NSW Police. On the 2nd November, 1921, all members in the Sydney area were sworn in and issued their Warrant Card as members of the State Police.

In 1923, Mr A. Nicholson, the new Chief Commissioner, was not willing to maintain the three NDP members at a cost of superannuation and on the 30th June, 1923, they were discharged from the Victoria Police. It probably had a lot to do with the fact that the Victoria Government had been required to pay the wages of the three Naval Dockyard Police.

Because of the breakdown in this arrangement, Commander C. Spurgeon, Head of Navy Branch, was directed by the Naval Board to investigate an alternative. His proposal was to enter the Force into the Permanent Naval Dockyard Police (Auxiliary Services) which would not only establish the Force on a permanent footing with all the advantages of a Navy-controlled condition of service, but would also give them authority under the Naval Discipline Act. The proposal was approved by the Naval Board and the Force ceased to exist at a time when the Auxiliary Services were to be abolished. The Navy's initiative was followed by the Naval Dockyard Police's initiative when they entered into a similar arrangement. Commander C Spurgeon, in his capacity as the Force be given its own Statutory Force and the Naval Dockyard Police were appointed to the rank of Special Constable of the NSW Police Department had difficulty in providing the uniform and protection of life and property. Today's Naval community remain the same as they were in 1913. That is, the prevention and detection of crime and the protection of life and property. Today's Naval Police have, however, entered the technological age with the use of computers and electronic surveillance systems to more effectively carry out their responsibilities.

**The Navy**

**July/September, 1988**

Page Thirty

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**LLOYD AEROSPACE (Military Division)**

**LLOYD**

**ON CONTRACT TO THE AUSTRALIAN DEFENSE DEPARTMENT TO PROVIDE:**

- Radar and weapon systems for defeating and destroying MIRV and non-MIRV ICBM target systems
- Surface-to-air and ground-to-air missiles
- Computer weapon system design, development and production
- Targeting for fighter intercept and GCI controller training

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**The first Naval Dockyard Police course after reorganisation in 1949. Photograph features CMDR N. H. Shaw, who became the first Superintendent in July, 1949.**

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**Naval Police**

By the early 1970s the Naval Dockyard Police was being employed in more places and establishments, including a number of commissioned establishments, and the nature of their employment was also changing. To more accurately reflect these expanding roles and functions, the title of Naval Dockyard Police was transferred to Naval Police on the 21st January, 1972. At the same time, a replacement Sub Inspector from the NSW Police was appointed to a less exciting task. The Naval Police was shortened to Naval Police on the 30th September, 1989. As Australia's war effort accelerated, so did the rise in the number of personnel. In 1941 was replaced by another ex NSW Police Inspector, H G G Jutt. Jutt proved a very energetic and capable leader and so effective that the Naval Dockyard Police was continued to be promoted to the newly created rank of Inspector, but he resigned his engagement on the 7th August, 1948. When Superintendent Shaw, OBE, retired in 1950, the rank of Superintendent was replaced by that of Chief Inspector. Promotion to this rank was made from Naval Dockyard Police members, who had served in the ranks of the Naval Dockyard Police to Chief Inspector and remained in use until the middle of 1968. On the 21st March, 1940, the War Cabinet approved the formation of the Naval Dockyard Police, and a unit of metal cap badge with a silver anchor and a sword and a shield on a black background. From its beginnings, the uniform of the Naval Dockyard Police had been almost identical with that of the NSW Police. However, the vastly increased numbers of personnel, including those in the Naval Dockyard Police, made it necessary for the NSW Police Department to have their own Statutory Force. This Force was renamed the Naval Police on the 18th January, 1967 to replace the old Naval Police. The metal cap badge was replaced by a double-breasted jacket as worn by CPOs and POs but with silver naval boat anchors. As Australia's war effort accelerated, so did the rise in the number of personnel. In 1941 was replaced by another ex NSW Police Inspector, H G G Jutt. Jutt proved a very energetic and capable leader and so effective that the Naval Dockyard Police was continued to be promoted to the newly created rank of Inspector, but he resigned his engagement on the 7th August, 1948. When Superintendent Shaw, OBE, retired in 1950, the rank of Superintendent was replaced by that of Chief Inspector. Promotion to this rank was made from Naval Dockyard Police members, who had served in the ranks of the Naval Dockyard Police to Chief Inspector and remained in use until the middle of 1968. The Naval Dockyard Police was approved on the 1st January, 1949, with a complement of 11 members. 1 Inspector, 2 Sub-Inspectors, 21 Constables and 21 Sergeants. The interesting point here is that the Superintendent's position was filled by Commander N H Shaw, RAN. Commander Shaw had been Commanding Officer at HMAS Kuttabul and had headed the Naval Board Committee on the "Re-organisation of Naval Dockyard Police and Auxiliary Services". When, and remains, the only gold-engraved silver anchor on the uniform of any of the naval police. The metal cap badge was replaced by a double-breasted jacket as worn by CPOs and POs but with silver naval boat anchors. As Australia's war effort accelerated, so did the rise in the number of personnel. In 1941 was replaced by another ex NSW Police Inspector, H G G Jutt. Jutt proved a very energetic and capable leader and so effective that the Naval Dockyard Police was continued to be promoted to the newly created rank of Inspector, but he resigned his engagement on the 7th August, 1948. When Superintendent Shaw, OBE, retired in 1950, the rank of Superintendent was replaced by that of Chief Inspector. Promotion to this rank was made from Naval Dockyard Police members, who had served in the ranks of the Naval Dockyard Police to Chief Inspector and remained in use until the middle of 1968. The Naval Dockyard Police was approved on the 1st January, 1949, with a complement of 11 members. 1 Inspector, 2 Sub-Inspectors, 21 Constables and 21 Sergeants. Although the Naval Dockyard Police was approved on the 1st January, 1949, with a complement of 11 members. 1 Inspector, 2 Sub-Inspectors, 21 Constables and 21 Sergeants. Although the Naval Dockyard Police was approved on the 1st January, 1949, with a complement of 11 members. 1 Inspector, 2 Sub-Inspectors, 21 Constables and 21 Sergeants. Although the Naval Dockyard Police was approved on the 1st January, 1949, with a complement of 11 members. 1 Inspector, 2 Sub-Inspectors, 21 Constables and 21 Sergeants. Although the Naval Dockyard Police was approved on the 1st January, 1949, with a complement of 11 members. 1 Inspector, 2 Sub-Inspectors, 21 Constables and 21 Sergeants.
BOOK REVIEWS

by J. STRACZEK

JAPANESE NAVAL VESSELS OF WORLD WAR TWO AS SEEN BY US NAVAL INTELLIGENCE

Introduction by: A. D. Baker III
Published by: Arms and Armour Press
Cost: $39.95

From December, 1941 to Japan's surrender in 1945, the United States and Allied Navies waged a desperate and costly war for control of the vast Pacific Ocean against the might of the Imperial Japanese Navy. The price for failure would have been ultimate defeat: however, the prize for success was final victory. Japanese Naval Vessels of World War Two details the ships of the Imperial Japanese Navy whilst that navy was still very much at its peak and is a unique and rare book which will be of use to all those interested in the Imperial Japanese Navy and the war in the Pacific.

Japanese Naval Vessels of World War Two is in fact a reprint of four publications from the United States Division of Naval Intelligence. These books are:

• ONI 41-42 Index To All Japanese Naval Vessels.
• ONI 220 Japanese Submarines and Aircraft Carriers.
• ONI 41-42 Japanese Naval Vessels of World War Two.

The first section of the book briefly introduces and describes the Imperial Japanese Navy, its organisation and the events leading up to the war in the Pacific. Thereafter, the publication is arranged alphabetically by ship's name for easy reference.

The content is comprehensive and detailed, covering all aspects of the Japanese fleet during the war. The book includes numerous photographs, drawings, and diagrams, as well as textual descriptions of the ships and their components. Each entry provides specific details, such as the ship's name, type, class, displacement, propulsion, armament, and other relevant information.

The overall presentation is highly informative and well-structured, making it an invaluable resource for anyone interested in Japanese naval vessels of World War Two. The book's detailed approach and extensive coverage make it a must-read for naval historians and enthusiasts.

The British Assault on Finland

by: Basil Greenhill and Ann Gillard
Published by: Conway Maritime Press

Conway Maritime Press have developed a reputation for publishing books of distinction on naval and maritime topics. The British Assault on Finland can only help to enhance that reputation. This is well researched and written book dealing with the activities of the British Baltic Fleet under the command of Vice Admiral Sir Charles Napier during the 1850s war with Russia (generally known as the Crimean War).

Basil Greenhill and his wife Ann Gillard, who is related to one of the participants in the events portrayed in this book, have written a scholarly and readable history of events in the Baltic between 1854 and 1855. The book details in great depth the background to geo-political circumstances in the Baltic as well as the organisation and despatch of the fleet. In many ways the British Assault on Finland is also an interesting insight into a navy that has yet to come to grips with the military application of some of the scientific and technological advances that had been made. A navy that is torn between the safe past and the unknown tomorrow.

The despatch by Britain of a fleet to the Baltic had an impact on the conduct of the war in the Crimean which may not have been apparent when the plan was first formulated. That was the retention by the Russians of some 200,000 of their best troops for the defence of the capital, St Petersburg. Had these troops been sent to the Crimea then undoubtedly the outcome could have been different.

The British Assault on Finland makes interesting reading for any enthusiast of 19th century warfare and particularly the Royal Navy. The latter part of the 19th Century represented an era of technical change and innovation for the Royal Navy. This period has not been repeated nor is there any attempt to explain why this was so. However, with the loss of Melboure the future of the Fleet Air Arm was likely to be. The results of these changes were some of the most graceful and some of the ugliest ships to enter the White Ensign. A number of these ships are illustrated and described in Ships of the Victorian Navy.
Naval aviation has been published their memories with what is published, photographs results in a book that is not one. This coupled with the wealth of information connections included in this group are available to Australia's naval aviation history in their own way. One of these ships has contributed to Australia’s naval aviation history in their own way. Not only are the regular aircraft carrying unsanctioned and unusual ships with aviation connections included in this group are HMAS Ships (now you're a good name for an aircraft carrier!) and LST 3001. Each of these ships have contributed to Australia’s naval aviation history in their own way. One particular table that may surprise a number of people is the list of aircraft preserved at the RAN Naval Aviation Museum. This institute is staffed and run by volunteers, many of whom use their initiative, and currently has some 24 aircraft on display. Many of the aircraft have or are in the process of being restored to flying standards, though they may not necessarily fly. In a number of cases the aircraft hold cannot be viewed anywhere else in Australia. Examples of these aircraft are Bristol Sycamore, Wessex Scout and a CAC Boomerang, one of only about three left in the world. The Naval Aviation Museum must surely be viewed as an important national asset and a tribute to the dedication of naval aviators to their profession.

The production of any publication is a complex process during which there is the possibility for a number of errors, particularly at the editorial stage. Under these circumstances this has happened with Wings Across The Sea where two photographs have been printed in reverse and a few spelling mistakes, such as ‘Stutter’ instead of Stratford or a hangar ID as opposed to ‘A’ Habb Have also crept through these minor errors however do not detract from the overall publication. All in all Wings Across The Sea is a highly recommended book which details the history of Australian naval aviation and the at same time fills a void in the published works on the naval history of this great island nation of ours.

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The new support ship HMNZS Endeavour was ordered from a South Korean yard. HMNZS Endeavour will carry 7,500t of diesel and 100t of Avcat and will be equipped with two British type RAS stations and be fitted with a helicopter platform. The new ship was due for delivery in April, 1988 and will for the first time give the RNZN an independent ability to deploy over extended distances. The tanker was ordered as a time when the defence review was still in progress, an indication of the urgency to fill this gap in the navy's capabilities.

Logistic Support Ship

The government has stated that the next priority for the navy was the acquisition of a multipurpose transport ship for logistic support of the army and other naval vessels. The ship will be designed to primarily support the army's new Rapid Reaction Force (RRF). The ship will also be an invaluable asset for the disaster relief operations in regions plagued by seasonal cyclones. New Zealand forces have been in the last year alone, assisted in cyclone and flood relief work in Fiji, Tokelau, Vanuatu, Solomon and Cook Islands.

IN THE ROYAL NEW ZEALAND NAVY POST ANZUS FUTURE

Since the suspension of the ANZUS Treaty Alliance between New Zealand and the United States, New Zealand has conducted a wide ranging review of its defence policy. The review's recommendations were incorporated into the annual defence report to parliament.

Two significant policies have emerged. The first has been a move towards closer military relations with New Zealand's main neighbour, Australia. The two countries have increased the number of joint exercises and are examining the possibility of introducing joint training programmes. This is aimed at improving force inter-operability and equipment commonality. New Zealand began purchasing more equipment through Australia.

The second major new policy direction has been a focussing of New Zealand's defence planning firmly upon the South Pacific region. Several defence policies have changed both Canberra and Wellington to closer attention to the region. Australia and New Zealand are now an important player in the affairs of some South Pacific islands. The political upheaval in Fiji has now made people look again at a region previously regarded as safe and democratically stable. New Zealand already takes responsibility for the defence of Tokelau, Nauru and Niue in the Western Pacific. New Zealand's area of strategic concern covers almost 16% of the earth's surface, from the Equator to Antarctica and from the Cook Islands in the east as far west as Western Australia and the Southern Ocean.

Fleet Tanker

New Zealand's present complement of Leander frigates, has one of the world's smallest blue water fleets. The RNZN is however, tasked with the protection of a country slightly larger than the United Kingdom and one of the world's largest Economic Exclusion Zones (EEZ), encompassing 1.4 sq million miles. New Zealand's area of economic concern covers almost 16% of the earth's surface, from the Equator to Antarctica and from the Cook Islands in the east as far west as Western Australia and the Southern Ocean.

The new support ship HMNZS Endeavour in Fraser, May, 1988. (Photo: John W. McRae RAN)
The Ministry of Defence has invited design submissions for the following operational requirements:

- A ship capable of carrying and deploying a company of 120 soldiers, together with equipment and stores and supporting them for up to a month. Alternatively, carrying the heavy equipment, vehicles and logistic support for a battle force such as the RRF, which could be deployed by air.
- The ship should be capable of operating two medium sized helicopters simultaneously. Interestingly, the government has specified a Blackhawk type helicopter for purposes of design work.
- A helicopter capable of being landed on the flight deck and being air-launched. The government has stated that the ship need not be designed for a beach landing, pointing out that many South Pacific coastlines were unsuitable for such types of operations. Such an omission will also help to control the design costs, a fact that will not have escaped the government's attention.

- The ship will be rigged to receive or supply fuel and supplies while underway. This feature will give the RAN added RAS support if required.
- Provision will be made for extensive communication and control facilities enabling the ship to coordinate the units, whether land, sea or air, involved in the operation.
- Additional specifications include a range of 10,000 miles at 15 knots and an endurance of up to 40 days with an embarked force.

A decision has yet to be made on whether to convert an existing vessel or to build a new ship to the required design. In the case of HMAS Endeavour it was found to be more economical to build a new merchant ship hull to fit RAS gear. The government expects to have the new logistic support ship in service within the next three years. The new ship, together with the creation of a battle group, will give New Zealand an independent intervention capability in the South Pacific. The RNZN logistic support ship will also be a useful addition to Australian amphibious ships in any joint ANZAC force.

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New Surface Combatant

The Prime Minister's July announcement reaffirmed New Zealand's intention to work closely with Australia in the selection of a new surface combatant for the 1990s and beyond. The Royal New Zealand Navy's four Leander class frigates were built between 1963 and 1971. The oldest of these vessels, HMAS Waikato and the Bora armed HMAS Southland (Ex-HMS Dido), will need replacing by 1995. The two broad beam Leander class frigates, HMAS Canterbury and HMAS Wellington (Ex-HMS Bacchus) can be expected to remain in service until the year 2000. For her HMAS Bacchus was modernised shortly after her transfer to the RNZN. This work included the installation of a new 76mm computerised weapon control system. HMAS Canterbury is due to have the 76mm system fitted during her current refit.

The Royal Australian Navy in the early 1980s began to look for a replacement for their ageing 'River' class frigates. In 1985, the New Surface Combatant Project (NSC) was established to examine the various proposed frigate types. In March, 1987, New Zealand signed a memorandum of understanding covering New Zealand's participation in the NSC project up to the stage of design selection and shipbuilder evaluation. New Zealand's involvement has subsequently been extended to an agreement placing New Zealand industry on an equal basis with Australia in the project. It is planned to build a total of 12 warships, eight for Australia and four to go to New Zealand, the first two entering service in the mid 1990s.

The Australian and New Zealand governments have both expressed confidence that there are sufficient common requirements for a joint single design procurement. The RAN and RNZN have specified that the new ships will be built to a standard design and that all can be manufactured in New Zealand. The RNZN has as yet made no decision about its choice of naval helicopter, but in view of the New Zealand Army's need for a helicopter replacement and the desire for commonality of equipment, the purchase of Australian Seahawk/Blackhawk helicopters would be logical. In addition to the basic self defence armament, the ships will also be equipped with a ship launched torpedo system, and will be fitted with a RLS (Radar, Launching, Surveillance) radar.

Despite a common requirement for a NSC, the two countries appear to differ on the perceived role for the new class of warship. The New Zealand Government has stated that it's highly unlikely that these vessels will ever be used in a war, but rather they will expend their lives employed in a patrol surveillance capacity in support of New Zealand's interests around the South Pacific. Particular emphasis will therefore be placed upon the ship's range, endurance, sea keeping and surveillance ability. The ship's armament will be kept relatively basic, though in the event of a more demanding situation, provision will be made for additional systems to be fitted.

The Australian ships will operate a Sikorsky Seahawk helicopter, which will also equip the PFFGs and are being built under licence together with army Blackhaws by Hawker de Havilland Australia. The RNZN has as yet made no decision about its choice of naval helicopter, but in view of the New Zealand Army's need for a helicopter replacement and the desire for commonality of equipment, the purchase of Australian Seahawk/Blackhawk helicopters would be logical. In addition to the basic self defence armament, the ships will also be equipped with a ship launched torpedo system, and will be fitted with a RLS (Radar, Launching, Surveillance) radar.

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The Australian Government has specified that their NSC will be equipped for more intensive types of operations with a primary ASW role. In addition to the equipment outlined above, the RAN vessel will have provision to carry a lightweight towed array, sonar, eight Harpoon SSMS, a CIWS such as Phalanx already fitted in FFG7s and the indigenous "WINNIN" hovering anti-ship missile system. The capacity for a possibly enhanced surveillance radar has also been stipulated. The NSC will be built to a modular design concept and should allow a common class of vessel to be optimised by either navy to their slightly differing needs. Around 20 design submissions were originally made and by September, 1987, the selection had narrowed down to just three proposals:
  • The MEKO 200 PN from the German Blohm and Voss/TNSW group.
  • The Dutch "M" class from Royal Schiedam.
  • Yarrow's mini T23 frigate.

In early 1988, the British T23 design was dropped from the shortlist and of the remaining, the MEKO 200 PN appears the favourite. The TNSW designers already have considerable experience in overseas building and have already sold the MEKO 200 variant to Turkey and Portugal.

The New Zealand Government has yet to confirm itself to the final construction phase of the project. In March of this year, during his now regular meetings with his Australian counterpart, the New Zealand Minister for Defence, Mr Bob Tizard, stated that he had yet to be totally convinced of the merits of modernising the RNZN through a joint project with Australia. Some political doubts remain particularly concerning the cost of the programme. The government has budgeted on a sail-away price of no more than $NZ200 million (a ship, 1986 dollars).

One critic has labelled this price as "ridiculous" and estimates that $NZ450 million per ship is more realistic, which would add an additional $NZ200 million to the total project cost. The government is hoping to make relative savings in the running costs of these vessels through lower manning levels as a result of increased automation. The NSC will have a crew of around 140, almost half that of the present frigates. The use of diesel engines and lower fuel consumption will also produce savings in running and maintenance costs. A faster and more robust design has been recommended. The RAN has had a similar experience with their Fremantle-class patrol boats, particularly in the demanding Bass Strait. These boats will also need replacing in the 1990s. Trans Tasman co-operation in these areas is at present only conjecture and any replacement programme to ensure the role of inshore patrol, coastal survey and as a diving tender.

The RNZN diving capabilities will be of considerable economic and industrial benefit to New Zealand. The Australian Government has stipulated that at least 70%, of the work content be manufactured locally, of which New Zealand can expect to get about one third. The $NZ5,000 million project will help to significantly expand the two countries industrial and engineering base. The RNZN will for the first time receive four frigates specifically designed for their own use and provide inter-operability with Australia.

Other Vessels

In the early 1990s the RNZN will have to begin to give consideration to the replacement of their four Lake class patrol boat. The British built Lake class boats are employed in the demanding role of patrolling New Zealand's EEZ. The Lake class boats have been found not to be totally suitable for work in heavy seas. A slower and more robust design has been recommended. The RAN has had a similar experience with their Fremantle-class patrol boats, particularly in the demanding Bass Strait. These boats will also need replacing in the 1990s. Trans Tasman co-operation in these areas is at present only conjecture and any replacement programme is subject to an accommodation and defence budget. The type of vessel could be built in New Zealand. Local shipbuilders have already produced designs that are employed by the Navy in support of mine countermeasure forces. Included in this is the role of inshore patrol, strategic survey and as a diving tender.

The RNZN diving capabilities will be significantly enhanced with the recent acquisition of the surplus RAN oil support diving ship, Persuader Star. The 900 ton vessel, to be named Manuotai, is a 20 design submarine tender with an oil diving bell and decompression chamber. The present much smaller diving tender will be replaced as a result of a new design and safety regulations.
A number of measures are being considered to help alleviate this shortage, including the possibility of women permanently serving at sea on non-combat ships. A recent fifteen month experiment with women serving on the hydrographic survey ship Monowai, has been hailed as a success. This practice could be extended to other ships such as the new tanker Endeavour and the oceanographic research vessel Te. Another partial solution could be an expansion of the RNZN volunteer reserve and increasing the number of vessels they serve on, such as some of the 'Lake' patrol boats. This measure would certainly appeal to the government's more budget conscious members. The RNZNVR already operate four inshore patrol craft with divers in Auckland, Wellington, Christchurch and Dunedin. In 1986 they spent a total of over 300 days at sea.

In the long term shortages should ease with the introduction of the NSC which will have a crew of around 140, nearly half that of the present Leander frigates.

Another area of concern for the RNZN is the inability of the Devonport naval dockyard to cope with the fleet's present workload. The problem of limited dockyard capacity has been compounded by a shortage of skilled tradesmen. The completion of HMNZS Wellington's refit was over two and a half years late. This delay has had a knock on effect with other refits.

Commercially, built ships, such as HMNZS Morotai, have in recent years sat idle at private yards, and this has now been extended to front line warships, starting with HMNZS Taupō's 1988 refit. The increased capacity in the actual number of RNZN ships over the next few years, the problem of a shortage of support facilities will need to be urgently attended to. The government has stated that it is preparing a development plan for the Devonport Dockyard and is considering a full development of the training establishment. HMNZS Tamaki, with extensive reutilisation in the British Royal Dockyards, New Zealand has had some success in recruiting UK personnel to help relieve the tradesman shortage.

**Maritime Air Support**

An examination of the RNZN and its future plans would not be complete without considering maritime air support. The RNZN presently operate Westland Wasp helicopters from their Leander frigates and the survey ship Monowai in the capacity of ASW and Liaison duties. The RNZAF's Hunt helicopters from their Leander frigates have recently undergone a $NZ148 million revamp including improved radar and infra red sensors, navigation, data handling and tactical displays. Phase two of this modernisation, including the acquisition of new underwater weapons and possibly Harpoon AAM is still under review. The purchase of Harpoon missiles would give the RNZAF considerably more punch and provide further commonality with Australian forces.

The RNZAF force of 22 Skyhawk A4K will during 1988/89 undergo a $NZ148 million modernisation. Project 'Raku' involves new avionics, weapon delivery system, sea search/target ranging radar and the fitting of new wings. The effectiveness of the Skyhawk will be furthered by the fitting of modern Sidewinder AAM and Maverick Laser guided bombs.

Consideration is being given to the RNZAF acquiring tanker aircraft. This would certainly be a logical move for a country the size of New Zealand, with the vastness of the surrounding ocean and the small number of RNZAF aircraft. Maritime air support operations could be mounted over larger distances and for longer endurance.

**CONCLUSION**

Politically the ANZUS row has not been settled and it anything, both the United States and New Zealand are more firmly entrenched than ever. New Zealand has passed into law legislation that specifically forbids the entry of nuclear armed or powered vessels into its ports. This measure is publicly popular and the National Party opposition have even adopted it as party policy. The United States seems determined not to compromise its policy of neither confirming or denying the presence of nuclear weapons and continues to adopt a tough approach to New Zealand, keen not to see similar moves by other more crucial allies.

Militarily, New Zealand forces have found themselves excluded from many US Pacific exercises such as RimPAC and with the purchase of equipment they are no longer treated on an equal top priority basis with NATO, Australia or Japan. New Zealand has sought to overcome these problems by adopting a policy of both cooperating closer with Australia and developing a greater ability for independent military operation.

The Royal New Zealand Navy has emerged from the confusion and gloom of the anti nuclear ANZUS row, on a positively plottted course for the future that will provide for a continued blue water role. The decision to participate in the NSC project will enable the RNZN to re equip with new frigates specifically designed for their own use. The purchase of a tanker and the planned acquisition of a logistic support ship will give the RNZN added new capabilities. These new ships will allow New Zealand to independently or in union with Australia, deploy a naval presence in an area of increased importance and world attention. The RNZN can for the first time in many years, look to the future with a positive degree of optimism.
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French cruiser COLOMB, a visitor to the Bicentennial Naval Salute.

CONTENTS

Viewpoint

The International Naval Review

International Naval Review — Map of Sydney Harbour

1st October, 1988

5

Highlights of the Bicentennial Naval Salute

Review Timetable — Order of Salute

Ships of the Review — The Visitors

USS NEW JERSEY

ANZAC Ship Propel — M Class Frigate

Deficiencies in Seaborne Airpower

Ships of the Review — Royal Australian Navy

Review Flypasts — Naval Establishments

USS MISSOURI HMAS DARWIN

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October/December, 1988

Page One
Some thoughts on Naval Reviews

A Naval Review in which foreign warships participate, such as that to be held on Sydney Harbour on 1st October, is a traditional method of celebrating a special national event or occasion. Apart from providing a grand spectacle for those fortunate enough to be present, an international Review serves a number of useful purposes.

- **In the past, but not so much nowadays, Reviews enabled nations to display their naval might as countries wished to show their best ships or, if not at senior class condition, it remains an occasion to create a good impression.**
- **A Review demonstrates, for all to see, the good relations existing between the Government of the host country, and those that accept invitations to take part.**
- **Passage in or from a Review — and so far as Australia is concerned it will generally be a lengthy one, whether the RAN participates abroad or is at home provides opportunities to**

In the long run, the success or otherwise of a Review (and the en route calls) will depend upon the human element: the officers and sailors who comprise the Ships Companies. For the most part young, highly skilled and with a keen appreciation of the value of discipline, sailors (using the word in a broad sense) are usually very good representatives of their country and have more opportunity than most people to influence attitudes in local communities when they are ashore on leave or acting as hosts to visitors on open days.

As well as the display on Sydney Harbour, many other Australian ports will be visited by foreign and RAN ships in the coming weeks. If visiting sailors create impressions in local communities, by the same token the visitors will carry away impressions gained in the course of their stay.

The success of the Bicentennial Review and port visits will, I believe, be assisted by the good planning of the RAN in the first place and after that, by the natural friendliness and good nature of the Australian people.

**SHOWING THE FLAG**

From time to time Australian representatives aboard have expressed to the writer appreciation of visits by RAN ships to countries where they are posted and the beneficial effect on Australia's reputation in the local community. Showing the flag, sometimes disparaged as an out-of-date custom by people who should know better, is practised by virtually every country with an oceangoing navy.

Over the years, RAN ships have visited scores of ports and communities when they are ashore on leave or acting as hosts to visitors on open days.

The custom continues to be practised by the RAN, although now priority is given to our own very extensive region.

The success of the Bicentennial Review and port visits will, I believe, be assisted by the good planning of the RAN in the first place and after that, by the natural friendliness and good nature of the Australian people.

**After the war comes the battle.**

Help Legacy's widows and children.

---

**The International Naval Review**

**SYDNEY HARBOUR 1st OCTOBER, 1988**

by ROSS GILLEY

When the average Australian thinks of a naval review they will, because of the events of 1986, cast their minds back to the Royal Australian Navy's 75th Anniversary celebrations.

In that year, more than any other 12 months since the creation of the Australian Navy, has the focus of public and national attention been directed at things both naval and maritime.

During the Bicentennial Year, public interest has again been heightened by Australia's maritime history, including the re-enactment of the First Fleet Voyage and the visit to numerous ports by a fleet of both local and foreign Tall Ships.

Undoubtedly the highlight of the latter half of 1988 is today's International Naval Review, the culmination of the Bicentennial Naval Salute. For the Royal Australian Navy, a number of Fleet Reviews have been held since its inception in 1911. In Port Phillip in 1920, His Royal Highness, the Prince of Wales, reviewed a massed Australian Fleet of some 30 warships and auxiliaries, while in 1938 an impressive naval demonstration entitled 'Fleet Week' was staged. Later, in 1964, for the Navy's Golden Jubilee, a Fleet sailed into Sydney Harbour in an impressive display of the naval tradition.

Then, in 1986, for the 75th Anniversary, His Royal Highness, Prince Philip, The Duke of Edinburgh, was the Reviewing Officer for the ships of the Royal Australian and six Allied Navies.

It was said in 1913, that perhaps no event in Australia's naval history was more calculated or inescapable than the entry of the first Royal Australian Navy Fleet into Sydney Harbour on 4th October. That claim has only been superseded by the naval events of 1986 and again in October, 1988.

The International Naval Review is a combination of both mobile and static Review Lines from Bradleys Head and Point Piper in the east, to the Sydney Harbour Bridge in the west.

Highlight of the day will be the three Mobile Review Lines of naval ships from 15 participating nations and the static...
The 75th Anniversary HMAS FRANKLIN during the 1920 Fleet Review

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THE NAVY

October/December, 1988

Page Six

Page Seven

Page Eight

FIGHTING NAVY LEAVE PLANNER

1 MARCH 1988 - 28 FEBRUARY 1989

HIGHLIGHTS OF THE BICENTENNIAL NAVAL SALUTE

The First Flag Line for the Naval Review consists of the following units:

- HMAS HOBART
- RAN AMBASSADOR CHARLES
- HMS ARMS
- ITS CAPO DIU
- JDS JORDI
- RO LEFIRE

The ships will enter Sydney Harbour in column at 500 yard intervals, so that the HMAS HOBART is in position to fire a 21 gun Royal Salute at 1300 and continue at 20 knots to pass north of and abreast of HMAS COOK. Each ship "Cheers Ship" on passing His Royal Highness, The Duke of York, embarked in HMAS COOK.

The port sides of the ships in the Flag Line are manned and abeam of HMAS COOK.

The Second Flag Line for the Naval Review consists of the following units:

- HMAS DARWIN
- HNLMS MITTE DE WIT
- HILLS WENTWORTH
- PNS TAPAJOS
- HMS EDINBURGH
- USS INGERSOLL

All ships will enter the harbour in column at 500 yard intervals. HMAS DARWIN will be in a position abreast of HMAS COOK 30 seconds after HMAS DARWIN steams past at 1400. The column will continue at 20 knots, allowing each ship to "Cheer Ship" in turn as they pass HMAS COOK.

The Small Ship Line which proceeds HMAS DARWIN and her group will consist of the following units:

- HMAS DUBBO
- HMAS FREEMANTLE
- HMAS AWARE

HMAS GEOLEON (Nigerian contingent embarked); HMAS ATRAPTE; HNLMS LATA

The 75th Anniversary Fleet Review.

October/December, 1988

Page Seven
### ORDER OF SALUTE

<table>
<thead>
<tr>
<th>APPROX TIME</th>
<th>UNIT</th>
<th>SIDE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1300-1310</td>
<td>First Flag Line Steampast</td>
<td>Port</td>
</tr>
<tr>
<td>1312</td>
<td>CANBERRA</td>
<td>Starboard</td>
</tr>
<tr>
<td>1313</td>
<td>ENDEAVOUR</td>
<td>Port</td>
</tr>
<tr>
<td>1315</td>
<td>ONslow</td>
<td>Port</td>
</tr>
<tr>
<td>1317</td>
<td>AIR ROYAL</td>
<td>Starboard</td>
</tr>
<tr>
<td>1319</td>
<td>LABUAN</td>
<td>Starboard</td>
</tr>
<tr>
<td>1320</td>
<td>COLBERT</td>
<td>Starboard</td>
</tr>
<tr>
<td>1322</td>
<td>TARANGAU</td>
<td>Starboard</td>
</tr>
<tr>
<td>1324</td>
<td>NEW JERSEY</td>
<td>Starboard</td>
</tr>
<tr>
<td>1326</td>
<td>NASE</td>
<td>Starboard</td>
</tr>
<tr>
<td>1327</td>
<td>SIOALWATER</td>
<td>Starboard</td>
</tr>
<tr>
<td>1330-1335</td>
<td>Small Ships Salute Steampast</td>
<td>Starboard</td>
</tr>
<tr>
<td>1337</td>
<td>TORRENS</td>
<td>Port</td>
</tr>
<tr>
<td>1344</td>
<td>SIRius</td>
<td>Port</td>
</tr>
<tr>
<td>1345</td>
<td>RN and USN FFA Flypast</td>
<td>Port</td>
</tr>
<tr>
<td>1347</td>
<td>ORANGELEAF</td>
<td>Port</td>
</tr>
<tr>
<td>1349</td>
<td>ZUDEMERSSUS</td>
<td>Starboard</td>
</tr>
<tr>
<td>1351</td>
<td>SUCCESS</td>
<td>Port</td>
</tr>
<tr>
<td>1353</td>
<td>BERKELEY</td>
<td>Starboard</td>
</tr>
<tr>
<td>1355</td>
<td>JAN VAN BREKEL</td>
<td>Starboard</td>
</tr>
<tr>
<td>1356</td>
<td>OXLEY</td>
<td>Starboard</td>
</tr>
<tr>
<td>1357</td>
<td>COMMANDANT BORY</td>
<td>Port</td>
</tr>
<tr>
<td>1359</td>
<td>BREVTON</td>
<td>Starboard</td>
</tr>
<tr>
<td>1402</td>
<td>PARRAMATTA</td>
<td>Starboard</td>
</tr>
<tr>
<td>1404</td>
<td>MORESBY</td>
<td>Starboard</td>
</tr>
<tr>
<td>1407-1415</td>
<td>Second Flag Line Steampast</td>
<td>Port</td>
</tr>
<tr>
<td>1416</td>
<td>ORION</td>
<td>Port</td>
</tr>
<tr>
<td>1418</td>
<td>SRI INDERA SAKTI</td>
<td>Port</td>
</tr>
<tr>
<td>1420</td>
<td>SHIMAYSUKI</td>
<td>Port</td>
</tr>
<tr>
<td>1422</td>
<td>KORTENBERG</td>
<td>Port</td>
</tr>
<tr>
<td></td>
<td>RUSHCUTTER</td>
<td>Starboard</td>
</tr>
<tr>
<td></td>
<td>STUART</td>
<td>Port</td>
</tr>
<tr>
<td></td>
<td>Fort Darwin</td>
<td>Port</td>
</tr>
<tr>
<td></td>
<td>South East</td>
<td>Starboard</td>
</tr>
<tr>
<td></td>
<td>STALWART</td>
<td>Starboard</td>
</tr>
<tr>
<td></td>
<td>WAKATO</td>
<td>Starboard</td>
</tr>
<tr>
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<td>BRISBANE</td>
<td>Starboard</td>
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<tr>
<td></td>
<td>SYDNEY</td>
<td>Starboard</td>
</tr>
<tr>
<td></td>
<td>PORT GRANGE</td>
<td>Starboard</td>
</tr>
<tr>
<td></td>
<td>YOUNG ENDEAVOUR</td>
<td>Port</td>
</tr>
<tr>
<td></td>
<td>NETOVIRI</td>
<td>Starboard</td>
</tr>
<tr>
<td></td>
<td>WOLLONGONG</td>
<td>Port</td>
</tr>
<tr>
<td></td>
<td>civilian Aircraft Flypast</td>
<td>Port</td>
</tr>
<tr>
<td></td>
<td>Review Complete</td>
<td>Starboard</td>
</tr>
</tbody>
</table>

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**SHIPS OF THE REVIEW**

**THE VISITORS**

**FRANCE**

Commander in Chief French Naval Forces Pacific — RADM J. B. BERGOT

(Embarked in FNS AMIRAL CHARNER for the Flag Salute Steampast, otherwise embarked in FNS COLBERT)

- **FNS COLBERT**
  - C 611
  - CAPT B. MOYAN

- **FNS AMIRAL CHARNER**
  - F 727
  - CMDR T. DARBONNEAU

- **FNS COMMANDANT BORY**
  - F 726
  - CAPT A. DUMONTET

France is represented at the Bicentennial Naval Salute by three ships, including the impressive 11,300 tonne cruiser **FNS COLBERT** and the frigates **FNS AMIRAL CHARNER** and **FNS COMMANDANT BORY**.

- Laid down in Brest Dockyard during 1953 and first commissioned in 1959. **FNS COLBERT** initially joined the Mediterranean Fleet. During late 1964 the ship embarked General De Gaulle for a voyage to Chile, Uruguay and Brazil and again in 1967, with the President aboard, voyaged to the Canadian Province of Quebec.

- Between 1970 and 1972, **FNS COLBERT** was reconstructed and re-armed, including the Musarce surface to air missile system. Subsequently, in 1981 she was fitted with Exocet anti-ship missiles. **FNS COLBERT** is manned by over 500 officers and men.

- The two frigates, **FNS AMIRAL CHARNER** and **FNS COMMANDANT BORY**, were built as units of the Commandant Riviere class and commissioned in the early 1960s. Both vessels are equipped for general escort duties. Each ship is manned by 167 officers and men.

- For the Review, **FNS AMIRAL CHARNER** will form part of the First Mobile Review Line of warships which will pass HMAS COOK at 1300. **FNS COLBERT** and **FNS COMMANDANT BORY** will be moored in the harbour at Robertson's Point and east of Garden Island respectively.

**GREECE**

- **HS ARIS**
  - A 74
  - CAPT P. KARAMANDIS

The **HS ARIS** is a Training Ship. Comprising part of the First Mobile Review Line is the Greek Training Ship **HS ARIS**.
**SHIPS OF THE REVIEW**

— CONTINUED

**INS GODAVARI**

Currently on a world training cruise. HMAS ARIS has embarked up to 500 personnel, including 370 under training for her Australian visit. The ship was completed for service in 1980 and can satisfy other naval duties, such as transport or hospital ship.

**INDIA**

**INS GODAVARI**

Another participant in the First Mobile Review Line will be the Indian representative to the Bicentennial Naval Review. **INS GODAVARI**

Built in India at Bombay, the 4,000 tonne ship is the name and leadship of a class of frigates now numbering three units. An interesting feature of the design is her ability to embark two large Sea King helicopters for anti-submarine and anti-ship duties.

**ITALY**

**ITS CAIO DUILIO**

Italy's midshipmen's training cruiser **ITS CAIO DUILIO** is a veteran of more than 20 years of service. Initially the ship operated as a helicopter carrying cruiser, but in 1980 was altered to suit the training role.

Alterations were made to the helicopter hangar, which was lengthened to provide classroom space.

**JAPAN**

**JDS KATORI**

Commander Training Squadron — **RADM T. IWASAWA**

(JDS KATORI, TV 3501; JDS SETOYUKI, DD 131; JDS SHIMAYUKI, DD 133)

The Japan Training Squadron 1988, visiting Australia for the Bicentennial Naval Salute, consists of JDS Ships KATORI, SETOYUKI and SHIMAYUKI. About 800 officers and men serve aboard the ships, including approximately 130 newly commissioned Officers who graduated from the Japanese Officer Candidate School in mid-March this year.

One of the most important purposes of the training cruise is to develop the seamanship and leadership skills of these newly commissioned officers through the training afloat. Another important purpose is to broaden the perspective of these future leaders through the opportunity to visit foreign countries and meet citizens of those nations.

The dedicated training ship JDS KATORI has visited Australia on a number of occasions since being commissioned in 1969. Both destroyers JDS SETOYUKI and JDS SHIMAYUKI, were completed for service in 1986-87 and operate primarily as anti-submarine ships.

JDS KATORI will form part of No 1 Mobile Review Line with JDS SETOYUKI secured to a buoy in Farm Cove and JDS SHIMAYUKI three ships east of Fort Denison.
exactly one year after the signing of the contract to build the ship. In addition to her support role, the vessel is employed as a training, communications and transport ship.

KD LEKIR will join the First Mobile Review Line. KD SRI INDERA SAKTI will be moored four ships east of Fort Denison.

THE NETHERLANDS

COMNLDESRON/C(NL)TG 429.4 - CAPT E. BAKKER RNLN

(Embarked in HNLMS WITTE DE WITH)

HNLMS WITTE DE WITH F 813 CMDR F J SCHUULER TOT PEURSUM

HNLMS ZUIDERKRUIS A 832 CAPT W M D VOOGT

HNLMS KORTENAER F 807 CMDR F D LANS

HNLMS JAN VAN BRAKEL F 825 CMDR W J E VAN RUN

Leading the Dutch contingent to Australia and the Bicentennial Naval Salute is the HNLMS WITTE DE WITH, the new 3,750 ton air defense frigate.

For all four ships, HNLMS WITTE DE WITH, the frigates, HNLMS KORTENAER and HNLMS JAN VAN BRAKEL and the support ship HNLMS ZUIDERKRUIS, the visit to Australia will be the first by any of the group.

HNLMS WITTE DE WITH will sail through the other ships of the Naval Review in the second Mobile Review Line. HNLMS KORTENAER and HNLMS JAN VAN BRAKEL will moor north-east and south-east of Garden Island respectively. HNLMS ZUIDERKRUIS will be seen off Point Piper.

NEW ZEALAND

HMNZS WELLINGTON F 69 CMDR A D CLAYTON-GREENE

HMNZS WAIKATO F 55 CMDR R NOFFKE

HMNZS ENDEAVOUR All CMDR M D LLOYD

From across the Tasman Sea, the island nation of New Zealand is represented by two of her Navy's four operational frigates and the new support ship HMNZS ENDEAVOUR.

Like all of the Royal New Zealand Navy's major units, the frigates HMNZS WAIKATO and HMNZS WELLINGTON are regular visitors to Sydney for training, operational and goodwill visits. The ships often join the Royal Australian Navy units for major exercises.

HMNZS WAIKATO was commissioned in 1966 and HMNZS WELLINGTON, formerly HMS BACCHANTE, was purchased from the Royal Navy in 1982. The latter has since received a three-and-a-half year refit at the Devonport Naval Dockyard in Auckland and is expected to serve well into the 1990s.

HMNZS ENDEAVOUR is berthed at the Navy's Ramillie Dock, HMNZS WAIKATO is alongside the cruiser wharf at Garden Island, and HMNZS WELLINGTON is the third ship in the Second Mobile Review Line.

NIGERIA

(Parsonel contingent only attending)

CDRE A A MADUEKE

PAKISTAN

Commander Pakistan Fleet - RADM A TASHIM, HI(M)

Embarked in PNS TUGHRIL for the Flag Salute Steampast. Otherwise embarked in PNS NASR

PNS NASR A 47 CAPT Z A SHAH T T

PNS TUGHRIL D 167 CMDR S A ALI

The last Pakistani warship to visit Sydney Harbour was the PNS TIPPU SULTAN in 1951. Today, Australia and her Navy welcome the destroyer PNS TUGHRIL and the tanker NASR to the Naval Bicentennial Salute.

HMNZS WELLINGTON

October/December, 1988

THE NAVY

Page Thirteen
SHIPS OF THE REVIEW

— CONTINUED

For the Review, PNS TUGHRIL will join ships in the Second Mobile Review Line, while the latter will move in Athol Bay. PNS TUGHRIL was originally commissioned in August 1945 as the USS HENDERSON. She was modernised during the late 1950s and was later transferred to Pakistan. PNS NASR is a recent addition to the Pakistani Navy.

PNS NASR

PNS TUGHRIL

PAPUA NEW GUINEA

HMPNGS AITAPE  P 94  MAJ U. TOM
HMPNGS TARANGAU  P 01  CAPT M. HAREL

Australia's nearest neighbour, Papua New Guinea, is represented today by the former RAN patrol boat, HMPNGS AITAPE, and the new Pacific Forum-type patrol craft, HMPNGS TARANGAU.

HMPNGS AITAPE was transferred to Papua New Guinea in 1974 as one of four Attack class boats to form the basis of a capable patrol force. HMPNGS TARANGAU was completed in February 1987, the first of a class of four built in Australia for the Papua New Guinea Defence Force.

HMPNGS AITAPE will join RAN patrol boats as part of the Small Ships Mobile Review, passing Bradleys Head at 1330. The new HMPNGS TARANGAU will anchor between HNS COLBERT and USS NEW JERSEY.

RSIPV LATA

Representing the South Pacific Island nation of the Solomons is the new patrol boat, RSIPV LATA. Built in Australia at Fremantle, Two of the class will operate around the islands. RSIPV LATA will form part of the Small Ships Review Line.

RSIPV LATA

SOLOMON ISLANDS

M. PADA

UNITED KINGDOM

Flag Officer Frigate Two — ADM J. FLETCHER-HAYES
(Embarked in HNS EDINBURGH for the Flag Salute Steepast, otherwise embarked in HNS NEW JERSEY)

HMS ARK ROYAL D 09  CAPT M. O. J. HARRIS
HMS EDINBURGH D 17  CAPT A. ROSS
HMS SIRUS F 16  CMdt T. MORTON
HMS GRANITE F 15  CMdt T. MORTON
HMS ORANGELEAF A 110  CMdt A. M. WILSON

The carrier is the third of the Invincible class to be commissioned and was accepted into service on 1 July, 1985. An interesting feature of HMS ARK ROYAL is her "ski-jump" at the forward end of the flight deck to enhance the performance of the Sea Harrier VSTOL aircraft which are embarked along with Sea King helicopters.

HMS EDINBURGH will follow HMAS DARWIN and other ships in the Second Mobile Review Line.

RFA FORT GRANGE will remain alongside in Woolloomooloo Bay and RFA ORANGELEAF will be secured to a buoy north of Point Piper.

RFA FORT GRANGE

UNITED STATES

Commander Cruiser Group 5 — CM 17th FLEET ADM D. MILLER
(Embarked in USS INGERSOLL for the Flag Salute Steepast, otherwise embarked in USS NEW JERSEY)

USS NEW JERSEY BB 62  CAPT D. J. KATZ
USS BRENTON FF 1086  CMdt P. D. Mallet
USS INGERSOLL DD 990  CMdr J. L. Frank III
USS BERKELEY DDG 15  CMdr C. R. Girobin

Sydney and Australia have, since 1986, been fortunate to have twice welcomed the grand United States Navy dreadnought, USS MISSOURI. On both occasions, as the public response to the 40-year-old veteran showed, the ship was welcomed by all residing in the city on the harbour.

Now, in 1988, we again welcome a battleship in this, our Bicentennial year, the USS NEW JERSEY, sister-ship of the "Mighty Mo". With a crew of more than 1,500 personnel, the USS NEW JERSEY was recommissioned in December 1982.

HMS EDINBURGH is a Type 42 guided missile destroyer, displacing 4,500 tonnes and carrying 20 officers and 273 ratings. She was commissioned in 1985. HMS SIRUS is a Leander class frigate modernised to launch Exocet missiles and mount a large towed array sonar from her stern. The ship first entered service in 1966 and completed modernisation in 1977. All three warships are making their first visit to Australia.

The Royal Fleet Auxiliary is represented by the supply ship, FORT GRANGE, oiler, OLWEN and the support tanker, ORANGELEAF.

During the Review, HMS ARK ROYAL and her consorts will be at buoys or anchored in harbour. The carrier can be seen below Kurraba Point and HMS SIRUS near Shark Island.

HMS EDINBURGH will follow HMAS DARWIN and other ships in the Second Mobile Review Line.

RFA FORT GRANGE will remain alongside in Woolloomooloo Bay and RFA ORANGELEAF will be secured to a buoy north of Point Piper.

RFA FORT GRANGE

October/December, 1988

October/December, 1988

Page Fourteen

Page Fifteen
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FERRANTI INTERNATIONAL
**USS NEW JERSEY**

**NEW JERSEY** and her sister battleships were reactivated to provide a near-term increase in the US fleet's combat power. They are a capable blend of the old; represented by the 16-inch guns, high speed and armour, and the new; symbolised by Tomahawk and Harpoon cruise missiles, Close-In Weapons System, and modern electronic warfare and communication equipment.

Operating as the centrepiece of a Battleship Battle Group (BBBG) **NEW JERSEY** can:

- Conduct surface strike missions.
- Carry out high speed Naval gunfire attacks.
- Support amphibious operations.
- Establish a powerful and symbolic naval presence anywhere in the world.
- Operate jointly with Aircraft Carrier Battle Groups (CVBG) in high enemy air threat situations.
- Operate independent of aircraft carrier support in lesser threat areas and provide flexibility in CVBG scheduling.

**ARMAMENT**

**Main Gun Battery.** New 16"/50 cal guns in three gun turrets
- Range: 23 miles
- Rate of fire: 4 rounds per minute per gun
- Use: Anti-Surface, show force, fire control

**Secondary Gun Battery.** Twelve 5"/54 cal guns in two gun turrets
- Range: 14 miles
- Rate of fire: 10 rounds per minute per gun
- Use: Anti-Surface, show force, fire control

**NEW JERSEY** and her sister battleships were reactivated to provide a near-term increase in the US fleet's combat power. They are a capable blend of the old, represented by the 16-inch guns, high speed and armour, and the new; symbolised by Tomahawk and Harpoon cruise missiles, Close-In Weapons System, and modern electronic warfare and communication equipment.

**USS NEW JERSEY**

**VITAL STATISTICS**

| **Class:** | 109B class battleship |
| **Length:** | 887'7" |
| **Beam:** | 109'3" |
| **Displacement:** | 57,200 tons |
| **Boilers:** | Eight 600 PSI Babcock & Wilcox |
| **Main Engines:** | Two geared Westinghouse turbines |
| **Horshipower:** | 212,000 shaft horsepower (total all four shafts) |
| **Propellers:** | Two four bladed 18'3" (outboard) and two two bladed 17'5" (inboard) |
| **Reds:** | Two 21' high |
| **Speed:** | In excess of 33 knots |
| **Cruising Range:** | 15,000 miles at 15 knots |
| **Fuel Capacity:** | 2,482,922 gallons of fuel oil (F-76) |
| **Air Defence:** | Four Phalanx Close In Weapon Systems capable of engaging DSCM ammunition at a rate of 3,000 rounds per minute for self defence against missiles and aircraft |
| **Missiles:** | Tomahawk Capacity for 32 land attack or anti-ship cruise missiles in eight armoured box launchers |
| **Armour:** | Harpoon: 16 anti-ship missiles in four canisters |

The patrol boat **RVS TUKORO** is another of the Pacific Forum type patrol craft to participate in the International Naval Review. The boat was built by Australian Shipyarding Industries in Western Australia. She will form part of the Small Ships Review Line.

**USS NEW JERSEY**

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DEVELOPMENTS IN SEABORNE AIRPOWER

In 1988, five years after the Australian Government decided to scrap its fixed wing seaborne airpower force, it is perturbing to note that other governments, with sharper perceptual ability than that of Australia, have successfully enhanced the capability of their defences by exploiting new developments in carrier borne airpower.

These countries include Spain, USSR, France, Italy, India and (reportedly) Japan. Of these countries, four (USSR, France, India and Japan) have a direct military involvement in our region. Developments in the other two are of interest for professional and technical reasons.

USSR

Construction of the new big Russian carrier continues. However, it is not certain that the ship is to have steam catapults and the ability to operate aircraft comparable with the FA18. Some reports suggest that she will be limited to VSTOL aircraft. Nevertheless, the ship will be through-decked, nuclear-powered, and (at 70,000 tons) about twice the size of the existing Russian aircraft carriers. In military terms, she will be large enough and (with other Russian fleet units) capable of protected operations within our region — in the Indonesian Archipelago, and Indian Ocean.

Of at least as great a regional significance, enhanced Russian involvement in seaborne fixed-wing maritime airpower will provide Russia’s client powers with a growing source of war operations, a newstandard. The design of the new ship is of interest, as it represents the sum of French experience and developmental thinking from operations of their existing CVLs and, presumably, the war operations of the Argentine's Super Etendard strike fighters in the Falklands War.

The first steel for the new ship — to be named CHARLES DE GAULLE — was cut in October 1987. She is expected to start sea trials in 1995 and commission in 1996. She will have two steam catapults, one forward on the port side and one at the forward end of the angled deck. Unlike the latest USN carriers, and the existing French carriers, DE GAULLE’s two lift will be both on the starboard side and both abaft the island. The island will be markedly further forward than in either existing French or US carriers.

The existing carriers’ strike/attackers will retire in the early 1990s. The proposed French replacement — a naval version of the French Rafale still in the early development stages — will not be ready in time. There is a proposal to buy or lease FA18s from the US. Operating trials are being conducted to test the feasibility of this.

FRANCE

A new standard of accommodation has been introduced. As a result, the crew of the M frigates will have more privacy, with a new standard of accommodation being applied as much as possible, so that the same furniture can be used for the different categories of the crew. The new accommodation is also suitable for sailing with a crew which consists of men and women.

Weapons and Sensors

1. Hull-mounted sonar: PH 36
2. 76 mm gun: GTO MELARA
3. Active electronic warfare
4. Multiple weapon control system with two fire control radars: STIR
5. Satellite communication
6. 2 x 20 mm gun
7. Navigation and sea warning radar: DECCA
8. 3 dimensional surveillance and target indication radar: SMART
9. Passive electronic warfare
10. Radar dispensing system: 2 x SIRBOC
11. 8 HARPOON surface-to-surface missiles
12. 2 x 2 torpedo tubes
13. Air warning radar: LW 08
14. Vertical Launch NATO Sea Sparrow guided missiles
15. GOALKEEPER close in weapon system
16. Medium-weight helicopter with torpedoes and radar
17. Passive long range sonar (TACTAS): ANACONDA

Main Characteristics

Length o.a.: 122.25m
Beam: 14.37m
Draft: 4.30m
Displacement: 3,320 tonnes
Propulsion: 2 Rolls Royce gas turbines; 2 PHAL cruse speed diesel engines
Max speed: 29 knots
Max speed (2 diesels): 21 knots
Endurance (18 knots): 5,000 nautical miles
Crew: 154, 16 of, 32 Chief Petty Officers, 106 Corporals and ratings
Accommodation: 163
**(REGULATIONS IN SEABORNE AIRPOWER CONTINUED)**

Given the continuing troubles in France's South Pacific territories, it is more than possible that we will see French CTOL camera-operating a region. The ability of the French Navy for protection of oil platforms, is a balance to be kept at a distance from home is markedly greater than that of the British Navy at the time of the Falklands War.

**JAPAN**

ALTHOUGH much Japanese naval thinking has advocated the acquisition of sea control carriers for protection of trade, this option has been rejected by successive Japanese Governments, not because the need for seaborne fixed-wing airpower is unrecognized, but for outright political reasons. As a result, the Japanese Maritime Self Defence Force has adopted a less effective method of defence against strike aircraft — the US AEGIS system. The first Japanese AEGIS destroyer is expected to be commissioned in 1990.

However, there are increasingly strong reports that the Japanese Government will accept the need for one or more small aircraft carriers equipped with VSTOL aircraft (Sea Harrier type), and ASW and AEW helicopters. This type of ship will provide Japan with a means of operating fixed-wing strike aircraft and the very latest in air-to-surface missiles — the Sea Eagle. These were demonstrated in the Falklands War. It is the aircraft that really count. The Indian Navy has equipped its ships with the very latest in air-to-surface missiles — the Sea Eagle. These are lighter, but have wider warheads and longer range than Exocet.

To succeed and supplement their two existing carriers, the Indian Navy is developing a new class of 30,000-tonne aircraft carriers. Plans are in hand to equip the existing Indian carriers with Vigilant Sea Kings.

Again from carrier-borne fixed wing aircraft, the Indian Navy has just commissioned the first of eight Russian-built Bear F long-range anti-submarine and maritime reconnaissance aircraft. These arrive in four times as large as the very latest in air-to-surface missiles — the RAAD's P-3C. In addition, the Bear F is equipped for air to-surface threats.

Given that involvement by one or another superpower would be inevitable, the new ship can dominate the Indian Ocean outside the range of any land-based strike aircraft and give a good account of itself inside such range.

**ITALY**

ITALy's new aircraft carrier GIUSEPPE GARIBALDI is of interest in that she is the smallest aircraft carrier afloat, with a displacement cost, from the advantages of buying an off-the-shelf design, and from the ability of the Royal Spanish Navy to obtain the equipment they need.

**SPAIN**

ALTHOUGH the design of the Royal Spanish Navy's new sea control aircraft carrier PRINCIPE DE ASTURIAS was not the preferred choice of the RAN prior to the INDEFINITE debacle, the new ship is of a size to suit our needs — very severely limited — by professional reasons.

Fortunately, the Spanish Navy will operate with the ship's FFG7 class frigates, which are virtually identical to HMAS DARWIN. Secondly, the Spanish carrier has propulsion systems, sensors and combat systems which are compatible with the FFG7.

Thirdly, the new Spanish carrier group is virtually a mirror image of that which would have provided the RAN with its main branch ofself in 1990, had a new carrier been accepted. Although, the new Spanish carrier took two years longer to build than expected because of modifications instituted during construction, the original build time was six years and the revised time eight years. However, the modifications involved an extra 1,500 tons full load displacement to increase aircraft complement from 20 to 37, with a commensurate increase in support package.

**VULNERABLE AUSTRALIA**

Fifthly, the fact that the Spanish Navy has an aircraft carrier has enabled it to acquire less costly helicopters for its FFG7s. Spain has bought the SH-60B from the US instead of having to incur the cost and time penalties of the RAN's specially equipped S70B2s. If the RAN had had a new carrier, that ship would have operated our existing Sea Kings whilst the FFG7s could have been equipped with a less costly helicopter, such as the Lynx or Dauphin.

Finally, the achievement on deployment of the new Spanish carrier adds force to those of the RAN who argue that, in seeking the enhanced LPH, the RAN was aiming too high — if Navy had bought the cheaper but nevertheless very capable Spanish type, we would have got the funds needed from the Fraser Government.

Although the Royal Spanish Navy's new ship is unlikely to be seen in our region — in which Spain has minimal national interest — there is much for the professional to learn from the ship herself: much more intense threat environment and much shorter distances than in our region.

For it should be noted that shore-based aviation have never provided air defence for a squadron or fleet of warships in war operations. Air Force officers confirm privately the difficulty of providing air defence for a carrier. The Royal Australian Air Force has only carrier-based aircraft and no carrier-based aircraft.
Australia's defence demands advanced steel technology. Comsteel has it.

The next time you have a requirement for a specialty steel, you too can enjoy the advantages of dealing with a local manufacturer who has the knowledge, the will and the specialised equipment to do the job.

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SHIPS OF THE REVIEW - CONTINUED

HMAS CANBERRA, SYDNEY and DARWIN - Guided Missile Frigates

Four guided missile frigates (FFGs), HMA Ships ADELAIDE, CANBERRA, SYDNEY and DARWIN, joined the RAN between 1980 and 1984.

The FFGs are long-range escort ships with primary capabilities in the roles of interception, surveillance, reconnaissance, air and surface warfare. Like the guided missile destroyers, they are armed with both Sea Dart and Harpoon anti-submarine missiles. For anti-surface warfare the FFG will embark the Air Warfare Destroyer (AWD), while the ADFs will continue to provide the front line of the nation's naval defences through to the turn of the century.

For the Review, HMAS HOBART will lead a group of seven warships of seven nationalities between the lines of other ships. Embarked in HMAS HOBART will be the Fleet Commander Rear Admiral P R Sinclair, AO, RAN. HMAS BRISBANE will be alongside Garden Island's crown wharf, while HMAS PERTH, under modernisation, will be at the West Dock Wall.

HMAS CANBERRA, SYDNEY and DARWIN will berth alongside the East Dock Wall at Garden Island. CANBERRA will be anchored west of Fort Denison and HMAS SYDNEY will berth alongside Fort Denison. The boats are very quiet (an essential submarine attribute) and boast long endurance, which is an important factor in Australia's area of interest. Each crew consists of 63 men who undergo specialist training to develop the skills required for this demanding service.

For the Naval Review, HMAS HOBART can be viewed in the mouth of Neutral Bay, near her base, HMAS ORION just south of Bradleys Head and HMAS OXLEY east of Garden Island.

HMAS Submarines ONSLOW, ORION and OXLEY - Submarines

HMAS Submarines ONSLOW, ORION and OXLEY were commissioned into the Royal Australian Navy from HMAS OXLEY in 1967 to the sixth and last, HMAS OTAMA in 1978. The Squadron is based at HMAS PLATYPUS in Sydney Harbour with one, and later two, boats home-ported to HMAS STIRLING in Western Australia.

The boats are very quick (an essential submarine attribute) and boast long endurance, which is an important factor in Australia's area of interest. Each crew consists of 63 men who undergo specialist training to develop the skills required for this demanding service.

For the Naval Review, HMAS ONSLOW can be viewed in the mouth of Neutral Bay, near her base, HMAS ORION just south of Bradleys Head and HMAS OXLEY east of Garden Island.

HMAS Freemantle, Geelong, Dubbo and Wollongong - Patrol Boats

HMAS PHIPPS, RUSHCUTTER and SHOALWATER - Minehunters

The Royal Australian Navy's patrol boats are deployed to waters around the coastline at Sydney, Darwin and HMAS OXLEY east of Garden Island.

HMAS MORESBY - Survey Ship

HMAS MORESBY is moored south-west of Bradleys Head. HMAS OXLEY, a large, modern survey ship, is based in Western Australia. The boats carry a wide variety of tasks from the tropic north to the inclement Bass Strait, patrolling for unlicensed fishing craft, oil rig surveillance and providing a response to national civil coastal surveillance and enforcement as required.

HMAS COOK - Oceanographic Research Ship

HMAS COOK is based at Cairns, Queensland, until the commissioning of the new craft at Cairns, Queensland. In August 1988 she will be moored at the northern end of Garden Island. The latter in Athol Bight.

The veteran minehunter HMAS CURLEW is also a member of the Small Ship Review Line.

HMAS MORESBY is moored south-east of Bradleys Head.

Four of the Freemantles are to participate in the Naval Review. Three of the boats will sail in through the lines of the other ships at 1330 as part of the Second Mobile Review Line. HMAS WOLLONGONG will provide the escort for HMAS COOK.

The Freemantles class entered service between 1980 and 1985 as replacements for the smaller Attack class patrol boats which were allocated to the Naval Reserves or paid off for transfer under Defence Co-operation Programmes. Two of the Freemantles class have since been allocated for service with the RAN. The lead boat, HMAS FREMANTLE, was constructed in the UK and the remainder at Cairns in Northern Queensland. All boats carry the names of Second World War Bathurst Class Minesweeping Corvettes.

Also participating in the Review are the new GRP Bay class minehunter catamarans, HMAS RUSHCUTTER and HMAS SHOALWATER. Both vessels were commissioned in 1986-87. The former is moored at the northern end of Garden Island and the latter in Athol Bight.

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THE ULTIMATE ISLAND INVESTMENT HOLIDAY OR LIVING

"THE EMERALD ISLAND" OF MORTON BAY QUEENSLAND

ONLY 40 MINUTES FROM THE GOLD COAST AND BRISBANE

THE CSIRO, universities and museums. HMAS COOK was commissioned in 1980.

In 1986, HMAS COOK acted as the Reviewing Vessel during the Navy's 75th Anniversary Review. His Royal Highness, The Duke of Edinburgh, was embarked for the occasion as the Reviewing Officer.

On Australia Day, 1988, HMAS COOK was again on centre stage as the Reviewing Vessel for Her Royal Highness. The Duke and Duchess of Wales, when Prince Charles reviewed the Tall Ships as part of a spectacular harbour spectacular.

During today's International Naval Review, Their Royal Highnesses, The Duke and Duchess of York will be on board HMAS COOK.

The patrol boat HMAS WOLLONGONG will act as the escort for the Reviewing Officer in HMAS COOK.

MISCELLANEOUS NAVAL CRAFT

Supporting the numerous Royal Australian Navy Ships in today's Review are the heavy landing craft, HMAS LABUAN, the torpedo recovery vessel (TRV) TREVALY and the diving tender vessel (DVT) SEAL.

The LCH is a participant in the static review, moored South of Robert's Point, Cremorne, between the aircraft carrier HMS ARK ROYAL and French cruiser COLBERT.

TRV TREVALY and DVT SEAL are members of the Small Ships Review Line, which passes HMAS COOK at 1334.

 PARTICIPATING SHIPS

Australia

Flag Officer Commanding Australian Fleet - RADM P. R. SINCLAIR, AO

(Embarked in HMAS HOBART for the Flag Salute Stampast otherwise embarked in HMAS STALWART)

HMAS HOBART D 39

CAPT D. D. TARTING, CSC, ADC

HMAS STALWART A 125

CAPT B. W. WILSON

HMAS SYDNEY A 304

CAPT R. T. DERRIDGE, MFR

HMAS BRISBANE D 41

CAPT R. A. WALSH, AM

HMAS DARWIN F 04

CAPT G. P. KABLE

HMAS CANDONA F 02

CMRD C. E. H. HARRINGTON

HMAS STUART D 48

CMRD J. S. OKANE

HMAS TORRES D 53

CMRD G. J. DICKENBERG

HMAS SYDNEY F 03

CMRD R. E. SHALDERS

HMAS PARRAMATTA D 46

CMRD G. F. SMITH

HMAS COOK A 291

CMRD B. D. HUNT

HMAS ORION S 61

CMRD M. G. GEE

HMAS LABUAN D 128

CMRD A. W. R. RANAGHAN

HMAS MORSBY A 73

CMRD R. A. VARDEN

HMAS RUSHCUTTER A 91

CMRD C. R. DIDDAMS, RFD

HMAS ORION S 57

CMRD A. R. SHALDERS

HMAS ONslow S 60

CMRD J. R. EDDING, RN

HMAS DISBRO P 214

CMRD L. F. WEDDELL

HMAS GEELONG P 215

CMRD G. J. KELLY

HMAS WOLLONGONG P 206

CMRD C. D. STREET

HMAS FREMANTLE P 203

CMRD N. W. WALKER

HMAS BUSHCUTTER M 80

CMRD G. J. MARSON

HMAS QUEENSLAND M 81

CMRD P. F. CLEVER

HMAS ADELAIDE M 38

CMRD M. C. SMITH

HMAS ADEN P 01

CMRD C. R. MOFFATT

HMAS PLAYFORD S 125

CMRD K. F. PIKE

HMAS WATERHEN S 106

CMRD R. R. OVERTON

Flag Officer Naval Support Command - RADM A. R. HORTON, AO

HMAS ALBATROSS S 125

CMRD B. M. TAYLOR

HMAS WATSON S 127

CMRD T. M. DUNNE

HMAS NIRIMA S 124

CMRD D. H. BLAZER

HMAS HOSKINS S 128

CMRD R. C. WATSON

HMAS KILLARNEY S 103

CMRD W. F. GIBSON

In October/December, 1988, the Navy's 75th Anniversary Review was performed.
A civil flypast featuring a Qantas Boeing 747, a Boeing 767 from ANsett and an Airbus A300 from Australian Airlines will take place at approximately 1445. This significant contribution by Australia’s three major airlines adds an extra dimension to today’s event.

Special approval has been received for this large aircraft to conduct today’s flypast above the Fleet at a height of 300 metres. The horizontal separation between each aircraft will be at 500 metres. Each aircraft has a vertical clearance above the Harbour Bridge of 150 metres. The civil flypast will be conducted at 210 knots, the slowest flying speed possible for these aircraft.

The highlight of today’s events will be the flypast at 1330 by naval aircraft of the Royal Australian Navy Fleet Air Arm, supported by Sea Harriers and Sea Kings from HMS ARK ROYAL. Helicopters from India, Italy, The Netherlands and New Zealand will also participate.

From the Royal Australian Air Force will also participate in the military flypast, including eight F/A-18s and four F-111C aircraft.

The RAN, in 1988, has more than 20 aircraft. These include five different helicopter types, plus two fixed-wing HS 748 aircraft. Looking to the future, the Fleet Air Arm will soon take delivery of the first of 16 Seahawk S-70B-25 helicopters. These state-of-the-art machines will be flown primarily from the RAN’s guided missile frigates, with a maximum of two embarked in each FFG.

For electronic warfare training, two HS 748s are active and have operated from various ships, including STALWART and HMAS KUTTABUL in Sydney.

For aerial photography, survey and training, while the Bell Kiowas satisfy both communications and survey duties, the Aerospatiale Squirrel light helicopters are employed for light utility, search and rescue, survey, support and training, while the Westland Sea Kings are the principal and submarine helicopters.

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The estimated total outlay of $7,658 million by the Department of Defence in 1988-89 represents a real growth of 0.5 per cent (2.4 per cent of Gross Domestic Product and about 9.3 per cent of total Commonwealth Budget outlay).

The Minister for Defence, Mr Kim Beazley, said that real growth in Defence outlay, together with civilian personnel, logistic and industrial savings would ensure the Government continued to maintain the momentum of the 1987 Defence White Paper.

"About 83 per cent of total Defence expenditure will be spent in Australia on manpower, capital equipment and stores, overhaul of equipment and construction and maintenance of facilities," the Minister said.

The main priorities were to:

- improve conditions for Service personnel and their families, including housing;
- maintain investment spending — which would increase gradually over the next few years to a target of around $2000 million a year;
- improve conditions for Service personnel, including living and working accommodation;
- pursue a wide range of efficiencies and rationalisation in the areas of logistics, factories and dockyards; and
- maintain the momentum of the 1987 Defence White Paper.

"Active Reserve Forces will increase to 28,800 with the opening of a new Navy Reserve Port Division in Cairns," Mr Beazley said.

"Several important new projects will be started but sufficient flexibility will remain to commit in future years, some high priority new projects such as the new ANZAC Ship Project."

"This provides for the construction in Australia of 12 surface combatants, eight for Australia and four for New Zealand."

"The facilities investment programme continues to target the strategic initiatives outlined in the White Paper."

The Minister said the retention of some proceeds from property sales would enable more relocation and rationalisation projects to begin.

I will continue the civilisation of some Service positions to allow reclassification of Service members to operational areas, while at the same time reducing the number of civilians from 35,818 to 35,767," Mr Beazley said.

"The approved average strength target of 70,279 for the Regular forces (Navy 15,715, Army 31,961, Air Force 22,603) is a slight increase on the 70,181 achieved last year."

The Defence Budget for 1988-89 includes provision for continuing payments of $821 million against projects approved in earlier years, including:

- $402 million for the purchase of 75 F/A-18 Hornet aircraft and associated equipment (46 aircraft have been delivered and 18 are planned to be assembled in Australia this year);
- $381 million for the construction stage of the new submarine project (the first is due for delivery in 1995);
- $120 million for 16 Sea Hawk helicopters to operate from the guided-missile frigates;
- $87 million for 30 Blackburn helicopters;
- $77 million for various Army communications projects, including new single-channel radios (manpack, vehicle-mounted and ground station);
- $63 million for 67 Pumas PC9 trainer aircraft from Hawker de Havilland at Bankstown, NSW. Deliveries began in July 1987;
- $53 million for the construction of two guided-missile frigates at Williamstown dockyard;
- $48 million on new light-vehicle projects to replace the Army's Landrovers and Light vehicles;
- $39 million for continued development of the Defence Integrated Secure Communications (DISCON) system which is planned for completion by the end of 1991;
- $30 million for Hamel 105 mm field guns purchased jointly by the Bendigo and Maryborough ordnance factories;
- $30 million for Australian industry assistance in conjunction with major projects.

The Defence Budget provides for estimated continuing payment of $327 million against projects approved in earlier years, including:

- $25 million on Tindal RAFAF Base in preparation for F/A-18 Hornet operations from 1989;
- $12 million on training facilities at Townsville, Queensland; and
- $11 million on upgrading living-in accommodation.

Major Capital Equipment

A total of $129 million has been approved for a range of new major facilities and equipment, including:

- Stage 2 development of RAFAF Base Tindal at Katherine, NT;
- redevelopment of Army facilities at Bandiana, Victoria, to improve security and the efficiency of supply and logistic operations;
- building of a new communications school at HMAS Cerberus, Crib Point, Victoria;
- more accommodation and messing facilities for Navy at HMMS Cooma, Darwin, NT;
- a new Military Police complex including living and working accommodation at Holsworthy, NSW; and
- a new munitions-filling facility at St Marys, NSW.

Eleven million dollars (out of a total cost of some $240 million) will be spent on non-military equipment projects in 1988-89:

- $27 million for replacement small arms for the Army;
- $25 million for Standard missiles;
- $24 million for short and medium-range air-to-air missiles for the F/A-18 Hornet aircraft;
- $24 million for the modernisation of HMAS BRISBANE, PERTH and HOBART;
- $23 million for helicopter operation modifications to the four US-built guided-missile frigates at Garden Island Dockyard, NSW, and logistic support;
- $21 million for the development and upgrading of the over-the-horizon radars; and
- $18 million for Harpoon anti-ship missiles.

ON-GOING PROJECTS

Major Capital Equipment

- the replacement of F111-C avionics test equipment; and
- the replacement of outer wings for the C-130E Hercules aircraft.

Initial phases of other new projects, including:

- $10 million on facilities for the introduction of the new utility helicopter at Bankstown, NSW.
- $8 million on a new warehouse for the Army's Landrovers and Light vehicles;
- $21 million for the construction of two guided-missile frigates at Williamstown dockyard;
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ON-GOING PROJECTS

Major Capital Facilities

- $21 million for the development and upgrading of the over-the-horizon radars; and
- $18 million for Harpoon anti-ship missiles.

Major Capital Facilities

- $11 million on the Maritime Command Centre for the Navy;
- $11 million to complete Stage 1 of the Australian Defence Force Academy; and to provide additional accommodation blocks; and
- $10 million on rationalisation of the Munawar explosives factory;
- $10 million on facilities for the introduction of the new utility helicopter at Townsville, Queensland; and
- $18 million on a new warehouse for the 21st Supply Battalion, Moreebank.

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**THE LIFE YOU SAVE MAY BE YOUR OWN!**
FAIR WINDS TO AUSTRALIA

By Lew Lind
Published by: Reed Books Pty Ltd

"The prime object of this book was to record the naval sailing ships which served in Australian waters during the past two centuries." This new publication from Reeds seeks to describe, and in most cases illustrate, the ships' men-o-war which were both well known and lesser known in Australia's seaports. The book is presented in 15 chapters spanning some 200 pages. From HMS Sirius in 1788 to HM Ships Sirius, Supply and STS Young Endeavour in 1988, this large selection of the sailing warships provides the most extensive list of such craft yet produced in book form.

I was particularly pleased with the theme of the book. The author deserves credit for including not only the Royal Navy sailing men-o-war of the Australia Station 1859 to 1913, but also pre 1859 ships, visitors from abroad, the odd collection of sailing craft reconstituted by the RAN during the Howard War and the enemy vessels, such as the German raider, SMS SEADLER, which proved a menace to naval authorities in the Great War. Add to this the Snake-class luggers and the widespread Second World War, the dwindling number of ships in the post-1945 fleet, and the book provides excellent insight to the evolution of the Royal Navy in Australian waters.

My only complaint with Fair Winds to Australia is the publisher's consistent desire to place photographs away from the actual entry or narrative concerning the ship. The author has managed to secure a large number of new and interesting photographs, while also relying on a similar number of well-known illustrations.

The book is provided with a list of abbreviations, bibliography and extensive index. As well, a colour section at the front depicts a selection of the fleet ships to visit Australia in January, 1986.

For the book purchaser, naval historian, the release of Fair Winds to Australia comes at the same time as the publication of Ships of the Australia Station (see next review). The similarity of both works will not escape many, but which book to purchase is now the dilemma.

SHIPS ON THE AUSTRALIA STATION

By John Bastock
Published by: Child and Associates Pty Ltd, Sydney, 1988

Reviewed by J. Straczek

John Bastock's Australia's Ships of War was published in 1975 and has remained one of the most sought-after (and hard to get!) books dealing with the history of ships of the Royal Australian Navy. Now, some 13 years later, he has followed this work with Ships on the Australia Station.

Ships on the Australia Station chronicles the history of Royal Navy warships which have either served in Australian waters or were important or significant visitors to Australia. The introductory section of the book presents a brief outline of British and Colonial naval activities in Australia. The main section of the book provides a history of all Royal Navy ships which have served in Australian waters from 1859 till 1913. The chapters in the main section of the book have been presented as a chronology with the number of years covered by each chapter being the tenure of service of the flagship of the Imperial Squadron on the Australia Station. As there is an amount of overlap with some vessels serving under more than one flagship the second or subsequent references to these ships has been done in the form of a silhouette bearing the page number where the original reference appeared. The book is then rounded off by a chapter dealing with some of the more important visiting ships during this period.

As the book deals with the ships which served as Australia's shield up until the arrival of the first Australian Fleet unit in 1913 there is no in depth discussion on the development of naval forces in Australia. The ships' histories on the other hand provide a valuable insight into the activities of the Royal Navy in Australian waters in the latter part of the 19th century. These narratives are supported by technical details of the ships and where possible, photographs.

Observing the period covered by this book it would be normal to suspect that there were very few photographs to illustrate some of the earlier ships. Surprisingly, this is not the case. The book is very well illustrated by photographs covering the period 1857 to 1913. Many of these photographs are crystal clear and represent not only an excellent illustration of the ship but also show the development, or from another point of view destruction, of the harbour area. These photographs are supported by a number of high quality colour paintings supplemented by various ships' drawings and silhouettes. All of these paintings and drawings are the author's own work and add to the overall high quality of the book's contents.

Unfortunately, the author has been let down by the publishers in the manner in which the book is presented. A number of pages in the review copy had light ink smudgings on the bottom. This coupled with an incorrect chapter reference on the top of page 115 detracted from the overall appearance of the book. Whilst these may appear to be minor criticisms of an otherwise excellent publication these sorts of errors should not appear in a book which retails for $80.

In summary, Ships on the Australia Station is a well-written and illustrated publication which helps to fill a major gap in the available information on the Royal Navy in Australian waters during the 19th century. It is a most welcome addition to the latter part of the 19th century. In summary, Ships on the Australia Station is a well-written and illustrated publication which helps to fill a major gap in the available information on the Royal Navy in Australian waters during the 19th century. It is a most welcome addition to the historical literature on Australian naval history.

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