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# THE NAVY

*The Magazine of*
**THE NAVY LEAGUE OF AUSTRALIA**

# THE NAVY

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*The magazine of the Navy League of Australia*

Vol 47 JANUARY, 1985 No 1

THE MEN FROM DOWN UNDER

*As part of the Fremantle Festival held in Western Australia to coincide with Navy Week '84, the victorious America's Cup winner Australia II was re-commissioned in the harbour on 4 November. Australia II is seen under tow proceeding past the visiting RAN flagship HMAS STALWART with the destroyer escort HMAS YARRA outboard of the flagship. Music for the occasion was provided by the RAN Fleet Band.* (Photo — ABPH E. Pitman, RAN)

## CONTENTS



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## *Our Cover Photographs*

*Two views of HMAS KIMBLA, the top taken in the early 1960s (Photo — Ron Hart), and the bottom in July, 1980* (Photo — Ross Gillett)

*The obvious change is the new enclosed bridge above the original structure. KIMBLA arrived in Sydney flying her paying off pendant on 20th December, 1984.*

# THE EDITOR'S COMMENTS

**WE begin this issue of "The Navy" with details of the Royal Australian Navy's new S70 Sikorsky Seahawk helicopters, which the Federal Government has decided to purchase (in principle) for the fleet.**

Tony Grazebrook, who prepared the article, also lists the other options that were available to the Government in March, 1983, including type and numbers of helicopters and total project costs.

On the historical front Charles H. Mann looks at the life of the famous Fred T. Jane, from his birth in 1865 to death in 1916, and from Wright & Logan, the world renowned naval photographers, the first of a series of historical chronologies of some of the better known RAN warships from the 1920s to 1940s.

As a tribute to the RAN's last boom defence vessel, HMAS KIMBLA, we publish a series of photographs illustrating the ship since 1956.

Over the last few years it has become increasingly apparent that more and more people with an interest in a viable naval defence are proposing a wide range of ideas to equip the Navy with a strong but economical force of ships. "'No Frills' Warships" examines the merits of Australia's offshore oil industry fleet and their possible use with the grey funnel line.

The number of articles received for publication in this January, 1985, edition far outweighed the available page numbers. Accordingly, those contributors who don't see their article in this issue are advised it will appear in the next available issue.

## ACKNOWLEDGEMENTS

*Geoff Evans, Tony Grazebrook, Captain Ron Hart, Vic Jeffery, Charles H. Mann, New Zealand Navy News, Antony Preston, Captain Rob Rae, RADM Andrew Robertson, LEUT Joe Straczek, Wright & Logan.*

**DEADLINE**
**The deadline for the next issue is 1st February, 1985.**

# viewpoint

## DIFFERING VIEWS ON DEFENCE

**THE Coalition Parties' brave proposal for a nuclear-powered submarine force understandably caused a stir in the run-up to the recent Federal election, but it has to be said that it was only a call for a study and not a decision to acquire such vessels.**

Quite apart from technical and cost considerations, the political and strategic implications of an Australian nuclear-powered submarine force would require a careful and no doubt lengthy study, while it would be sensible to undertake such an examination, it must be separate from the OBERON class conventionally powered submarine replacement project now well under way.

As well as the Coalition's policy statement, two other important defence documents appeared in the final weeks of the last Parliament — the 1983/4 Defence Report, the annual record of defence activities and financial statistics, and a report by the Joint Parliamentary Commitee on Foreign Affairs and Defence on the structure and capabilities of the Australian Defence Force.

It is impossible to analyse or even summarise the three documents in the space allocated to VIEWPOINT, but it is appropriate to remark that if the recommendations of either the Joint Committee or the Coalition Parties were implemented, there would be a distinct change of direction on the part of the Defence Department.

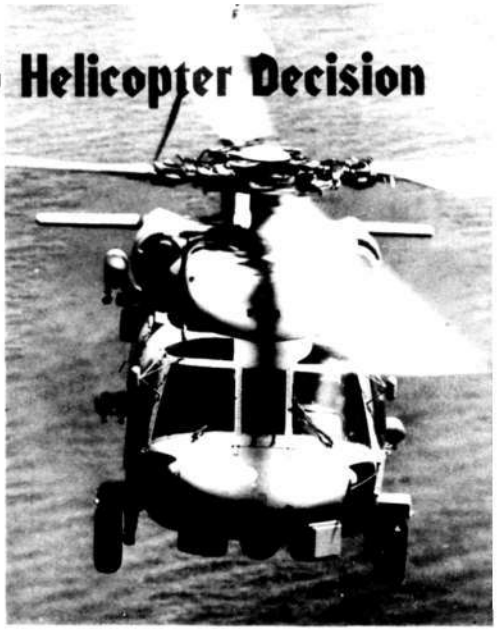
In the maritime sphere, both the Joint Committee and the Coalition recognise much more clearly than those presently responsible for defence policy appear to do, the severely limited viability of the RAN following the loss of it's carrier-based aircraft. While the Committee seems prepared to accept a reduced maritime capability for reasons wide open to challenge, the Coalition Parties now appear convinced of the need for some form of sea platform from which aircraft can be operated, it is likely this view will gain wider acceptance as the folly of a maritime nation hamstringing its Navy becomes more apparent.

The three reports in many ways reflect differences of opinion in the Australian community about the way the country should, or could, be made more secure than it is. They all deserve careful attention.

GEOFFREY EVANS,
*Federal President,*
*The Navy League of Australia.*

# AT LAST — The FFG Helicopter Decision

by A. W. GRAZEBROOK



**IN October, 1984, the Australian Government made the decision in principle to buy an initial eight S70 Sikorsky helicopters for the first four of the Royal Australian Navy's FFG7 Class frigates.**

To the project cost of $317 million must be added $51 million for modifying the flight deck and other facilities of the first three FFGs. Of the total of $368 million, about $150 million will be spent with local industry. This will include virtually all the $51 million to be spent in modifying successfully, on Williamstown Dockyard, the first three FFGs. The ship modification will have skill spinoffs in hull modification in the yard where it should be gained — where the Navy's fifth and sixth FFGs will be built.

In addition to the $51 million, a further $80 million will be spent in offset deals, and items specified as for local manufacture. The development of the avionics package will absorb some 300,000 Australian manhours. The avionics package is regarded as extremely attractive by the Spaniards whose SH60Bs will have very similar roles to those of our S70s.

*The roles planned for the new S70 helicopters are*

- Reconnaissance and surveillance.
- Over the horizon targetting for surface to surface guided weapons.
- Deploy close range anti-surface ship weapons.
- Limited utility functions.
- Extend the anti-submarine warfare capability of Navy's surface ships.

Reconnaissance and surveillance is the primary role for which Navy sought the purchase of helicopters for their FFGs. With the limited radar and search horizon of the FFGs (and any other surface ships), helicopters fly away from the ship and use their sensors to locate and identify approaching surface ships.

If these surface ships are identified as hostile, the S70 relays that information back to the FFG for use in targetting the ship's Harpoon surface to surface guided weapons.

NAVY'S new helicopter will also be fitted for air to surface missiles. These missiles, which will have comparatively short range will be used against small surface ships (such as SSGW armed fast attack craft, which have limited if any defence against aircraft). Use of these missiles against larger surface warships would expose the helicopter to unacceptable risk from area surface to air missile systems.

The "limited utility functions" for which the new S70s are capable include vertical replenishment, personnel transport and similar duties. In normal circumstances, a very capable helicopter such as the S70 would be underemployed on these duties.

It is the role of "extending the anti-submarine warfare capability of Navy's surface ships" which made the choice of the S70, over its competitor the Lynx, inevitable.

As our table shows, the S70 Seahawk is unquestionably the larger of the two contenders, with a correspondingly larger payload and longer range.

**TABLE A HELICOPTERS FOR NAVY**

| | S70 Seahawk | Lynx 3 | Sea King |
|---|---|---|---|
| Length (m) | 19.76 | 15.6 | 22.15 |
| Height (m) | 5.18 | 3.6 | 5.13 |
| Rotor Diameter (m) | 16.26 | 12.9 | 18.9 |
| Max Cruising Speed (kts) | 136 | 150 | 112 |
| Endurance | At 40 degs. just over 3 hours, 60nm from ship | At 40 degs. 1hr 45min, 60nm from ship | 3hr 45min |
| Take off weight (kg) | 9900 | 5900 | 9525 |

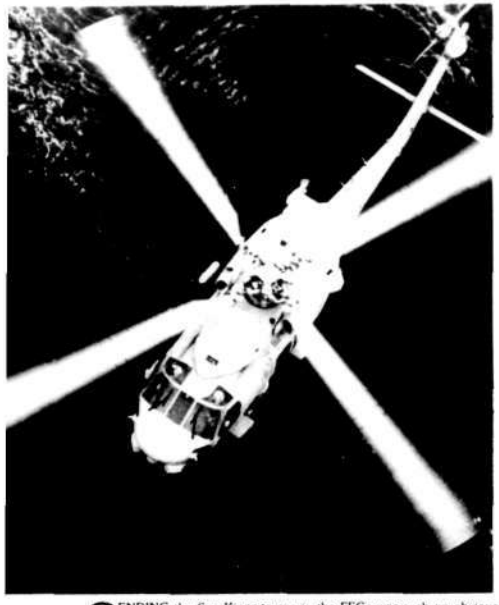
This markedly greater size makes the S70 unquestionably the more capable aircraft in the enhanced anti-submarine role that became essential as soon as the Government made its decision not to provide the Navy with a seagoing platform for its eight Sea King anti-submarine helicopters.

These Sea Kings provided long distance targetting information and guidance for the Ikara missiles fitted to Navy's DDGs (Hobart, Brisbane and Perth) and DEs (River Class). The Sea Kings are fitted with air launched anti-submarine torpedoes and sophisticated sonar systems.

It must be recognised that there is a strong body of professional naval aviation opinion that it is not possible to provide the required extent of helicopter anti-submarine capability coverage from the stern of any existing escort. To provide constant cover, a flat decked ship capable of operating at least six Sea King/S70 type helicopters is required.

However, in the absence of the necessary such ship, Navy has determined to do the best it can. To achieve this, the S70 was selected. That helicopter was designed by Sikorsky for the FFG7 class frigates. As such, the S70 is the largest and most capable helicopter that our Navy's FFG7 class ships can carry. The selection by Navy of the S70 exploits to the maximum the potential of the FFG7 ships. Clearly, and particularly in the absence of any other seaborne helicopter, Navy's selection of the S70 was the sound — indeed the only realistic decision.

These facts became inevitable with the Government's decision eighteen months ago not to provide the Sea Kings with a seagoing platform. This raises the question of why it has taken eighteen months to make and progress to purchase decision a type selection which became inevitable in March 1983.



SENDING the Sea Kings to sea in the FFGs was such an obvious solution to the FFG7 helicopter need — if it were feasible — that that would have been implemented as soon as the first FFG joined the fleet. However, the deployment of the Sea Kings to the FFGs is not feasible. The Sea Kings' rotor blades are too big for the flight decks of the ships. The helicopters are too long for the hangars. The S70 is the biggest available helicopter that can operate from the FFG7s.

The key factor in the S70 selection is the Navy's ASW needs which have been multiplied by the decision not to provide a new flat deck platform for the fleet. To perceive clearly the anti-submarine role of the new S70 helicopters in the Australian Defence Force it is appropriate to study Navy's ASW needs generally.

- Blockading enemy submarines into their bases — to be carried out by Navy's Oberon class submarines and their successors.
- Deep reconnaissance and some submarine destruction capability provided by the RAAF's force of P3 long range maritime patrol aircraft.
- Middle distance work — search and submarine destruction capability that is close enough to the task group to require very close co-ordination with surface ship operations. Formerly provided by Melbourne's S2 Tracker aircraft, now a major gap in Navy's ASW capability. If there were to be enough of them afloat (there will not be), the S70 is capable of filling this gap.
- Accurate localisation of submarine contacts; the use of airborne weapons (Mark 46 torpedoes) for the "kill" and the targetting and direction of shipborne anti-submarine weapons to "kill" the submarine. These shipborne weapons are the Ikara missiles carried on board the DDGs and DEs. These roles will be filled by the S70s when they become available for operational service in 1989. Until that time the gap will be there.
- Shallow water location, localisation and destruction of enemy submarines. This role is filled by the DDGs. FFGs and DEs using Ikara and the Mark 46 torpedo fires from Mark 32 torpedo tubes.
- Provision of operational command and control, fuel, crews, some maintenance and role change facilities will be provided by the four FFGs.

All this must be provided constantly. The word "constantly" is the key to understanding the gap that will remain even after the S70s enter operational service in 1989.

There is a strong — very strong — school of RAN professional thought that argues that two helicopters operating from the stern of an *escort sized ship cannot provide constant anti-submarine warfare* coverage (let alone the helicopters' other roles as well). One has only to look at the composition of the Japanese, Canadian and British fleets to see that they as well as the RAN, believe this to be so.

Two helicopters, it is argued, just are not enough to keep one aircraft in the air at all times for periods of seven days or more.

To do this — and this is essential for the protracted operations unavoidable in our region — we either need more S70s and more FFGs or we need to upgrade our existing Sea Kings to the standards of those India is now buying from Britain, and provide a flat decked ship to operate a minimum of six Sea Kings at a time. Recognising that we have the Sea Kings, that upgrading to Indian standards is estimated by industry sources to cost only $4½ million per aircraft, and that the acquisition and conversion of the flat decked merchant ship would cost only about one-sixth the cost of only one new FFG, sending the Sea Kings to sea in a flat decked ship is by far the most cost effective solution.

In considering this, it is of interest to summarise the options that were available to Government in March 1983.

- Acquire eight S70s for four FFGs, and modify those FFGs as necessary, at a project cost of $368 million. Later, provide a further four S70s for operations from the two later FFGs ordered from Williamstown Dockyard.
- Acquire ten Lynx 3s for four FFGs, at a project cost of $207 million, with a further four Lynx 3s for FFGs 05 and 06 for a further $38 million.
- Acquire 27 Lynx 3s, project cost $368 million. This would provide enough Lynx 3s to complement all six FFG7s, plus the successors to the DEs (to be built in the 1990s), and leave some Lynx 3s free to operate from merchant ships under the Arapaho concept.
- Acquire fourteen Lynx 3s for all six FFG7s, and send the Sea Kings to sea in a merchant ship such as Australian Venture. The project cost would have been $245 million for the Lynxes, $36 million for upgrading the Sea Kings to Indian standards, and $50 million for Australian Venture.

AS can be seen, with a flexible approach by the Government, considering all options with an open mind, some very attractive options were available. However, given the political restrictions which have been placed on cost effectiveness, and operational capability, it is now too late. The S70s have been selected and a very effective aircraft they will be — with their avionics package developed especially for our fleet and our strategic circumstances. Spain has



**MODEL**
Sikorsky S-70B (Seahawk)

**MANUFACTURER**
United Technologies Inc (Sikorsky Aircraft Division) USA

**NUMBER OF AIRCRAFT**
Eight to be ordered on satisfactory completion of contract negotiations.

**PROJECT COST**
Estimated at $317M in 1984 prices (subject to the completion of contract negotiations).

**DELIVERY**
To begin in late 1987 with final delivery by late 1988.

**ENTRY INTO SERVICE**
**Late 1988 or early 1989.**

**AUSTRALIAN INDUSTRY PARTICIPATION**
Participation in design and development of avionics and integration of the weapon/sensor system; manufacture of tail and intermediate gear boxes; composite material items; castings and forgings in steel and light alloys. Total value over $80 million.

**ROLES**
Surveillance over the horizon targetting, anti-submarine search and attack, search and rescue, and liaison. Potential for developing an air to surface attack role.

**WEAPONS**
Anti-submarine torpedoes and depth charges.

**SENSOR**
Sonobuoys and sonics processor, radar, magnetic anomaly detector. Provision for electronic counter measures (ECM) and infrared detectors.

**COMMUNICATIONS**
Special data link to transfer tactical information to ships assisting them to compile a more complete anti-submarine warfare picture or enabling a ship to attack with Harpoon missile.

**DEPLOYMENT**
One per FFG in peace, two in war.

**WEIGHTS AND PERFORMANCE**

| | |
|---|---|
| **Mission Gross Weight** | |
| Anti-submarine warfare (ASW) | 9021kg |
| Anti-ship surveillance and targetting (ASST) | 8223kg |
| Maximum gross weight (utility) | 9927kg |
| Radius of action | 250nm (4 hours endurance) |
| Dash speed at 5000ft (tropical day) | 131kt |
| Vertical rate of climb sea level, 32°C | 830fpm |
| One engine inoperative rate of climb sea level, 32°C | 575fpm |

**DIMENSIONS**

| | |
|---|---|
| Main rotor diameter | 16.36m |
| Number of blades | 4 |
| Tail rotor diameter | 3.05m |
| Number of blades | 4 |
| **Aircraft** | |
| Length | 19.76m |
| Width | 16.36m |
| Height | 5.23m |
| Folded length | 12.47m |
| Folded width | 3.26m |
| Folded height | 4.02m |

**ENGINES**
2 X General Electric T700 GE 401

**CREW**
Pilot, tactical co-ordinator, sensor operator.

perceived the effectiveness of this by expressing a strong interest in studying the S70 avionic package for the Royal Spanish Navy's SH60Bs, of which a first buy of six is envisaged for Spain's FFG7s.

It is not — most definitely not — too late to fill the five year gap 1984 — 89 in Australia's ASW capability. It is not too late to provide Navy with an increased ASW capability after 1989 to face the increased SS and SSN threat as regional forces continue to grow.

One flat decked converted merchant ship with our Sea Kings upgraded to Indian standards is much more cost effective than one, let alone three, more FFGs needed to get six more S70s to sea. The Government must open their political minds and provide the flat decked ship we need to get the Fleet's ASW capability up.

# THE GENIUS OF FRED T. JANE

Anyone who has ever researched a naval subject has heard of Jane's **ALL THE WORLD'S FIGHTING SHIPS . . . HYDROFOILS . . . WEAPONS SYSTEMS or . . .** (you name it) . . . a Jane's book covers it. But how many know who Fred T. Jane was? How many know what he did?

by
CHARLES H. MANN

John Frederick Thomas Jane was born in Richmond, Surrey (England), on 6th August, 1865. He was the eldest son of Rev John Jane (C.E.) — vicar of Upottery (Devon).

The young Jane attended school at Exeter where he showed many non-conformist and highly original characteristics. Among these was his intense interest in explosives. This interest, which (legend says) nearly blew up the school laboratory, also got him barred therefrom.

He was, additionally, an inveterate practical joker. His pranks against his masters kept him continually in strife and eventually got him barred from the school magazine. As a result, he ran his own publication (TOBY) in opposition to the establishment periodical. This rebellion eventually yielded to pressure but not before the magazine had shown its own independence.

After Exeter, Jane led a confused life. He tried, first, to join the army, then the navy and even considered going to "the colonies" to become a farmer. But none of these notions bore fruit. He failed the physical of both the army and the RN and rejected the land as being too boring.

Thus it was that he went to "the city" and concentrated on improving his skills as a sketch artist and journalistic writer. He eventually began work for the **Birmingham Times.**

He was not an immediate success by any stroke of the imagination. His struggles in this period (1880-1890) were severe. Recognition was not the easiest of achievements. Most of his biographers believe that this period caused him, later, to continually assist anyone who appeared to be in need.

He finally went to sea in 1889 as an artist/reporter for the periodical **"Pictorial World".** Later, he sketched for **"Illustrated Pictorial", "Black and White",** the **"Illustrated London News",** the **"Daily Chronicle"** and the **"Standard".** His sketches of the manoeuvres of 1890 and subs finally brought him the recognition he desired.

*FRED T. JANE*

ABOUT this time, however, he had the opportunity to let his vivid imagination go to work for him. The Balmacedist revolution, in Chile, was in full swing. Jane, while resting in Devonshire, concocted some sketches of the revolution that were so vivid that many people thought he had taken part in it. He suppressed the truth until **after** his sketches were sold.

Fame does not produce prosperity and during this early period, Jane illustrated many books and stories published by others. He also wrote many stories of his own.

Since the public wanted either adventure, science fiction or stories of life aboard ship, Jane wrote on all three. They all sold.

In 1895, he published "Blake of the Rattlesnake". "The Incubated Girl" went into print in 1896. But 1897 was the best year.

Jane published his story "To Venus In Five Seconds". This was quickly followed by the hilarious Devonshire yarn "His Ludship, the Passen and We". Except for two more works of fiction in 1899, these ended Jane's fictional period. His technical era is what brought his genius to the attention of the world. His first issue of "All the World's Fighting Ships (1898)" appeared in 1899. (Samson & Lowe — publishers). This work, which was the first of the massive series that has continued for more than 68 years after his death, was the third in what Jane termed his trilogy of needs of the naval man.

IN or about 1890 Jane began to realise that naval men the world over needed a reference work that would enable them to quickly determine the characteristics of any warship. This work had to be a one page (at most) outline that would "tell all there was to know". Thus he began sketching every warship he could see.

It did not require a vast amount of time before he realised the similarities between structures, the significance of armour, the importance of gun type or the value of speed. Nor was F. T. Jane slow to realise the value of manoeuvrability, turning radii at speed or response to the helm. Thus it was that he developed his trilogy of requisites of the efficient naval officer. These were (and still are):

(i) An understanding of what the ships of the competition (or potential enemy) can do and what your own vessel can do.

(ii) A quick identification method that **also** informs one of the armour and armament of the **"other"** ship.

(iii) A means to test one's theories under realistic conditions but without actually "shooting up" the other ship.

The first two of the trilogy were to result in the publication of **"Fighting Ships".** These works alone would have qualified Fred T. Jane for greatness. The massive amount of detail he had to mentally retain is a tribute to his magnificent intellect and memory. However, **"Fighting Ships"** although his best known work, was not his most important work. Still, the very fact that this work has been carried on for 68 years after his death is mute testimony to the value of his effort.

Jane believed that only by **handling** a ship could the naval officer understand the ship. Nonetheless, he readily understood that this might not always be possible. He, therefore, set about producing a simulation technique similar to the army's "Kriegspiel". He called this the **"Jane Naval Wargame".** He introduced this game to the world in a seminar paper at the United Services Institution (Whitehall) on Friday, June 17th, 1898. Success was instantaneous. (Publication by Samson & Lowe — 1898.)

By 1900 the Jane Naval Wargame had been adopted by the Norwegian Navy, the United States Coast Artillery for testing harbour defense, the Imperial Russian Navy and the Imperial Japanese Navy. The last two mentioned expanded the game to include studies in logistics as well.

Throughout 1898, 1899 and most of 1900, it was a rare event when either **"The Engineer"** or **"Scientific American"** magazine or the United Services Institute did not see Mr Jane stirring a wargame with a seemingly insoluble naval dilemma — usually solved by the test — and which often contradicted accepted naval theory and practice. He furthermore organised a group of young naval officers to form the Portsmouth Naval Wargames Club. This group went even further than did their founder in developing modern theory and practice.

ALSO in 1900, Mr Jane took his first step towards entering politics. He published an extremely well done article in **"The Engineer"** entitled "The Classification of Warships". In this piece he antagonised the British public by showing the bulk of the RN designs to be of little fighting value. Though he had no way to predict the attitudes of "Jacky" Fisher, nor the advent of **HMS DREADNOUGHT,** he did believe that only with a very radical attitude change could the RN avoid becoming a paper tiger.

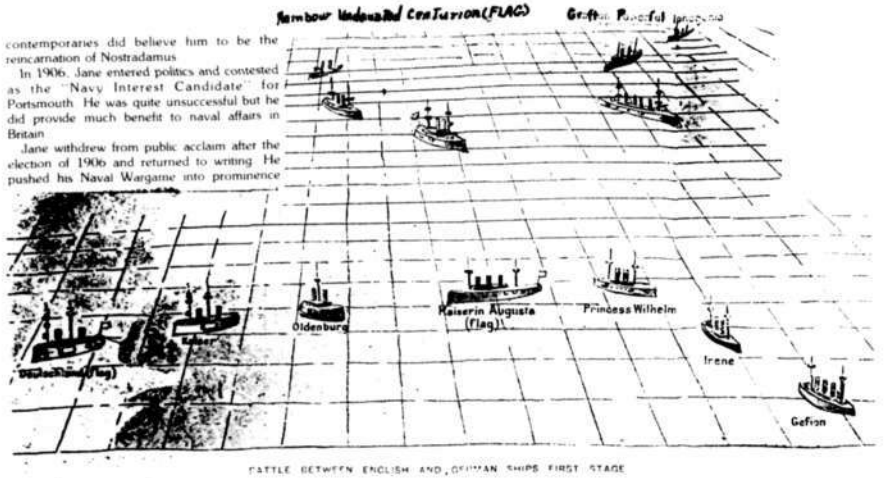
Additionally, in 1900, he published his famous critique of the Imperial Russian Navy. The work showed up the very weaknesses which Admiral Rozhestvensky informed the Grand Duke Alexander about prior to Tsu Shima (1905).

Jane, though, was not a mystic. He was a very practical prophet. He had the knack of examining events and correctly translating the events into consequences. Still, many of his

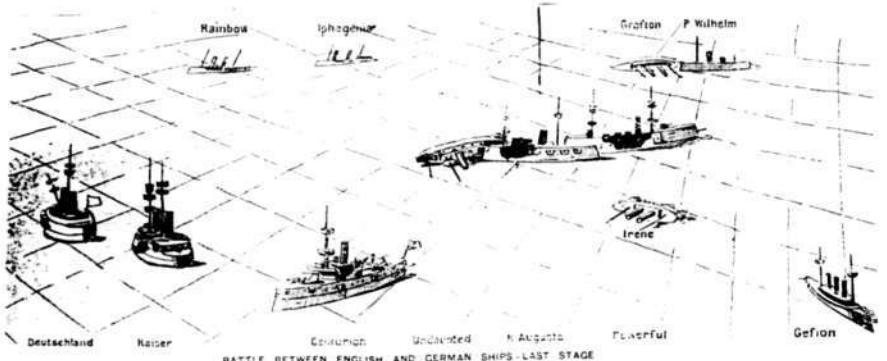
contemporaries did believe him to be the reincarnation of Nostradamus.

In 1906, Jane entered politics and contested as the "Navy Interest Candidate" for Portsmouth. He was quite unsuccessful but he did provide much benefit to naval affairs in Britain.

Jane withdrew from public acclaim after the election of 1906 and returned to writing. He pushed his Naval Wargame into prominence




BATTLE BETWEEN ENGLISH AND GERMAN SHIPS FIRST STAGE




BATTLE BETWEEN ENGLISH AND GERMAN SHIPS-LAST STAGE

***Copies of sketches by Fred Jane of a wargame that was published in "The Engineer" of 4th March, 1898. The game took place in the wardroom of HMS ST GEORGE on the day before that ship paid off. The tactics shown are of great historical interest. Ramming was still advocated — even by The Admiralty.***





and even gained full acceptance of the idea by the Admiralty.

The wargame had, of course, been fully accepted almost from the beginning. In 1902 the Admiralty issued a Manual to "All Serving Ships of the Fleet" in which a "points" system of damage evaluation replaced the Jane method.

There is some doubt that Jane learned of this manual until much later in his life. He did not publish any comment on it until 1912. However, if the Admiralty had developed a simulation method to accompany its newly developed "central fire control" system the discrepancy is not surprising. (This manual is not available in Australia.)

In 1908, the first issue of "All the World's Aircraft" was produced. This led Mr Jane to examine the Zeppelin and (eventually) introduce aerial attack into his procedures. In 1912, he published "How to Play the Jane Naval Wargame" *. On pages 58-61 of this work he actually produces rules governing submarine and aerial warfare techniques which held valid (in principle) even as late as 1950. Only a small modification is required to upgrade them to the present day. It is also humourous to consider that the Christmas Day (1914) Zeppelin attack on HMS Engadine was predicted by the procedures on page 60!

Jane never ceased to be a practical joker — even to the end of his life. But he did set his mischievous temptations aside to join Lord Baden-Powell in the early development of the Boy Scout movement. In this, he contributed much personal effort.

* A photocopy from the British Museum collection is available in the National Library, Canberra, ACT.

FRED Jane was also a dedicated opponent of "Faddists and Jingoists". He consistently advocated an economically sane naval policy and the idea of testing theories by simulation before going overboard on them. His "Trust the Admiralty" speeches continually advocated silence as a preferable alternative to the danger of criticism based on half knowledge. His speaking tours, which continued until his death, always advocated the political interest of the navy.

That Jane was no ordinary writer/politician is most readily shown by his role in the unravelling of the German Spy System in England (1913-1915). Once again, his simulation techniques played a vital role.

But the greatest compliment to his genius was paid him by the Imperial German Government. On 23/8/1915, the **"London Times"** carried a German news story which (in para 4) stated, "the standard work by the British naval officer, Fred T. Jane, says . . . " and goes on to quote him (out of context). The German government of Whilhelm II gave Jane the only honour he could never achieve himself and the only one that really meant anything to him.

Fred T. Jane died on 9/2/1916. It is thought the cause may have been a heart attack. This, though, is only a guess. The newspapers of the day do not specifically state the cause. They only say it was suddenly. The **"London Times"** stated "Mr Fred T. Jane, the writer on naval subjects, died suddenly at Southsea on Wednesday . . . " The 1916 issue of "Fighting Ships" (published in 1917) carries a full page obituary and a photograph of this great man.

A FEW months later the culmination of his glory was realised. There is good reason to believe that Adm Jellicoe used Jane's techniques in planning for (what is now called) the Battle of Jutland. The "Times" again says " . . . This is something . . . Mr Jane would have understood! . . . "

But Jutland did not end the need for the Jane techniques. They were upgraded continually and continued as a training aid until 1939 when war precluded the time required for their use.

Churchill used these methods in his "War Room". The Japanese are said to have upgraded Jane methods in planning "Pearl Harbor". But time, speed and loss of people who understood the value of simulation planning in naval affairs have caused the Jane theories to be forgotten.

Still, by the Jane theories, ideas can be tested **before** (not after) millions of dollars have been wasted. They allow theories and equipment to be tested for practicality and (usually) provide a result the same afternoon! But the best part of the programme is that if a retest or modification is desired, only a bit of embarrassment has taken place. No ship has been lost, no casualties incurred.

Fred T. Jane was a modern genius. His Trilogy has provided for an annual publication in multiple areas for 86 years. His simulation techniques are equally valid today as they were in 1898 when he produced the world's first **successful** naval Kriegspiel. Isn't it time we resurrected these ideas to **prove** our modern theories on the simulations board? Even politicians respect what they can look at, touch and understand.


65 Gepp Parade,
Moonah, 7009.
Tasmania.
19/7/84.

Dear Sir,

I was interested to read in the article HMAS HUON (July '84) of the modifications carried out on some of the Australian destroyers.

I enclose a photo of HMS FORESTER, a near sister to HUON taken from HMAS TORRENS at Brindisi, showing sub-detectors on the stern. Are these the hydrophone suspension gear and directional hydrophones as mentioned in the article?

Can anyone identify the ships in the background?

I also enclose for interest a photo of TORRENS in line astern of HMAS YARRA which is towing a kite balloon on anti-submarine patrol in 1918.

Finally, can someone explain the purpose of the five black shapes on the stern of HUON shown being scuttled on page fifteen? Are they part of a gunnery target?

Yours sincerely,
A. J. LEE.

* * *

102 Arcadia Ave,
Gymea Bay, NSW, 2227.
October 5th, 1984.

Dear Sir

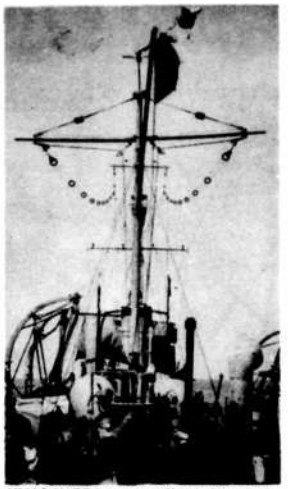
I must comment on the October issue of 'The Navy'. At the end of the article 'The Seaplane Tender' it is inferred in the footnote '*2' at the end that, with the exception of the Japanese, the other nations had abandoned their use.

This is not so — though it appears that the Royal Navy made little use of seaplane tenders — perhaps with the exception of the old 'Albatross'.

However, the United States Navy used them regularly in the Pacific in forward areas using specially converted merchant vessels. The tenders serviced PBY-5's (Catalina's) and PBM's (Martin Mariner's) which were used for mainly night operations as patrol bombers. In addition the Catalina's were used for long distance minelaying in the Japanese held islands. The Australian Catalina Squadrons Nos 20, 42, 43 and sometimes No 11 were attached to the United States Navy also for minelaying. From my own experiences we operated out of Woendi Atoll (near Biak while it was still being secured), against the Palau Islands from the USS 'WRIGHT'. Later, when Morotai was taken we operated out of Morotai Lagoon from USS 'TANGIER'. From Morotai, in conjunction with United States Navy 'Catalinas', we laid mines in the Halmaheras, east and west coast of Borneo, and the Philippines.

Thanking you.

I remain,
Yours faithfully,
B. ENEBERG.



*HMAS YARRA towing a Kite balloon in the Adriatic on anti-submarine patrol 1918.*

21 Ann Street,
East Launceston,
Tasmania, 7248.
25/10/84

Dear Sir,

I really enjoyed reading Charles H. Mann's excellent article "The Seaplane Tender", in the October, 1984 edition of "The Navy", but was disappointed to see no reference to Australia's contribution, namely HMS "NAIRANA".

She was under construction in Denny's Yard at Dumbarton, Scotland, for Huddart Parker's Bass Strait ferry service, when work on merchant ship tonnage was discontinued in 1915. She was launched June 21 and laid up until taken over by the British Admiralty, completed as a seaplane carrier in 1917, along with English Cross Channel and Isle of Man Ferries, then was commissioned under the white ensign, still retaining her name "Nairana", a name quite in fitting with her new role, as it means "Golden Eagle" in Tasmanian Aboriginal language. Was attached to the battle cruiser squadron at Scapa Flow and was employed in the White Sea, 1918-1919. Flying the flag of Admiral Kemp, she was ordered on 29 July, 1918, with HMS "ATTENTIVE", a light cruiser, and the French cruiser "ADMIRAL AUBE" to Archangel, where there was a concentration of allied war stores and coal.

Their mission was to safeguard the stores and the lives of the anti-Bolshevist Russians and the British residents, and to regain control of the Fort, so as to prevent its use by German U-Boats. HMS "ATTENTIVE" opened fire on the fort, which replied, causing some damage to the ship. HMS "NAIRANA" sent up her seaplanes to drop bombs on the fort, thus silencing it. By that night, July 31, the Fort and Archangel were in allied hands, after 600 French infantry were landed from the three ships.

The "NAIRANA" then chased and sank the ship in which the Bolshevik Exchequor was escaping. She reached a speed of 25.6 knots. "NAIRANA" was returned to her owners on January 22, 1921 after refitting at the Devonport Naval Dockyard.

The British Navy thought so highly of her war effort, that when they converted merchant ships for aircraft carriers in WWII the "PORT VICTOR" was renamed "NAIRANA" in honour of her WWI service.

Thanking you again.

I remain yours,
ROBERT W. BROOKES.

*Sub detectors on the stern of HMS FORESTER in Brindisi Harbour, 1918. Taken from HMAS TORRENS.*

*HMS NAIRANA, 1918.*

PS: The photo enclosed, was copied from a brochure put out by Huddart Parker in 1926 to commemorate their 50th anniversary. Huddart Paker went out of shipowning in November 1960.

# "No Frills" WARSHIPS?

## The case for Australia's offshore oil industry fleet

by CAPTAIN ROB RAE

**A recent report that the Navy planned to convert a merchant ship, the UNION ROTOITI to a helicopter carrier at a cost of $25 million, prompts the thought that Australia has other merchant ships extremely suitable for use as effective and economical fleet auxiliaries. In time of emergency there is the fleet of the offshore oil industry.**

These versatile ships, of which we have over thirty in Australia, can and have been used for the widest range of services of any vessel ever designed. When they service oil rigs at sea they are at once cargo vessel, tug, bulk cement carrier and tanker. In addition, they can be simply modified for a far wider range of roles when required. Conversion for war service would be just another job for them, as modification for special charters is often done in the oil industry.

By adding weld-on modules they quickly become seismic or diving support ships, lay continuous pipelines, act as drilling vessels for surface samples, or carry and lay deep water moorings. Their open deck space with low freeboard allows units to be easily placed and secured, and their generators have ample capacity for extra equipment that may require power.

Steaming endurance, considering the size of the ships, is more than might be expected. A ship of the "Torrens Tide" class, for instance, although only 53 metres overall, can spend 35 days steaming at her economical speed and cover 10,000 miles without refuelling. By re-piping existing water tankage for fuel this endurance could easily be doubled.

Their versatility for a host of naval uses should be considered by those planning our emergency services. The after workdeck, generally some 30m by 10m, is completely clear of hatches, masts or derricks, and presents an ideal working platform. A total deck load of about 500 tonnes can be loaded. This might consist of cargo, accommodation modules, fuel tanks, support equipment or armament. Some possible fleet auxiliary roles which come readily to mind are troopship, long distance patrol vessel, or mini-carrier for helicopters — as well as the more traditional uses as ocean rescue tug and fleet supply.

*LADY ELIZABETH, built in Fremantle, at 14 knots. Her after deck has plenty of space.*

### LONG ENDURANCE

TASKS which offshore supply vessels have performed in past emergencies support the concept of their possible naval use. For instance:

In late '71 the United Nations had a fleet of some fifteen chartered steamships immobilised in Chittagong roadstead, in Bangladesh. They had brought grain and relief supplies, but due to the civil war they had been months at anchor. The Chittagong river was blocked with sunken ships and those at anchor could not obtain any fresh water from the port. Steaming to safety without extensive boiler damage was not possible. As the war intensified it seemed as if the ships at anchor might also become targets. Something had to be done to get them away.

In Singapore, 1500 miles away, a standard supply vessel the "Min Tide" was chartered by the UN and despatched to Chittagong in a matter of hours with a full load of water. Canadian flags were painted on her decks and sides before she steamed north at her maximum speed. Arriving at Chittagong without incident, she went alongside the immobilised ships in turn, giving each one enough fresh water to raise steam and reach safety. Twelve of the ships got away before the "Min Tide" left for Singapore herself, but the success of the operation apparently angered the Indian authorities.

This was evident when "Min Tide" was straffed by an Indian Air Force fighter two hundred miles south of Chittagong. Machine gun and cannon fire demolished her bridge and engine control console, but her Master was able to bring her back to Singapore using the aft controls. The only casualty was the Chief Engineer who received some shrapnel in his lower back. A successful trip of 3070 miles to deliver 400 tonnes of essential water.

*ATLAS VAN DIEMEN is built to a well-tried North Sea design.*

In another situation, an offshore rig was drilling near Biak in West Irian, but supplies of fresh water ample enough to ensure continuous drilling were not available at the port. It looked as if water would have to be brought in from further afield, increasing drilling costs considerably, but fortunately an answer was found locally.

A fresh water creek flowed into the sea from an island near the drilling site, and arrangements were made with some villagers to dam the creek using coconut tree logs. A diesel pump was then dropped in by helicopter.

With a water supply available the rig's supply vessel "Eastern

Advocate" was brought in, stern on to the sloping shingle beach. Using an anchor and cable from each bow, and two heavy wires from her after deck capstans to two convenient coconut trees, the ship was beached close enough for her four-inch hose to reach the diesel pump ashore. Empty oil drums lashed in place supported the hose, which was then used to fill the ship at about twenty tons per hour. Full, the ship de-beached at high water and took her load to the rig.

### OVER THE BEACH

THIS beaching technique is possible because the profile of supply vessels sweeps up sharply at the stern, protecting rudders and propellors from contact with the sea bed. Propellors are generally fitted in nozzles for extra bollard pull, and these, too, aid protection. Provided a beach is fairly even and not too steep a supply vessel can be used virtually as a landing craft, except that the ramps have to be fitted over the stern instead of the bow. Her position can be adjusted by the bow anchors, with the final float-off assisted by de-ballasting, heaving on cables, and the use of the main engines and bow thruster.

Should the vessels be operating in pairs, as is the normal practice in offshore drilling, one ship can lie afloat and pass her towline to the beached vessel. Using her towing winch, and the engines and anchor windlasses of both ships, such a tandem arrangement doubles the power available for de-beaching.

### NAVAL DEVELOPMENTS

OVERSEAS there are more modern precedents for using supply vessels as warships. In 1983 three anchor handling supply vessels were sold to the British Ministry of Defence by Seaforth Maritime of Aberdeen, after use as supply vessels in the North Sea. They were the SEAFORTH SAGA, SEAFORTH CHAMPION and SEAFORTH WARRIOR, and were converted and armed in civilian yards as patrol vessels. These ships are presently serving in the Falklands area. Seaforth Maritime also have another vessel, the SEAFORTH CLANSMAN on longterm charter to the Royal Navy.

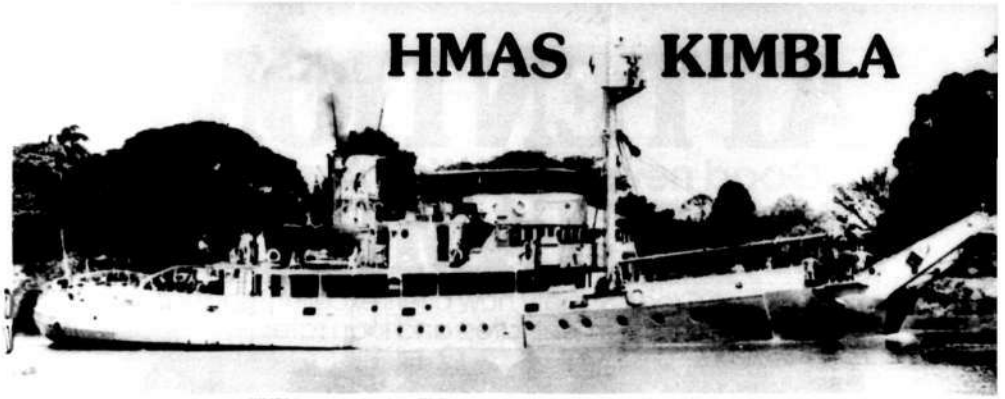
The current charter fee in Australia for a crewed supply vessel can be somewhere between $8000 and $11,500 per day plus fuel, so cost considerations favour the use of these handy little ships also. It would seem as if most of our present fleet of thirty ships could be chartered at a fairly reasonable cost compared with the sort of money required for new capital ships.

Lastly, availability is an important consideration. In a war scenario, it is unlikely that much offshore drilling would continue when and if hostilities commence. The already high risk commercial aspect, ie, the success or failure of the well, would be doubly compounded by possible enemy damage to the vulnerable offshore rigs.

It is likely, then that most of our offshore fleet would become available — and this at the very time when Australia would be looking for ways to increase her maritime forces. Perhaps it is time to study this matter further.

***A helicopter supply drop. The boats are towing the rig GLOMAR MAIN PASS III.***

# HMAS KIMBLA



*KIMBLA as completed by Walkers, proceeds to the open sea for builder's trials.*

| | | |
|---|---|---|
| **TYPE**<br>Oceanographic Research Ship<br>(Ex Boom working Vessel) | **DRAUGHT**<br>12 feet (mean) | **COMPLETED**<br>26th March, 1956 |
| **DISPLACEMENT**<br>733 tons (as Boom Working Vessel)<br>750 tons (as Oceanographic Research Ship) | **BUILDER**<br>Walkers Ltd, Maryborough, Queensland | **ARMAMENT**<br>1 x 40 mm)<br>2 x 20 mm) (as Boom Working Vessel) |
| **LENGTH**<br>179 feet | **LAID DOWN**<br>4th November, 1953 | **SPEED**<br>10 knots |
| **BEAM**<br>32 feet | **LAUNCHED**<br>23rd March, 1955 | **COMMISSIONED**<br>26 March, 1956 |

**KIMBLA commissioned on 26th March, 1956 under the command of Lieutenant-Commander Arthur R. Pearson, RANVR.**

From this time until her return to Sydney for conversion to a Trials Vessel, KIMBLA operated on the Australian coast and in New Guinea waters laying and maintaining moorings. During this time she steamed over 34,000 miles.

After conversion to a Trials Vessel in December 1958 KIMBLA spent three months (January to March 1959) on survey duties in the Lord Howe Island area.

KIMBLA, when designated as an Oceanographic Research Ship, carried out considerable oceanographic research both for naval and scientific purposes, including programmes for the Commonwealth Scientific Research Organisation, universities and museums.

*HMAS KIMBLA, September, 1956, in Sydney Harbour for the first time. Her single 40mm Bofors, abaft the funnel, and the 20mm gun abreast the funnel, are both covered. In the background is the sloop HMAS SWAN.*

*HMAS KIMBLA in November, 1961. She carries the pendant number P225 and a chart house has replaced the Bofors gun. The two 20mm mounts have also been removed.*

KIMBLA also participated in several salvage operations, including:

June 1960. Assisted HMAS WARREGO in salvaging a TAA Fokker Friendship aircraft which crashed into the sea off Mackay, Queensland.

December 1961. Assisted in operations to salvage a Viscount aircraft of Ansett-ANA which crashed off the NSW coast.

October 1962. Salvaged a wrecked RAN Sea Venom aircraft off Jervis Bay.

June 1963. Salvaged the yacht OENONE off Montague Island.

In April/May 1971 she carried out surveys in the New Hebrides and New Caledonia areas. To the end of June 1973 KIMBLA had steamed 213,231.8 miles since commissioning.

More recently KIMBLA's experimental cruises have included a cold front research for the Department of Meterology in the oceans south of Australia and research into the Bass Strait overflow into the Tasman Sea. Although already underwater the overflow forms the largest waterfall in the world as the colder Bass Strait waters plummet into the Tasman.

As one of her final duties the ship monitored sea surface conditions to assist in the calibration of the Shuttle Imaging Radar B (SIR-B) carried onboard the space shuttle COLUMBIA.

KIMBLA began her final cruise flying her paying off pendant on Thursday, 20th December.

*Early 1970s. The ship is now numbered GOR314 and the original lifeboat superseded by containers for inflatable lifeboats.*

*HMAS KIMBLA in 1980. A new enclosed bridge has been added atop the original.*

*Framed in Sydney Harbour in July, 1983. HMAS KIMBLA proceeds to sea with the harbour tug HTS502 in close company, after assisting her from the berth.*

# NAVAL ROUNDUP

*—Compiled by "GAYUNDAH"*

## The News

### NEW NAVY YACHTS

***The first of five yachts to be constructed in Western Australia for the RAN handed over in a naming ceremony recently.***

The ceremony was at the HMAS LEEUWIN boatshed in East Fremantle.

Mrs Paddy Hornsby, wife of HMAS LEEUWIN's Commanding Officer, Commander John Hornsby, christened the yacht in the traditional way after LEEUWIN RC Chaplain, Father Max Davis, blessed the yacht.

Built for sail training, the yachts have been designed by Kim Swarbrick, Assoc RINA of the well known WA company, Swarbrick Brothers Yachts Pty Ltd, of Osborne Park.

"FRIENDSHIP OF LEEUWIN" had been launched on July 16 and rigged at LEEUWIN boatshed under the supervision of Mr Swarbrick.

The boat carried the sail number 3808 and will be followed by **"Charlotte of Cerberus" (3810), "Scarborough of Cerberus"** (3811), **"Alexander of Creswell"** (3807) and **"Lady Penryhyn of Nirimba"** (3809).

The yachts' names were selected to honour ships of the first fleet in 1788. The second two, nearing completion, will carry out trials locally before being transported by road to HMAS CERBERUS in Victoria.

The last two will be delivered to the Royal Australian Naval College, HMAS CRESWELL, at Jervis Bay, the second of these for the naval apprentice training establishment HMAS NIRIMBA.

Construction started on the first of the yachts in March. The contract is worth $440,000.

The five yachts come fully fitted and include cutlery, crockery, bedding, sleeping bags and safety equipment.

Onboard accommodation is for nine and the yachts have equipment for 10 crew members day sailing and eight crew members offshore sailing. An extra set of sails is carried for cruising.

Finished in teak, the yachts, known as S 111s, have a fibreglass hull and are fitted with two radios and a 22hp Yanmar diesel engine.

Designed in 1979-80 as a development of the successful S 80, the yachts have an overall length of 11.10 metres, a beam of 3.20 metres, draft 1.95 metres and displace 4350kg. Ballast is 1900kg.

*(from VIC JEFFERY)*

DARWIN

### "NEW HORIZON" FOR AUSTRALIAN AND INDONESIAN NAVIES

***A combined Australian and Indonesian naval task group sailed from Darwin on Wednesday, November 14 at the beginning of a six day maritime exercise codenamed 'NEW HORIZON 84'.***

Seven Royal Australian Navy and five Indonesian warships carried out a series of exercises including tactical manoeuvres, laying practice mines, gunnery firings, towing, jackstay transfers, replenishment at sea and mine counter measures exercises.

The RAN's Deputy Fleet Commander, Commodore M. D. Jackson was in overall control of the exercise, working with members from the Fleet Staffs of both Navies at the Darwin Naval Headquarters.

In November, 1972, while serving as the Commanding Officer of the destroyer escort HMAS DERWENT, Commodore Jackson participated in the first Australian-Indonesian naval exercises in the Java Sea.

The aim of 'NEW HORIZON' was to exercise the two navies in maritime procedures, to enhance proficiency, and most importantly exchange experience in the conduct of naval operations.

Australian ships taking part included the River Class destroyer escorts HMAS TORRENS, HMAS STUART and HMAS YARRA, the mine hunter HMAS CURLEW and the Fremantle class fast patrol boats HMAS BENDIGO, HMAS GAWLER and HMAS GERALDTON. Indonesia was represented by the frigates KRI MALAHAYATI and KRI NGURAH RAI and the fast missile boats KRI KERIS and KRI RENCONG.

For the first time in the NEW HORIZON series RAAF Mirage fighters from No 75 Squadron participated.

After their week at sea the participating ships conducted a combined Task Group fleet entry into Darwin on November 19th.

### EXERCISE SANDGROPER '84

***Australia, New Zealand, the United Kingdom and the United States began a maritime exercise in the Indian Ocean on 12th October, 1984.***

The exercise, named Sandgroper '84, continued until 27th October, in the north-east Indian Ocean and off the West Australian coast between North West Cape and Fremantle. It was the fourth exercise in the Sandgroper series which began in 1978.

RAN units taking part included HMA Ships STALWART, SUPPLY, BRISBANE, SYDNEY, YARRA, STUART and TORRENS, together with HMA Submarine OXLEY and an HS748 electronic warfare aircraft. The RAAF contributed F111 strike aircraft, Mirage interceptors and P3 Orion maritime patrol aircraft, supported by C130 Hercules and Boeing 707 transports.

New Zealand was represented by the frigate HMNZS WAIKATO and an RNZAF P3 Orion aircraft.

The United Kingdom provided a Nimrod maritime patrol aircraft, and the United States a Spruance class destroyer and F-16 fighter aircraft.

### KEEL LAYING FOR NEW NAVY MINEHUNTERS

***The Chief of Naval Material, Rear Admiral W. J. Rourke, laid the 'keel' of the first of a new class of naval vessels at Tomago, near Newcastle, on Thursday, 16th August.***

The ship is a glass-reinforced plastic minehunter catamaran being built by Ramsay Fibreglass Australasia, a division of Carrington Slipways.

Because of the unconventional nature of the ship, the 'keel' laying was in fact the final application of hull foam to the mould.

The Minister for Defence, Mr Gordon Scholes, said the new class of ships, designed by the Department of Defence, was the first of its type in the world.

"This project is particularly important to Australian industry as it introduces new technology and construction methods," Mr Scholes said.

"The prototypes are being built in a unique facility which was specifically designed and built for the project.

"The Government has authorised construction of the facility and two prototypes at a cost of $23.6 million.

"If the prototypes prove successful the construction of further ships will be authorised," Mr Scholes said.

The inshore minehunter catamarans will be known collectively as the Bay class. The lead ship will be named HMAS RUSHCUTTER, after the bay in Sydney Harbour. Rushcutter was also the name of a former RAN shore establishment which was closely associated with mine warfare until it was decommissioned in 1968. The second of the class will be named HMAS SHOALWATER, after the Queensland bay where many defence exercises have been conducted.

Building of HMAS RUSHCUTTER is due for completion in 1986, with HMAS SHOALWATER following some seven months later.

### LAUNCHING OF HMAS BUNBURY

***HMAS BUNBURY, the last of 14 Fremantle class patrol boats to be built for the Royal Australian Navy by North Queensland Engineers and Agents (NQEA) Pty Ltd, was launched on Saturday, 3rd November, at Cairns, Queensland.***

The patrol boat was launched by Mrs Mary Beazley, whose husband Kim is the Minister Assisting the Minister for Defence.

Fremantle class boats are armed with an updated 40mm gun and have a patrol range of more than 3000 nautical miles. The first of the class was launched in the United Kingdom in 1979 and the remainder have been built by NQEA.

After being commissioned in December, the new HMAS BUNBURY will be based at HMAS Stirling in Western Australia. The patrol boat will have a complement of 22 under the command of Lieutenant Commander David Oliver.

## THE EUROPEAN REPORT

**ANTONY PRESTON, Naval Editor, Jane's Defence Weekly**

### Royal Navy

***Two of the Royal Navy's largest ships have been in the news recently.***

The most important is the 20,000-ton support carrier ARK ROYAL, which started her contractors' sea trials on 19 October. Originally to have been named INDOMITABLE, but renamed when the old fixed-wing carrier paid off in December 1978, she incorporates many improvements over her two sisters INVINCIBLE and ILLUSTRIOUS, and when she joins the fleet next March she promises to be a very useful addition.

Externally the biggest difference is the provision of more defensive guns, three Vulcan Phalanx close-in anti-missile 'Gatlings' and two twin 30mm Oerlikons. The gun-positions are different: one Phalanx on the centreline in the bows, one right aft on the port side, and one on the starboard side of the ship, forward of the island. The twin 30mm guns are sponsored amidships, one outboard of the island and the other at hangar deck level, on the port side.

The general appearance of the ship is enhanced by the sweep of the ski-jump, which is carried further forward than in her sisters, with an exit angle of 12 deg, instead of 6½ deg. This extra angle is the maximum for giving extra payload to the FRS.1 Sea Harrier without imposing undue strain on the aircraft's undercarriage. Internally much of the layout is changed, with additional workshops and stowage for sonobuoys and Stingray ASW torpedoes. The ship will initially operate HAS.5 Sea King helicopters with her Sea Harriers, but provision is made for the new Anglo-Italian EH101 helicopter.

The other large ship is the Seabed Operations Vessel HMS CHALLENGER, which joined the fleet in August. At 7200 tonnes (standard) she is the third largest ship in the RN, and is also distinguished by the fact that her captain has advanced from the rank of petty officer to captain in only ten years. The ship, claimed to be unique in her range of capabilities, reflects the great interest in diving at maximum depths, not only to recover objects but to service such equipment as seabed sensors.

The ship's main feature is a saturation diving system, virtually a closed environment in which 12 divers can live on an oxygen-helium mixture for 2-3 months. In this situation they live in a type of 'inner space', with their state of health monitored from outside, and all decisions on diet, work-load and general state of health decided for them by 'mission control'.

The ship operates two submersibles (one unmanned) and a diving bell. For precise seabed operations she is fitted with a high-definition Type 193M minehunting sonar and a dynamic positioning system. Using her two Voith-Schneider cycloidal propellers she can literally turn in her own length or crab sideways, manoeuvrability which has to be seen to be believed.

### New Weapons Fired Live

The decommissioned DLG DEVONSHIRE was sunk in June during trials in the Atlantic. On the first day she was badly damaged by a hit on the starboard side amidships by a Sea Eagle anti-ship missile fired by an RAF Buccaneer strike aircraft. Then a day later the nuclear hunter-killer submarine HMS SPLENDID fired a single Mk.24 Mod.1 Tigerfish wire-guided torpedo from the port side. The torpedo's proximity fuse detonated the torpedo under the DEVONSHIRE, breaking her back and ripping up through the hull. Shortly afterwards the DEVONSHIRE rolled over to starboard and sank.

Sea Eagle is coming into service with the RAF's maritime strike squadrons and the Fleet Air Arm's Sea Harriers, but earlier this year the US Harpoon was chosen for new surface ships, in preference to an as-yet unflown ship-launched version of Sea Eagle. The choice may seem puzzling in view of the effort put into Sea Eagle by the British, but the choice of Harpoon gives the RN a weapon common to its submarines, which have been getting Sub-Harpoon since 1982. There is a further degree of commonality with the RAF's Nimrods, which are armed with the air-launched Harpoon.

The new 'C' class or Batch 3 Type 22 frigates will each have eight canister-launched Harpoons, as will the 'D' class or Type 23 frigates. There is no question of refitting the earlier ships (AMAZON, LEANDER, BROADSWORD and BOXER class frigates) with Harpoon, but the French are proposing a much cheaper deal. This involves replacing the existing MM.38 Exocet missiles with twice the number of the MM.40 version. Not only would the RN's ships double their firepower but they would also have more range, as the MM.40 Exocet can reach out to 70km. The existing launcher-ramps would be used, and only slight modification would be needed to the below-decks fire control unit.

### Mines in the Red Sea

For years naval theorists have debated the possibility of mines being laid in international waters, but in July it became obvious that some agency had laid mines in the Red Sea and the Gulf of Suez. As many as 18 merchant ships reported varying degrees of damage from underwater explosions, and in August the Americans, British, Dutch, French and Italians sent mine counter-measures forces into the Red Sea, in response to a call for help from the Egyptian Government. The French and Dutch ships included four of the new Tripartite type, while the Americans sent in the LSD SHREVEPORT with a squadron of minesweeping RH-53D Sea Stallion helicopters.

At the beginning of October the Royal Navy revealed that on 12 September the minehunter (ex-coastal minesweeper) HMS GAVINTON had located a mine and had recovered it. The mine is officially claimed to be of Soviet design, but almost certainly laid by an export customer. The Egyptians placed the blame fairly and squarely on Libya, a view supported by the discovery that the mine contained only about 20% of its full charge of explosive — capable of disrupting shipping without causing severe damage. Although some reports suggested that a Libyan aircraft laid some mines, the general belief is that the field was laid by a Libyan Ro-Ro ship, the SS GHAT.

## SWEDEN

***The Swedish Navy's tribulations with unwanted intruders in coastal waters is leading to a revived interest in anti-submarine warfare, as well as mine counter-measures.***

It has been officially announced that the new STOCKHOLM class missile boats will have an alternative role as anti-submarine corvettes, and the new LANDSORT class GRP minehunters will also have an ASW role. The apparently poor performance of Swedish ships and aircraft in their attempts to trap or destroy the various submarines and seabed vehicles known to be operating inside territorial waters should be seen against the background of Swedish politics. On the one hand the Navy's ASW capability has been all but destroyed since 1967, in favour of submarine and surface strike. On the other, the attitude of the Foreign Ministry has, to put it mildly, been one of appeasement; attempts by the Navy to draw attention to these incursions have been derided in the past as attempts to inflate the naval budget.

To combat the threat the Swedes have bought two new French sonars, the TSM2642, a variable-depth search set designed for working in shallow water, and the TSM2022 bottom search set for minehunting. But what needs even more attention is training, for after a gap of 17 years there are not sufficient skilled sonar specialists capable of operating and maintaining modern equipment.

## DENMARK

***The Royal Danish Navy, which currently operates five diesel-electric submarines, is looking for ways to replace the boats without incurring the enormous cost of a new building programme.***

The cost of joining Norway in buying IKL Type 210 submarines from Germany would be at least $US750 million, a figure which is causing the Opposition Social Democratic Party to propose that the RDN's submarine squadron should be abolished. The minority Conservative Party, which holds power, wishes to retain the submarines as an important contribution to NATO's Baltic Approaches Command.

A solution put up recently is to 'hire' the six Type 205 submarines currently serving in the Federal German Navy, when they are phased out shortly. These 450-ton boats were built in 1965-69 and were the first operational German submarines since 1944/5. U1-2 and U9-12 (the remaining six have already been scrapped) would cost an estimated $450 million Danish crowns to make them fit for further service, and to bring them into line with Danish Navy weaponry. Danish submarines are currently armed with Swedish anti-ship and anti-submarine torpedoes and Dutch sonars.

The notion of hiring warships seems to have overtones of national humiliation, but there are numerous historical precedents. In effect the Royal Navy hired out cruisers to Australia in the 1890s, not only as a way of offsetting the burden of defending the Colonies, but also ensuring that there was an homogeneous squadron of ships in Australian waters, manned by experienced crews. When the Admiralty was drawing up plans in 1938 for the additional battleship which eventually became HMS VANGUARD, one proposal for wangling the funds out of the Treasury was a suggestion that she should be lent to the RAN as a flagship. The rationale was that her main task would be to fight the Japanese, so the fact that she would be kept in Australian waters in wartime would not be a disadvantage.

## SOVIET DEVELOPMENTS

***The second of the KIROV class nuclear 'battlecruisers', the FRUNZE appeared in the Baltic in the spring.***

Surprisingly, she shows several differences from her sister: twin 130mm guns in place of single 100mm guns aft; no SS-N-14 ASW missiles forward; and SA-N-8 SAMs added. So far there is no news of any further units of the class, but their appearance will undoubtedly be linked to any future plans for building nuclear attack carriers (CVNs). Satellite photographs recently published in **Jane's Defence Weekly** purport to show a large hull approximately 1000ft long in the Black Sea Shipyard in Nikolaiev. If correctly interpreted, they suggest a ship of 60-70,000 tons, at least halfway to launch.

Another newcomer is the 'Sierra' class nuclear hunter-killer submarine which was snapped off Norway for the first time in August. She appears similar to the 'Victor III', with what may be a fairing for a towed array or torpedo decoy on top of the rudder fin. US sources credit the 'Sierra' with an armament of six 533mm torpedo tubes, from which she can also launch the SS-NX-21 'Tomahawkski' cruise missile. Twin reactors are reported to produce a submerged speed of 32 knots.

The role of the new class would appear to be the classic hunter-killer mission. They are almost certainly intended to replace the 'November' class, which came into service between 1958 and 1962; the 12 boats still in service are noisy and of limited military value.

# The Photographs

*Three RAN participants in "New Horizon", HMA Ships YARRA (inboard), STUART and DERWENT, at Stokes Hill Wharf, Darwin.*

*KRI NGURAH RAI, formerly USS McMORRIS.*

*The Indonesian frigate KRI MALAHAYATI.*

*KRI RENCONG.*

*KRI MALAHAYATI.*

*KRI KERIS*



*USS CUSHING visited Sydney in mid-October after participating in Exercise SANDGROPER.*

*The first three of the RAN's sail training yachts, FRIENDSHIP of Leeuwin, CHARLOTTE OF CERBERUS and SCARBOROUGH OF CERBERUS, pictured at the HMAS Leeuwin boatshed on the Swan River in Western Australia. CHARLOTTE and SCARBOROUGH are awaiting delivery to HMAS Cerberus via road transport.* (Photo – ABPH E. Pitman, RAN)

*Conspicuous with its high superstructure, the United States Navy oiler USS CIMARRON (AO-177) is seen arriving in the Port of Fremantle in WA on 28th September. Accompanied by the destroyers USS WADDELL and USS CUSHING, CIMARRON was alongside for seven days for a rest-and-recreation visit.* (Photo – ABPH E. Pitman, RAN)

*The 40-year-old United States Navy submarine depot ship USS PROTEUS visited the Port of Fremantle between 13th and 19th September. One of the oldest ships in the US fleet, PROTEUS is pictured entering Fremantle harbour.* (Photo – ABPH E. Pitman, RAN)

*Departing from HMAS Stirling in Western Australia on 25th September, after a seven day rest-and-recreation visit, the United States Navy Los Angeles class submarine, USS CITY OF CORPUS CHRISTI. This was the fourth US submarine to visit HMAS Stirling this year.* (Photo – ABPH E. Pitman, RAN)


*From Wright & Logan* *HMAS SHROPSHIRE, May, 1946.* ***(Photo – Wright & Logan)***

**9.11.29** Left the UK for service in CS.1, Med Fleet.
**4.4.32** Arr Chatham and paid off. Recmd next day for CS.1.
**29.4.32** Arr Gibraltar for the Med Fleet.
**28.11.34** Arr Chatham and paid off. Back in Med in 12.34.
**8.35** At Alexandria for the Abyssinian Crisis.
**Early .36** With EXETER carried troops from Malta to Alex.
**22.8.36** Relieved LONDON at Barcelona controlling evacuation of refugees from the Spanish Civil War. Relieved by LONDON on 15.9.36.
**.37** At Chatham for a 4-month refit; cmd 10.11.37 Chatham: for further service in CS.1.
**23.7.38** Rescued survivors of the Danish freighter 'Bodil" sunk by A/C off Barcelona.
**19.9.38** Became Flag of R.Adm J. D. H. Cunningham (until 25.5.39).
**6.9.38** With CS.1 at Alexandra.
**11.9.39** Arr Malta, leaving same day for Gibraltar; left there on 13th and arr Marseilles on 15th.
**16.9.39** Arr Malta for a quick docking. Left on 18th and arr Alex on 20th.
**2.10.39** Left Alex; left Suez on 3rd and attached S Atlantic Cmd.
**14.10.39** At Simonstown. With SUSSEX (raider hunting group Force H) operating off the Cape searching for GRAF SPEE.
**23.10.39** Left Capetown, returning on 24th.
**27.10.39** to 7.11 operating from Capetown.
**11.11.39** Left the Cape for the Plate area; returned 23.11.39.
**3.12.39** Arr Simonstown leaving later same day and with SUSSEX proceeded to the Capetown-St Helena trade route.
**9.12.39** Intercepted the blockade runner 'Adolf Leonhardt' which was scuttled to avoid capture in the S Atlantic.
**15.12.39** Arr Capetown, leaving same day for Plate area. Diverted to Rio de Janeiro on 18th.
**28.12.39** Rio area; arr Falklands 18.1.40.
**21.1.40** Left Falklands in company with DORSETSHIRE as escort to the battle-damaged EXETER from Port Stanley to Plymouth. Later, ships of the Home Fleet took over.
**2.40** Refit Simonstown, completed 16.3.40.
**20.5.40** SHROPSHIRE replaced CANBERRA (RAN) as one of the escorts to troop convoy US.3 in the Indian Ocean en route from Australia & New Zealand to the UK. US.3 arr Capetown on 26th and on 31.5 left with CUMBERLAND & SHROPSHIRE as escorts, arriving Freetown on 7.6.40.
**8.6.40** US.3 and the cruisers left Freetown escorted in addition by HERMES until 10.6 and from 12.6 to 14.6.40 by DEVONSHIRE. On 14.6, convoy and escorts were met west of Gib. by HOOD, ARGUS and 6 destroyers. Two more destroyers joined the convoy next day.
**16.6.40** Convoy and escorts arr Clyde.
**6.40** to 7.40 Refitted on the Clyde.
**16.7.40** With SUSSEX, SOUTHAMPTON, GLASGOW and 8 destroyers left Scapa to intercept German ships believed to be making a sortie in the North Sea. The German ships returned to harbour in the afternoon. In the return to Scapa, GLASGOW accidently rammed and sank the destroyer IMOGEN in thick fog. Above ships, less GLASGOW & IMOGEN, arr Scapa late 16th.
**28.8.40** Arr Simonstown for East Indies Command.
**9.40** to 10.40 At Colombo.
**8.10.40** Arr Aden and joined Red Sea Force. E Indies again 12.40.
**2.41** Lent Force T.
**2.2.41** With CERES & COLOMBO blockaded Kiamayu.
**10.2.41** to 25.2 With HERMES, HAWKINS, CAPETOWN, CERES, KANDAHAR formed Force T supporting the advance into Italian Somaliland.
**14.2.41** Shelled Italian positions at Mogadishu in support of the entry of UK troops into that town. SHROPSHIRE caused heavy casualties in the Brava area and sank the tanker 'Pensilvania' in Mogadishu harbour.
**22.2.41** to 26.2 SHROPSHIRE, AUSTRALIA, CANBERRA, GLASGOW, EMERALD & ENTERPRISE formed a raider-hunting group searching for ADMIRAL SCHEER.
**3.41** to 7.5.41 Refit at Simonstown.
**20.6.41** Relieved by MAURITUS in the E Indies at Colombo.
**8.41** CS.1, Home Fleet.

**18.8.41** With PRINCE OF WALES, RAMILLIES, HECLA and 5 destroyers arr Hvalfjord and sailed for Scapa, arriving on 20th.

**30.8.41** Left Scapa with 3 destroyers to escort ARGUS ferrying A/C to Russia. On 4.9 met by VICTORIOUS, DEVONSHIRE, SUFFOLK and destroyers. A/C flown off ARGUS on 7.9.41.

**14.9.41** Arr Scapa; left on 28th.

**1.41** to 16.2.42 Refit at Chatham.

**3.42** to 7.42 S Atlantic Station. Left Clyde 23.3 and at Simonstown in 4.42.

**8.9.42** Four weeks after the loss of CANBERRA, the Admiralty offered SHROPSHIRE as a replacement. The offer was in terms of a free gift and was entirely unconditional. The Australian Govt accepted and the ship was ordered to cut short her commission and prepare for refit and subsequent transfer. At this stage in her life she had steamed 364,000 miles since first commissioning in 9.29, of which 220,000 had been since the outbreak of war.

**9.42** Refit at Simonstown. With transfer imminent, her first RAN Captain assumed command at Scapa on 28.12.42. Shortly afterwards the ship paid off her RN company and entered Chatham DY for a refit. Towards the end of the refit the transfer was negotiated and on 20.4.43 she recommissioned as HMAS. The decision not to rename her was taken because of the ties (particularly monetary) with the County who had paid for her.

**25.6.43** Officially listed as a RAN ship and shortly afterwards left Chatham.

**1.7.43** Left the Thames for Scapa to work-up.

**13.8.43** Left Scapa and arr Fremantle 24.9.43. Refit Sydney 10.43.

**39.10.43** Joined TF.74 at Brisbane.

**5.11.43** With AUSTRALIA arr Milne Bay, Papua, for patrol with TF.74 to New Hebrides.

**11.11.43** Sai'ed for Point Purvis during the assault on Bougainville. Returned to Milne Bay on 17th.

**13.12.43** to 14.12 Covered US landings at Arave, New Britain.

**24.12.43** With TF.74 left Milne Bay to join in assault on Cape Gloucester. Part of TG.74/1 with AUSTRALIA.

**26.12.43** Shelled Jap positions on the assault beaches at Cape Gloucester. Established a record among fire support ships for accuracy of fire and excellence of her radar and its operation. On completion retired to Buna.

**2.1.44** to 23.1.44 with AUSTRALIA covered US landings at Saidor New Guinea.

**23.1.44** to 26.1 With AUSTRALIA basd at Milne Bay for exercises and patrols with US cruisers.

**27.1.44** Left Milne Bay and arr Sydney on 30th for leave period.

**7.2.44** Became Flag of TF.74 vice AUSTRALIA, left Sydney on 9th arriving Milne Bay on 13th for local patrols.

**29.2.44** to 3.44 On passage to Sudest; thence with US ships of TF.74 sailed 2.3.44 to the Admiralty Is. Shelled Jap batteries there on 4th during US assault in Seeadler area.

**7.3.44** With US ships shelled Jap guns in entrance to Seeadler harbour, firing 64-8" and 92-4" shells. Returned on 8th to Sudest to replenish.

**11.3.44** Arr Milne Bay with TF.74.

**14.4.44** TF.74 left Milne Bay and arr Sudest next day for duty under CTF.77 in TF.77's attack on Aitape, Tanamerah and Humboldt Bay in Dutch New Guinea.

**18.4.44** to 19.4 on passage Sudest to Seeadler. Sailed on 20th to join TF.77 NW of Admiralty Is and then headed for New Guinea.

**22.4.44** Tanamerah Bay Landings. Close support off beaches until 30.4.44.

**4.5.44** TF.74 returned to Seeadler; exercises 5.5 to 15.5.44, then sailed for Tanamerah Bay.

**17.5.44** Left to bombard Savar and Saimai, Dutch New Guinea. After shelling, went on patrol until 22.5 then left for Humboldt Bay. Left there on 25.5 to take part in the assault on Biak, shelling Jap fporces there on 27th.

**28.5.44** Developed trouble in one propellor shaft and on 3 shafts sailed to Sydney for repairs. Docked there 3.6 to 29.6.

**6.7.44** Rejoined TF.74 in Humboldt Bay.

**12.7.44** Left Seeadler for Aitape, arriving next day. Shelled Jap forces on 14th who were resisting US drive on Aitape.

**15.7.44** to 22.7 Patrolled area as support for US PT boats.

**25.7.44** Returned to Humboldt Bay with ARUNTA and US destroyers.

**28.7.44** Sailed to r/v with TF.75. Combined force (denoted TF.78) was to cover the assault on Cape Sansapor.

**30.7.44** Assault on Cape Sansapor. Patrolled beach area then proceeded to Mios Wundi to replenish.

**8.44** Supporting force in Sansapor area. Throughout the month was the only RAN ship in TF.74, all others being detached to refit or on other duties.

**1.9.44** At Seeadler. Rejoined there by AUSTRALIA and TG.75/2 formed.

**10.9.44** Left Seeadler for Humboldt Bay, arriving next day.

**12.9.44** Force moved to Biak to support landings at Morotai.

**15.9.44** to 16.9 shelled Morotai beaches, covering US assault.

**18.9.44** TF moved to Mios Wundi.

**10.44** Part of TG.77/3 with AUSTRALIA, USS BOISE, USS PHOENIX, ARUNTA, WARRAMUNGA and 5 US destroyers, providing close support for TF.78 during assault in Leyte, Philippines.

**11.10.44** Left Manus for Hollandia. Arr on 12th and force was redesignated TU.77/3.2, part of TG.77/3 Sailed on 13.10 to escort assault convoy to Leyte.

**20.10.44** Arr off Leyte; shelled beachhead. On 21st hoisted Flag of RAN ships after AUSTRALIA had been damaged. Patrolled off beaches 21.10 to 23.10 and gave fire support in company with ARUNTA and US destroyers.

**24.10.44** to 25.10. Battle of Leyte Gulf: the greatest sea battle in recorded history. SHROPSHIRE involved in the Battle of Surigao Strait on right flank with ARUNTA, PHOENIX, BOISE and 5 US destroyers. At 0350 on 25th went into action opening fire at 15,000 yds on the Jap battle line, MOGAMI, SHIGURE and YAMASHIRO. Between 0356 and 0410 fired 32 eight-gun broadsides with a high rate of fire, up to 8 broadsides in two minutes, the highest ever achieved. (Since 12.43 had fired 2396 8" shells). All the Jap ships were sunk during the action and SHROPSHIRE joined in the general chase up the strait after another, damaged, group of Jap ships. When the enemy got away, SHROPSHIRE began patrols off the entrance to the Strait.

**29.10.44** With ARUNTA and US ships formed into TG.77/1. Until 15.11 patrolled and gave fire support to US forces ashore on Leyte. On 1.11 was attacked by a Kamikaze aircraft which near-missed the cruiser and crashed into the US destroyer ABNER READ nearby. The destroyer rolled over and sank, firing its torpedoes accidently as it went. SHROPSHIRE took violent avoiding action and the torpedoes just missed.

**16.11.44** With US battleships and cruisers sailed for Manus; arr 21.11.

**4.12.44** Rejoined by AUSTRALIA and became part of TG.74/1.

**15.12.44** to 21.12 Part of covering force during landings on Mindoro.

**26.12.44** TF.74/1 left Seeadler for Kossol Roads, Palau Is. Spent three days in the islands.

**1.1.45** Force arr Leyte to join Fire Support Group TG.77/2.

**3.1.45** Sailed for Lingayen Gulf, Luzon, with US carrier force TG.77/4.

**6.1.45** Began bombardment of Lingayen beaches. Kamikaze attacks started. One A/C just missed AUSTRALIA, passed down the starboard side of SHROPSHIRE at masthead height, getting its tail shot away in the process and crashed into the USS NEW MEXICO. Eight minutes later another narrowly missed 'B' turret and dived into the sea.

**7.1.45** to 9.1.45 Further bombardments.

**10.1.45** to 18.1 Operations of Luzon, in Luzon Defence Force in support of a group of escort carriers. Then until 10.2.45 patrols off Luzon. Between 10.2 and 15.2 was part of TU.77.

**15.2.45** Left Lingayen area and on same day took part in assault on Corregidor wuth USS PORTLAND and USS MINNEAPOLIS. Fired 48-8" shells at start of bombardment on 16th.

**17.2.45** Returned to Lingayen.

**28.2.45** Sailed for Leyte.



**1.3.45** Squadron disbanded and ship sailed for Manus.

**5.3.45** Arr Seeadler.

**10.3.45** to 16.3 On passage to Sydney from Seeadler.

**4.45** to 5.45 Refitted at Sydney; work-up 6.45 then sailed for the East Indies, arriving Tavi-tavi 13.6.45.

**15.6.45** With TG.74/1 sailed for Brunei arriving on 17th.

**18.6.45** to 19.6 shelled Labuan Island, west of Borneo.

**22.6.45** Left for Tavi-tavi, arriving on 24th.

**26.6.45** to 27.6 On passage to Balikpapan, Borneo to form Cruiser Covering Group TG.74/2 for assault there.

**27.6.45** to 1.7.45 Shelled Balikpapani further bombardments of Balikpapan until 0.7.45 then left for Tavi-tavi; arr 11.7.

**11.7.45** to 14.7 Sailed to Subic Bay, Philippines to rejoin the US pacific forces.

**19.7.45** Left Subic for Manila.

**23.7.45** Sailed to join TF.74 in Subic Bay, arriving 26.7.45.

**15.8.45** In Subic Bay when the Japanese surrendered.

**17.8.45** Left for Japan via Manila and Okinawa.

**31.8.45** As part of TG.70/9 at Oshima, proceeded to Tokyo.

**9.45** Repatriation of British and Commonwealth POWs from Japan.

**17.11.45** Left Japanese waters for Sydney after transferring Flag to HOBART.

**3.45** At Sydney.

**5.46** Left Sydney for the UK carrying the Australian contingent for the Empire Victory celebrations; arr Portsmouth 30.5.

**10.7.46** Arr Malta and left on 12th for Sydney, arriving on 28.8.46.

**9.46** to 11.46 Refit at Sydney.

**1.47** In Japanese waters.

**3.47** Arr Sydney to pay off into reserve.

**16.7.54** Sold as scrap to T. W. Ward on behalf of B.I.&S.Co.

**9.10.54** Left Sydney in tow of Dutch tug 'Oostzee' bound for the shipbreakers, arriving 20.1.55 at Dalmuir to scrap by W. H. Arnott Young.

**19.9.55** Hull towed to Troon to complete scrapping.

**Modifications after completion:**

(1) **when refitted in 1937,** the AA armament was strengthened by the addition of four single 4" AA guns abreast the first and second funnels. Four single 2pdr AA guns between the funnels were removed and 8-0.5"AA (2x4) guns added in the bridge wings. A second HA.DCT was added on the bridge abaft the LA.DCT.

(2) **On completion of the modernisation refit for service in the RAN completed at Chatham 1943:** Armament included: 8-8" (4x2 – in A, B, X & Y positions); 8-4"AA (4x2 – on weather deck to port and starboard abreast the third funnel and former catapult position); 16-2pdr AA 2x8 – on either side of the after superstructure); 18-20mm AA (7x2 plus 4x1) guns and 8-21" TT (2x4). Aircraft and catapult were removed and tripod masts, with AR.RDF type 281 at the mastheads installed fore and aft. AR.RDF type 285 fitted on HA.DCTs on the bridge and after superstructure. SW.RDF type 273 fitted on the after superstructure and AR.RDF type 282 fitted on DCTs for the 2pdr guns. The 4" AA gun mountings were fitted with remote power control.

(3) **Refit at Sydney completed 29.6.44:** The torpedo tubes were removed. 2-40mm AA (2x1 – replacing 1x2 and 2x1 20mm guns) were added. 7-20mm AA (5x1 and 1x2) guns added.

(4) **Refit at Sydney completed in 5.45:** 13-40mm AA (13x1) guns were added and all 20mm AA guns removed. SR.RDF type 7 (not type 284 nor 274) added on the LA.DCT. GW.RDF type 293 and GW.RDF type 277 were added on the foremast.

# BOOK REVIEWS


## "HMAS VAMPIRE — 25 Years"

*Compiled by*
**ROSS GILLETT,** *Fleet Public Relations Officer*
*Published by* **HMAS VAMPIRE**
*Price* **$4.00** *(including postage)*
*Reviewed by* **"PALUMA"**

On 23rd June, 1984, the Royal Australian Navy's last operational Daring class destroyer celebrated her Silver Jubilee.

To mark the event, the ship requested the FPRO to compile a brief tribute to the destroyer since 1959. The result is a 36 page booklet describing the operational career of VAMPIRE, backed up by chapters devoted to her construction and commissioning, modernisation, Royal Duties, training the fleet, the ship today and a history of the first ship of the name.

A number of VAMPIRE's personalities, both past and present, assisted with the book. The foreword was written by CAPT Peel, the ship's first Commanding Officer, the introduction by CMDR Jones, the Commanding Officer in June 1984 as well as the Fleet Commander, RADM Geoffrey Woolrych, who prepared "An Affectionate Recollection".

In addition to the excellent range of photographs, from under construction in October, 1953, to the ship today in 1984, the booklet includes numerous reprints from Navy News, line drawings, technical data, a list of commanding officers, copies of some important signals and even a number of cartoons.

VAMPIRE is expected to remain in commission, satisfying training requirements for the Fleet, for a number of years yet. I'm sure we all hope she reaches 30.

*HMAS VAMPIRE 25 Years* is strongly recommended to both naval historians and ex-crew members.

*Copies can be ordered from*
**PRO HMAS VAMPIRE**
**Warship Section**
**International Mail Centre**
**Sydney, NSW, 2890**
Cost is **$4.00** including postage

## "HMAS SYDNEY — Fact, Fantasy, Fraud"

*by* **BARBARA WINTER**
*Published by* **Boolarong Publications, Brisbane, 1984**
*Reviewed by* **L. H. PYKE**

Here is another chronicle of the events surrounding the mysterious sinking of HMAS SYDNEY, with all hands, in 1941. We have had several such reviews and, with the passage of time, they have become less and less emotional.

This book is a scholarly approach, done over a long period, and documented well. It shows where some errors of translation, interrogation, recording and judgement could have occurred in the questioning of the survivors from the German raider KORMORAN. It also shows, in a skilful style, where some of the more emotional stories lose their bases in fact.

In short, the book is written from the point of view of a careful historian and cuts neatly through the evidence about the disaster. Barbara Winter has done her job well and has set another bench mark in naval history work. The story of that fateful exchange, off Shark Bay, Western Australia is well documented in the book. The supporting illustrations and photography vividly bring back one of the greatest tragedies of Australia in wartime.

The structure of the book gives a hint of the sympathies of the authoress. Of nearly three hundred pages, only about one-third is written about the title, HMAS SYDNEY. The remaining majority is about the raider KORMORAN and its activities during the war. When one considers that Barbara Winter has strong links with Europe and indeed studied in Germany, this is hardly surprising. Perhaps her book could be translated and read with great interest in the home country of the survivors of the KORMORAN.

It is a book which needs study and is lightened by various dramatic pictures — "a Viking funeral" is one of the most dramatic, referring to the disappearance of the burning SYDNEY over the horizon, never to be seen again.

As with all carefully researched books of this nature, there are lessons to be learnt. The haphazard and incompetent early questioning of the survivors of the German raider gave rise to many of the initial emotions and rumours. The handling of subsequent interrogation and the allusions to possible fraudulent dealing with evidence shows that such cover-up actions do not stand the test of time.

Barbara Winter exhibits diligent research and analysis. Her book is a model for naval historians.

## "AIRCRAFT CARRIERS OF THE WORLD, 1914 TO THE PRESENT"

*By* **ROGER CHESNEAU**
*Published by* **Arms & Armour Press**
*Review Copy from* **Thomas C. Lothian, 11 Munro Street, Port Melbourne, 3207**
*Price* **$65.00**
*Reviewed by* **ROSS GILLETT**

In 288 pages Roger Chesneau has successfully described and illustrated over 360 carriers constructed or only projected for the world's fighting fleets.

He has achieved this by introducing the book with the evolution of the aircraft carrier and the role of the ships from the earliest times through to the 1980s. But the major part of the publication is devoted to the carriers of fourteen nations, from Argentina to the United States.

Although by far the United States has operated dozens more carriers than any other nation, it is Great Britain and its Royal Navy which has commissioned a larger number of separate classes.

The Royal Australian Navy also gets a mention in "Aircraft Carriers of the World" with ALBATROSS, SYDNEY, VENGEANCE and MELBOURNE described and illustrated in four and a half pages. Each carrier's description is broken up into statistical information, design, modernisation and service notes. For Australia, line drawings of SYDNEY and MELBOURNE are also featured.

One comment under ALBATROSS deserves further mention. Under "Modifications" the author states "believed none in Australian service". I'm sure LEUT Joe Straczek, who wrote an extensive article on

the seaplane carrier for "The Navy" magazine a few issues back, would disagree with such a statement.

Other ships with Australian connections which feature in the book include MINAS GERAIS (ex VENGEANCE), HMS NAIRANA (ex Bass Strait steamer) and HMS INVINCIBLE (HMAS AUSTRALIA III!)

A large majority of the photographs in the book are previously unused and with good quality paper have reproduced as well as could be expected. One unusual photograph which caught my attention was HMS CAMPANIA during her second conversion. A flying-off ramp, angled downwards, is fitted from the funnels towards the bow. *Something like an early skijump, but angled the wrong way!*

Summing up, I found "Aircraft Carriers of the World" a well written book, backed up by excellent photographs and good page layouts. Naval readers have been waiting for many years for a book of this type. They will not be disappointed.

### "WARSHIP 31"

*Edited by* **RANDAL GRAY**
*Published by* **Conway Maritime Press, 24 Bride Lane, Fleet Street, London, EC4Y 8DR**
*Reviewed by* **"PALUMA"**

A new editor, Randal Gray, makes his debut in this issue of "Warship". By far the most interesting articles include GRAF ZEPPELIN, the first part of a history and development of the Nazi aircraft carrier and the "Reborn Battleships" which studies the new life given the USN's Iowa class battleships.

Scattered around the vast Australian coast are the remains of several warships built for the Colonial Navies. In Norway, one of their 1887 vintage gunboats is still afloat as a car ferry. Other articles deal with the Arethusa class cruisers, Japanese Escorts and German Type II U-boats, plus Marconi class submarines at war.

A superb front cover shows NEW JERSEY prior to modernisation.

### "SUBMARINE DESIGN & DEVELOPMENT"

*By* **NORMAN FRIEDMAN**
*Published by* **Conway Maritime Press**
*Reviewed by* **ROSS GILLETT**

First came "Battleship Design & Development", then "Modern Warship Design & Development". The book under review here is the third in a series which is designed to explain in layman's terms why, rather than how or when, technical and tactical developments occur.

Today, the submarine is fast establishing itself as the capital ship of many of the world's navies. In "Submarine Design & Development" Norman Friedman discusses the nature of submarine warfare, design constraints and compromises, the era of the submersible 1900-45, the fast submarine, post-war development in the west, some Soviet views, third world boats, weapons, tactics, nuclear and conventional propulsion, sensors, communications, modern ASW and last, but by no means least, future possibilities; all of this in 192 pages, with 130 photographs and 60 drawings.

Like his previous books, the author has chosen to write many comprehensive captions, which in themselves tell their own story. Too many books today leave too much to the reader's imagination when viewing photographs.

Anyone who purchases this book will obtain an excellent insight into submarines. Thoroughly recommended.

# NAVY LEAGUE DIVISIONAL & CADET NEWS

## New South Wales

**The NSW Division of the Navy League held a well-attended seminar on 'Shipbuilding in Australia' at Tattersall's Club, Sydney, on the evening of Wednesday, 3rd October. In addition to Navy League members, representatives of industry, the press, and some politicians were present.**

Rear Admiral Andrew Robertson, National Vice-President of the League opened the seminar, outlining the major decline in Australia's shipbuilding and weapons construction capacity over the last 30 years, and the serious effect this has had on Australia's defence capacity. Papers were then presented as follows:

- Shipbuilding in the defence of Australia — A Shipbuilder's View — Mr J. C. Jeremy, BEC, Eng, FRINA, Managing Director, Vickers Cockatoo Dockyard Pty Ltd.
- Shipbuilding in the defence of Australia — A Naval View — Rear Admiral W. J. Rourke, AO, RAN, Chief of Naval Material, Department of Defence (NAVY).
- Commercial Shipbuilding — Its future in Australia — Mr D. J. Laverick, AM, Managing Director, Carrington's Slipways Pty Ltd.

There were many questions raised, particularly during the open forum which completed the evening. There seemed to be a general consensus on the following points:

- A vibrant and extensive Australian shipbuilding industry is essential for defence purposes to ensure efficient and timely ship repair in war and construction of such smaller vessels as may be possible during the timescale of the conflict.
- Australia can afford to pay a premium above overseas building costs for all ships built in Australia noting that:
  - (a) About 60% of the cost (more if there is a reasonable run of ships) is spent in Australia and of this a not inconsiderable proportion returns to Government in the form of income tax, company tax, sales tax, etc.
  - (b) Foreign exchange is saved.
  - (c) Employment is created, not only in the shipyard concerned but in hundreds of firms involved in sub-contracts.
  - (d) Unemployment benefits are consequently saved.
  - (e) Defence capability is enhanced.

A steady and continuous flow of orders is essential to maintain employment, technical skills, competitiveness, and efficiency in our shipbuilding yards.

- Consideration should be given to installing in merchant ships during building, design features which will enable them to be readily converted for war use, eg, helicopter platforms, degaussing runs, deck strengthening to take guns or carry tanks where appropriate, etc. This should be a charge to Government funds.
- Ordering of warships should be for the total number of a class at the one time. Such bigger runs gives Australian firms a much greater chance to tender for equipments and contracts, reduces costs, improves labour stability, and tends to ensure more timely delivery. Ordering say two, then a further one later, and so on — such as occurred with the Perth Class Guided Missile Destroyers and the Adelaide Class of Frigates, works against Australian industry participation and often results in a lack of commonality in equipments fitted in a class.
- The aim should be to build all our warship needs in Australia and to encourage by every reasonable means the construction of merchant vessels here.
- Australia has shown that it can produce excellent small warships to cost and time (eg, Fremantle Class of patrol boats) and should aim for export markets, particularly in South East Asia and the South Pacific. In this regard the Pacific Patrol Boat is an excellent initiative.
- Merchant shipbuilding should be supported using similar methods of financial and depreciation support to those used by overseas countries.
- Subsidies should apply to ships for export as well as for use in our merchant fleet.

## Queensland

**Members of the Royal Australian Naval Reserve Cadets and the RAN joined with regular members of the Congregation of St Marys Anglican Church, Redcliffe in August . . . to perform an impressive ceremony linking the cadets with the Church.**

*The Rev W. Pearson placing the colours on the altar of St Mary's church.*

The occasions was the laying up of the old Colours of the Queensland division of the cadets following the presentation of new ones last September. The old Colours were originally presented to the division's sea cadets as they were called at that time, on behalf of the Navy League by its then president, Commander N. A. Pixley, RANR (retired), in 1959, cadets then being under the aegis of the league. However, with sponsorship for the cadets assumed by the RAN in 1973 new Colours were required and the old ones were called to be laid up.

CMDR Ian Fraser NRC, Senior Officer for the cadets in Queensland, explained that as the Colours had been consecrated on their original presentation it was proper that they be laid up in a place of worship. And as the Rector of St Marys, Rev. Bill Pearson, is the Senior Naval Chaplain for Brisbane, and as one particular Cadet unit (T. S Gayundah) has been given the Freedom of The City of Redcliffe, the venue of St Marys was most appropriate.

For the ceremony the Colours were paraded in the church for the duration of the regular Holy Communion service and at the end of it were marched to the altar by the Colour guard. There they were received by CMDR Fraser and passed to Rev Pearson who then offered prayers and laid them up.

During the service, cadets from the division's Redcliffe unit, TS Moreton Bay, assisted by taking up the collection and forming a guard of honour. The unit's commanding officer, LEUT R. T. Marshall, NRC, read a lesson, as also did Commander Fraser.

Present at the service were the Redcliffe Mayor, Ald Ray Frawley, Federal Member for Petrie, Mr Deane Walls and the State Member, Mr Terry White. Capt R. A. K. Walls, RAN, CO of the Brisbane Naval Base HMAS Moreton, represented the Royal Australian Navy.

## Tasmania

***Mr Kevin Newman, MHR (Lib, Bass), presents the Navy League award to the Commanding Officer of the TS TAMAR, LEUT Mal Smith (centre), with Commander Barry Diamond, the Commanding Officer of the Reserves, in Hobart, at left. Members of the TS TAMAR stand to attention during the ceremony.***

**The Launceston Reserve Naval Cadets of TS Tamar were awarded the Navy League's Efficiency Award recently, only the second Tasmanian cadet group ever to win the coveted title.**

The national award was won by TS Derwent in 1964.

At a special presentation in Launceston, Mr Kevin Newman, MHR (Lib, Bass), praised the work of the Navy League and the necessity for a strong navy.

"These are difficult times and we need to ensure that we have a strong navy," he said.

"*This is a great honour for yourself and the city.*"

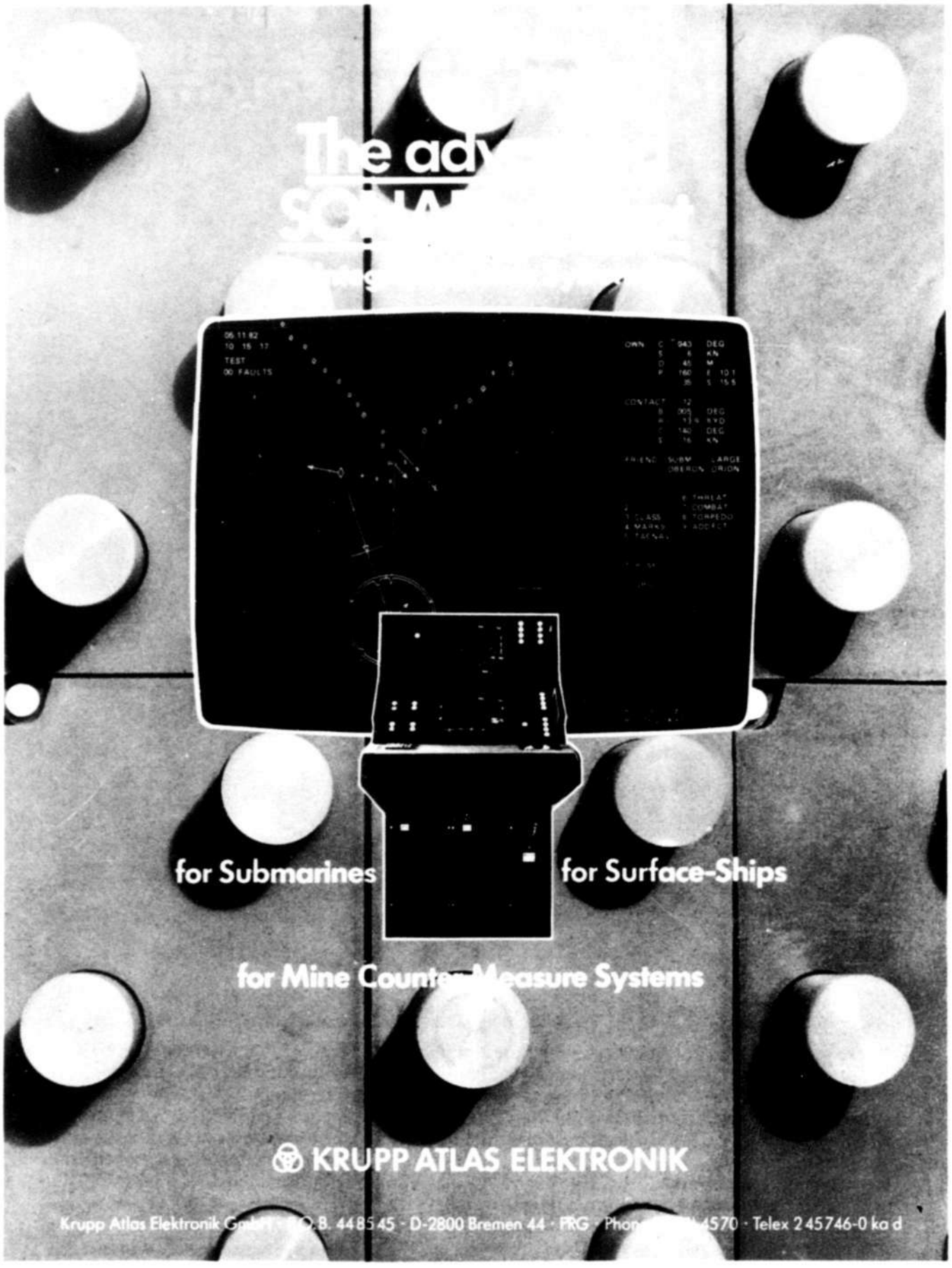
All the cadet units in Australia were inspected in the past year by Navy representatives on presentation, training and drill techniques.

Lt Mal Smith, of TS Tamar, accepted the trophy, proudly and said: "This is your trophy.

"And we'll give this a shake again next year."

The TS Tamar was established 32 years ago in the old Coats Patons building in Thistle St and moved around the city, sometimes without a permanent headquarters before it settled at Royal Park in 1970.

The presentation was attended by 50 people.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The Naval Reseve Cadets provide for the spiritual, social and educational welfare of boys and girls and to develop in them character, a sense of patriotism, self-reliance, citizenship and discipline

Uniforms are supplied free of charge

Cadets are required to produce a certificate from their doctor to confirm they are capable of carrying out the normal duties and activities of the Cadet Corps If injured while on duty, Cadets are considered for payment of compensation

Parades are held on Saturday afternoon and certain Units hold an additional parade one night a week.

The interesting syllabus of training covers a wide sphere and includes seamanship, handling of boats under sail and power, navigation, physical training, rifle shooting, signalling, splicing of wire and ropes, general sporting activities and pother varied subjects

Instructional camps are arranged for Cadets and they are also given opportunities, whenever possible to undertake training at sea in ships of the Royal Australian Navy

Cadets, if considering a sea career, are given every assistance to join the Royal Australian Navy and Mercnatile Marine or the Royal Australian Naval Reserve, but there is no compulsion to join these Services

***For further information, please contact the Senior Officer in your State, using the addresses provided below.***

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To: The Secretary
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**THE NAVY LEAGUE OF AUSTRALIA**
***Application for Membership***

**The people who read The Navy magazine will already have an interest in the sea or some aspect of maritime affairs; some will be interested in the Royal Australian Navy and naval events in general, others in sea cadet training and activities. A minority of readers will be members of the Navy League of Australia, which is very much involved with the maritime world.**

**To the majority of The Navy's readers — the non-members — we in the Navy League extend an invitation to join us in *actively* promoting the well-being of our country. You will be joining a sizeable group of citizens, a mixture of young and not-so-young people, of highly qualified professionals and imaginative "amateurs", all keen to contribute in one way or another to the maritime strength of Australia — essential to the survival of our country in these turbulent times.**

**Don't just read about the activities of the Navy League and be a spectator of events — join us and contribute your knowledge, experience or simple enthusiasm, and be a "player" yourself.**

*The Objectives of The Navy League of Australia:*

(1) To keep before the Australian people the fact that we are a maritime nation and that a strong navy and a sound maritime industry are indispensable elements of our national well-being and vital to the freedom of Australia.

(2) To promote, sponsor and encourage the interest of Australian youth in the sea and sea-services, and support practical sea-training measures.

(3) To co-operate with other Navy Leagues and sponsor the exchange of cadets for training purposes.

*"The Civilian Arm of the Navy"*

# THE NAVY

APRIL, 1985

Registered by Australia Post Publication No NBP 1482

*The Magazine of*
THE NAVY LEAGUE
OF AUSTRALIA

# THE NAVY

EDITOR
ROSS GILLETT
PO BOX 653
DEE WHY, NSW 2099

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*The magazine of the Navy League of Australia*

Vol 47 APRIL, 1985 No 2


***The Royal Malaysian Navy logistic support ship, SRI INDERA SAKTI, arrives at the Port of Fremantle in November 1984, at the start of a four day goodwill visit.*** *(Photo — ABPH Eric Pitman, RAN)*


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***Front Cover***

*Chinese fast patrol craft*

**(PHOTOS — ROSS GILLETT)**



## CONTENTS

# viewpoint

## Oh! What A Mess

**WHATEVER way one looks at it, the Government's decision to seek an external assessment of Australia's defence needs for the foreseeable future is a good deal less than complimentary to the Defence Department's capacity to provide advice, or at least acceptable advice.**

The process of determining threats to Australian security and by extension the structure of the defence force, has been the subject of generally "in house" criticism for a long time. Some have felt that military input has been insufficient, and informed external opinion either not sought or its value discounted; others that only those officials in possession of the confidential reports and information governments and their agencies alone receive can make reliable assessments. Some consider the present process cumbersome.

In fact the existing problem is not so much a matter of assessing threats — it is already agreed there is no obvious, direct challenge to Australian sovereignty in sight — but rather of deciding the form the defence force should take when the only certain thing about the future is uncertainty itself and a wide range of possible difficulties.

Important factors bedevilling defence planning include an expansion of the "fortress Australia" or go-it-alone kind of thinking (as opposed to the belief that war involving Australia can best be averted through alliances and mutual aid) and the ever increasing cost of defence equipment which results in intense rivalry between the proponents of particular forms of weaponry for available funds, and inordinate delays in making along-the-line and final decisions, the latter of course being the responsibility of government.

It is hard to believe one man, and it is interesting to recall that the present defence organisation was largely the creation of a single individual, could solve the very complex threat/structure problem in the comparatively short period of twelve months. The assessor's final report will presumably be debated in the Parliament at least, but even so the risks of miscalculation or misjudgement seem unacceptably high and if a mistake is made, it could prove catastrophic for Australia.

The present Government will no doubt be relieved to have an excuse not to make any major decisions for the next twelve months and probably much longer, while the temptation for future administrations to defer defence decisions by seeking fresh external guidance will be strong indeed. In all the circumstances it is hard to avoid the conclusion that the Defence Minister should have gone to the heart of the trouble and tackled the inadequacies of his department, many of which were supposed to have been resolved by the recent Defence Review (Utz) Committee. Until departmental faults are rectified Australia will continue to lack an effective defence force.

**DEADLINE**
**The Deadline for the next issue is 1st May, 1985**

## A Matter of Expediency?

**SOON after the 1984 Federal Election the Government decreed that the Department of Defence Support would be abolished and its functions moved to the Department of Defence. The decision marked yet another change in Australia's defence organisation and in the administration of a number of the Defence Force's supporting elements.**

There is much to be said for having all defence functions in a single department and it was one of the recommendations of the Navy League in its submission to the Defence Review Committee (the Utz Committee) established by the Fraser Government in 1981. The Utz Committee thought otherwise however and following the presentation of an interim report in 1982 the Government created a Department of Defence Support to assume responsibility for a number of support functions then spread over several departments, notably Administrative Services and Defence.

The functions transferred included management of the defence production factories, the dockyards, most research/scientific facilities (with some subsequent re-arrangement), part of the procurement arrangements and not the least important, defence industry development. The object of the transfers was to ease the recognised burden on the Minister for Defence and his department and to provide a sound basis for an expansion of effort in a defence emergency or war.

Under an energetic Minister for Defence Support and departmental Secretary the arrangements seemed to work quite well, defence industry in particular appreciating a new level of consultation and co-operation. Regretably, reports of friction in the upper realms of Defence and Defence Support soon arose and continued until the election. It is fair to say the Secretary of the Defence Department believed the difficulties would be resolved.

If the businesslike approach to support functions adopted in the abolished department can survive in Defence the move might prove to be a good one. Expediency rather than increased efficiency however appears to have caused the Government to make the decision and if this is so its sincerity in seeking to achieve the most effective Defence Force possible becomes questionable.

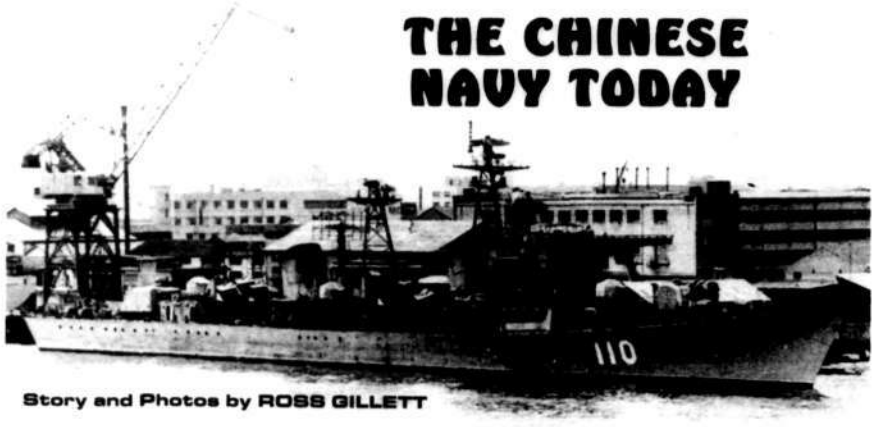
Geoffrey Evans

**Federal President**
**The Navy League of Australia**


## ACKNOWLEDGEMENTS

*Graeme Andrews, Geoff Evans, Jonothan Ford, Tony Grazebrook, Vic Jeffrey, New Zealand Navy News, Antony Preston, LEUT Joe Straczek RAN*

# THE CHINESE NAVY TODAY




**Story and Photos by ROSS GILLETT**

*Luda class DDG*

***THE People's Republic of China, the world's most populous nation, now boasts the world's largest armed forces.***

The People's Liberation Army Navy (PLA N), possesses large numbers of combat ships but, despite recent advances, remains basically a coastal defence force. A modernisation programme was introduced in 1978 to remedy these deficiencies. Traditional People's War doctrines were to be revised in accordance with modern battlefield conditions. Equipment would be upgraded through a combination of indigenous research and development and the purchase of foreign state-of-the-art technology.

The PLA N has in recent years acquired ocean-going support vessels to sustain its warships at sea, thus enabling expansion from an almost exclusively coastal force to a fleet with a blue water capacity. During 1980 an 18-ship task force undertook a 35-day, 8,000 nautical mile mission into the South Pacific, patrolled the target zone for the PRC's ICBM test, and recovered the rocket's instrument modules.

According to the latest 1984-85 volumes of both "Combat Fleets of the World" and "Jane's Fighting Ships" the Chinese PLA N is a force comprising over 2,400 vessels of all types and sizes, manned by 240,000 officers and men.

Supporting this naval force are 28,000 marines and some 30,000 personnel attached to the naval air force.

Bases, both fleet and repair, cater for this large number of naval craft and are distributed along the entire coastline, with specific emphasis on the North Sea, East Sea and South Sea Fleets. Within each individual command, up to seven major bases are located. All are supported by the training establishment, including academies and specific naval schools for submarines, mining, aviation, officer training and supply, to name only a few.

One of the major problems besetting the Chinese Navy today is the age and capabilities of both individual units and ship classes as a whole.

IN an effort to provide a modern ocean-going force, the Navy embarked on a building programme for surface combatants, a plan which has realised up to 16 Luda class (anti-ship missile) destroyers (DDGs) since 1971, a similar number of Jianghui class (anti-ship missile) frigates from 1976 and in 1977-78 two Jiangdong missile frigates, the first Chinese ships with a surface-to-air point defence missile capability.

Despite this programme, many of the ships still lack modern weapons, command and control equipment and sensors and modern CODOG propulsion is non-existent. Lack of reloading facilities for the surface-to-surface missiles aboard the surface ships allows only a limited operational role before having to return to base for re-arming.

However, on the brighter side, orders have now been placed for new 100 mm guns, new CODOG propulsion and a new class of replenishment ships.

The effort to develop a blue water navy as distinct from a purely coastal defence role will be a long involved process, hampered by lack of funds and a need to continue development of a nuclear submarine force and the reliance on the large fleet of small combatants which remain in service.


*Luda class destroyer with two T43 class ocean minesweepers at Shanghai's Woosung Naval Base.*




*KAIFENG, a Jianghu class missile frigate, was built at Shanghai between 1974 and 1976.*

Construction of a variety of naval vessels continues, but at rates much below those of recent years. A contract was signed with British firms in November, 1982, involving the refitting of nine Luda class destroyers with Sea Dart missiles and advanced electronics, but this was cancelled in early 1983, supposedly for budgetary reasons. The influence of various PRC leaders who favour the development of indigenous systems rather than the purchase of foreign technology could also have played a part in the cancellation. Domestic research into shipboard electronics and propulsion continues, however Western military experts consider that significant technological advances in naval ship designs and weapons are still many years away.

It is in the area of light forces that the Chinese have built up large numbers of craft, from missile attack boats to patrol and torpedo boats, satisfying ocean-going, coastal and river orientated operations.


*Port broadside view of a Jianghu class missile frigate at the mouth of the Huangpu River.*


*This Soviet Whiskey class patrol submarine is one of 20 such boats still operated by the Chinese Navy.*

*Port quarter view of a T43 minesweeper moored in the Huangpu River.*


*Detailed view of a T43 ocean minesweeper. A crew of 77 is normally carried.*


*Shanghai II fast attack craft.*

*Two small coastal minesweepers of the Fushun class.*

AS well as the large patrol force the PLA-N is heavily involved in amphibious operations, a point plainly validated by the existence of some 570 vessels from the large locally-built Yukan class tank landing ships (LSTs) down to small Landing Craft Mechanised (LCMs) and including many former US Navy LSTs and LSMs.

In terms of overall numbers, the Shanghai class fast attack craft still boasts over 300 units in service, despite transfers and deletions since the first was completed in 1961. Construction of about a dozen per annum continues, and the type has been produced to three slightly different versions.

Four Anshan class destroyers, built for the Soviet Union as units of the Gordy class during 1940-42, remain in service with the Northern Fleet, despite more than 45 years afloat. All four ships were transferred between December, 1954, and July, 1955, and from 1971 to 1974 were fitted with two pairs of surface-to-surface Hai Ying missile launchers and twin 37 mm mounts in lieu of their original singles.

FROM the Australian point of view, one of the more interesting Chinese warships is the LUOYANG, originally commissioned by the RAN in May, 1941, as HMAS BENDIGO. The ship now boasts a greatly altered profile and has been re-armed to carry two 3.9 inch and four 37 mm guns. She is now based in the Eastern Sea Fleet.

In the submarine field, China continues to rely primarily on the Soviet-designed Romeo class patrol submarines, (over 90 in use), supported by 20 ageing Soviet Whiskey class boats. An effort to build a new design, the Ming class, in the early 1970s was apparently unsatisfactory and it is considered unlikely that a new class will appear until the end of the 1980s.


*Shanghai II fast attack craft No 4303 in the Yangtse River.*


*Osa class fast missile boat No 3115 moves down the Yangtse for the open sea.*


*Zoushan type tank landing ship of the Yukan class, in service since the early 1980s.*


*A former United States medium landing ship (LSM) of the East Sea Fleet. Seven LSMs operate from Shanghai.*


*Yuling class LSM, seen here, is able to transport three tanks.*

*Yunnan class utility landing craft (LCU); 300 tons, built since 1968.*




*Coastal patrol boat No 301, class unknown.*


*Osa class boats laid up in reserve.*

*Hainan class fast patrol boat No 642.*

On the nuclear front, the PLA-N boasts six Han class SSNs in service and a small number of Xia class nuclear propelled ballistic missile type submarines in commission.

In 1982, China claimed to have launched a SLBM from a submerged Golf class submarine, although rumours circulated soon after that the missile had actually been ground-launched, since the PLA-N's lone Golf class submarine was heavily damaged in a failed attempt at a similar launch the previous year.

A new class of submarine, the Xia, has been developed and can fire 16 nuclear missiles at targets 1,800 miles away. Although this represents a significant advance for the PRC, the boat's nearest foreign counterparts are the USN's George Washington class, the first of which commissioned in 1959, and the Soviet Union's Yankee class, which dates from 1968.

Backing up the main offensive units is the naval air force of 700 aircraft and a support fleet of submarine tenders, survey and salvage ships as well as supply ships and tankers.

Like the RAN's old Naval Auxiliary Patrol the Chinese have, since the early 1950s utilised ships of the deep-sea and coastal fishing fleets into the Maritime Militia. When required these craft support naval forces concentrating on reconnaissance and surveillance missions, armed with machine guns and depth charges.


*Hainan class in the Huangpu River.*


*N1101, one of six Fulin class oil tankers built from 1972, makes her way down the Yangtse River.*

*Unidentified research ship.*


*J302, a Dajiang class submarine support ship. Note the deep submergence recovery vehicle before the bridge and its associated launching crane system. J302 was launched in mid 1973 and became operational in 1976.*

# BOOK REVIEWS

## AUSTRALIA'S MARITIME HERITAGE
*by* **GRAEME ANDREWS**

*Published by* **Cromatary Press, Sydney 1984**

Over the years Mr Graeme Andrews has been the author of numerous books dealing with Australia's naval and maritime history. In the course of researching these books he has built up a wealth of knowledge concerning the location and status of the various Maritime Museums and projects that have developed over the last few years. The latest offering from Mr Andrews is an obvious result of this acquired knowledge.

Australia's Maritime Heritage is a directory of the various maritime museums, collections and projects around Australia, and as such will be an invaluabe guide to anyone planning a maritime tour of Australia. Unfortunately the lack of organisation will make it difficult for people to just pick the book up and use it. Ideally the book should have been organised with each entry listed under individual states.

Being as it is the first time a book of this type has been published on a purely maritime topic there are bound to have been omissions. Three which spring to mind are: the collection at Snapper Island, and the naval museums at HMAS Cerberus and HMAS Albatross. Mr Andrews also appears to have confused the Naval Historical Society with the Royal Australian Navy's Spectacle Island Repository.

Complementing the lists of museums etc is a list of some of the various historical ships around Australia. However the old CERBERUS only gets her name mentioned right at the end of the book whilst the GAYUNDAH, which is barely recognisable, warrants a reasonable write-up.

One of the more pleasing aspects of this excellent book is that contact addresses and telephone numbers have been provided for all entries.

*Overall Australia's Maritime Heritage is a publication containing a wealth of information and will be of immense value to anybody conducting a tour of Maritime Australia.*

***"PALUMA"***

## "MYSTERIES ON THE HIGH SEAS"
*by* **PHILLIP MACDOUGALL ($19.95)**

*Available in Australia from* **Australia & New Zealand Book Co Pty Ltd, 10 Aquatic Drive, Frenchs Forest, NSW**

Maritime mysteries abound through history and have always held a fascination for those who have a love of the sea.

Carefully researched, Mr MacDougall's fascinating book is the latest in a long list of titles which have looked into the subject of missing ships, crews and sudden disasters.

The author has managed to add new relatively unknown mysteries, including the series of events that surround the "Gaul", a British trawler that simply disappeared in the Arctic. Was she on a spy mission and deliberately destroyed by a submarine?

Comprising 15 chapters with 24 illustrations this 192 page book clearly goes to great lengths to avoid rehashing stories that have been printed over and over again.

One interesting point the author makes is that maritime mysteries are not a thing of the past: one ship is still lost every two days, and a great number still provide mystery and intrigue.

Some of the chapters included are: Without Trace; Accident or Sabotage?; Two Post-War Disappearances; Submarines; and Disaster Ships.

The book is complimented by a superb jacket painting of the last minutes of the Blue Anchor Line steamer WARATAH.

*There is little doubt that "Mysteries of the High Seas" is truly one of those intriguing books that one finds hard to put down. Written in an easy, yet authoritative style it is recommended reading.*

**VIC JEFFERY**

# AIRPOWER PROBLEMS AT SEA.

by A. W. GRAZEBROOK*

**THE news that a permanent Maritime Command is to be established, with an Admiral as Maritime Commander backed up by an Air Commodore, is very welcome and an absolutely essential step towards ensuring that Australia's seagoing forces receive the best available air cover.**

Under this new arrangement, the operations of the RAAF's P3C Orion aircraft will be much more closely integrated with the activities of our surface (both war and merchant) and submarine forces.

Hopefully, some of the RAAF's fighters (initially the Mirages and later the FA18s) will also be involved in the new Maritime Command.

*Orion P-3C*

The P3Cs are widely regarded as excellent aircraft and the most suitable available (in the western world) that meet Australian requirements. These aircraft are designed for maritime work — antisubmarine, air-to-surface missiles, reconnaissance and surveillance. The P3Cs are purpose built for the maritime job. Their crews (although there are only twelve of them) are purpose trained for their jobs.

Unhappily, the same cannot be said of the Mirages and the FA18s.

The Mirage is an European air superiority fighter designed for European operations over Europe's much shorter distances.

*Hornet F/A18*

THE FA18 is a purpose built aircraft for maritime work. However it is designed for maritime work from an aircraft carrier and not from a shore base. The mobility of the aircraft carrier — the ability to overcome the FA18's short range by moving the aircraft's base within range of the area under threat — has been denied Australia's maritime forces.

In so doing, fighter protection has been denied Australia's maritime forces for much of the sea area in which we will have to operate when major hostilities next occur.

For make no mistake about it. There is no way Australia can build and defend dispersed shore bases sufficient numerically to cover our coastal traffic, let alone our vital overseas merchant traffic.

Air to air refuelling for the FA18 cannot be the answer to the provision of fighter cover for Australia's war and merchant ships. Air-to-air

* A. W. Grazebrook is a member of the Federal Council of the Navy League of Australia.

refuelling takes far too long to permit fighters to reach our ships in the very short times allowed between the detection of the threat and the start of the fighting.

In the case of the Australian Defence Force this time is even shorter than in the case of many other nation's maritime forces. This is because the ADF has no airborne early warning aircraft.

This lack of AEW capability means we have even less time to detect a threat and move the FA18s from their bases ashore to the scene of operations.

Although the FA18s will have two theoretical roles in the ADF (fighter and strike), much emphasis is laid by navy professionals on fighter cover. This is because Navy considers it unlikely that there will be much opportunity or need for the FA18 to operate in the maritime strike role. Other aircraft, with much greater range than the FA18, will also be equipped for the maritime strike role.

These are the P3Cs (already armed with Harpoon) and the F111Cs (expected to be armed with Harpoon).

IN summary, it is clear that in the FA18 the Australian Defence Force is not getting what is vitally needed for maritime defence. The formation of Maritime Command is a step, a very welcome and vitally important step, towards making the best use of the qualitatively inadequate FA18s in the essential fighter protection role. However, there is no way the formation of Maritime Command can overcome the serious fighter gap in our maritime defences.

How was this gap allowed to develop? Now, a year or so after the event, the factors and influences responsible have become known publicly.

It was not a matter of straightforward negligence.

The gap has developed because of two major errors of judgement, both made in the Department of Defence:

- An unwillingness to recognise the current capability and, particularly, the potential capability of the short take-off and vertical landing (STOVL) aircraft in the air defence role.
- A major imbalance in the strategic perception of Australia's defensive position.

There is amongst conventional airmen a strong prejudice against the STOVL (Harrier) type aircraft. This prejudice arises from an alleged lack of maximum capability of the STOVL aircraft.

Unlike the air superiority FA18, or F16, or Tornado, the air defence STOVL Sea Harrier aircraft is not the fastest, most heavily armed, most effectively sensored, longest ranged air superiority fighter. Therefore, it was claimed, the STOVL aircraft is not good enough for the ADF.

That argument is invalid. The question should have been whether the STOVL aircraft is good enough for the air defence role needed for our civilian and war maritime forces.

The answer is unquestionably "yes". Not only is the STOVL aircraft good enough for its role as air defence fighter, but its operations can be much better co-ordinated with those of our maritime surface units than can the operations of the shore-based air superiority fighter.

The second major error of judgement — that of strategy — results in the argument that our maritime forces will not need fighter cover.

The supposedly confidential Strategic Basis, published in the National Times, shows a heavy over-emphasis on defence against a major invasion of Australia.

So long as we can defend ourselves against invasion, the erroneous argument apparently runs, Australia will survive. We can do without maritime trade, maritime supplies, it is implied, so long as we can resist invasion.

A little more thought, a little more open-mindedness, a little less wishful thinking, would have provoked such questions as why an enemy would attack us (invade us) where our defences are strongest when he can defeat us much more easily where we are weakest (our maritime trade).

This strategic error — a serious fundamental error — will receive increasing attention from the Navy League of Australia. If our strategy is wrong — which it clearly is — we will get an imbalanced and therefore ineffective and inadequate defence force. That is what we now have. That is what we will have in the 1990s.

There is another spurious remark that must be recognised for its invalidity. That is that the Government has decided that there shall be no aircraft carrier. Therefore, we are told, we should keep silent.

Now it is unquestionably true that the Navy and the Air Force — the operating parts of these Services — should organise themselves to do the best they can with what they have, woefully inadequate though that may be.

However, it is the duty of the Navy League, and others who have both the freedom to express their opinions and the defence of the country at heart, to speak out publicly, to put the case, to expose the danger for as long as it is necessary to get this grievous error recognised and the Defence Force developed to the level of capability we clearly need.

# THE LAST CONVICT SHIP

*EDWIN FOX at Picton, 1897.*
*The funnels are part of the refrigeration plant.*

**LYING on a shingle bank in Shakespeare Bay near Picton in the north of New Zealand's South Island, is the battered but still intact hull of the *last* Australian convict ship.**

by GRAEME ANDREWS

This full-rigged teak vessel was built in Bengal in 1853. She made a single voyage to the United Kingdom with tea and was then chartered for use as a troopship during the Crimean War. It was here that she is said to have been the only ship in the Allied forces to escape damage during a great storm.

Between 1856 and 1873 she made various voyages between Britain and the Far East. On one of these voyages she carried convicts to Fremantle.

Under command of Captain J. Ferguson, she left Plymouth, England on August 26, 1858, arriving at Gage Roads on November 20, 1858, 86 days out and with no deaths among the 280 males on board. It is likely that there are many Western and other Australians who can trace their ancestors to this ship.

In 1873 *Edwin Fox* was chartered to Shaw Savill and Company and carried immigrants to New Zealand (up to 260 at a time) until 1885 when she was converted into a stationary refrigeration ship to store meat. Her final port for this duty was at Picton where she arrived in 1897. In 1901 the machinery was removed and the old ship was used as a coal hulk. By the 1950s she was in use as a breakwater but still afloat.

A number of New Zealand groups have been formed to try to preserve or restore this ship but their efforts have come to nothing for several reasons, mainly cost and the relatively few inhabitants and possible tourist interest of the Picton area. An adverse survey by the Royal New Zealand Navy, combined with the ship's lesser historic interest for New Zealand, also made the project less attractive.

*Edwin Fox* still floats on high tide. Her upper decks have been severely cut back for firewood and furniture. However modern water-ballasted heavy lift ships could pick her up and take to Western Australia where she could complement that State's defence of the America's Cup and contribution to the Bicentenary.

More recently a member of the Western Australian Museum visited the hulk and evaluated favourably the possibilities of restoring the ship. Australia's first convict ship.

*Graeme Andrews's latest book, Australia's Maritime Heritage is described in the book review section.)*

***Massive timber beams of the old ship have kept her structure intact for more than 130 years.***

# HMAS ADELAIDE

*HMAS ADELAIDE (Photo — Wright & Logan)*

***When the Great War erupted in August 1914 British cruisers were representative of a number of different type, armoured, light and broadside. The latter type included the "Bristol", "Weymouth", "Chatham", "Birmingham" and "Birkenhead" classes, similiar in size and power and all designed for long range trade protection, screening the Fleet against TBD attack and probing the enemy's strength. There were 21 ships in the five classes.***

Before the war the broadside type had given way to the light cruiser type which had developed similar fighting power on 25% reduction in size. The basic form of the broadside cruiser was that of a long hull carrying up to nine 6" guns, with a good radius of action and a speed easily sufficient to enable them to work with the battle fleet. Able to fire up to six guns on each broadside, hence the name, these ships could give a good account of themselves in a close range engagement. With a light scale of horizontal protection it was not envisaged that they would trade shells with an enemy force at long range, that was left to armoured cruisers. In consequence they were rendered obsolescent by the ever increasing range at which actions were fought and later were totally unsuitable for operations where aerial attack might occur.

In the first year of the war the Australian Government began to "look to their moat" and decided to increase the size of their naval Division. The "Arethusa" class light cruisers then being built, with their circumscribed radius of action consequent upon being intended for North Sea operations, did not entirely satisfy the Australian requirements for a trade protection cruiser. Consequently, it was decided that a ship of the earlier broadside type should be built. (The RAN already had three of the "Chatham" class).

*Material began to be assembled in January* 1915 but, because of the time taken to obtain updated drawings, equipment and guns from the UK and procure the correct grade of steel and fittings locally, ADELAIDE was not formally laid down until 20.11.1917.

Characteristic of pre-WW I cruisers, ADELAIDE's only protection was composed of a narrow waterline belt which extended from bow to stern. Abreast the machinery spaces the belt was extended upwards to cover the upper parts of the engine and boiler rooms. Behind this belt was a secondary wall in the form of a longitudinal bulk head on each side of the machinery spaces. Another two pairs of longitudinal bulkheads protected the forward and after magazines. An extra measure of security was afforded by a layer of coal (which had excellent shock-absorbing qualities) stowed above the main deck armoured slope over the central part of the ship. This was the only deck protection. Below the main deck the hull was divided into 21 compartments by athwartships bulkheads, in view of the end-to-end main belt it was not considered that these bulkheads should be armoured.

The ship's construction proceeded quite well up to and immediately after her launch on 27.7.18. Shortly afterwards however, the armistice was signed and her rate of construction slowed down to a peace-time rate. Consequently she was not commissioned until 4.8.22 and started her first commission next day.

By the late 1920s it had become obvious that ADELAIDE'S effectiveness was not up to modern conditions and she was relegated to training and later to reserve. However, with the gathering war clouds in the late 1930s, it became politic to modernise her. The programme was comprehensive and included re-siting the main armament on the centreline. This of necessity meant a reduction in the number of guns to six, but with improved fire control this would have been acceptable. *Shelter decks were to have* been constructed at B and X positions to accept super-firing guns. The bridgework was to be enlarged to provide an additional shelter deck aft of the main structure. The 6" guns were to be arranged two forward and one aft of the bridge, one amidships and two aft with the big second and fifth guns superimposed. The weak AA armament was to have been strengthened by the addition amidships of two single 4" AA guns with a HA.DCT on the tripod foremast and two 2pdr AA guns, one on each side of the bridge. It was also intended that the four funnels be reduced to two by the removal of No 1 and the trunking of Nos 2 and 3.

The refit began in Cockatoo Dockyard late in 1938 but, as it was feared that war might start sooner than expected, the scale of modernisation was reduced. The fore funnel and two forward boilers were removed and the remainder were converted to oil firing as planned, but Nos 2 and 3 funnels were not trunked together. The main armament was reduced by one gun when one of the focsle 6" was landed, the other being re-positioned on the centreline. The planned two 4" AA guns were added at the break of the focsle forward of the two 6" in that position. The single 12pdr AA gun carried since completion was replaced by a third 4" superfiring over the quarterdeck 6" gun. A HA.DCT was installed on the foremast, giving it a rather top heavy appearance. Finally, the two submerged TT were removed.

With these improvements it was considered that ADELAIDE was capable of adequately performing trade protection duties against the threat presented by any mercantile conversion raiders that would come her way. It was not intended that she would venture far afield, and indeed her weak AA armament would not have enabled her to deal with the scale of attack carried out by Japanese divebombers and Kamikazis. In consequence, hers was an action-*free if not uneventful war.*

ADELAIDE underwent a short refit in December 1940 and a larger one in 1942-43. During this second period the mainmast was struck and a short pole mast stepped in its place, to give clear arcs of fire for the four 20mm AA guns added midships. AW RDF type 285 was added to the HA.DCT.

Later in 1943 a further two 20mm guns were added. From 26.2.45 ADELAIDE was non-operational at Sydney, being relegated to harbour training. One 6" gun was landed from the focsle break and the other re-sited on the centreline, occupying the position of the super-firing 4" AA gun which was removed.

***Displacement:*** 5184/6550 tons.
***Dimensions:*** 430'(pp), 460'(oa) × 50' mean; full load draught figures 18'-3" forwd, 18'-9" aft.
***Machinery:*** 10 Yarrow small-tube boilers; 2 sets Parsons geared turbines; 2 shafts, 25,000 shp = 25½ knots (max) (designed), 23 knots at full load.
***Oil Fuel: 1420 tons FFO.***
***Endurance:*** 6900 mls @ 10 knts, 5900 @ 12 and 1990 @ max. seagoing.
***Armament:*** 8-6"/50 cal. LA (8 × 1, 6 sided & 2 on centreline); 3-4" AA (3 × 1); 4-3pdr saluting (4 × 1); 8-0.303" AA (8 × 1) guns.
1943: 4-20mm AA(4 × 1) added; later 2-20mm (2 × 1) added; 3-6" removed, 1-4" added.
1945: 1-6" & 1-4" guns removed.
Fitted with echo-sounding gear, 2 depth charge chutes and 6 charges. Fitted with paravanes.
***Protection:*** 3" main belt with 1½" ends; 1" gunshields.
***Complement:*** 470 peace.
***Pendant No:*** I.47, changed to D.47 in 1940.
***Construction:*** Built Cockatoo Island Dockyard Sydney, engined by builder. Laid down 20.11.15, launched 27.7.18, comp. 31.7.22. Cost £A1,271,782.
***Gunnery:*** Old pattern 6" — 30° elevation, 19,000 yds range, 200 rounds/gun of 6" shell carried. Fitted with electric ammunition hoists, dredger type.
***Trials (1939):*** 23,500 shp = 24.3 knots.

***5.8.22*** Commissioned as training ship.
***9.4.24*** Joined Dominion Cruise Squadron (HOOD, REPULSE, DANAE, DELHI, DAUNTLESS, DRAGON & DUNEDIN) at Sydney.
***4.24*** to 4.25 Service on China Station.
***6.28*** Relieved by BRISBANE — refit and to reserve.
***Late.38*** Started modernisation at Sydney.
***13.3.39*** Commissioned for trials; reverting to reserve 4.39.
***28.8.39*** Completed modernisation trials, recommissioned 1.9.39.
***9.39*** to 7.45 Australian Station.
***10.9.39*** to 13.9. with AUSTRALIA & CANBERRA carried out search for suspected minelayers off Gabo Island, Australia; then Convoy ocean escort, Australian waters until 12.39.
***12.39*** to 1.40 Western Force, Australia.
***13.12.39*** Escorting troopship "Strathallen" carrying 2nd Aust. Imperial Force to Middle East. Took over from SYDNEY on 13.12 and escorted the ship round the Leeuwin Promontory. Returned to Fremantle.
***1.40*** One week's refit at Sydney.
***2-3.40*** Eastern Force: replaced SYDNEY on 22.2 in Force.
***15.4.40*** to 21.4 with *RAMILLIES* escorted US.2 ("Ettrick", "Neuralia", "Strathaird" & "Dunera") Melbourne to Fremantle.
***2.9.40*** Sailed for Vila (New Hebrides) from Sydney via Brisbane to land pro-De Gaulle minister to govern at Noumea. Arr. 7.9.40.
***16.9.40*** Left Vila, escorting Norwegian tanker "Norden" to Noumea; arrived 19.9 and landed new Governor; patrolled off Noumea until 20.9.40.
***9-10.40*** In Noumea area for 3 weeks to give moral support to the islanders while Vichy sloops D'URVILLE & ADMIRAL CHARNER were in the area. On passage to Sydney 5-8.10.40.
***21.10.40*** Left Sydney to patrol 120 mls SE of Gabo Is. on receipt of a raider report.
***6.11.40*** At Sydney.
***8.11.40*** On sinking of SS "Cambridge" off SE Australia, was ordered to search for minelayer (now known to have been ORION); returned Sydney 10.11 after fruitless search.
***11.40*** Left Sydney escorting the Vancouver mail ship; on 2.12 off North Cape (Australia) handed over to ACHILLES and returned.
***12.40*** Refitting at Sydney.
***4.41*** Escorted convoys Brisbane-Rabaul, New Guinea.
***25.9.41*** Left Melbourne escorting steamer to SE of Chatham Is. & proceeded to Wellington, NZ., arriving 30.9.41.
***12.41*** Escorted convoy from Port Moresby to Rabaul.
***14.12.41*** to 17.12 escorted troop convoy Darwin-Ambon, Java.
***3-8.1.42*** Escorted first of only two trans-Tasman convoys from Sydney to rendezvous with RNZN trawlers on 8.1.42.
***2.42*** Escorted MS.4 (tanker) convoy Tanjong Priok — Fremantle.
***22.2.42*** Met VENDETTA with convoy off Java and escorted to Fremantle.
***3-5.42*** Anzac Force — Convoy escort duty in Australian water.
***6.42*** to 11.44 SW Pacific Area Force.
***24.11.42*** With Dutch cruiser JACOB VAN HEEMSKERK left Fremantle with a 3-ship convoy (OW.1) for Abadan; handed over to GAMBIA on 28.11.42.
***26.11.42*** With HEEMSKERK came across the blockade runner "Ramses". As enemy ship showed signs of scuttling, ADELAIDE opened fire and sank her.
***17.2.43*** to 25.2. Escorted "Pamphlet" convoy ("Q. Mary", "Q of Bermuda", "Aquitania", "Ile de France" and "Nieu Amsterdam" with 9th Australian Div. aboard en route Middle East to Australia) from Fremantle to Melbourne.
***7.43*** At Melbourne. Also there on 12.12.43.
***11.3.44*** Left Melbourne with 8 ships for Albany, then escorted S/M tenders back to Fremantle.
***14.5.44*** Arr. Exmouth Gulf from Fremantle. Remained there as guardship for tankers brought by Force 67 (LONDON) for fuelling Eastern Fleet during carrier strikes. Left 19.5 to Fremantle.
***12.44*** to 7.45 non-operational, Fremantle 12.44, Sydney 1.45.
***26.2.45*** Finally paid off; hull used for night gunnery exercises 1947.
***21.3.47*** Sold to Australian Iron & Steel Co.
***30.3.49*** Towed to Port Kembla to break-up. Demolition complete by 1.50.


Dear Sir,

The Australian Flag, which came into existence shortly after the Commonwealth of Australia was established, can be truly claimed to be a National Flag in every sense, and its history is a very interesting one.

In 1901, the first Commonwealth Government, advertised a competition for the design of a National Flag. The prize money offered was 200.0.0 (Pounds), and a total of 32,823 designs were received from all parts of Australia and New Zealand, from England, Canada, the USA and China.

The *Winning Design*, was *independently* submitted by five competitors: a Melbourne schoolboy, a lady from Perth WA, and three men, residing in Sydney, and Melbourne, the other from Auckland, NZ, respectively.

In 1903 the winning design, *Today's Flag* was approved by King Edward VII. Also a similar design for use by Australian Merchant Shipping, was officially announced. In 1906, the Commonwealth of Australia assumed the responsibility for the territory of Papua NG, and all subsequent territories, such as the Northern Territory, and the Australian Capital Territory; and for which a seventh point was added to the large star on the Australian Flag, to symbolise these extra territories.

However the only official recognition of the National Flag, was in the Proclamation made in several Government Gazettes in 1953, some fifty years after its original approval by King Edward VII. The then Commonwealth Government, under the leadership of the Prime Minister, the late, Right Hon. Sir Robert Gordon Menzies, KT, CH, LLM, QC, FRS, FRCS, passed the "Flags Act", to which the Queen gave her assent personally, during the visit to Australia; one of the very few, if not the only occasion, when Royal assent for an Australian Act of Parliament, has been given in person.

The Australian Flag, therefore, is National, because of its design by popular initiative, and by long association with the history of Australia, from its very beginning as a united Nation; and finally because it was established by an Act of the National Parliament.

It is important to bear in mind that our present Australian National Flag is controlled by the "Flag Act" of 1953, which is "an Act, to declare a certain Flag, to be the Australian National Flag, and to make other provisions with respect to Flags".

Thus our National Flag cannot be changed by any Commonwealth Government Executive decision: but only by an amendment to the original "Flag Act" of 1953; and of course this could be subject to debate in the Commonwealth Parliament: and for any alterations to be legal, the assent of the Senate would be essential.

It should be borne in mind, that our National Flag, flies over one of the largest areas occupied by any one country in the world; and its striking design and symbolic import — incorporating as it does, the Union Jack, the Large White Star, representing the States of Australia and the Territories, and the five smaller White Stars denoting the Southern Cross — can be readily seen and understood as a symbol of a great nation with its various sovereign States, and the indication of our ties and union with the Mother Country — Britain.

It is this Flag that Australians have been proud to fly with honour, since its inception at the turn of the century, and under which men and women have proudly and loyally served, fought, and died, for their Queen and Country, and those ideals for which most of us loyal Australians stand.

And it is only by such loyalty and pride, that our children and children's children, may hope to continue to live and prosper, in a free Australia, inspired and united under our present Australian National Flag.

RON WEBBER, JP
Executive Committeeman,
The Navy League of Australia,
New South Wales Division.

* * *

1 Naranghi Close,
Woree, Cairns, Qld 4870.
15th January, 1985.

Dear Sir,

I read with interest in the European Report of the January 1985 issue of THE NAVY that the mining of the Red Sea is believed to have been carried out by a Libyan Ro-Ro merchant ship.

It may be that this incident, alarming enough in itself, is one of the first instances of covert naval warfare on a large scale in peacetime. Such tactics have been used on land by guerrilla forces and terrorists, but violence against shipping has tended to be the province of warships and therefore committed by an obvious aggressor.

Narrow waterways lend themselves to mining as a means of disrupting maritime commerce, but we must be aware there are other weapons which are ideally suited to covert warfare. The submarine is the best example. Its theatre of undeclared war is the open sea and its hidden identity makes it a likely attacker should a nation decide to obstruct the sea lanes without revealing itself as the aggressor. The anti-ship missile coming over the horizon can also play havoc while preserving the anonymity of the agency responsible.

Ships sometimes disappear at sea, but we must now suspect when such things happen that they may be acts of covert warfare. Australia, with its very long lines of communication and trade is wide open to such aggression and without an identifiable attacker, to whom do we reply with either diplomacy or force?

The only way to ensure the security of shipping to and from this continent is to have sufficient escort vessels to deter an unannounced attack, or, if it is made, to destroy, or at least, identify the attacker. Having this ability strongly mitigates against such hidden warfare ever being waged against us.

We need naval escort vessels — destroyer/frigates, anti-submarine air-capable ships and modern submarines. We need more than we have or are getting. We need them before someone else realises they can lay seige to a continent at little risk to themselves.

Yours faithfully,
ROWAN PARTRIDGE

* * *

53 Seymour Road,
Elsternwick, Victoria 3185.
16th December, 1984.

Dear Mr Gillett,

The ex-RAN Steam Tug WATTLE has been owned by the Victorian Steamship Association of Melbourne since 1979 and is presently berthed at 21 Victoria Dock.

Since her arrival she has steamed on Port Phillip many times and is naturally the centre of attraction wherever she goes.

A very considerable amount of work has been performed on all of her machinery and hull so that she is in far better shape than when she first arrived. Anyone visiting Melbourne would be most welcome to go aboard and see how well she is being cared for.

We are always on the lookout for photographs and information of WATTLE. If any of your readers have and would be prepared to loan us some for copy we would return all material as soon as possible.

One particular point we query is whether WATTLE was ever given her own identification letters for use as a flag hoist, and if at any time she carried radio, what was her call sign.

All correspondence will be answered.

Yours faithfully,
RICHARD C. HOPE,
Master, ST WATTLE.

* * *

15 Gympie Street, South,
Landsborough, Qld 4550.
14th January 1985.

Dear Ross,

Please express my most sincere apologies to Messrs Eneberg and Brookes for what, at first, appears to be negligent research. However there are explanations.

To Mr Eneberg: permit me to plead abject ignorance. My own WWII service was in Europe with the medical Department of the Army of the United States (Infantry). What news we did receive of events in the Pacific was either sketchy or nearly non-existent. I knew only that *USS WRIGHT* and *USS TANGIER* were (as listed in "*Janes Fighting Ships*", 1942 and also 1946) "Fleet Auxiliaries", even though they were titled "Heavier-than-air Aircraft Tenders". The paragraph (in Janes) describes *USS WRIGHT* as a supply, transport and depot ship. *KITTYHAWK* and *HAMMONDSPORT* are similarly listed. The 1939/1940 issue shows *WRIGHT* (with her funnel marked with an E to indicate she was a Pacific Fleet operational unit) and indicates that she was an aircraft *transport*.

From Mr Eneberg's letter, it is obvious that much work is needed to document the little known but very important work of these little publicised vessels. I promise him I shall "bird dog" this material as soon as I am able. However, if he has any information over and above what his letter shows, I would be glad to receive same. (Note: In "*Air War Against Japan*" Vol 1 Odgens, published by Canberra War Memorial, 41, 42 and 43 Squadrons are mentioned but no US ships.)

In respect to Mr Brookes's letter "*Janes Fighting Ships*" shows *NIARANA* as an escort carrier similar to *HMS ARCHER* and *HMS BATTLER*. The 23 ship class is described as 14,500 tons disp., 492-ft LOA. No aircraft complement is shown.

As I stated earlier much research is also needed with respect to the allied interference in the Russian Revolution. The politics are well documented but actions such as the capture of Archangel are only mentioned as having occurred. The data in Mr Brooke's letter is conspicuous by its non-existence in modern publications.

The *NAIRANA* is not even mentioned in "*An Outline of Australian Naval History*" (AGPS, Canberra 1976). This lists only *HMAS ALBATROSS* (1918-1939). Such references as are existent in the National War Memorial (Canberra) did not mention *NAIRANA* either. Only a minor reference in "*Janes Fighting Ships 1918/19*" even comments on *NAIRANA*. Oviously, a history of this ship is also a desirable project.

Thank you.

CHARLES MANN

# *Whatever Happened to ?*

After valuable service to the RAN in the Second World War, eight of the 56 unit Bathurst class Australian Minesweepers were acquired by the Netherlands. Some were later transferred to Indonesia.

The accompanying photographs, courtesy of the Royal Netherlands Navy, show two of the minesweepers not long after their transfer, as well as a pre-war view of the submarine K9, (HMAS during 1943-44), and post-war photo of ABRAHAM CRIJNSSEN which was commissioned into the RAN from September 1942 to May 1943.

*HMAS IPSWICH as the Dutch MOROTAI*

*HMAS WOLLONGONG as the Dutch BANDA at Circular Quay, Sydney, 1946.*

*ABRAHAM CRIJNSSEN as she appeared post-war, converted to a boom defence vessel for the Netherlands Navy.*

*HMAS LISMORE, renamed BATJAN, in July 1946.*

# A visit to HMS Challenger

by ANTONY PRESTON, Naval Editor, Jane's Defence Weekly

THE Royal Navy's new seabed operations vessel HMS CHALLENGER is designed to enhance the navy's capability to search for, work on and recover objects from the seabed. In the early-1970s there were a number of design studies for a replacement for the old diving ship HMS RECLAIM. These studies all took the form of simple platforms for the Royal Navy's saturation diving system, and had very few other facilities. In 1975, however, a more taxing role was defined, marking the point at which design of a specialised seabed operations vessel (SOV) began in earnest.

## Evolution of requirement

The basic requirement was for a ship capable of undertaking four tasks:

(1) To search shallow depths with bottom-search sonars, or deeper waters using a towed, unmanned submersible (TUMS).
(2) Inspection, using an atmospheric observation chamber or a manned, free swimming submersible.
(3) To work on the seabed with a pressurised diving bell or manned submersible fitted with diver lock-out facilities, supported by a full saturation diving system.
(4) Recovery, with a crane, winches and a suitable expanse of clear deck for storing salved material.

The SOV would have to be able to search the seabed systematically and thoroughly and record course and position, so that the ship could return to the scene later with the minimum of further search. This can be done by laying a pattern of acoustic beacons on the seabed, and timing the signals from them to determine the ship's relative position. For this purpose, the SOV would need an array of hydrophones and advanced data processing. The vessel would also be provided with a comprehensive suite of radio navigation aids including Hi-fix and satnav.

Reliability of the ship and her equipment was to be of paramount importance. Early studies established a safety target of one serious diving accident (ie, involving risk to a diver's life) in 100 years of operation. This would involve a high degree of redundancy, but the requirement arising from such a stringent target did not prove to be excessive.

## The choice of ship

At the start the designers were faced with four options for an SOV. The first was to split the functions between two hulls; second was a multi-hull design such as a catamaran; third and superficially the most attractive, was to convert an existing vessel; and fourth was to rely solely on a submersible.

In 1976, while feasibility studies progressed, the British Shipbuilding Research Association (BSRA) carried out a survey of all vessels such as drilling ships and diving tenders which had some of the features desired for the SOV requirement. It was clear from the survey that none of these ships could meet the requirements, even with modification. Most were too slow, had insufficient accommodation or inadequate stability, had the wrong capabilities or even lacked certain basic capabilities entirely. Splitting the facilities between two ships, one with the sonar and submersible to fulfil the search role, and the other operating a saturation diving system and recovery facilities was considered, but no existing ships could be used without major modification. It was in any case not possible to buy suitable ships at reasonable prices at the time.

The designing of two new ships was looked at but the combination would have been more expensive to build and would have required more manpower to run. Although the concept was by no means dead, and continued to raise its head, the conclusion was that a single ship would be the most economic long term solution — one that has yet to be proved.

A semi-submersible catamaran seemed attractive but on closer consideration several disadvantages emerged. It would have been bigger, heavier and more costly to build. It would also have been difficult to dock, and the choice would have to be made between a hull constrained by the size of existing docks, and a considerable investment in a new dock at one of HM Naval Bases. The platform would have been slightly less suitable for the operation of manned submersible because it would not follow wave motion as closely as a conventional vessel. Finally, the structural problems associated with a semi-submersible catamaran were unfamiliar and solving them would require a much greater design effort.

Two options for conversions were examined in detail, a refrigerated cargo vessel and a roll-on/roll-off ferry. In both cases British-designed and -built ships less than five years old were favoured, to minimise maintenance problems with foreign equipment and to ensure some

*HMS CHALLENGER, September 1984.*

years' useful life. Although both conversions appeared feasible and both hulls were available for purchase, the solution to the requirement had several disadvantages which ultimately outweighed any cost advantages.

The greatest drawback was that performance and freedom of arrangement were limited by poor performance at slow speed, position and size of main engines, etc. Another drawback was that the slow speed diesels were unfamiliar to the RN and the naval dockyards, so the spares back-up for both main engines and auxiliaries might eventually have proved difficult and expensive to obtain. The conversions would also be larger, more cumbersome and have deeper draught than the largest new design on the drawing board at the time, and they would therefore suffer some undesirable operational restrictions. Converted ships would also have substantially shorter service lives than a new design.

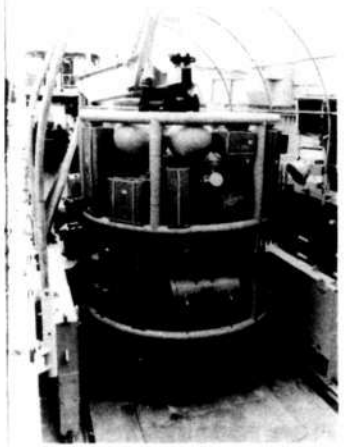
An early choice had to be made between a saturation diving system (using a bell to convey men to the seabed) and a submersible fitted with a lock-out facility. One school of thought maintained that a diver lock-out submersible would have greater operational flexibility and would eliminate the need for accurate position fixing. This view was not allowed to prevail on three counts: first, the time taken for divers to change shifts is increased by the need for a submersible to be recovered on board, mated to the saturation diving system and then relaunched with a new team of divers; second, it was anticipated that the launch and recovery of submersibles would be more sensitive to sea states and weather conditions than a diving bell, therefore encroaching further on divers' working time; and third, the advantage of dispensing with position fixing is illusory, as the ship would need similar equipment for accurate course keeping during slow searches of the seabed. However, the ship was to be designed to enable her to operate a manned submersible should the need arise and LR5 is now part of CHALLENGER'S equipment.


*The "A Frame" used for deploying manned and unmanned submersible vehicles.*

## Design

All these arguments were considered in some depth before the team embarked on detailed design, and were reconsidered from time to time. The option finally chosen was the most sophisticated of the designs prepared, the feeling being that once the hull and machinery were settled, quite substantial changes could be made to the embarked equipment without having much impact on total cost.

The Saturation Diving System (designed by Cray Electronics) is sited near to amidships, where ship motions have the least affect on the handling gear for the diving bell. It also keeps the surface divers (needed at times in support of saturation diving) as far as possible from the bow thrusters, and provides the most comfortable



*Close up view of the ship's submersible compression chamber.*

*HMS CHALLENGER fitting out at Scotts', Greenock, Scotland, in August 1982.*

*HMS CHALLENGER, August 1984*

position of the saturation divers who have to spend lengthy periods in confined compression chambers. Another factor influencing the amidships position is the large volume of the Saturation Diving System.

A moonpool has been provided just forward of the diving complex on the centreline of the ship. Handling gear for the bell includes motion compensation, and the central position chosen enables the design to be as simple as possible. The effects of roll and pitch could be neglected, and only the effects of heaving needed consideration.

The arrangements for handling submersibles are sited aft. During the early stages of the design it was intended to operate only small TUMS and it was hoped to lower them through the moonpool. This would, however, have required a large rectangular moonpool which would have raised difficult hydrodynamic problems and so a large A-frame was provided to deploy submersibles over the stern.

The crane and winches fitted for the recovery of objects from the seabed are sited immediately aft of the diving complex on the port side, a site selected to give the largest possible area of deck. Some compromise on ship motion was accepted; there might be an operational need to continue diving operations for as long as possible in bad weather but salvage operations can always be suspended until the weather improves.

Once the positions of these major components of the design had been settled, the position of the main machinery spaces was virtually fixed. After diesel-electric drive was chosen the next choice was, where to put the main generators. Pressure on space in the forward part of the ship from accommodation and storerooms, etc. was acute and so any idea of siting the generators forward of the diving complex was ruled out. Splitting them into two groups would have resulted in a very awkward arrangement of funnels and uptakes, and so the machinery spaces were sited abaft the diving complex.

A helicopter flight deck is sited aft, its longitudinal position determined by the location of the twin funnels and the room needed at the stern for the A-frame. To allow for possible transfer of diver lock-out submersibles forward to mate with the Saturation Diving System, the flight deck was set comparatively high, providing a clear tunnel beneath the deck and between the funnels, which are sited port and starboard. Positioning the flight deck forward would have reduced the constraints, but would have put it even higher in the ship, resulting in greater effect on the centre of gravity.

## Accommodation

In the early stages accommodation was planned for crewing to Royal Navy, Royal Marine Auxiliary Service or Royal Fleet Auxiliary standards. The RN crew was, as might be expected, the largest, but it was felt that the demanding role of the ship and the standards to be provided ruled out civilian crewing. An overriding requirement was security, and it was therefore decided that the ship would be naval-manned. The standard of accommodation selected is that of the latest *Broadsword* class frigates.

## Building

The order was placed with Scott-Lithgow of Greenock, Scotland, in September 1979. The ship was laid down in January 1980, launched on 19th May 1981, and finally handed over on 13th July 1984, after more than a year's delay. Much of the delay is attributable to faulty cabling, which has had to be replaced. Exactly where the blame lies is a mystery to be cleared up by litigation, for allegations by the UK MoD are rebutted by counter claims that the specification was incorrect but other sources suggest that a large part of the problem can be traced back to the decision to build to Lloyd's rules; the choice of supplier was left to the builders, and Lloyd's rules did not permit any room for deviation from the main specification.

On 20th August, just over a month after being handed over, the ship was open to visitors. Her remarkable manoeuvrability was demonstrated, and the ship proved that she could stop in her own length and move astern and then sideways, at will. The diving complex is dedicated to providing the most beneficial environment for divers working at depths down to 300 m with accommodation chambers connected to the diving bell. The engine rooms are quite different to the normal navy vessel, with no shafting or gear-boxes, and like the rest of the ship, spaciousness gives an air of simplicity belied by the advanced equipment on board. Her capabilities put her in a category of her own and Captain Wright assessed her as being equivalent to three of the navy's current diving ship SEAFORTH CLANSMAN. The later ship will continue for some time, giving CHALLENGER time to develop the new techniques possible with her unique range of gear.

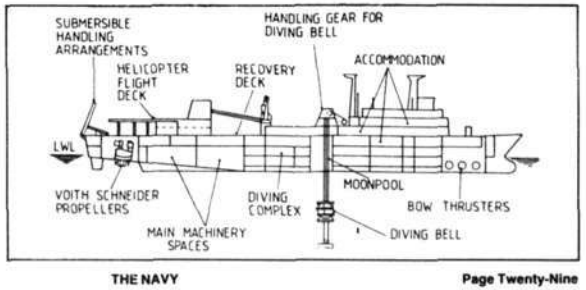
No figures have been released on cost, but in 1980 CHALLENGER'S cost was estimated at £80 million, and so today it cannot be less than £100,000,000 without taking account of any change resulting from the settlement of the legal action between the MoD and the contractors.

## Reference


March 1981. RINA Paper "The Design of the Seabed Operations Vessel" by P J R Symans RCNC and J A Sadden RCNC.


### *Specifications of HMS CHALLENGER*

**Displacement** 6500 tonnes (standard), 7185 tonnes (loaded)
**Dimensions** 134 m (oa) × 18 m × 5.4 m
**Main propulsion** 5 Ruston 16 RKCZ diesels/3.3 kV LSE generators, driving 2 Voith-Schneider 36G cycloidal propellers and 3 Lips CT 200L tunnel thrusters
**Harbour generators** 2 Ruston 6RKCZ diesels
**Sensors** Type 193M sonar
**Endurance** 8000 nm/30 days' stores
**Complement** 186



# *Drama Off The WA Coast*

**by VIC JEFFREY, Navy Public Relations Officer (WA)**

**ON 14th February, 1955, the two Fremantle-based RAN corvette/minesweepers, Her Majesty's Australian ships FREMANTLE and JUNEE snatched 17 fishermen from rough seas in one of the largest postwar rescue operations off Australia's west coast.**

The dramatic rescue attempt began when the large foundering crayfish fishing and processing boat, "SHELLEY BOY", radioed Fremantle at 6.45 am that morning that it was taking water and could stay afloat only until between 11.00 am and 12.00 noon.

A wooden hulled, diesel-powered vessel of comparatively recent construction, the 33 metre, 120 tonne SHELLEY BOY had been built in Singapore.

When the SHELLEY BOY first sent an SOS it was located about 30 miles west-south-west of Wedge Island near Jurien Bay. It is believed the vessel's fuel became contaminated with water when the boat was shipping water over the decks.

At the time of the SOS, FREMANTLE and JUNEE were acting as attendant boats in the annual Perth-Bunbury-and-Return yacht race.

Employed as training ships for National Servicemen, HMAS FREMANTLE was anchored in Gage Roads off the Port of Fremantle and HMAS JUNEE was standing off Rottnest Island waiting for the last of the racing yachts to come home.

Several people were caught aboard the corvettes when they sailed. They included three yacht club officials, a newspaper photographer and an ABC announcer. They had all intended to see the yacht race out – not view an ocean rescue mission.

Navy headquarters at HMAS LEEUWIN in Fremantle who were co-ordinating the rescue operation, despatched HMAS Junee at 7.30 am for the search area. This was followed by HMAS FREMANTLE which sailed at 9.00 am.

At 11.00 am the SHELLEY BOY radioed her position as 267 degrees, 16 miles from Green Island.

Thirty minutes later HMAS LEEUWIN received a message from the stricken vessel stating that she had almost two metres of water in her engine room.

AN RAAF Dakota from RAAF Pearce and a civilian Dove aircraft had been called into the search and once overhead of the Shelley Boy the Dakota directed the two corvettes to the area using direction finding radio.

***HMAS FREMANTLE pounds through a swell on her dash to the "Shelley Boy".*** *(Photo Courtesy WA Newspapers Ltd)*

The boat's skipper, Mr Robert Line requested the Dakota to drop lifebelts as the crew would soon abandon ship.

At 12.07 pm the Dakota reported that it was preparting to drop life-saving equipment including two inflatable dinghies. Six minutes later two boatloads of survivors cast from the SHELLEY BOY with great difficulty, eight in each lifeboat.

Still aboard was the skipper who remained on the stricken vessel until 1.40 pm to operate the radio and maintain radio contact with the freezer boat JONJIM. When foundering appeared imminent, he then left by RAAF inflatable dinghy.

At approximately 2.00 pm the SHELLEY BOY finally succumbed to the heavy seas, heeling over on its port quarter and sinking stern first.

The SHELLEY BOY sank in 500 fathoms and although fully insured was a blow to the owners, Graypak Pty Ltd with heavy loss of stores and fuel destined for the fishing fleet.

SOON after the two corvettes arrived on the scene, HMAS JUNEE first with HMAS FREMANTLE following. By 3.10 pm the 17 sodden survivors had been picked up by the ships, nine by JUNEE and the others by FREMANTLE. With the limited visibility, driving rain and heavy seas the rescue was carried out remarkably quickly. In no time the survivors were covered in blankets and sipping hot cocoa.

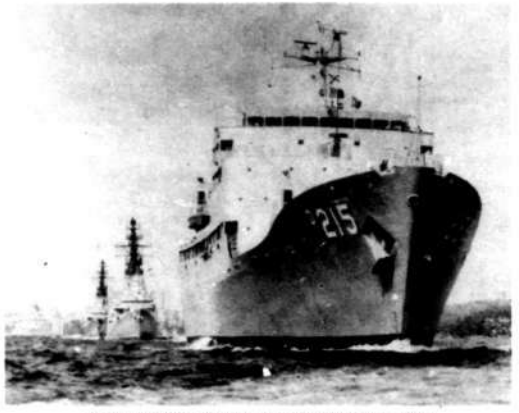
At 3.42 pm HMAS FREMANTLE reported that the lifeboats had been recovered and the corvettes were steaming at nine knots for Fremantle. The survivors were all injury-free and comfortable.

The two corvettes berthed in Fremantle at 2.55 am in the morning on 15th February and were greeted by wives and members of the media.

"Without the RAAF Dakota we would not have had a chance", the SHELLEY BOY's skipper Mr Line said. "When the Navy arrived our troubles were over."

***Approaching two life rafts.*** *(Photo – Courtesy WA Newspapers Ltd)*

# Fleet Concentration



*RAN ships sail for the Fleet Concentration.* (Photo – RAN)

Nineteen units of the Royal Australian Navy sailed south from Sydney on Monday, February 18 for an extensive two weeks of training, as part of the initial Fleet Concentration Period (FCP) for 1985.

Led by the flagship and destroyer tender HMAS STALWART, the ships included two guided missile destroyers (DDG) HMAS PERTH and HMAS BRISBANE, two guided-missile frigates (FFG) HMAS CANBERRA and HMAS SYDNEY, two destroyer escorts (DE) HMAS YARRA and HMAS TORRENS, the destroyer cum training ship (DD) HMAS VAMPIRE, the heavy landing ship (LSH) HMAS TOBRUK, the fleet oiler HMAS SUPPLY and three submarines, HMAS ONSLOW, HMAS OVENS and HMAS OTWAY.

Five minor war vessels, the minehunter HMAS CURLEW, and the patrol boats HMA Ships GEELONG, LAUNCESTON, WOLLONGONG and ARDENT also sailed from their base in Berry's Bay.

During the Fleet Concentration Period, the Australian Fleet Commander, Rear Admiral Geoffrey Woolrych put his ships and men through a testing series of exercises to attain maximum efficiency for the coming year. These included officer-of-the-watch manoeuvres, anti-aircraft exercises with RAAF Mirage, F111 and Macchi aircraft and replenishment at sea.

There was also electronic warfare training with Fleet Air Arm HS 748 aircraft, helicopter deck landing trials and the firing by the two FFGs of their Vulcan Phalanx close-in-weapon-systems.

A full range of gunnery and missile firings was programmed against Lear Jet towed targets and the RAN's Jindivik target aircraft.

On Saturday morning, 23rd February, the Fleet entered Jervis Bay for a ceremonial entry before proceeding to sea again on Monday, 25th February.

The final week of the Fleet Concentration Period included live weapon firings against a disused dredger as well as a tactical free-play phase during which time the ships were subject to co-ordinated and unabated attacks from submarines, aircraft and surface forces.

The FCP ended on Friday, 3rd March when the majority of the ships returned to Sydney.

# PATROL BOAT FOR INDONESIA

Indonesia has taken delivery of its sixth Attack class patrol boat under the Australian/Indonesian Defence Co-operation Programme.

The Indonesian Defence Attache, Colonel T. D. V. Situmeang, accepted the former Navy patrol boat, HMAS BARBETTE, from the RAN's Director General of Naval Plans and Policy, Commodore A. R. Horton at a ceremony in Cairns on 22nd February.

BARBETTE is being provided as part of an ongoing Defence Co-operation Programme maritime patrol project directed towards increasing the Indonesian Government's coastal surveillance capability. BARBETTE will assist five other former RAN Attack class patrol boats previously provided to Indonesia to deal with smuggling, illegal entry, protection of fishing rights and search and rescue within Indonesia's archipelagic waters.

BARBETTE, which was commissioned into the RAN on 16th August, 1968, will be renamed KRI SIADA when it enters service with the Indonesian Navy later this month.

Attack class patrol boats have been superceded by the new Fremantle class patrol boats, 15 of which have been commissioned into service with the RAN. Provision of two more Attack class vessels to the Indonesian Navy under the Defence Co-operation Programme, is currently planned in May of this year, and January 1986.

**The United States Navy Los Angeles class submarine USS DALLAS, arrived at HMAS Stirling in Western Australia for a six-day rest and recreation visit on 6th November. DALLAS is pictured berthing at the submarine wharf.** *(Photo – ABPH Eric Pitman, RAN)*





The Chief of Naval Staff, Vice Admiral D. W. Leach, and Canberra sculptor Mr Ante Dabro, discuss the bronze model of the Dabro design selected for the National Naval Memorial, to be erected in Canberra in 1986 to commemorate the 75th Anniversary of the formation of the Royal Australian Navy and Royal Australian Naval Reserve. The Memorial, which will be a bronze sculpture cast in a form of geometric shapes with representational figures emerging from them, will be erected in a paved and landscaped court on the eastern side of Anzac Parade, close to the Australian War Memorial. It is expected that Her Majesty the Queen will unveil the Memorial in March, 1986. (Photo – RAN)

## Successful Missile Test Firing By HMAS DARWIN

The Chief of Naval Staff, Vice-Admiral D. W. Leach, said on 17th December that two missiles were fired against drone targets over the Pacific Missile Test Range off the Californian coast to test fire control systems.

The successful tests had followed nine weeks of weapons alignment and "shakedown" training.

Vice-Admiral Leach said HMAS Darwin was commissioned into the RAN in July at Seattle where the ship was built. It would arrive in Australia in October 1985, making the City of Darwin its first port of call. Earlier in 1985 it was planned that the ship would represent Australia at the 75th anniversary celebrations of the Canadian Navy.

## Guns For New Frigates To Be Built At Bendigo

Two 76 mm naval gunmounts to equip the RAN's new generation of guided missile frigates will be supplied by the Ordnance Factory, Bendigo.

The Minister for Defence, Mr Kim Beazley, said the work on the guns would be part of a work programme for the new frigates estimated at about $13 million which would be carried out at the Bendigo factory.

Other tasks would include the manufacture of propeller shafts, controllable pitch propeller hubs, and oil distribution boxes for the two ships which will be built at Williamstown Naval Dockyard in Victoria.

The guns to be supplied by the Ordnance Factory, Bendigo are Italian-designed Oto Melara Mk 75/76 mm weapons similar to those installed in the four guided missile frigates at present commissioned in the RAN.

The Ordnance Factory, Bendigo is also manufacturing the Army's new 105 mm field artillery weapon, Project Hamel.

**The Royal Navy has formed the world's first helicopter airborne early warning squadron. 849 Squadron, formed at RNAS Culdrose, Cornwall, uses the Westland Sea King Mk 2 AEW helicopter. The Sea King Mk 2 AEW was developed in 11 weeks during the Falklands campaign to fill the Royal Navy's lack of AEW cover which had been exposed in the campaign by the sinking of HMS SHEFFIELD. The helicopter uses a development of the Thorn-EMI Searchwater maritime search radar and provides naval task forces with long-range airborne early warning of threats from low-flying aircraft or surface vessels.** *(Photo – Westland)*

**HMAS BUNBURY, the last of 15 Fremantle class patrol boats to be constructed for the Royal Australian Navy, off the West Australian coast on 20th February, 1985.** *(Photo – LSPH E. Pitman, RAN)*

# New Command and Control Arrangements for Joint Maritime Operations

A new Maritime Headquarters (MHQ) to command joint maritime operations and activities is to be established in Sydney early next year. Announcing this on 27th December the Minister for Defence said the new MHQ would be formed from the existing Fleet Headquarters at Garden Island and would ensure maximum co-operation between naval and air force units engaged in maritime activities.

Present arrangements for joint maritime activities had been of concern within the Australian Defence Force for some time, given that a maritime contingency requiring a joint force response could arise with relatively short notice. There was an obvious need for continuous co-ordination of Defence Force maritime assets at the command and control level for specified joint operations and activities.

Mr Beazley said that as a result of the review he had approved the establishment of a permanent MHQ by 1st March, 1985. The Maritime Commander would be appointed early in the New Year. He added that forces to be used for joint maritime operations would include naval and air elements appropriate to this task.

## RAN New Submarine Project

*The Minister for Defence, Mr Kim Beazley, announced on 9th January that more time was required before the Government would be in a position to announce the successful Project Definition contractors for the Navy's new submarines.*

*Mr Beazley said firms who have responded with fully compliant offers for the Project Definition Studies have been asked to extend the validity of their existing offers for six months.*

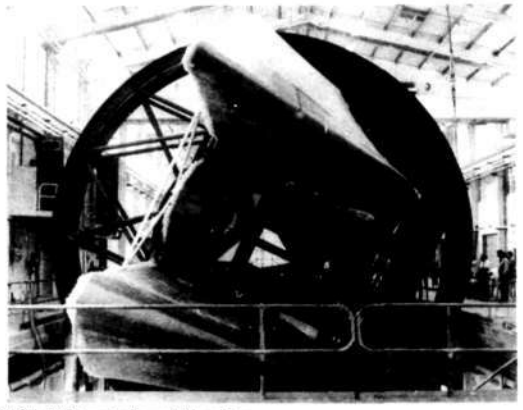
*The Project Definition Studies will better define the design of the proposed submarine and the extent of Australian industry involvement.*

*"Six firms have been asked to extend their offers from 10th February 1985 to 10th August, 1985," Mr Beazley said.*

*"Tenderers so far have provided extensive and detailed information on the project, requiring complex analysis before the Project Definition Studies phase can take place.*

*"Although the evaluation and selection process is well advanced, the extension of time is needed to allow full consideration of the enormous amount of material submitted by the tenderers.*

## First Catamaran Minehunter Turns Up Right



***RUSHCUTTER turns to the upright position.*** (Photo ABPH S. Hibbit)

The future HMAS RUSHCUTTER, Australia's first catamaran minehunter, took just one hour and ten minutes to be rotated into an upright position on Thursday, 31st January, 1985.

The twin-hulled, fibreglass vessel is the first of a new generation of mine-hunters. RUSHCUTTER, named after Rushcutters Bay, Sydney is the prototype of the new Bay class being built by Ramsey Fibreglass Ausiralasia, a division of Carrington Slipways Pty Ltd, at Tomago, Newcastle.

The $26.6 million contract included the cost of the construction facility, the RUSHCUTTER and the second minehunter SHOALHAVEN.

Both ships are due for completion in 1986/87.

## Commissioning of HMAS BUNBURY

**The patrol boat, HMAS BUNBURY, was commissioned into the RAN at a ceremony in Cairns, Queensland on 15th December.**

**HMAS BUNBURY was launched in November as the last of fourteen Fremantle Class patrol boats to be built for the RAN by North Queensland Engineers and Agents Pty Ltd of Cairns.**

**The 42 metre patrol boat has a complement of 22 under command of Lieutenant Commander David Oliver.**

**After commissioning, HMAS BUNBURY was based at HMAS STIRLING in Western Australia.**

**HMAS KIMBLA, The Royal Australian Navy's oldest commissioned ship, and also its slowest, was decommissioned during an onboard ceremony at Garden Island on Friday, 15th February, 1985. HMAS KIMBLA's speed, or more accurately the lack of it, earned her the nickname of "the snail" in the RAN. HMAS KIMBLA returned to Sydney for the final time on 20th December, 1984, flying a 208 foot long paying off pendant, (179 feet representing the length of the ship and one foot for each of her 29 years in commission). During this period HMAS KIMBLA was underway for 53,333 hours, or 363,638 nautical miles, at an average speed of just 7 knots. Since March, 1956, more than 1000 officers and men have served in the ship and she has had a total of 16 Commanding Officers.** *(Photo — ABPH Keith Cole)*

# HMNZS ENDEAVOUR

## A Brief History

***A recent casualty report detailed the loss of the wooden diesel-engined sailing ship ARTIC ENDEAVOUR, owned by the Mayhaven Shipping Company of Halifax, Nova Scotia, Canada. The ARCTIC ENDEAVOUR sank at Catalina, a small port on the north-east coast of Newfoundland on 11th November, 1982 after springing a leak at her moorings. She was later declared a constructive total loss. This 900-ton ship had a particularly varied career of 38 years since her construction in 1944, and the following are the more pertinent dates.***

*HMNZS ENDEAVOUR with some friends.*

1st May, 1943: Laid down at the American Car & Foundry Co Inc's yard at Wilmington, Delaware as an Ailanthus class net layer for the US Navy, and designated YN-89.

17th January, 1944: Redesignated AN-76 with the designated name USS SATINWOOD.

23rd May, 1944: Launched.

5th August, 1944: Completed and handed over to the US Navy and immediately commissioned into the Royal Navy as HMS PRETEXT under the provisions of Lend Lease. Pendant No Z284. She was intended to be named HMS PROTECT, but this was not proceeded with. Employed as a boom defence vessel.

22nd November, 1945: Arrived at Norfolk, Virginia and later in the month handed back to US Naval authorities.

26th March, 1946: Struck from US Naval register.

20th July, 1947: Sold to the Government of the Colony of the Falkland Islands (British Government). Proceeded to Southhampton for conversion by Thornycroft's to research vessel.

13th November, 1948: Sailed from Southampton after conversion and refit, for Port Stanley in the Falkland Islands, being renamed JOHN BISCOE.

1953: Designated Royal Research Ship JOHN BISCOE.

1956: Renamed RRS PRETEXT.

June 1956: Returned to the United Kingdom and sold to the RNZN for $20,000. Began refit at Thornycroft's yard in Southhampton for new role as an Antarctic supply ship.

15th August, 1956: Commissioned at Southampton as HMNZS ENDEAVOUR.

18th August, 1956: sailed from Southampton for New Zealand via London, where she loaded stores and equipment for the New Zealand section of the British Commonwealth Antarctic Expedition to the Ross Sea.

20th October, 1956: Arrived in Auckland via Panama Canal.

Mid-December 1956: Left Auckland on the first of her five voyages to McMurdo Sound. The Navy had undertaken to transport the members of the Trans-Antarctic Expedition together with their equipment to the ice, and to assist in the construction of Scott Base, and this was the main reason for the ship being purchased. On this voyage Sir Edmund Hillary and other members of the expedition were on board, and she was accompanied to the edge of the pack ice by the two Loch Class frigates HMNZS PUKAKI and HAWEA.

1957: Her second summer in the south, and on her return she brought Sir Vivan Fuchs, Sir Edmund Hillary and other members of the expedition back to civilisation.

21st May, 1958: While at anchor in Whangaparoa Passage, north of Auckland, the ENDEAVOUR was rammed at 11 pm by the small 55-foot tug MONA'S ISLE II. The tug was towing a 100-foot barge and the helmsman had fallen asleep at the wheel. Watchkeepers on the warship watched the tug approaching but could do nothing to avoid the inevitable collision. The tug sank in 100 feet of water but was refloated three days later and, after repairs, returned to service. Her crew of four, awakened by the impact, were rescued unharmed from the barge on to which they hurriedly scrambled.

16th February, 1961: Sailed north from McMurdo Sound at the end of her fifth and final voyage to Antarctica.

March-June, 1961: Underwent refit at Auckland, only essential work being carried out. She then carried out sundry general duties for the Navy, carrying stores, dumping ammunition and acting as a diving tender, as well as making two voyages to Raoul Island.

7th November, 1961: Returned to Auckland, decommissioned, destored and advertised for sale later in the month.

June 1962: Sold to Shaw Steamship Co Ltd of Halifax, Nova Scotia, for $9980.

25th September, 1962: handed over to her new owners' representative, Capt F. M. Shaw and readied for the voyage to Nova Scotia.

12th November, 1962: Sailed from Auckland and was later reported to have arrived at Halifax in late January 1963, where she was being fitted out for sealing work in the Arctic.

As far as can be ascertained she was renamed ARCTIC ENDEAVOUR before sailing from Auckland. At various times in recent years changes of owner have been members of the Shaw family. The registered owners at the time of her loss, the Mayhaven Shipping Company, are a subsidiary of the Shaw Steamship Co. These owners had two other sealing ships, the ARCTIC SEALER and ARCTIC PRINCE, both former Ailanthus class net layers. 38 years is a good life for any ship, and this little wooden ship, built under wartime conditions, certainly gave good value to her various owners, spending much of her time in waters normally avoided by most ships because of the isolation and violent weather conditions. With a gross tonnage of only 900, our pioneer Antarctic supply ship was only 184ft 6ins long with an extreme breadth of 37ft. Though strongly built, she was not an icebreaker, and her voyages south from New Zealand were dependent on assistance from US icebreakers on reaching the ice.

The purchase of this ship in 1956 caused another naval ship, the fleet auxiliary ENDEAVOUR, to be renamed HAURAKI in June of that year. She was a former coaster of 82 tons gross, built in 1904 and acquired by the Navy in 1942 and retained in the service after the war. She was sold in 1963, renamed ENDEAVOUR, and is now working as an oyster dredger at Bluff.

*(Courtesy of New Zealand Navy News)*

# NAVY LEAGUE DIVISIONAL & CADET NEWS

## SUCCESSFUL FEDERAL COUNCIL MEETING IN CANBERRA

***The Federal Council of the Navy League discussed a wide range of issues at a two-day meeting held in Canberra at the end of 1984.***

The Council, which consists of the Federal President and Vice-Presidents, and the Presidents and representatives of the State and ACT Divisions of the League, was augmented on this occasion by a number of eminent Navy League members including Admirals Sir Victor Smith and Sir Anthony Synnot, Vice-Admiral Sir Richard Peek, Captain H. A. Josephs RANEM and Mr Frank Whetton. By invitation, Rear Admiral P. G. N. Kennedy RAN (CNORP) and Captain R. M. M. Lea RAN (DNRC) attended as observers. Defence, Australia's relations with other countries, cadet and other domestic matters were discussed at length.

Members will probably be aware of the proposal to build a Naval War Memorial in Canberra and consideration is being given to the possible extent of a nominal involvement by the League.

The proposal to construct an Australian Maritime Museum in Sydney is proceeding. It was reported that the site will be in the area presently occupied by the railway yards at Darling Harbour. The Sydney Maritime Museum at Birkenhead Point will be relocated to Darling Harbour, next to the new museum.

Discussion on defence in general ranged around reviews of the *Beazley Report on Coastal Surveillance*, *the Cross Report on the Defence* Force Structure and the work of the Pacific Forum, members of which were hosted by the League during a recent visit. Admiral Lloyd Vasey and Professor Henry Albinski, the Pacific Forum members, had just completed a visit to Japan and the ASEAN countries where they had sought to gain some idea of the "thinking" in each country about the future of the East Asian region, particularly in the light of increased Soviet Union military activity in the Indian and Pacific Oceans.

Clearly perceptions vary from country to country and in some, notably Indonesia and Singapore, concern about the future intentions of China is a major factor in their outlook.

Council discussed proposals for the introduction of nuclear powered submarines into the RAN with particular reference to the paper by members RADM Robertson and Messrs Scott Maxwell and Grazebrook, recently printed in this magazine. The paper has received a good deal of attention and attracted surprisingly little criticism. The League will continue to promote discussion on the subject as opportunities arise.

Maritime Air received much attention and discussions took place on a paper produced by a League study group. The group will develop the paper placing particular emphasis on maritime strategy in general and air requirements in particular.

The Council noted reports that the number of destroyer-type ships considered necessary by Navy is being queried by some elements in Defence, presumably as a consequence of the lack of appreciation of Australia's maritime interests. The Federal office-bearers will keep in touch with Navy about the situation and advise Divisions as necessary.

In discussions on current problems associated with the visits of allied naval vessels, particularly nuclear powered ships, it was recommended that all Divisions by their local efforts should endeavour to increase public understanding of one of the great problems of our age, the nuclear issue, highlighting particularly the difference between nuclear power and nuclear weapons.

On the subject of ANZUS, New Zealand attitudes were discussed and it was agreed there could be not objection to Australia entering into a bilateral security agreement with the United States (both countries are already involved in bilateral as well as multilateral arrangements of various kinds with other countries).

Reference was made to the Cross Report on the Defence Force Structure, which supported the view that "the Australian Defence Force should be assigned overall responsibility for co-ordinating all forms of surveillance. More detailed reference was made to the Beazley Report on surveillance. The report highlights the very low level of surveillance that is carried out around the greater part of our coastline and points to the very complex operation of the system through multiple agencies, so numerous that their co-ordination is beyond the wit of any single body. The report proposal goes some way to pulling the organisation together under the auspices of the Australian Federal Police, but since many of the agencies will still be involved, the result would still only be a half best. The League is convinced that Defence Force control will provide a more efficient organisation and that considerable benefits to the Service and the nation would accrue because of the added Defence Force involvement. The League will actively pursue the matter.

***The Chief of Naval Staff, Vice-Admiral David Leach with members of the Navy League Federal and State Councils at the Annual Council Meeting.***

The Council awarded the 1984 Community Service Trophy to the Fremantle-class patrol boat HMAS CESSNOCK for valuable service to the community in the Sir Edward Pellew Group of Islands which were devastated when Cyclone Kathy struck in March 1984. (The trophy was formally presented to CESSNOCK by the Administrator of the Northern Territory, Commodore Eric Johnston, at a ceremony in Darwin on 20th December.)

Discussions on Naval Reserve Cadets ranged around proposals by WA to reintroduce League sponsored units to overcome the restrictive numbers problem, RSL proposals relating to School Cadet units and the extent and form of continued support of cadets by the League.

TS Canning won the Navy League Efficiency Trophy for 1984. The need for greater consultation between League and Navy on related matters including the presentation of the trophy, was discussed at some length.

TS Henty was the only unit to enter the International Cadet Rifle Shooting Competition, and disappointment was expressed at the lack of interest shown by the many other units that have taken part previously.

New South Wales and Victorian Divisions have been working with the Federal President on a nationwide education project designed to create in the Australian people a sense of awareness through knowledge and understanding of the relationship of Australia to its neighbours, with the object of generating attitudes that produce informed actions in relation to maritime matters. There was some variance of opinion on the best method of conveying the message and the two Divisions are considering the alternatives.

The Federal President is currently in touch with Admiral Thomas B. Hayward, formerly USN Chief of Naval Operations, with a view to a possible visit as a guest speaker sponsored by the League and the Australian Naval Institute.

The coming year will see much activity by Federal Executive and others in pursuance of many of the above subjects in an effort to create greater public awareness in matters affecting the future of this nation.

The Conference was rounded off with a dinner at the National Press Club at which guests included the Chief of Naval Staff and a number of his senior advisers.

## TS VANCOUVER, ALBANY

***Several months ago the annual sailing regatta for WA units was held in Geraldton and attended by TS Vancouver.***

***The competition was fast and furious with a blistering standard being set by all units.***

The first day was set aside for settling in and tuning boats on the harbour.

From the very first day it was obvious that it would be very difficult to win a race with such strong opposition.

In addition to these races, open sailing events were held. These races include bosun's as well as corsairs and some corsairs with spinnakers.

A marathon race was held during the week consisting of three triangles and a sausage: the race was meant to take four hours but a fresh breeze sprang up and the race finished in 2½ hours, with the last 100 metres being strongly contested by TS Canning and TS Vancouver. Both boats were never more than 7 metres apart. Finally TS Vancouver took line honours.

*TS Vancouver cadets with the trophies won at the Geraldton Regatta.*

On Sunday, 6th January 1985, former Naval Reserve Cadet, Peter David Stevens, presented to the Training Ship Vancouver a flag representing his present regimental colours.

Peter serves with the 8th/12th medium regiment in The Royal Australian Army and was himself presented with these regimental colours for special endeavour in overcoming a serious knee injury. Peter fought against all odds for twelve months before overcoming his injury and his courage was suitably rewarded by the presentation of the colours that had recently been replaced by a new flag.

The 8th Medium Regiment and 12th field regiment both served in Vietnam and after the war the two regiments combined to make up the 8th/12th Regiment.

Peter is very proud to be serving with this regiment and it is very pleasing to see our former TS Vancouver Naval Reserve Cadet performing so admirably.

## Queensland

***The 16th Corsair National Titles were held on Bramble Bay at Woody Point near Brisbane from 29th December to 8th January last, hosted by the Humpy Bong Yacht Club. The competition was divided into two categories, one for the Senior Fleet and the other especially for Naval Reserve Cadets. This was a very significant innovation in that this was the first time the Cadets had been involved in National titles.***

Boats in both categories covered a full Olympic Course with the senior fleet starting ten minutes ahead of the Cadets' section in each race to prevent confusion. There were eight races in all: an invitation event and seven heats. Of these, the best five heats counted towards the title.

In the Invitation Race the first cadet boat across the line bore sail number 745 belonging to TS Paluma. Second and third were numbers 728 and 773 both of TS Onslow. Sad to say however, the Onslow Coxswains had a lesson to learn: to sign on before and after each race! Because they were unaware of this necessity they were unfortunately disqualified with their places going to 853 (second) and 740 (third) both of TS Tyalgum.

With the heats themselves getting underway events became rather hectic. The conditions for the start of heat one were good, with clear visibility and winds of about 10 knots. With only a third of the race left to sail however — and with 728 of Onslow enjoying a good lead — a fierce rain squall came in, bringing high winds and closing visibility down to *approximately 100 metres. The result was the abandonment of the heat.* with one Cadet boat suffering a broken rudder. Conditions for the remaining heats were good, with winds varying from 7 to 20 knots throughout. Placings however developed into a very interesting situation with boat 728 (TS Onslow) accumulating three first places and 745 (Paluma) two by the end of heat 6. Heat 7 was therefore most important and turned out to be a most exciting race. With all interest focused on 728 and 745, no one quite expected the dark horse 864 skippered by TS Paluma lass Kim Martin take the lead after the second windward turning and maintain it after the third. However 728 managed to lead Kim at the finish by 19 seconds with 745 coming in third 91 seconds further behind.

The overall results saw 728 (TS Onslow - Coxswain Chris Herkes) take out first place, 745 (Paluma - Tony Pullen) gain second and 740 (Tyalgum - David Tranter) third.

Naturally tension became quite high as the heats progressed but it was relieved by a little humour as David Pointing, mainsheetman for 728 pulled a sandshoe off on the hiking strap. Meanwhile the boat had taken on quite some water so David was required to bail. He did so with such gusto that he bailed his lost shoe overboard ... but there was no way coxswain Herkes was going to lose valuable time to recover such a smelly item.

One of the sacrifices one makes in winning!

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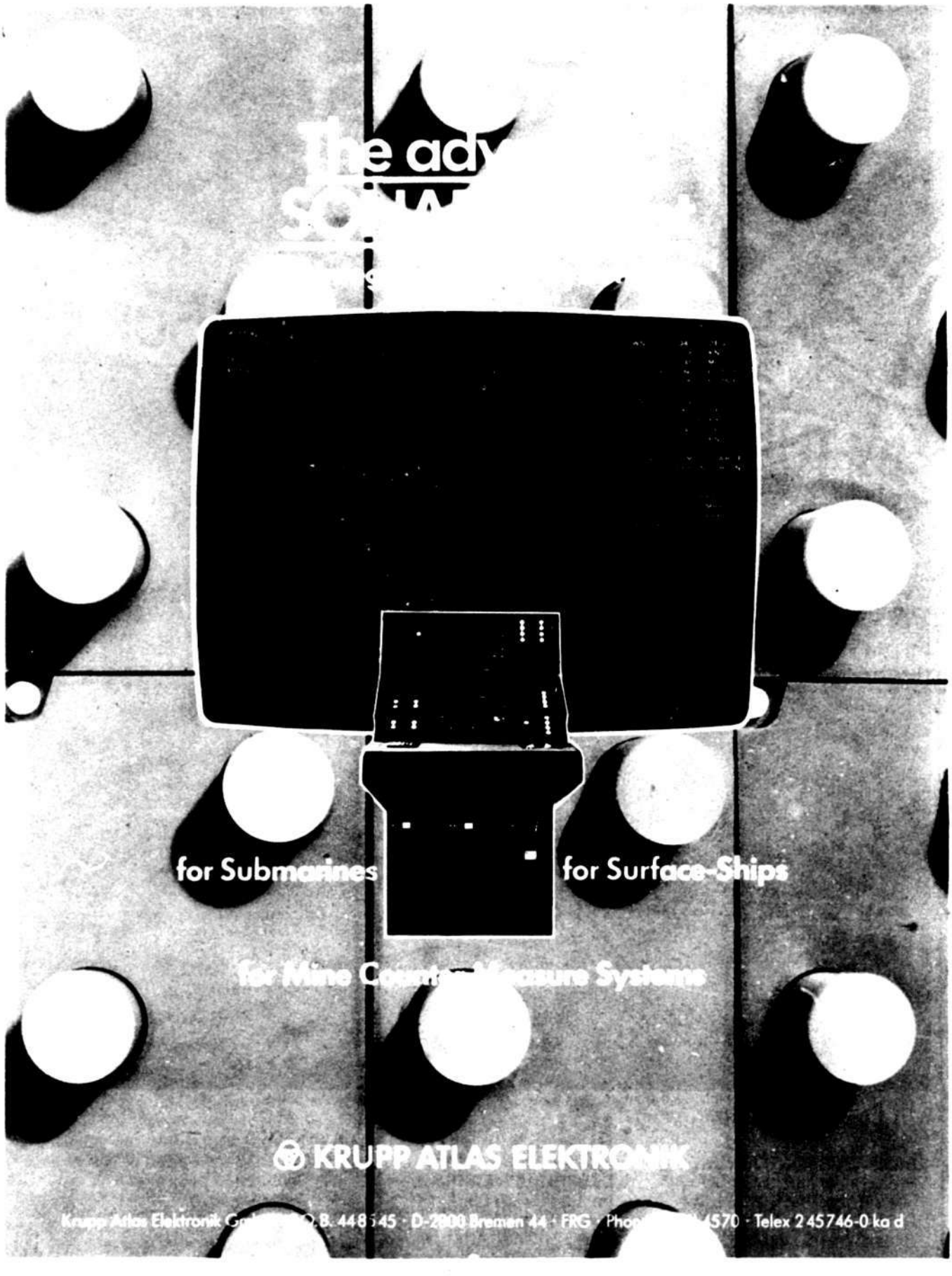
The finale to the Titles took place at a presentation evening on Tuesday 8th January when the Senior Officer NRC, Queensland Division CMDR Ian Fraser presented the Corsair Association's Perpetual Shield to the winners TS Onslow.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