Six of the world's most advanced military airfields.

With every military airfield in the world known and targeted, a nation's strategic freedom is severely limited. Its strike force is vulnerable. Its defence system weakened.

Harrier changes all that. Its unique V/STOL capability frees it from overt, conventional bases. Harrier doesn't need runways or sophisticated airfield strips.

It can be quickly and easily despatched into any one of a number of pie-selected dispersed sites with minimum advance notice.

It can operate effectively from either unprepared strips or V/STOL sites, whether they're woods, field, farm or park.

The sites need no air defence, minimum support and are virtually undetectable from the air.

For an opposing battle commander, Harrier presents problems. His tactical knowledge, built on fixed, static sites, is of little use. His enemy now is elusive and unseen.

Harrier strikes from out of nowhere, when and as it wants. And the opposing commander has to disperse his forces to search for it. The attacker becomes the attacked.

The Harrier is an important breakthrough. It alters the traditional concept of airpower and its function. And it's already in fully operational service with both the Royal Air Force and US Marine Corps.

Take a closer look at the Harrier for yourself. Waits And President has to disperse his forces to search for it. The attacker becomes the attacked.

Harrier is an important breakthrough. It alters the traditional concept of airpower and its function. And it's already in fully operational service with both the Royal Air Force and US Marine Corps.

All correspondence should be directed to the Editor, Box C178, Clarence Street Post Office, Sydney, NSW, 2000, Australia.

For official opinions or policy.

Photographs appearing in this magazine are obtained from official sources and copies cannot be secured from the Navy League of Australia or Percival Publishing Co Pty Ltd.
Like Leonardo, we care intensely about it.

- Five hundred years ago a man called Leonardo da Vinci turned his bountiful genius to the task of achieving man-made flight. To Leonardo, the flight of a bird was an inspiration, a marvel, a riddle he was never to solve. The science of aerodynamics defied even Leonardo’s ingenuity. It was left to men of other generations to unlock the secrets of the bird’s wings, to discover the aerfoil section, to separate the functions of lift and thrust between wings and engines, to fly higher and faster than the bird. And having created the marvel for ourselves, still some of us stand in awe of it, as Leonardo did. We count the people of our airlines among these. For us, flight is a phenomenon full of wonder. We want to share it with you the first time or the next time you fly.

A prominent journalist has recently advanced the theory that, on financial grounds, the Navy should abandon its role in the defence of trade and rely instead upon a deterrent force of submarines.

The argument contends that the Royal Australian Navy should construct a force of submarines so large that it would be able to paralyse the seaborne trade and coastal resources of any potential enemy. In these circumstances, a potential enemy would not dare to attack or bring pressure to bear upon our seaborne trade.

If the journalist’s theory were correct, the Navy’s strength in defence of trade should be allowed to wither away and financial resources devoted instead to the construction of a large force of submarines. This could be done comparatively cheaply — diesel electric submarines are not expensive per copy, although they have their tactical limitations.

Such a policy would put all our eggs in the deterrent basket. The strategic theory behind this particular application of the deterrent concept rests upon a number of key factors:

- Prior knowledge of an enemy’s intention of attacking.
- Convincing an enemy of the effectiveness of our deterrent.
- Confirming the identity of an attacker.
- Any potential enemy being at least as dependent upon trade as is Australia.
- Our own submarines having the tactical ability required.
- Our deterrent being immune from neutralisation by Super Power action.

An examination of Australia’s position with regard to these key factors shows that, whilst a submarine deterrent force could be effective in ideal circumstances, it would be extremely risky to put all our eggs in the deterrent basket.

Regarding Australia obtaining prior knowledge of a potential enemy’s intention of attacking, it is reasonable to conclude that there are good prospects of doing this. Only five regional powers now...
have the means to paralyse or seriously hinder Australia’s trade — long range submarines, mines and, in one case, seaborne air. We must plan on a sixth power having the means to apply substantial pressure against our trade by 1985. It should be fairly clear to Australia if any of these six powers were to develop the motive and will to use the weapons they have.

A potential enemy must be convinced of the effectiveness of our deterrent. Apart from ensuring that a potential enemy is fully aware of our submarine strength, it could be difficult to convince him that the blow we could strike would be unacceptable to his country. Potential enemies are not always entirely logical in considering strategic alternatives open to them — they can make errors in making their decisions. An excellent regional example of this occurred in 1971, when Pakistan allowed herself to become embroiled in a war (with India) which she had no hope of winning.

It would be vital to identify the attacker. The problem of identifying the nationality of attacking submarines would be serious. If this type of pressure were applied to our trade, it could be months before the identity of the submarines was established. Until that time, we could not run the risk of launching our submarine deterrent force against a country which we were not certain was the attacker. During the time prior to the establishment of identity, intolerable damage could be done to our prosperity.

For our deterrent to be effective, any potential enemy would have to be at least as dependent upon trade as is Australia. If our deterrent could not hurt him much more than he could hurt us, our deterrent would not be effective. Of the five regional powers that now have the weapons to paralyse or seriously hinder our trade, four are less dependent upon seaborne trade than is Australia. The sixth power, armed with submarines, would not be dependent upon seaborne trade. A strong Australian submarine force would not be an effective deterrent to live out of six potential regional enemies.

Our own submarines would have to have the tactical ability to apply the deterrent — there must be enough of them, and they must be available to outweigh the defence. Undoubtedly, our OBERONS have the range and weapons to seriously hinder the maritime trade of any regional power — our submarines are a match individually for any regionally owned boats or escorts. However, if any regional power were to acquire nuclear powered submarines (SSN) from a sponsoring super power, our OBERONS would be disadvantaged. There are reports that France is now considering supplying one regional power with SSNs. For obvious reasons, second-hand SSNs could be sold to regional powers at much shorter notice than we could construct SSNs with which to defend ourselves. Therefore, if Australia were to adopt a submarine deterrent strategy such a strategy would have to be based upon SSNs. These are extremely expensive in themselves and would involve in addition the development of an extremely expensive infrastructure (bases, training equipment, etc). The financial attractions of a submarine deterrent strategy would be eliminated.

Our deterrent would have to be immune from neutralisation by super power action. An Australian submarine deterrent would be useless if a potential regional attacker were able to obtain the necessary additional escorts from a sponsoring super power. Clearly, this would be possible now and for the remainder of this century at least. Further, there is the possibility of our deterrent being neutralised by a super power applying commercial or diplomatic pressure on behalf of a mendicant regional power — No

The French nuclear powered ballistic missile type submarine LE REDOUTABLE.
Deterrents are effective only so long as the potential opponent is not in a position to strike at least an equally telling blow in return — that is, deterrents are effective until they are neutralised. The Western Democracies used their possession of a (superior) nuclear deterrent to run down their defence of trade force. Their grounds for so doing were that a Totalitarian attack upon Western trade would be so serious as to justify a nuclear response. The world’s most powerful Totalitarian state has now developed a balancing nuclear warfare capability — the West’s nuclear deterrent has been neutralised. The Democracies now find the Russians can paralyse Western trade because the West has insufficient defence of trade forces and their nuclear deterrent has been neutralised.

The principle of deterrent by submarine is not applicable in the defence of Australia — we are more vulnerable to attack by submarine upon our trade than are most regional powers. These powers have the ability to hurt us through trade more than we can hurt them. In these circumstances, Australia would be most unwise to abandon a defence of trade force and rely totally upon deterrent by submarine.

Finally, once our defence of trade force had been abandoned, it could not be rebuilt within fifteen years. We would be in dire straits indeed if a regional power neutralised our deterrent.

(Readers may care to read the article in the Australian Financial Review of 2 January, 1975, entitled No Aircraft Carrier Diplomacy. Editor.)
Nautical Notes from all Compass Points

FRANCE
CROTALE MISSILE FOR FRENCH SHIPS

The Crotale Missile, made by Thomson CSF and Matra for short-range land-defence against air attack, is to be installed in French frigates, corvettes and the new nuclear-powered helicopter carrier now being planned. In the corvettes the system will replace one of the 100mm guns.

Crotale has a range of 8 km and is guided by radio from the launching ship. It requires its own radar.

IRAN
IRAN TO BUY FRENCH FPBs

The Iranian Navy has ordered six fast patrol boats from Construction Mécanique de Normandie (CMN). The boats will displace 35 tons and will be 47m long. Maximum speed will be 35 knots and operational range 800 miles at 30 knots. The armament will consist of the ship-to-ship missile Exocet and two twin Oerlikon 35mm AA guns.

NETHERLANDS

A Netherlands Government contract valued at about £10.5m has been placed with Westland for SAR support equipment. The order includes spares and support equipment.

SOUTH AFRICA
NAVAL MODERNISATION PROGRAMME

On Friday, 7 February, 1975, Mr Pieter Botha, South African Minister for Defence, announced that his country is to build up her fleet with fast missile carrying warships.

The new vessels are to be built at Durban and will be the beginning of an entire naval modernisation programme. Designed for the defence of South Africa's vast coastline they are scheduled to be completed within two to three years.

Reports indicate that the new ships will be highly manouevrable, capable of deployment against surface vessels will be fitted with the most modern guided missile systems and will be capable of operating at high speeds.

In collaboration with the French, the South Africans have also produced a surface-to-surface missile called Crotale — and intensive work on rocketry is being undertaken at a secret base in the Transvaal province.

UNITED KINGDOM

£25,000 CONTRACT TO EQUIP NEW HELICOPTER CARRIER, HMS INVINCIBLE

The EMI group has won a contract worth over £25,000 to design and supply a fully automatic fire detection system for the Royal Navy's new concept in helicopter carriers, the 16,000 tonne anti-submarine cruiser, HMS INVINCIBLE. Based on sensitive smoke detectors, the 50 zone early warning alarm system will safeguard important areas throughout the warship which is due to enter service in the late 1970s, equipped with Sea King helicopters and perhaps Harrier V/STOL aircraft.

BHC WINS SKIRT DESIGN CONTRACT

British Hovercraft Corporation has been awarded a subcontract from Textron's Bell Aerospace Company of New Orleans, Louisiana, to support the design of the vital bow skirts for their 2000-ton Surface Effect Ship (ZKSES).

THE NAVY
February/March/April, 1975

BELGIUM

PRINCE CHARLES TACKLES COMMANDO ASSAULT COURSE

Prince Charles, who is a serving Lieutenant with the Royal Navy, making a tree-to-tree rope walk at the Royal Marine training centre, Lympstone, Devon, southern England, where he tackled the tough assault course which forms part of the Royal Marines basic training.

NUCLEAR POWERED SUBMARINE LAUNCHED

HMS SUPPER, the ninth nuclear-powered Fleet submarine to be built for the Royal Navy, was launched at Barrow-in-Furness on Saturday, 30 November by Mrs David Williams, wife of Admiral David Williams, Chief of Naval Personnel and Second Sea Lord.

SUPPER, which is being built by Vickers Shipbuilding Group, is the third of the latest Swiftsure class. Vickers will also build the Swiftsure and Sovereign, and five of the other six Fleet class submarines.

SUPPER will have a displacement of 4400 tons on the surface, with a length of 1727 feet and a beam of 32.3 feet. Her maximum submerged underwater speed will be in excess of 20 knots, and she will have a totally-submerged endurance of several weeks.

NAVAL ENVIRONMENTAL MEDICAL RESEARCH AIDED BY SE LABS MULTI-CHANNEL EQUIPMENT

At the Royal Navy's Institute of Naval Medicine at Alverstoke near Gosport, a complete multi-channel monitoring and data acquisition system has been installed in the new environmental unit by SE Labs. EMI's instrumentation and measurement company.

The equipment, comprising an SE 5001DA 14-channel FM data recording system, EMI 120 oscilloscope, SM 4000 EMMAX system for ECG/EEG measurement, and an SM 120, 8 channel oscilloscope with control unit, is being used to record biophysical measurements obtained by research into the effect on the human body of problems associated with closed environments.

The unit is an important new medical research facility, the focal point being an experimental chamber area for a permanent installation. The chamber, with a volume of 12,000 cubic feet, can support 12 men in continuous isolation for long periods. It is fully equipped with sleeping facilities, a kitchen, recreational areas, personal hygiene areas, and is supplied with working and recreational areas.

Access to the chamber is through an air lock. There are air-tight observation windows and radio contact through a Royal Navy's medical team to observe subjects engaged in experiments.

The airlock to the chamber can be controlled to very precise limits, and contaminants or additional gases can be fed into the
closed circuit air system. Temperature, humidity and airflow can be varied to create a wide range of climatic conditions.

The unit makes possible the detailed and accurate measurement of the effect on the human body of various long term environmental situations. Factors affecting life in submarines on long exercises, for example, can be reproduced, measured and studied. Many other situations affecting servicemen and their jobs can be simulated.

The SE Labs 5000A recorder situated in the control room is used to make permanent records of physiological measurements from research investigations and allows the research team to instantly recall a particular function for detailed analysis. The SE Labs EMMA system, which is sited within the chamber, enables several subjects to be monitored at the same time.

Although the Environmental Medicine unit was designed to meet the Royal Navy's own immediate research needs, its wide range of new facilities could well produce medical research results of international interest. These results would certainly be of use to the other Armed Services, Government, the offshore industry and industry generally.

The US Naval Weapons Laboratory recently tested a new shell which finds its target by means of the reflected energy of a laser beam directed from another ship or aircraft. A laser receiver in the shell picks up the energy reflected from the target and uses it to steer the projectile.

The shell is being developed by the USN as a joint service missile for use by both army and naval guns.

**CONTRIBUTIONS INVITED**

The editor invites persons to submit articles, photographs and drawings (black ink) for inclusion in the magazine, but regrets that no payment can be made for contributions submitted. Contributions should be addressed: The Editor "The Navy", Box C178, Clarence Street Post Office, Sydney, NSW, 2000, Australia.

The Editor does not hold himself responsible for manuscripts, though every effort will be made to return those with which a stamped and addressed envelope is enclosed.

**EUGENE GRAY (AUSTRALIA) PTY LTD**

**SUPPLIERS OF:**

- Electronic Components — Mica Capacitors
- Mica Transmission Capacitors
- Electronic Equipment
- Electronic Instruments
- Communication Equipment & Components
- Industrial Electronic Control Systems

3 COTTAM AVENUE
BANKSTOWN, 2200

Telephone: 709 2506

PO Box 151, Revesby
NSW, 2212, Australia

**VOYAGER FILMS PRESENT**

A great new programme for your ship or base

Two films by Albert Falzon

**MORNING OF THE EARTH**

Surfabout '74 (the Coca-Cola contest)

Book Your Showings Now

Write to Paul Ryan, Surfing Film Rental Voyager Films, PO Box 990, Manly, 2097

New poster and handbills supplied for your publicity. Other great surfing movie programmes also available

**SUBMARINE & SURFACE BLASTERS PTY LTD**

ALL AREAS SPECIALISTS IN PRE-SPLIT DRILLING & BLASTING
Quarries, Civil Engineering. Demolition Underwater & Controlled Vibration Blasting All Projects Fully Insured

133 ALEXANDER STREET
CROWS NEST
Phone: 439 5488

**BOOK YOUR SHOWINGS NOW**

*Write to Paul Ryan, Surfing Film Rental Voyager Films, PO Box 990, Manly, 2097*

New poster and handbills supplied for your publicity. Other great surfing movie programmes also available
The League’s Maritime Security activities: The Study Groups formed some time ago to provide us with a better understanding of maritime defence problems proved very useful in 1974, and enabled the League to make a number of contributions to public debate on defence issues during the year.

In fact, I believe it is fair to say that the League and individual members were at least partly responsible for raising issues concerning the Navy which received widespread public attention, and which are still doing so.

Although maritime defence is currently receiving attention in influential sections of the news media, occasional “splashes” are not enough; constant effort is required to bring subjects forward for public thought and debate.

In my experience we are not a “sea-minded” national organisation.

Although I have been surprised in a country the majority of whose people live in close proximity to the sea, and vast numbers of whom take their recreation in small boats on or near the sea, in matters of defence we tend to think in terms of soldiers: and maps of the great capacities of modern aircraft, which may cause people to think (quite wrongly) that we are redundant. Few significant nations think this way.

In drawing attention to the needs of the Navy, the Navy League is not being anti-Army or anti-Air Force; this would be ridiculous. What we are trying to achieve is realistic and balanced thinking on matters which relate to national security.

This traditional task of the League is rather thankless for most of the time, but I am convinced that in the best long-term interest of the cadet movement, this is not enough to be of real benefit to either the Cadets or the Navy.

Finance: The financial requirements of the Federal Council have not been lessened during the year; if anything they have increased due to the fact that our wider maritime activities have of necessity involved the Council rather than the Divisional Executives.

A report by a sub-committee set up at the last Council meeting to examine this subject has been forwarded to the Divisions for consideration.

The Navy Magazine: The editor, Mr Dennis Trickett (who puts the magazine together in his spare time) has expressed the views of the League in a wholly admirable manner, and I extend my congratulations and thanks to him.

On the editor’s behalf, I invite members to consider how to contribute articles which they consider would be of interest to fellow members, and the increasing number of subscribers to our magazine.

Naval Leagues Overseas: I am pleased to report there is increasing communication between ourselves and the Navy Leagues of the United Kingdom, Canada and New Zealand. Information, conducted in the course of personal visits and in correspondence, cannot be other than useful, and I would hope soon to include the United States Navy League in our group of close associates.

Cadet exchange with New Zealand: Arrangements were made last year for an officer and three New Zealand cadets to visit Australia in December for courses and sightseeing in the Sydney area, and for three cadets from Victoria, the only Division participating in the scheme, to visit New Zealand for the same purpose during January, 1975.

Sponsorship of exchange visits by cadets is one of our constitutional objects, and I hope that all States will take part in a further exchange in 1975/6.

Relations with like-minded organisations: A policy of keeping in touch with the leaders of maritime and defence orientated organisations, and in particular with the Federal President of the Naval Association, has been followed during the year, and I believe it has been of benefit to us all.

Active co-operation with like-minded organisations is already a normal part of the League’s activities in several States, and I hope the practice of “closer association” will widen and deepen rapidly.

The Office-Bearers of the League: The Navy League in Australia was formed in the main, to support the Cadet movement. Due to the great costs involved, changes have taken place in this area of our responsibilities, with a consequential effect on the organisation and work of the Divisions.

I appreciate very much indeed the support of the State Presidents, my Vice-Presidents and of the Federal Secretary, in the somewhat difficult period of adjusting to the new circumstances.
Whether yours is a small boat or a big ship, for pleasure or for profit there's equipment from AWA to make it better, safer, more enjoyable, more profitable. A big range of radio telephones, echo sounders, automatic pilots, direction finders, radar sold and serviced by AWA all around Australia and New Guinea. At major ports all around the coast you can be assured of the best back-up for the finest electronic marine equipment available. AWA the BIG name in marine equipment... the BIG name in service.

AWA MARINE DIVISION
MARINE SALES AND SERVICE DEPARTMENTS:
NEW SOUTH WALES:
P.O. Box 2257, Liverpool 4080, N.S.W.
P.O. Box 54, Alexandria 1451, N.S.W.
P.O. Box 2304, Wollongong 2500, N.S.W.
P.O. Box 161, Ballina 2478
VICTORIA:
P.O. Box 27, Frankston 3197
P.O. Box 732, Geelong 3218
P.O. Box 1008, Warrnambool 3280
QUEENSLAND:
P.O. Box 304, Mooloolaba 4557
P.O. Box 24, Coolum 4573
P.O. Box 310, Redcliffe 4020
P.O. Box 141, Mackay 4740
WALES:
P.O. Box 327, Port Macquarie 2444
P.O. Box 120, Goondiwindi 4390
P.O. Box 299, Rockhampton 4700
P.O. Box 84, Proserpine 4800
NORTHERN TERRITORY:
P.O. Box 220, Darwin 0801
P.O. Box 320, Alice Springs 0870
P.O. Box 508, Katherine 0850
P.O. Box 238, Port Hedland 6722

THE NAVY
February/March/April, 1975

CHANGE OF ADDRESS

Important notice to Subscribers to "The Navy" and Fellows of the Navy League of Australia.

It would be helpful to the Editor and Post Office if you would kindly complete the form provided below prior to moving from the postal address registered with the Navy League, thereby ensuring that "The Navy" reaches you on time. Fellows of the Navy League should also advise their Divisional Secretary of any change in status or postal address. (Refer page one for address.)

NOTICE OF CHANGE OF ADDRESS

To: The Editor,
"The Navy" magazine,
Box C178, Clarence Street Post Office,
Sydney, N.S.W. 2000, Australia.

(Please Print Clearly)

Mr.
Name: 
Miss
Rank

Present address:

I will be moving from the above postal address on

to reside at:

New address:

(please include your postcode)

I am a *Subscriber or *Fellow of the () Division of the Navy League.

Signature:

FELLOWS OF THE NAVY LEAGUE! DON'T FORGET TO ALSO ADVISE CHANGE OF ADDRESS TO YOUR DIVISIONAL SECRETARY. (REFER PAGE ONE FOR ADDRESS.)

NOTICE TO ADVERTISERS

The Trade Practices Act, 1974 came into force on October 1, 1974. There are important new provisions in that Act which govern what regulations on advertising and all advertisers and advertising agents are advised to study these provisions carefully. Penalties for doing anything in connection with the supply of goods or services or in connection with the promotion, by any means, of the supply or use of goods or services.

(a) Falsely represent that goods or services are of a particular standard, quality, or grade, or that goods are of a particular style or model.
(b) Falsely represent that goods are new.
(c) Represent that goods or services have sponsors, approval or performance characteristics, accessories, uses, or benefits they do not have.
(d) Represent that he or it has a sponsorship, approval, or affiliation he or it does not have.
(e) Make false or misleading statements concerning the existence of, or amounts of, price reductions.
(f) Make false or misleading statements concerning the need for any goods, services, replacements, or repairs.
(g) Make false or misleading statements concerning the existence or effect of any warranty or guarantee.

Penalty

For an individual — 100,000.
For a corporation — 1,000,000.

It is not possible for this company to ensure that advertisements which are published in this magazine comply with the Act and the responsibility must therefore lie on the person, company, or advertising agency submitting the advertisements for publication.

IN CASE OF DOUBT CONSULT YOUR LAWYER

February/March/April, 1975

THE NAVY
Page Fifteen

Highlights of the major changes in Soviet naval strength which have occurred during the past few years reflect the shifting balance of power in the Atlantic. The maritime capabilities of the Soviet Union, which grow day by day, present a strong, clear challenge to nations of the NATO alliance. — Soviets have spent the past 10 years building a “blue water” navy, capable of challenging the United States for sea supremacy.

The national emphasis and the resources they have been willing to put into the effort have produced phenomenal success.

(1) The construction of diesel submarines has not been terminated. A new, particularly quiet diesel boat was added to their fleet last year.

(2) The construction of diesel submarines has not been terminated. A new, particularly quiet diesel boat was added to their fleet last year.

(3) Both the “Yankee” and “Delta” model ballistic missile submarines are fitted out with torpedo tubes.

(4) The construction of diesel submarines has not been terminated. A new, particularly quiet diesel boat was added to their fleet last year.

The national emphasis and the resources they have been willing to put into the effort have produced phenomenal success.

• The construction of diesel submarines has not been terminated. A new, particularly quiet diesel boat was added to their fleet last year.

• The construction of diesel submarines has not been terminated. A new, particularly quiet diesel boat was added to their fleet last year.

• As a first order of business, the Soviet Union has created a naval deterrent to counterbalance the United States ballistic missile submarine.

• The construction of diesel submarines has not been terminated. A new, particularly quiet diesel boat was added to their fleet last year.

• The USSR now has 33 “Yankee” class nuclear powered ballistic missile submarines in the water — most of them in their Northern Fleet, where they have direct access to the Atlantic, and are moving on into production of the larger, more capable “Delta” class submarine.

• The Soviets, if they maintain their current rate of production, will have enough “Yankees” and “Deltas” to give them the full number of launchers and missiles allowed by the interim SALT agreement — 62 nuclear powered ballistic missile submarines and 950 missile tubes.

• If it now appear that they could have as many as 30 “Deltas” in the water before the United States has its first “Trident” submarine in the water in 1978. The Soviet Union is building submarines at the rate of 10 per year.

Additional facts concerning the Soviet concentration on submarine warfare include:

(1) Production of the nuclear powered attack submarine which can fire a tactical missile with either a conventional or nuclear warhead from a surfaced or submerged mode.

(2) The construction of diesel submarines has not been terminated. A new, particularly quiet diesel boat was added to their fleet last year.

(3) Both the “Yankee” and “Delta” model ballistic missile submarines are fitted out with torpedo tubes.

(4) While retirement of a few of their old diesel model submarines continues, it is estimated that they could deploy more than 100 submarines in the Atlantic at the outset of any conflict or confrontation.

Enlargement of Surface Navy

The Soviet’s modernisation of their surface navy continues at a steady rate.

Construction of their “Kiev class” aircraft carrier continues. A second carrier is under construction.

Four new missile firing cruisers and destroyers became operational last year.

With respect to the Soviet Navy’s logistic support capability, they have supplemented their use of the merchant marine by building underway replenishment ships, giving their navy a capability for sustained operations farther and farther from home bases. The number of Soviet units at sea, throughout the 52 million square miles of the Atlantic Command increase week by week, month by month. In the Atlantic, the numbers have increased by 50 percent in recent years. At the same time they are maintaining as many as a dozen warships in the Indian Ocean, a naval presence off the hump of Africa, and in the Caribbean. Their auxiliaries, and their merchantmen sail every ocean. Their fishing fleets and their research ships operate throughout the Atlantic.

Their “Yankees” are on station off the East and West coasts of our country. The Soviets have built a navy of far greater strength than any nation might need for purely defensive purposes.

US/NATO Response

The United States and NATO response to the emergence of the Soviet Navy as a first rate seapower...
Divers!
If you’re thinking about diving give us a ring

Pro-Diving Services Pty Ltd

TRAINING PROGRAMMES: Our diving schools are conducted by former RN and RAN divers together with PRO DIVING SERVICES PROFESSIONALS. Classes commence monthly in the following:

- SCUBA (compressed air diver)
- Deep-Sea Hard Hat
- Commercial Diver
- Underwater Cutting and Welding

Recognised resettlement courses for ex-servicemen. Send for a free school brochure.

DIVING TRIPS: If you’re in Sydney and you’re interested in diving with other divers on local wrecks and reefs, then call our office. Our 36t dive boat “SALVUS” departs from Rose Bay on Saturdays and Sundays for full days of enjoyable diving. Diving equipment can be hired.

EQUIPMENT SALES: Sydney’s largest range of quality equipment.

- Healthways
- US Divers
- Sea Bee
- Nemrod

Both sport and professional gear in stock
Catalogues available and mail orders handled

DISCOUNTS
10% to 20% to all servicemen who produce their ID card

SPECIAL OFFER: Healthways 72 cu ft tank, Scuba Star Regulator, Scubapak Pressure Gauge
NORMAL PRICE: $333.50, SPECIAL PRICE: $260.00
Delivery Free Within Australia

PRO-DIVING SERVICES PTY LTD LTD
274 Maroubra Road, Maroubra, 2035, Sydney, NSW
Telephones: 348 5244 or 34 6600

has been a modernisation program involving the withdrawal from service, at an accelerated rate, of our older, obsolescent ships in order to free up the funds to build more modern, more capable sea combatants of our own. There is little reason to anticipate any dramatic reversal of current US or NATO budget trends. We see a different trend on the Soviet side. The last decade has witnessed the emergence of the Soviet navy as a world-wide force—a force with a constantly increasing capability to go where it wants to go, to stay there and to serve state policy with increasing effectiveness.

We have watched this force change from one with a purely defensive role to one with far-ranging offensive capabilities.

World Environment
The Soviets have the ability to bring pressure to bear on our oil lines, at points thousands of miles from the US or Europe.

The Arab oil embargo of 1973 has reinforced our understanding that the United States and NATO interests are expanding geographically.

The world is entering a disquieting new era in its economic history—moving out of an era when energy was easy to find, and easy to exploit. Beyond that, the world economy is witnessing a permanent shift in relationships between the suppliers of raw materials and the consumers of those materials—largely the industrialised nations. The uneven concentration of mineral resources around the world is a critical fact of geography.

South Africa and Rhodesia have 90 per cent of the world’s known tin reserves—60 per cent of the world’s known chromium reserves. Almost 60 per cent of the world’s known tin reserves are to be found in Thailand, Malaysia and Indonesia.

In the case of copper, Chile, Peru, Zambia and Zaire have formed a cartel-like organisation.

It is increasingly apparent that very few, if any, industrial nations will be truly self-sufficient in the future. The Soviet Union is more self-sufficient than others.

We are seeing a movement toward an increasingly interdependent world in which increasingly great volumes of oil, wheat, and minerals are going to be moved between the countries of the world—and all of these will move, in increasing quantities, in ships, on the high seas.

Ocean Diplomacy

We see developing a new era of ocean politics, a new era of ocean diplomacy, at the same time the Soviets are becoming increasingly capable of exercising power at sea, and deploying new increments of Soviet influence, over the sea lanes of communication, and in the peripheral areas of our world.
TROJAN-JOYCE
Winners of the...

A Good Design Award by the Industrial Design Council of Australia

The 1973 Major Hoover Marketing Award

A Prince Philip Prize for Australian Design

Joyce
Fold-a-Bed.
Joyce
Hospital Bed & Equipment.
Commercial Furniture, Garages, Pre-fab Buildings, Swimming Pools.

The record voyage of the clipper ship Patriarch from Gravesend to Sydney in 69 days

On 31 August, 1975, modern ocean racing yachts will set out on the Financial Times Clipper Race from London to Sydney and back. Over the two legs of this 30,000 mile course they will be competing not only against each other, but also attempting to beat the record set up by the clipper ship PATRIARCH nearly 100 years ago. PATRIARCH made the outward passage round the Cape of Good Hope in 69 days, and returned by way of Cape Horn in 69 days.

General Conditions and Special Regulations

The final revised version of the General Conditions and Special Regulations for the Financial Times Clipper Race are now being published. In addition to the General Conditions and Special Regulations, the Race Committee will be issuing advisory notes for the guidance of competitors.

The Special Regulations call for powerful, high-frequency radio equipment with which the yachts will normally be able to communicate over very long distances during most of the race. Power supplies for their radio gear have also been specified and two completely independent systems are required, either of which must be capable of driving the transmitter directly on full power.
Emergency equipment will be comprehensive and some of the gear will be identical with that carried by big ships. Liferafts have to conform with SOLAS International Convention on Safety of Life at Sea regulations. Liferaft radio sets are required, of the type which can be effective over very long distances, and which are normally operated by cranking handles.

Each crew member is required to carry a personal light or flare, and the organisers recommend the xenon type—a powerful electronic flare which in ideal conditions can be seen at ranges of up to ten miles. These requirements reveal the meticulous planning and attention to detail which the Financial Times Clipper Race Committee has put into these regulations. The Committee gratefully acknowledges the assistance from many quarters, in particular from those who have already sailed and raced through the Southern Ocean.

"The Great Escape"

At the beginning of the year, London was visited by a Dutch entrant in the Financial Times Clipper Race. The Great Escape is an appropriate name for the sturdy steel-welded vessel which rates at 55 ft and which will be skippered by Engineer Henk Huisman. Henk Huisman is the owner of Watersports Twellega, a Dutch sailing school which also specialises in yacht charters. Huisman intends to take a complement of 12, and has already established the backbone of his crew through a tough training programme. Two years ago he took a sister ship through a force 12 gale in the North Sea. He has already nominated another skipper for the second leg. The Great Escape will not, however, be an all-male affair since three women have already signed on the crew list.

First Prize Commissioned

The first prize for the Financial Times Clipper Race is to be a 1/8" to a foot (1.96) scale model of the Clipper Ship Patriarch, which holds the record for the fastest ever passages between London and Sydney and back again. The model is being built by Bassett-Lowke of Northampton, one of the few remaining firms of specialist model builders. They have built models for the leading maritime museums of the world and their work probably surpasses in quality and accuracy the beautiful models produced by the old-time shipwrights and sailors. Bassett-Lowke has achieved this by applying the finest traditions of craftsmanship to modern technological innovations. The model of Patriarch will measure 38 inches overall and will be sealed in a mahogany and glass case. It will be presented to the race winner—the yacht with the fastest aggregate time over both legs, and will be of exceptional value both as a personal memento and as an historical document.

Patriarch was built in 1869 for the White Star Line of Aberdeen which has long since disappeared together with all original records and plans of the ship. For over two years there has been intensive research into the ship and its record-breaking maiden voyage to Sydney. With the
Naval Reserve Cadet News

A Tip of The Hat To:

Participants in the Tri-Service Cadet Centennial Tattoo.

Young men and women from Winnipeg, Portage la Prairie and Selkirk presented two and a half hours of non-stop music, marching, precision drills, displays and pageantry. And the watching crowds loved it!

A special feature was the excellence of NWLC Centennial's marching band. Another highlight was the performance of the RO SCC Dalwood band.

The RO SCC John Travers Cornwall VC band, with massed pipes, brass, reed and percussion, did a grand job on the traditional "Amazing Grace". The NLC J. R. K. Million band thrilled the veterans in the audience by playing "Colonel Bogey" on the glockenspiels. RO SCC Qu’Appelle and RO SCC Cradoc also earned their share of the applause.

THE SHELL COMPANY OF AUSTRALIA LIMITED

Happy to be Associated With the Navy

Throughout those years I have been sustained by the enthusiasm of the Cadets, the co-operation and loyalty of Unit Commanding Officers, Officers and instructors, and a fine staff — some members of whom have been with me for nearly a quarter of a century. I have been encouraged by my many friends in the Royal Australian Navy, and by goodwill in all sections of the community. In this support I am very grateful.

If I have a message for members of the Naval Reserve Cadets it is this: Most of us have ideals and principles; they will be challenged from time to time. When this happens each individual must decide in his own mind if his ideals and his principles are sound. If to his own satisfaction they are, then he will never give up no matter the cost to him personally. This is the only way to achieve peace of mind and satisfaction of one’s conscience.

I send you my best wishes for the future.

Commander F. G. Evans, the former Senior Officer, Victorian Division, Naval Reserve Cadets.
Best Wishes to all Members from...

SITMAR CRUISES
Regular Cruises from Sydney
to Pacific Islands

AGENTS:
Sitmar Line
(Australia) Pty Ltd
459 Collins Street
Melbourne, Vic
Telephone: 62 6311

The Auxiliary cutter WINSTON CHURCHILL on charter to the Navy League of Victoria. Photograph shows the vessel in Corio Bay with Naval Reserve Cadets from TS VOYAGER and TS BARWON embarked (Photograph The Geelong Advertiser).

Presentation of Lonsdale Trophy to TS BARWON of Victorian Division Naval Reserve Cadets
Each year the Unit judged the most improved is awarded the Lonsdale Trophy which was originally presented to the Victorian Division a few short years ago by HMAS Lonsdale.
TS Barwon, situated on Corio Bay, West Beach, Geelong, was the winning Unit for 1974.
In a short and impressive ceremony on Sunday, 16th September, 1974, on board TS Barwon, the Commanding Officer of HMAS Lonsdale, Commander M de V Salmon, RAN, presented the Trophy to the Commanding Officer of TS Barwon, Lieutenant (Cadets) R J Whittington.

There were many guests including local dignitaries, parents and friends, and a small contingent from TS Latrobe, who relinquished the Trophy. They had a return journey of some 300 miles from their homes in and around Yallourn in Gippsland and their attendance was warmly welcomed and appreciated.
Also attending this ceremony were the Senior Officers of the Division, Commander F G Evans, MBE, VRD, RANR, and the Deputy Senior Officer Lieutenant Commander A H Burrows, VRD, RANR.

A very enjoyable afternoon. Tea was prepared and served by the Unit Committee to close the formalities and complete the gathering in a relaxed and friendly atmosphere.

THE BRIFAYE CELLAR
86 PRINCES HIGHWAY, ULLADULLA
Phone: 55 2334
The Most Comprehensive Stock on the Coast

• WINES • BEERS • SPIRITS

February/March/April, 1975
THE NAVY
Page Twenty-seven
AROUND THE TASMANIAN DIVISION

Compiled by A. J. Lee

A new Commanding Officer has been appointed for TS Macquarie. He is Mr Charles L. Trafford, an ex-commercial skipper and now a Police Officer at Strahan. Mr Trafford was appointed as a Lieutenant in the Naval Reserve Cadets to date 5 May 1974.

Mr Ray Davis and Mr Rex Wells have been appointed Sub-Lieutenants to assist him.

One of Lieutenant Trafford's first acts was the sale of the Unit's 54ft ketch Reginald Ml to Victorian buyers. The money will be used to buy smaller class sailing dinghies.

The unit has also purchased a 35 seater bus for use as transport to bring their cadets from Queenstown to Strahan a distance of 26 miles and provide a considerable budget saving in hired transport.

The bus will be overhauled by the Mt Lyell Company. TS Macquarie expect to hold the full ceremonial commissioning of the Unit on Saturday, 22 February 1975.

In December 1974 the retirement was announced of Lieutenant Commander G. T. Boxball from the Tasman Division. He commenced as Cad of TS Lewes in the early 1960s. He advanced to Lieutenant-Commander and served in that capacity until his present posting in 1972. A successor has not yet been appointed.

During the year the following promotions were posted:

The Commanding Officer of TS Darent, Lieutenant D. J. Heath was advanced to Lieutenant Commander. He is the first ex Sea Cadet in Tasmania to achieve this rank. He joined Darent as a cadet at its inaugural parade in 1951. He has been with the Unit except for a brief period for National Service and has been a member of the Tasmanian Division Headquarters.

Senior instructors, Max Webb of Darent and Andrew Forsyth of Tamar were promoted to Sub-Lieutenant to date, 1 March 1974.

Ten cadets under Lieutenant Coleman spent five days afloat onboard HMAS Stalwart working out of the port of Hobart. A further ten under Lieutenant Lee were aboard HMAS Hobart for three days and voyaged from Devonport to Hobart.

Four Tasmanian cadets under Senior Instructor MacKenzie attended a ten day cooking course on board HMAS Melbourne gates at Sydney. This was part of the preparation for galley staff for the Tasman Division.

Cadet L/S Jones of TS EMU operates VK7DZW under the watchful eye of Instructor D. Wilson.

A series of races were held during the year between Emu, Lewes, Mersey and York (more commonly known as "Tukk") in which no crew could compete twice. The series was won by TS EMU. Emu also rounded off the events by winning a title competition between themselves, Mersey and Lewes.

The Navalman's Association of Ulverstone-Devonport have donated to Lewes $500 worth of equipment including a 14ft boat trailer, three walkie-talkie type radios and radiators. The Association has also undertaken to pay for the repairs to Mersey's 16ft 6in motor skiff which needs rebuilding.

Emu has also just purchased an Enterprise yacht and trailer for $400.

Ulverstone LIONS will pay $300 towards this and the yacht will be renamed SEALION in their honor.

Each Unit in the Division is at present attempting to set up a radio link with each other using crystal controlled army type 62 transmitters on 1.725 Mhz. Final permission from the PMG is expected soon.

On 20 January, eighty cadets and thirty-eight Officers and Instructors of the Division entered camp at Fort Direction for ten days Annual Continuous Training. A total of five skiffs, two whalers and two motor boats were assembled from the Derwent, Emu, Leven and Mersey Units.

The camp was commanded by the Divisional Senior Officer, Lieutenant Commander A. E. Gates. Fewer cadets than normal attended because of the tendency to obtain employment during the very long school holiday.

The accent of training was on boatwork, 22 rangework, drill and radio communications. The radio work was done by Instructor D. Wilson of TS EMU who set up his amateur station at the camp. His call sign was VK7DZW operating on 144 kHz at Fort Direction. Local communication was by walkie-talkie on 27-24 kHz and Army 25 sets on 50 kHz.

A survival trek across Bruny Island had to be called off owing to the work boats being committed to work on the Tasman Bridge Disaster. This also affected the camp as a short trip to the camp became a 100 mile round trip from HMAS Huon to Fort Direction.

A further ten under Lieutenant Lee were aboard HMAS Hobart for three days and voyaged from Devonport to Hobart.

The Commanding Officer of TS Darent, Lieutenant D. J. Heath was advanced to Lieutenant Commander. He is the first ex Sea Cadet in Tasmania to achieve this rank. He joined Darent as a cadet at its inaugural parade in 1951. He has been with the Unit except for a brief period for National Service and has been a member of the Tasmanian Division Headquarters.

Senior instructors, Max Webb of Darent and Andrew Forsyth of Tamar were promoted to Sub-Lieutenant to date, 1 March 1974.

Ten cadets under Lieutenant Coleman spent five days afloat onboard HMAS Stalwart working out of the port of Hobart. A further ten under Lieutenant Lee were aboard HMAS Hobart for three days and voyaged from Devonport to Hobart.

Four Tasmanian cadets under Senior Instructor MacKenzie attended a ten day cooking course on board HMAS Melbourne gates at Sydney. This was part of the preparation for galley staff for the Tasman Division.

Cadet L/S Jones of TS EMU operates VK7DZW under the watchful eye of Instructor D. Wilson.

A series of races were held during the year between Emu, Lewes, Mersey and York (more commonly known as "Tukk") in which no crew could compete twice. The series was won by TS EMU. Emu also rounded off the events by winning a title competition between themselves, Mersey and Lewes.

The Navalman's Association of Ulverstone-Devonport have donated to Lewes $500 worth of equipment including a 14ft boat trailer, three walkie-talkie type radios and radiators. The Association has also undertaken to pay for the repairs to Mersey's 16ft 6in motor skiff which needs rebuilding.

Emu has also just purchased an Enterprise yacht and trailer for $400.

Ulverstone LIONS will pay $300 towards this and the yacht will be renamed SEALION in their honor.

Each Unit in the Division is at present attempting to set up a radio link with each other using crystal controlled army type 62 transmitters on 1.725 Mhz. Final permission from the PMG is expected soon.

On 20 January, eighty cadets and thirty-eight Officers and Instructors of the Division entered camp at Fort Direction for ten days Annual Continuous Training. A total of five skiffs, two whalers and two motor boats were assembled from the Derwent, Emu, Leven and Mersey Units.

The camp was commanded by the Divisional Senior Officer, Lieutenant Commander A. E. Gates. Fewer cadets than normal attended because of the tendency to obtain employment during the very long school holiday.

The accent of training was on boatwork, 22 rangework, drill and radio communications. The radio work was done by Instructor D. Wilson of TS EMU who set up his amateur station at the camp. His call sign was VK7DZW operating on 144 kHz at Fort Direction. Local communication was by walkie-talkie on 27-24 kHz and Army 25 sets on 50 kHz.

A survival trek across Bruny Island had to be called off owing to the work boats being committed to work on the Tasman Bridge Disaster. This also affected the camp as a short trip to the camp became a 100 mile round trip from HMAS Huon to Fort Direction.
If you haven't got a Passport, you're probably not going anywhere

Passport Scotch Whisky
From the oldest distillery in Scotland

Naval Reserve Cadets of Australia — Expedition to New Zealand, 1975
By Cadet Leading Seaman Q. M. M. Story of TS MELBOURNE

In early 1974 the New Zealand Navy League approached the Navy League of Australia concerning an exchange of Naval Reserve Cadets. The idea was that a number of New Zealand Cadets should spend some time in Australia in exchange for a number of Australian Cadets who should spend an equal amount of time in New Zealand. The idea was accepted and immediately plans were formulated.

The selection of the cadets involved two main sections. It was decided to exchange three cadets, each unit choosing two cadets best thought to represent the country. These cadets then went to HMMS Lonsdale to go before the Board of selection. The Board consisted of three Officers of Divisional Staff, the RNC, Vic. The interviews were informally, but probing and after some deliberation three were selected, the Naval units being L/S QMG Lachlan Story, L/S Philip Rowbottom and A/S MTB Morrell. On the Australia Day holiday, the camp provided two whalers complete with crews and marines in period costumes for the re-enactment of Governor Phillip's landing at the Sandy Bay regatta. This was watched by the Governor of Tasmania, Sir Stanley Ballentyne, who also inspected the 24-man guard of honour paraded for him by the camp. Two unarmed platypus and a wallaby and bugle band also formed part of the camp.

The following competitions were won during the camp:

- The Senior Officers' Shooting Trophy — TS Tamar, Lieutenant Commander Cleaver.

Naval Reserve Cadets of Australia — Expedition to New Zealand, 1975

On Sunday 26th Divisions and Band marched past the Naval Officers on-charge Tasmania, Commander Morrell. On the Australia Day holiday, the camp provided two whalers complete with crews and marines in period costumes for the re-enactment of Governor Phillip's landing at the Sandy Bay regatta. This was watched by the Governor of Tasmania, Sir Stanley Ballentyne, who also inspected the 24-man guard of honour paraded for him by the camp. Two unarmed platypus and a wallaby and bugle band also formed part of the camp.

The following competitions were won during the camp:

- The Senior Officers' Shooting Trophy — TS Tamar, Lieutenant Commander Cleaver.

Naval Reserve Cadets of Australia — Expedition to New Zealand, 1975
By Cadet Leading Seaman Q. M. M. Story of TS MELBOURNE

In early 1974 the New Zealand Navy League approached the Navy League of Australia concerning an exchange of Naval Reserve Cadets. The idea was that a number of New Zealand Cadets should spend some time in Australia in exchange for a number of Australian Cadets who should spend an equal amount of time in New Zealand. The idea was accepted and immediately plans were formulated.

The selection of the cadets involved two main sections. It was decided to exchange three cadets, each unit choosing two cadets best thought to represent the country. These cadets then went to HMMS Lonsdale to go before the Board of selection. The Board consisted of three Officers of Divisional Staff, the RNC, Vic. The interviews were informally, but probing and after some deliberation three were selected, the Naval units being L/S QMG Lachlan Story, L/S Philip Rowbottom and A/S MTB Morrell. On the Australia Day holiday, the camp provided two whalers complete with crews and marines in period costumes for the re-enactment of Governor Phillip's landing at the Sandy Bay regatta. This was watched by the Governor of Tasmania, Sir Stanley Ballentyne, who also inspected the 24-man guard of honour paraded for him by the camp. Two unarmed platypus and a wallaby and bugle band also formed part of the camp.

The following competitions were won during the camp:

- The Senior Officers' Shooting Trophy — TS Tamar, Lieutenant Commander Cleaver.

Naval Reserve Cadets of Australia — Expedition to New Zealand, 1975
By Cadet Leading Seaman Q. M. M. Story of TS MELBOURNE

In early 1974 the New Zealand Navy League approached the Navy League of Australia concerning an exchange of Naval Reserve Cadets. The idea was that a number of New Zealand Cadets should spend some time in Australia in exchange for a number of Australian Cadets who should spend an equal amount of time in New Zealand. The idea was accepted and immediately plans were formulated.

The selection of the cadets involved two main sections. It was decided to exchange three cadets, each unit choosing two cadets best thought to represent the country. These cadets then went to HMMS Lonsdale to go before the Board of selection. The Board consisted of three Officers of Divisional Staff, the RNC, Vic. The interviews were informally, but probing and after some deliberation three were selected, the Naval units being L/S QMG Lachlan Story, L/S Philip Rowbottom and A/S MTB Morrell. On the Australia Day holiday, the camp provided two whalers complete with crews and marines in period costumes for the re-enactment of Governor Phillip's landing at the Sandy Bay regatta. This was watched by the Governor of Tasmania, Sir Stanley Ballentyne, who also inspected the 24-man guard of honour paraded for him by the camp. Two unarmed platypus and a wallaby and bugle band also formed part of the camp.

The following competitions were won during the camp:

- The Senior Officers' Shooting Trophy — TS Tamar, Lieutenant Commander Cleaver.

Naval Reserve Cadets of Australia — Expedition to New Zealand, 1975
By Cadet Leading Seaman Q. M. M. Story of TS MELBOURNE

In early 1974 the New Zealand Navy League approached the Navy League of Australia concerning an exchange of Naval Reserve Cadets. The idea was that a number of New Zealand Cadets should spend some time in Australia in exchange for a number of Australian Cadets who should spend an equal amount of time in New Zealand. The idea was accepted and immediately plans were formulated.

The selection of the cadets involved two main sections. It was decided to exchange three cadets, each unit choosing two cadets best thought to represent the country. These cadets then went to HMMS Lonsdale to go before the Board of selection. The Board consisted of three Officers of Divisional Staff, the RNC, Vic. The interviews were informally, but probing and after some deliberation three were selected, the Naval units being L/S QMG Lachlan Story, L/S Philip Rowbottom and A/S MTB Morrell. On the Australia Day holiday, the camp provided two whalers complete with crews and marines in period costumes for the re-enactment of Governor Phillip's landing at the Sandy Bay regatta. This was watched by the Governor of Tasmania, Sir Stanley Ballentyne, who also inspected the 24-man guard of honour paraded for him by the camp. Two unarmed platypus and a wallaby and bugle band also formed part of the camp.

The following competitions were won during the camp:

- The Senior Officers' Shooting Trophy — TS Tamar, Lieutenant Commander Cleaver.
Join the NAVAL RESERVE CADETS

If you are between the ages of 13 and 18 years:

The Naval Reserve Cadets are administered by the Australian Naval Board. The Naval Reserve Cadets provide for the spiritual, social and educational welfare of boys 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. 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, the Mercantile 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 form provided below.

SENIOR OFFICERS, NAVAL RESERVE CADETS:

NEW SOUTH WALES: Staff Office Cadets, HMAS Watson, Watsons Bay, NSW, 2030.

QUEENSLAND: Box 6, Post Office, Stafford, 4053.

WESTERN AUSTRALIA: C/- 182 Coode Street, Como, 6152.

SOUTH AUSTRALIA: C/- Box 152W, GPO, Adelaide, 5001.

VICTORIA: C/- Box 227, Post Office, Hawthorn, 3122.

TASMANIA: C/- 3 Winmarleigh Street, Taroona, 7006.

AUSTRALIAN CAPITAL TERRITORY: Industry House, National Circuit, Barton, 2600.

TO: The Senior Officer, Naval Reserve Cadets, I am interested in joining the Naval Reserve Cadets and would be pleased to receive further information.

NAME ____________________________

STREET ____________________________

STATE OR TERRITORY SUBURB ________________

PHONE No. ____________________________

POSTCODE ____________________________

AGE ____________________________

(Please Print Clearly)

Please address your envelope to the Senior Officer in your State or Territory — see list of addresses above.

Page Thirty-two

THE NAVY

February/March/April, 1975

Page Thirty-three
Due to the increasing and critical attention being given to defence matters by responsible sections of the news media in recent months, it would not be surprising if the Australian community had a sense of uneasiness about the state of the Armed Services. The calibre of many of the persons who are commenting on defence issues certainly justifies attention to the subject.

In the main, the concern being expressed does not relate to the present state of the Services, but rather to their future capacity to provide Australia with a credible Defence Force. The effectiveness of the Services at any given time depends largely on decisions made years beforehand, and it is toward the current decision-making area that criticism appears to be directed.

Responsibility for national defence lies first and foremost with the Federal Parliament. In normal practice, major defence decisions are made and put into effect by the Government actions, and to some extent this spreads the responsibility for defence over the whole Parliament — in practice as well as in theory.

The ability of a Government to make realistic defence decisions — from determining its priority in the overall Government programme to approving or disapproving major equipment proposals — depends very much on the understanding of the various issues involved, the Ministry of course having particular responsibilities in this regard.

The Government's principal adviser on defence matters is the Department of Defence, and as the defence organisation is currently being restructured it is perhaps timely to refer to the links between the Armed Forces and the Government.

Prior to December 1972 'defence' was well represented in the Ministry by no less than five Ministers (for Defence, Navy, Army, Air and Supply) having direct responsibilities for matters connected with national security. In addition to these five Ministers, in the last McMahon government seven others held Defence, Service or Supply portfolios (the Prime Minister himself was a former Navy Minister). In short, nearly half the Ministry of 27 members had defence administrative experience and were familiar with defence issues. This situation changed abruptly when the Labor Party assumed office, and one Minister was given responsibility for the five departments in the defence group (four — Navy, Army, Air and Supply subsequently ceased to exist as separate Departments of State — a reversion so far as the Navy is concerned to its situation between 1901 and 1915, and 1921-1939 when it was a part, as it is once again, of the Defence Department). Currently the Defence Minister has an assistant who has important ministerial responsibilities of his own in another area of Government.

It would be difficult to dispute that at the present time, if only for numerical reasons, the defence voice in the Government and therefore in the Parliament, has been greatly weakened. Apart from the fewer direct links between the Armed Forces and the Government and some loss of influence as a result, the administrative burden imposed on a single full-time Minister must surely create other problems when the complexity of modern defence forces is considered, together with the immense costs involved.

The Secretary of the Defence Department (Sir Arthur Tange) in his Report on the Role of the Defence Group of Departments (which was accepted by the present Government as the blueprint for the new defence structure) refers to the magnitude of the defence Minister's task and pre-supposes the provision of other ministerial assistance. It is not however clear what the responsibilities of the "Minister's Assistance" would be or where he (or they) would fit into the new organisation. However in a defence structure of which the principal feature is a concentration of managerial authority in two persons — the Defence Secretary and the Chief of Defence Force Staff — who are responsible to the Defence Minister, it would appear that they would have to be "placed" between the Minister and his two principal advisers (the Secretary and CDFS) which would not seem helpful to anyone.

The diarchy form of defence management (as opposed to the existing 'Board' system) has itself been the subject of some critical comment and if it would seem that the burden is too much for one Minister, the same comment might apply equally to the Secretary himself, who is to be given very much greater responsibility over the whole defence area than any other Public Servant hitherto.

"Skill in naval affairs, as in other crafts, is the result of scientific training. It is impossible to acquire this skill unless the matter be treated as of the first importance and all other pursuits are considered to be secondary to it."

Thucydides c 404 BC
The principal objective of the Navy League of Australia is to stress the vital importance of Sea Power to the Commonwealth of Nations and the important role played by the Royal Australian Navy.

The League supports the Naval Reserve Cadets who are administered by the Royal Australian Navy, which Service provides technical sea training for boys who intend to serve in the Naval or Merchant Services, also to those sea-minded boys, who do not intend to follow a sea career, but who given this knowledge will form a valuable reserve for the Naval Service. We invite you to swell our ranks and so keep up to date with Maritime Affairs to help to build an ever-increasing weight of informed public opinion. The Navy League will then become widely known and exercise an important influence in the life of the Australian Nation.

The League consists of Fellows and Associates. All British subjects who support the objectives of the League are eligible for membership. Members receive copies of the League's magazine "The Navy".

**DIVISIONS**
- Victoria — Box 227, Post Office, Hawthorn, 3122.
- Queensland — 39 Pinecrot Street, Camp Hill, Queensland, 4152.
- Tasmania — 3 Winmarleigh Street, Taroona, 7006.
- South Australia — Box 1529M, GPO, Adelaide, 5001.
- Western Australia — Box 578, PO, Fremantle, 6160.
- Australian Capital Territory — 12 Darmody Street, Westeranga, ACT 2614.

THE NAVY LEAGUE OF AUSTRALIA

Application for Membership

To: The Secretary,
The Navy League of Australia,
(......Division).

Sir,

I am desirous of becoming a Member of the Navy League of Australia with whose objects I am in sympathy.

Name (Mr)
(Miss)
(Rank)

Please Print Clearly.

Street
Suburb
State
Postcode
Signature
Date

Enclosed is a remittance for $4.20 being my first annual subscription.

AFTER COMPLETION, THIS FORM SHOULD BE DISPATCHED TO YOUR DIVISIONAL SECRETARY — NOTE LIST OF ADDRESSES ABOVE.
SUBMARINE ESCAPE VEHICLE PLANNED FOR SWEDISH NAVY

The Royal Swedish Navy rescue organisation intends to replace its existing submarine rescue boats with a submarine rescue vehicle (URF). This URF is to be based at the RSwN Diving Centre (MDC) at Sjodal, south of Stockholm, and in the event of a submarine accident it will be transported by trailer to the nearest suitable harbour to the incident and, from there, to be towed to the position where its services are required.

The specification of the URF, to meet the requirements of the RSwN, has been drawn up by Kockums Mek. Verkstad, well known Swedish submarine designers and builders, in conjunction with the noted French sub-ocean specialists, Comex of Marseilles. The principal particulars of the URF are tabulated for the sake of clarity:

**Operational method**

On receipt of a 'Subsunk' alarm the URF would be immediately detached, on its trailer, to the nearest harbour to the accident having suitable launching slipway or lift-off facilities. A surface towing vessel would be simultaneously ordered to the same port.

Meanwhile at the MDC, two divers will be pressurised to the appropriate depth and then transported in a special personnel transport (PTC) to join the URF which will then be launched.

The URF will be towed to the vicinity of the accident, on the surface or, in bad weather, in the submerged condition, receiving power on route by way of an umbilical cord incorporated in the towing hawser. On arrival, divers from the towing vessel will disengage the towing hawser leaving the URF free to commence rescue operations.

Using its passive sonar the URF will home on the automatic pinger with which all Swedish submarines are to be fitted for such an eventuality. From a range of about 100m active sonar will be used, providing a picture of the seabed ahead of the URF and enabling its operators to avoid any obstacles.

Visual contact will be made at a range of 2-10m and, by means of the manipulator with which the URF is equipped, a steelwire rope is connected to the rescue hatch of the casualty. The URF will then winch itself down to mate with the submarine enabling the hatch to be opened and the casualty's crew transferred.

The URF embarked divers may have to assist in the mating operation should any deck gear or wreckage cover the rescue seat.

In the event of the rescue seat being badly damaged, making a proper docking impossible, a reserve procedure will be followed. This consists of the submarine

---

**Principal particulars and performance data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>13.5m (44 ft)</td>
</tr>
<tr>
<td>Endurance</td>
<td>40hr</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>1.9m (6 ft 3in)</td>
</tr>
<tr>
<td><strong>Displacement</strong></td>
<td></td>
</tr>
<tr>
<td>Displacement</td>
<td>300t (400 tons)</td>
</tr>
<tr>
<td><strong>Draught</strong></td>
<td></td>
</tr>
<tr>
<td>Draught surface</td>
<td>4.6m (15ft)</td>
</tr>
<tr>
<td>Draught submerged</td>
<td>4.7m (15.5ft)</td>
</tr>
<tr>
<td><strong>Endurance</strong></td>
<td></td>
</tr>
<tr>
<td>Endurance</td>
<td>40hr</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td></td>
</tr>
<tr>
<td>Speed max surfaced</td>
<td>11.5kn (21.5mph)</td>
</tr>
<tr>
<td>Speed max submerged</td>
<td>10kn (19.6mph)</td>
</tr>
<tr>
<td><strong>Towing</strong></td>
<td></td>
</tr>
<tr>
<td>Towing</td>
<td>35kn (65.5mph)</td>
</tr>
<tr>
<td><strong>Safety margin</strong></td>
<td></td>
</tr>
<tr>
<td>Safety margin</td>
<td>165kn t/m (300m)</td>
</tr>
<tr>
<td><strong>Diving depth</strong></td>
<td></td>
</tr>
<tr>
<td>Max diving depth submerged</td>
<td>440m (1449ft)</td>
</tr>
<tr>
<td><strong>Complement</strong></td>
<td></td>
</tr>
<tr>
<td>Complement, fishermen</td>
<td>15-25</td>
</tr>
<tr>
<td>Complement, divers</td>
<td>15-25</td>
</tr>
<tr>
<td>Complement, survivors</td>
<td>25</td>
</tr>
<tr>
<td><strong>Auxiliary compartment</strong></td>
<td></td>
</tr>
<tr>
<td>Auxiliary compartment</td>
<td>20t</td>
</tr>
<tr>
<td><strong>Personnel transport capsule (PTC)</strong></td>
<td>3 to 5</td>
</tr>
<tr>
<td><strong>Trailer</strong></td>
<td></td>
</tr>
<tr>
<td>Trailer</td>
<td>16.5t (36,300 lbs)</td>
</tr>
</tbody>
</table>

---

The order for the URF and accompanying PTC, valued at SwKr 12.6m (Aug '73 level), was placed with Kockums with delivery scheduled for October 1977.

---

The Royal Swedish Navy rescue organisation intends to replace its existing submarine rescue boats with a submarine rescue vehicle (URF). This URF is to be based at the RSwN Diving Centre (MDC) at Sjodal, south of Stockholm, and in the event of a submarine accident it will be transported by trailer to the nearest suitable harbour to the incident and, from there, to be towed to the position where its services are required.

The specification of the URF, to meet the requirements of the RSwN, has been drawn up by Kockums Mek. Verkstad, well known Swedish submarine designers and builders, in conjunction with the noted French sub-ocean specialists, Comex of Marseilles. The principal particulars of the URF are tabulated for the sake of clarity:

**Operational method**

On receipt of a 'Subsunk' alarm the URF would be immediately detached, on its trailer, to the nearest harbour to the accident having suitable launching slipway or lift-off facilities. A surface towing vessel would be simultaneously ordered to the same port.

Meanwhile at the MDC, two divers will be pressurised to the appropriate depth and then transported in a special personnel transport (PTC) to join the URF which will then be launched.

The URF will be towed to the vicinity of the accident, on the surface or, in bad weather, in the submerged condition, receiving power on route by way of an umbilical cord incorporated in the towing hawser. On arrival, divers from the towing vessel will disengage the towing hawser leaving the URF free to commence rescue operations.

Using its passive sonar the URF will home on the automatic pinger with which all Swedish submarines are to be fitted for such an eventuality. From a range of about 100m active sonar will be used, providing a picture of the seabed ahead of the URF and enabling its operators to avoid any obstacles.

Visual contact will be made at a range of 2-10m and, by means of the manipulator with which the URF is equipped, a steelwire rope is connected to the rescue hatch of the casualty. The URF will then winch itself down to mate with the submarine enabling the hatch to be opened and the casualty's crew transferred.

The URF embarked divers may have to assist in the mating operation should any deck gear or wreckage cover the rescue seat.

In the event of the rescue seat being badly damaged, making a proper docking impossible, a reserve procedure will be followed. This consists of the submarine

---

**Principal particulars and performance data**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length</strong></td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>13.5m (44 ft)</td>
</tr>
<tr>
<td>Endurance</td>
<td>40hr</td>
</tr>
<tr>
<td><strong>Height</strong></td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>1.9m (6 ft 3in)</td>
</tr>
<tr>
<td><strong>Displacement</strong></td>
<td></td>
</tr>
<tr>
<td>Displacement</td>
<td>300t (400 tons)</td>
</tr>
<tr>
<td><strong>Draught</strong></td>
<td></td>
</tr>
<tr>
<td>Draught surface</td>
<td>4.6m (15ft)</td>
</tr>
<tr>
<td>Draught submerged</td>
<td>4.7m (15.5ft)</td>
</tr>
<tr>
<td><strong>Endurance</strong></td>
<td></td>
</tr>
<tr>
<td>Endurance</td>
<td>40hr</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td></td>
</tr>
<tr>
<td>Speed max surfaced</td>
<td>11.5kn (21.5mph)</td>
</tr>
<tr>
<td>Speed max submerged</td>
<td>10kn (19.6mph)</td>
</tr>
<tr>
<td><strong>Towing</strong></td>
<td></td>
</tr>
<tr>
<td>Towing</td>
<td>35kn (65.5mph)</td>
</tr>
<tr>
<td><strong>Safety margin</strong></td>
<td></td>
</tr>
<tr>
<td>Safety margin</td>
<td>165kn t/m (300m)</td>
</tr>
<tr>
<td><strong>Diving depth</strong></td>
<td></td>
</tr>
<tr>
<td>Max diving depth submerged</td>
<td>440m (1449ft)</td>
</tr>
<tr>
<td><strong>Complement</strong></td>
<td></td>
</tr>
<tr>
<td>Complement, fishermen</td>
<td>15-25</td>
</tr>
<tr>
<td>Complement, divers</td>
<td>15-25</td>
</tr>
<tr>
<td>Complement, survivors</td>
<td>25</td>
</tr>
<tr>
<td><strong>Auxiliary compartment</strong></td>
<td></td>
</tr>
<tr>
<td>Auxiliary compartment</td>
<td>20t</td>
</tr>
<tr>
<td><strong>Personnel transport capsule (PTC)</strong></td>
<td>3 to 5</td>
</tr>
<tr>
<td><strong>Trailer</strong></td>
<td></td>
</tr>
<tr>
<td>Trailer</td>
<td>16.5t (36,300 lbs)</td>
</tr>
</tbody>
</table>

---

The order for the URF and accompanying PTC, valued at SwKr 12.6m (Aug '73 level), was placed with Kockums with delivery scheduled for October 1977.
DEEPSEA FISHERIES PTY LTD
Home Freezer Owners Catered For Stockists of all Frozen Foods including Fish, Frozen Vegetables, Chinese Meals Take Away Foods and Poultry
57 NORTHERN ROAD WEST HEIDELBERG, VIC Phone: 459 4205 459 5293

F. G. STRANG PTY LTD
...for a complete service to shipping
- MASTER STEVEDORES GENERAL CONTRACTORS TALLYING CONTRACTORS MOBILE CRANES & FORK LIFTS WATCHING SERVICE
- F. G. STRANG PTY LTD
94 ERROL STREET NORTH MELBOURNE, VIC Phone: 30 3121 (6 lines) Cables—EMESCOL
General Waterside Labour Contractors Master Stevedores—Agents

Best Wishes to all Members of HMAS Cerberus from
Des Fidler
HASTINGS HOUSE OF FURNITURE
- Furniture • Floor Coverings • Electrical Goods
LARGE RANGE
Special attention given to all Navy Fund Loans
77 HIGH STREET HASTINGS, VIC Telephone: 79 1642

Kindly Sponsored by...

John F. Coghlan & Co Pty Ltd
CUSTOM & SHIPPING AGENTS
53 QUEEN STREET MELBOURNE, VIC Telephone: 61 2755

NEW DEFENCE OFFICE IN MELBOURNE
The building: St James Plaza, 350 St Kilda Road — nearly opposite the Shrine of Remembrance — will accommodate 2500 members of the Defence Department including Service personnel. The occupants of the new building will be drawn mainly from Albert Park Barracks, South Melbourne, which will enable that complex to be eventually returned to the Albert Park Trust and the area to revert to parkland. Occupiers of the new building will include the newly-formed Defence Regional Office, with personnel made up of the integrated Service departments. Other occupants will be the Army Logistics Command, part of RAM Support Command, and the Headquarters of the Naval Officer-in-Charge, Victoria.

The building consists of two separate areas, one a 26-storey tower, the other a 5-storey block. It is set in an open plaza with trees and modern sculpture. The building is air-conditioned, carpeted, and includes three levels of car park. The building should be fully occupied by September, 1975.

SEA KING FLIGHT FORMED
The first Australian flight of Westland Sea King helicopters was formed last October at a ceremony at the Royal Naval Air Station, Culdrose, Cornwall. The flight has been formed to train and familiarise RAN personnel with the Sea Kings which will replace the Wessex anti-submarine helicopters now in service with the Fleet Air Arm. Until now RAN personnel have trained with Royal Navy Sea King squadrons. The Sea King Mark 50s ordered for the RAN are being built to meet Australian requirements and are more versatile than those supplied to the Royal Navy, the Indian Navy, the West German Federal Navy and the Norwegian Air Force.

Besides their main anti-submarine role, the RAN's Sea Kings will be used for search and rescue operations and casualty evacuation. The helicopters carry two pilots, an observer and an aircrewman. They are powered by twin Rolls-Royce engines and are fitted with advanced flight control, navigation, sonar, and radar equipment. The flight, with 52 RAN personnel, has now taken delivery of two of the 10 helicopters ordered.

TURANA DEVELOPMENT
A further series of development flights of the new RAN pilotless target aircraft Turana was successfully completed at Jervis Bay late in 1974.

Periscope on Australia
by Grommet

This Westland Sea King anti-submarine helicopter was the first of those ordered for the Royal Australian Navy to fly at Yeovil, England. The Sea Kings will replace the Wessex helicopters which entered service with the RAN in 1962.
recorded a number of near-misses. Had the shells carried the normal proximity fuse, the drones would probably have been destroyed.

COMPUTERS FOR DEFENCE

The Department of Manufacturing Industry had awarded a contract to Sperry Rand Australia Ltd. for the Supply to the Department of Defence of a Univac 1110 computing system costing approximately $4m.

It is expected that the introduction to service of the Univac equipment in mid-1975 will mark a significant change in the character of the large defence data processing systems to take advantage of modern techniques and equipment including large scale disk storage devices.

EXTENSION OF SERVICE FOR ADMIRAL SMITH

The service of Admiral Sir Victor Smith, KBE., CB., DSC., Chairman, Chiefs of Staff Committee, has been extended by approximately 6 months to 23 November, 1975. He will then have served 5 years in the appointment.

NEW FIRE CONTROL SYSTEM FOR RAN SUBMARINES

A contract worth $87,000 had been placed with the Librascope Division of the Singer Corporation for a contract definition study for a new computer-based fire control and combat data processing system for RAN submarines.

The new system is intended to replace the existing equipment and should improve the effectiveness of the submarines considerably. Computer-based fire control systems have been or are being developed for submarines of most Western navies, including the Royal Navy and the United States Navy.

The selection of Singer Librascope, of Glendale, California, USA, was made after a thorough technical evaluation of responses to tenders from five companies in Europe and the United States. Singer Librascope is currently the contractor for all USN submarine fire control systems.

While there is no production commitment at present, it is anticipated that Australian industry will take part in any future programme and will provide technical support for the equipment after its introduction into service.

SALE OF HMA SHIPS SYDNEY AND QUEENBOROUGH

The Department of Manufacturing Industry have called for tenders for the purchase and removal of the ex Navy transport SYDNEY and the destroyer QUEENBOROUGH. Tenders close at 2.00 pm on Tuesday, 18 February, 1975.
The former HMAS SYDNEY, transporting troops and equipment from Vietnam. SYDNEY steamed more than 116,500 miles on her Vietnam voyages.

The present Government's policy to remove all Australian Servicemen from overseas bases brings to light an urgent requirement for flexible naval forces patrolling our coastline.

Since the retirement of HMAS Sydney, no multi-role ship exists in the RAN.

A replacement for Sydney should have flexibility of roles and should encompass:

(A) Surveillance
(B) Civil Aid

For example — Flagship of small naval task force (perhaps including 2 type 12 Destroyer Escorts). Patrolling Indian Ocean, both deep ocean and coastline. Provide surveillance on Foreign naval forces, fishing resources protection, offshore rig protection.

The Command Ship should have capabilities of:

* Helicopter Capacity (eg. 3 Sea Kings and 2 Iroquois)
* Troop Capacity (100 troops with landable vehicles and support).
* Task Force Command Post (long range communication facilities).
* Replenishment for Destroyer Escorts of a task group.

(B) Civil Aid

Flagship for civil disaster eventualities. Rapid overseas commitment of civil disaster task force providing:

* Helicopter for evacuation and reconstruction
* On board hospital facilities.
* Landable vehicles and personnel for reconstruction.

(C) Training

Ship to be capable of long range cruises for officers and sailors and including facilities for helicopter pilot training at sea.

(D) Equipment and Personnel Transfer

Ship to be able to undertake sea transport of service equipment, for example: New aircraft purchases overseas, transfer of men and equipment to overseas commitments, such as United Nations Peace Keeping Duties.

(E) Amphibious Capacity

Ability to land a self-contained small troop task force with vehicles, helicopters, medium guns and stores, for the dislodgement of foreign guerilla activity on Australia's Northern Coastline or as part of UN or SEATO commitments.

SHIP (ACQUISITION)

Existing ships suitable for the above requirement would be the US built LPD (landing platform deck) also known as Amphibious Transport Dock of Austin or Raleigh Class (see photograph).

One of these type ships could be purchased from the US Navy and with minimum modernisation, could hangar 3 Sea Kings or 4-5 Iroquois Helicopters.

Troop and amphibious capacity already exist in these ships.

SHORT TERM SOLUTION

HMAS Stalwart (see photograph and drawing), could be modernised to take 2-3 Sea Kings or Iroquois Helicopters and provide for two landing craft. Existing space allows for hospital and troop accommodation in lieu of sailors as in present role.

(Readers are invited to comment on this article and submit their own ideas, plans, photographs and drawings (black ink) regarding our need for a Command Ship. Suitable stories will be included in the next edition — in full or abstract — Editor.)
MACHINERY MONITORING SYSTEMS FOR BELGIAN NAVY

Four new escort vessels under construction for the Belgian Navy are to have Decca ISIS 300 and ISIS 100 engine-room monitoring and recording systems. The main system in each case will be an ISIS 300 monitoring 160 channels, with an ISIS 100 as auxiliary, monitoring 180 channels.

With the Royal Navy and Royal Netherlands Navy having ordered ISIS 300s already, this makes the third navy to choose Decca ISIS equipment and several other navies have it under active consideration.

The use of more advanced and highly-rated machinery today, coupled with the need for remote control under wartime operational conditions and equipment manpower, calls for comprehensive but compact surveillance of the highest integrity. Further, the continued use of surveillance arrangements based on scattered gauges and hardwired alarms is incompatible with a further escalation of machinery complexity, the limiting factors being the rate at which operators can assimilate such information and the difficulty in verifying the integrity status of piecemeal instrumentation.

The Decca ISIS 300 solution is a high-speed, solid-state monitoring system giving a coherent alarm display, group alarm indication and alarm sequence recording, together with centralised digital display and data recording facilities. High system integrity and automatic self-checking facilities are an essential feature. The Decca ISIS 300 (joined by the 200 and 100 in June last year) was designed specifically for marine machinery surveillance and to the highest commercial standards. It reflects the great advantages to the naval user of being thoroughly tested in passing the shock test specified for equipment for naval vessels.

Regarding orders for the RN, unpublicised to date, a 100 channel ISIS 300 system was installed in a naval shore test facility for sub marine prototype machinery in May 1970. Evaluation work was carried out by MoD(N) and the performance of the system has been very satisfactory.

The ISIS 100 is a less sophisticated system, although highly-rated machinery today, was designed specifically for marine machinery installation concern.

The Royal Netherlands Navy has ordered five systems and these are at present being fitted in guided missile frigates and support vessels. The ISIS 100 is a less sophisticated system, employing switched inputs only. It recently followed the ISIS 300 in passing the shock test specified for equipment for naval vessels.
The MEL Equipment Co Ltd
Launched Their Susie
(Surface/Underwater Ship Intercept Equipment)

To fire or not to fire — that is the question.

With the ever increasing sophistication of modern weapons, the time available to the commander to decide what action to take to protect his command against a threat is rapidly decreasing, whilst the probable result of a wrong decision becomes more catastrophic.

As recent events have shown, reaction time against the unknown threat is at a premium, and seconds become the currency for survival.

It must be borne in mind however that:

"Science and technology cannot of themselves, solve the multitude of military problems whose roots are beyond physical laws and the engineering arts".

Gen James Ferguson, One time Chief Air Force System Command, USAF.

Thus possession of the currency mentioned above implies the possession of equipment representing state of the art technology, equipment which, within seconds or better still milliseconds, answers the questions of ‘What it is’, ‘Where it is’ and hence the question ‘To fire or not to fire’.

In an attempt to provide equipment falling into this category, The MEL Equipment Co Ltd — Crawley, Sussex, with the naval scene in mind, launched their SUSIE range of equipments (Surface-Underwater Ship Intercept Equipment).

Within the range, each equipment is a complete digital passive radar intercept system. Behind each equipment is the philosophy that for a single operator to be capable of handling the dense radar spectrum in a typical naval environment, the equipment does the work, the operator assesses results.

The SUSIE range of equipments cover the requirements of most types of warships, differing only in the numbers and types of signal parameters measured and the degree of automation involved.

Common to the whole range is the instantaneous presentation to the operator of unambiguous, correlated frequency-bearing information on a clear tactical display. All signals received are presented simultaneously.

Covers the range 1-18 GHz (D to J bands) and with frequency band extension capability. Equipments in the SUSIE range can be provided measuring frequency band, frequency, bearing, pulse, width, PRI, scan period, signal jitter and signal lock-on.

Instantaneous alpha-numeric readout of any one or all of these parameters is available for operator selected signals.

Warning, blanking and automatic tracking stores are standard, and signal identification facilities can be associated with the larger systems. Various types of aerial assembly are available including assemblies designed to integrate mechanically, with various tracking search radars, thus sharing the much sought after top mast position.

SUSIE equipment is in production and is in service with ships now at sea. Thus MEL maintain their justifiably proud claim to be the providers of modern ESM equipment for over 25 years to the principal navies of the world.
World’s Warmest Wetsuits!!
Dive all year round in a world-famous

RON HARDINGS
CUSTOM-MADE WETSUIT

CHECK THE EXCLUSIVE FEATURES:
• Made from top quality neoprene
• 12 months written guarantee
• No side seams (patent pending)
• Made to your exact measurements

CONTRACT SUPPLIERS TO RAN

COMPLETE
DIVER SPECIALISTS

• KAWASAKI AQUALUNGS 1975 NEW RELEASE
  • 72 cu ft gal inside & outside  • Regulator two-stage downstream semi-venturi  • De-luxe contoured back pak  • Fully approved ASB114  • 5-year guarantee

ALSO AVAILABLE TO NAVY PERSONNEL
• Shotguns — Rifles — Ammunition  • Golf — Cricket — Tennis
• Football — Squash — Archery  • Darts — Water Skis

SPECIAL NOTICE!!
Send or present this page to us
Receive special Navy discount on any purchase

• WE HIRE
  • Aqualungs  • Wetsuits  • Rifles  • Guns

Join our RH Dive School  FAUI Approved Instructors

MAIL ORDER SPECIALISTS

RON HARDINGS
SPORTS CENTRE
17 BELGRAVE ST, MANLY, NSW — Phone: 977 4355
Divers!
If you’re thinking about diving, give us a ring.

Pro-Diving Services Pty Ltd

TRAINING PROGRAMMES: Our diving schools are conducted by former RN and RAN divers together with PRO DIVING SERVICES PROFESSIONALS. Classes commence monthly in the following:
- SCUBA (compressed air diver)
- Deep-Sea Hard Hat
- Commercial Diver
- Underwater Cutting and Welding

Recognised resettlement courses for ex-servicemen. Send for a free school brochure.

DIVE TRIPS: If you’re in Sydney and you’re interested in diving with other divers on local wrecks and reefs, then call our office. Our 36ft dive boat “SALVUS” departs from Rose Bay on Saturdays and Sundays for full days of enjoyable diving. Diving equipment can be hired.

EQUIPMENT SALES: Sydney’s largest range of quality equipment.
- Healthways
- US Divers
- Sea Bee
- Nemrod

Both sport and professional gear in stock
Catalogues available and mail orders handled

DISCOUNTS
10% to 20% to all servicemen who produce their ID card

SPECIAL OFFER: Healthways 72 cu ft tank, Scuba Star Regulator, Scubapak Pressure Gauge
NORMAL PRICE: $333.50  SPECIAL PRICE: $260.00

Delivery Free Within Australia

PRO-DIVING SERVICES PTY LTD
274 Maroubra Road, Maroubra, 2035, Sydney, NSW
Telephones: 349 5244 or 34 6500
BE ON A WINNER!

Trot along to your newsagent and ask for the latest copy of

Harness Horse

A monthly magazine to keep you fully informed on all aspects of the sport.

FEATURES INCLUDE:
• Reports from all states and both islands of New Zealand
• Latest news on the breeding scene
• Results from major tracks
• Harness Horses to follow

AND LOTS MORE INTERESTING FEATURES

A little over 12 months ago the Navy League of Australia published a review of the Royal Australian Navy in the light of possible threats that could arise within the succeeding decade.

At that time the point was made that it was an error to look at just the great powers to assess likely developments.

It was suggested that it was more valuable to look at the nations in the Indian Ocean-Western Pacific area, which is of course the area of Australia’s real strategic interest. The great powers may well, in situations which they consider to be of advantage to them, become suppliers of equipment and expertise, but they are not likely to become involved directly in a local, conventional struggle.

The “lesser” nations do not suffer from the same inhibitions and those nations indigenous to the area are really where Australia should be looking to ascertain whether there is any likelihood of a threat developing.

Threat, it is worth remembering, can involve actions ranging from harassment of shipping, to raids on isolated parts of the continent, to blockade to a full scale invasion of this country. The variations within the extremes are many indeed.

In the last review of Australia’s maritime defences it was stressed that none of the nations referred to represented a present threat. Nor was it suggested that any of the nations in the area would necessarily become a threat, or seek to apply military pressure upon Australia. But it was said then, and ought to be repeated, that in the present era of instability, when one nation’s attitude to another can change very rapidly, it would be foolish to disregard the fact that a number of countries in the region have substantial armed forces and that they are continuing to expand them.

Examples of rapid change in attitude of one nation to another.
The management of change

with the INTERDATA model 7/32 processor

Today more than ever the business of management is the management of change. INTERDATA Model 7/32 Processor is a megamini computer - a powerful new management tool that measures change as it happens. REAL TIME and gives the facts all together so you can make the best decision to control that change. We back our INTERDATA hardware with versatile software systems. You can get your computer controlled operation working quickly, reliably and for a lot less than you'd expect.

Software features:
- 32-bit hardware general registers
- 80 Chordier St
- System - 32-bit hardware general registers
- St Leonards, N S W 2065
- Up to 1M 4.3 loose cylinders with automatic scheduling
- Tel 438 8480
- Up to 128 auto-drawer channels
- 85 Park St
- Parallel interfacing giving batched and update
- Bn Birk, VIC 3005
- Parallel interfacing giving batched and update
- 69 Northcote St
- 120x1000 megamini instructions
- Pymble, N C T 2073
- Powerurable memory protection
- Tel 95 3413
- Lower cost for performance
- INTERDATA Model 7/32 Processor
- Powerful software modules included
- Double indexing

Standard features:
- System - 32-bit hardware general registers
- 80 Chordier St
- St Leonards, N S W 2065
- Tel 438 8480
- 85 Park St
- Bn Birk, VIC 3005
- 69 Northcote St
- Pymble, N C T 2073
- Powerurable memory protection
- Lower cost for performance
- Powerful software modules included
- Double indexing

An artist's impression of the proposed Patrol Frigate to be built for the RAN.

This can be seen in the Japanese approach to the Arab vs. Israel. The oil crisis hit home and in the policies of the Thai and Philippine Governments to United States bases in their respective countries. It is not the purpose of this paper to suggest that events over the last year or so have produced an immediate threat to Australia. Nor is it suggested that it is now possible to identify some future threat. low level or otherwise. But it is clear that in recent times developments in both the economic and political spheres have increased instability and tension in the region of strategic interest to Australia. While it cannot be said that there is a present identifiable threat to Australia it should not be assumed, in the light of present circumstances, that there will not be some kind of threat within 5 years, 10 years or some longer period.

Just some of the recent events show that there is little reason to adopt a simple ostrich-like no-threat policy.

1. The continuing tension of the Middle East and the real risk of another outbreak of a shooting war particularly on the Syrian front.

2. The problems surrounding the impending independence of the Timor and the real risk of another outbreak of a shooting war particularly on the Syrian front.

3. The problems surrounding the impending independence of Portuguese East Timor provide scope for a real conflict of interest (if nothing worse) between the Indonesian government and various political groups within the Portuguese colony and between Indonesia and Australia.

4. The sudden and complete collapse of South Vietnam, the not so sudden demise of the Lon Nol government in Cambodia and the probable advent of a Pathet Lao government in Laos with results, particularly in the attitudes of neighbouring countries, yet to be ascertained. It is worth noting just how swift was the change which overwhelmed Indo-China.

The foregoing list is not meant to be a catalogue of woes but is merely intended to illustrate that this is an age, and an area, of instability. Events in distant places can have unpredictable results. A left wing coup in Portugal can give rise to an independence movement in Timor which will concern those in government in Indonesia. The conflict in the Middle East can produce the oil crisis and create difficulties for India and Japan.

Within the Indian Ocean-Western Pacific region those nations with significant armed forces have continued to expand or re-equip them. Japan is pursuing her current five year plan which includes two guided missile destroyers, three destroyers, six frigates, submarines conventionally powered but some with the Albacore hull and numbers of smaller vessels.

China is continuing her programme which involves, the production of more modern surface naval competition in the area between outside powers. Not only has the United States been deploying task forces into this ocean but so also have the French. In 1974 for the first time the French sent a carrier to the Indian Ocean.

The Daring class destroyers VENDETTA and VAMPIRE were modernised in recent years but should reach the end of their economic life in the early 1980's.

The Suez Canal will open in June, 1975. thereby enabling the Russians to more readily deploy ships and submarines into the Indian Ocean. This will inevitably produce further
units and a continuing flow of submarines.

The Indian building plan is impressive in its scope. It includes seven to ten frigates with the British Leander and French A 69 classes among them. The Indians may now have six Fastrot submarines. This is, of course, in addition to the existing order of battle which includes a carrier, two cruisers, and some 16 destroyers and frigates. India has, of course, joined the ranks of the nations which have exploded a nuclear device.

For some ten years the Indonesian navy was allowed to run down with few replacements. It is now intended to re-equip the navy and replace many of its aging vessels. There have been recent reports that the Indonesians are going to order four modern destroyer escorts.

It is in the context of the region of which Australia is a part that her defence situation and her defence forces must be judged. It is a background of change and instability where it would be unwise to try to forecast the trend of events more than three or five years ahead. It is a region where all the significant nations are expanding or re-equipping their armed forces.

What then is the position of Australia's maritime forces? In the review of Australia's maritime defence, referred to at the beginning of this paper, they were set out as follows:

- 1 aircraft carrier (Skyhawk attack bomber aircraft. Tracker AVS and AVS helicopters).
- 3 guided missile destroyers.
- 2 gun-platform destroyers (plus 1 demilitarised as a training ship). 6 destroyer escorts. 4 submarines (plus 2 on order). 1 fleet oiler. 1 destroyer tender. 6 mine-countermeasures craft. 8 small landing craft. 15 small patrol boats (less 2 to be given to Indonesia). 23 long range maritime patrol (LRMP) aircraft. 24 F 111 aircraft.

This list, drawn up more than a year ago, could be repeated as the present order of battle. Cyclone Tracy has reduced our patrol boat force by one.

There are at present no combat ships on order for the Royal Australian Navy (RAN) or LRMP aircraft for the Royal Australian Air Force (RAAF). Although there has been talk of the American Patrol Frigates, the fact is that no orders have been placed.

Options are held in respect of two ships and they may be exercised in 1978. If the options are exercised the RAN can expect to receive the two Patrol Frigates in about 1981 by which time four of the Type 12 frigates and all three Daring class destroyers will be 20 to 25 years old. So far no orders have been placed for LRMP aircraft to succeed the ageing Neptunes.

Vice-Admiral Sir Richard Peek has both in "The Navy" magazine and in the press set out in some detail what will be the result for the RAN if no replacement programme is implemented in the near future. He has clearly demonstrated that in the 1980s the RAN, without replacement, will consist very largely of ageing ships.

Having regard to the long lead times required in the production of modern warships, to provide replacements for the ships which will reach the end of their useful lives in the period 1980-1985, decisions must be taken in the next 12 months. To not implement such a programme simply means to take a gamble that all will be well and that no threat will materialise between now and the early 1980s. The second-hand and unlikely to meet Australian requirements without modification.

Good planning should ensure that new ships and aircraft come into service in time to replace those reaching the end of their useful lives. Failure to do so necessarily results in a decline in the strength of the maritime forces. The Navy League has previously called for a plan to enable the timely replacement of HMAS Melbourne, the mothballed HMAS Sydney, and the destroyer force. Such a programme, together with the purchase of LRMP aircraft, is essential if Australia is to avoid a gasp in her maritime defences in the 1980s.
Ernest Carrere, Jnr, and his wife, paid a short visit to Australia at the end of March.

Dr and Mrs Carrere arrived in Sydney from America on Saturday, 22 March, and were met by the NSW Navy League President, Commodore H. D. Stevenson, and the Federal President, Admiral Sir Arthur Tange, and the Secretary of the Defence Department, Sir Arthur Tange, and the Chairman, Chiefs of Staff Committee, Admiral Sir Victor Smith, and the Chief of Naval Staff, Vice-Admiral H. D. Stevenson.

On Tuesday Dr Carrere and the Federal President called on the Secretary of the Defence Department, Sir Arthur Tange, and the Chairman, Chiefs of Staff Committee, Admiral Sir Victor Smith, and the Chief of Naval Staff, Vice-Admiral H. D. Stevenson. A luncheon in honour of the distinguished visitors was given by Vice-Admiral and Mrs Stevenson.

Due to industrial action by air hostesses, the remaining Canberra arrangements had to be cancelled, and the Federal President declined to allow the visitors and the Federal President time to drive to Melbourne, where they arrived at 2:00 pm on Wednesday.

Later in the same day Dr and Mrs Carrere visited HMAS Cerberus, and after having been shown the Establishment, luncheon was given to the visitors by Commodore B. S. Murray, and Mrs Murray, Rear-Admiral A. M. Synnot, and Mrs Synnot, Rear-Admiral A. G. McFarlane, and Mrs McFarlane, Rear-Admiral G. J. Willis, and Mrs Willis, the Federal President, and Mrs Max Reed.

On Thursday Dr Carrere lunched with the Naval Officer-in-Charge, Victoria, Commodore B. S. Murray, and the Federal and State office-bearers of the Navy League, and after visiting places of interest around Melbourne, spent the evening at the home of the Federal President.

Dr and Mrs Carrere left Melbourne on Good Friday for Fiji, Canada and home, and were farewelled by the Federal and Victorian Presidents of the League.

The United States Navy League has some 45,000 members and is regarded as a "strong voice" for the United States Navy. It also has a sea cadet organisation of 6000 members, and it is hoped that an exchange between American and Australian cadets can be arranged in the not-too-distant future.

Commander Evans believes the visit of the US Navy League President was of value to both Navy Leagues, and in view of the importance of our association with the United States, feels that every effort must be made for our organisations to keep in touch with each other.
New Patrol Boats for ... THE ROYAL AUSTRALIAN NAVY

On Wednesday, May 7, 1975, newspaper advertisements invited applications from shipbuilders or their agents wishing to register their interest in tendering for the supply of patrol craft for the Royal Australian Navy.

The advertisements read: "The new class of craft is expected to have capabilities similar to the ATTACK class but with improvements in some areas. Copies of the Registration Package may be obtained by applying in writing by May 22, 1975, to The Department of Defence (Navy Office), Canberra, Australia's then Defence Minister, the Honourable Lance Barnard, MP, issued a statement on May 6, 1975, that — the new class of patrol craft would complement and in due course replace the existing ATTACK class, and would have similar capabilities to the ATTACK class, with improvements in sea keeping ability, range and speed, radar for navigation and surveillance, and self-sufficiency for independent operation appropriate to conditions off the Australian coast.

Shipbuilders interested in tendering would be required to respond with an existing patrol craft design. Modifications to suit Australian requirements would be agreed during a project definition phase prior to the letting of a construction contract about November/December, 1976. Construction would be in Australia or, alternatively, with lead craft built overseas and the remainder in Australia. No indication has yet been given by the Minister of the number of craft to be built for the RAN. The generality of the press release and newspaper advertisements would indicate that the Australian Government is at this time completely open-minded regarding its patrol boat requirements and is keen solely to ascertain what is currently available throughout the world "off the shelf." The purpose of this hasty editorial is to acquaint readers with the types of patrol boats currently available and which undoubtedly will be assessed by the RAN when selecting new units.

Opportunity was taken following the newspaper advertisements to contact shipbuilders throughout the world, known to be currently producing patrol boats. "The Navy" contacted 21 shipbuilders, of which 10 had responded at time of going to press. It is apparent that this lack of response was brought about largely by the short time limit given overseas shipbuilders to forward information, viz. seven days.

Before summarising the details hastily collated from material supplied, it would be wise to examine the specifications the RAN should look for when selecting a suitable patrol boat design and also briefly assess the ATTACK class of Patrol Boat currently in service — the ATTACK (ACUTE) class of patrol boats in service with the Royal Australian Navy are basically of good design and well constructed — Displacement: 146 tons full load. Dimensions: 107.5 overall x 20 x 7.30. Guns: one, 40mm; two medium machine guns. Engines: Paxman 16 YJCM diesels; 3500hp; two shafts: 21-24 knots.

The RAN now have 13 boats and it has been calculated that by 1982/84 they will reach the end of their operational life.

The main criticism of the ATTACK class boats has been of their top speed — a little low and there is no doubt that their performance in weather conditions over force 5 is inadequate. In short — the ship will survive longer than the crew in heavy weather.

It would appear desirable that this new class of Australian patrol boats should be;

(a) Of greater size but of no greater draught than the ATTACK class boats, as their ability to move in comparatively shallow water is a great asset, particularly for interceptive work.

(b) Higher speed has obvious penalties in weight, space and fuel consumption, but a sustained speed of 25 knots would be satisfactory. High speed is desirable to avoid counter attack, either by missiles or ships.

(c) Much greater offensive capacity is necessary and obviously surface-to-surface guided missiles would be preferred with a somewhat larger gain than the present 40mm gun. For operations in rough seas or at speed — the missile has the advantage over the shell in that it is controllable after launching, so that the attitude of the boat at the time of firing is not critical.

(d) Some degree of standardisation is advisable in machinery, both in radar, generating capacity and, of course, main engines. Therefore the use of Paxman diesel engines may have some advantage both in the provision of spare parts and in the training of technical staff in operating and maintenance procedures.

(e) Patrol boats should be able to be maintained at forward bases as
**FASHION DESIGNED**

- Cut for Comfort
- Cut for Style
- Cut for Fit

THE CHAMPIONS wear them. Why not YOU?

**CUSTOM WET SUITS**

ONLY $69.95

Order Direct and Save 20%

Satisfaction Guaranteed

Men's or Women's custom-tailored to your measurements with high pants and collar for super warmth. Finest wet suit material, completely nylon-lined. Features sewn seams, non-corrosive zipper. Quick delivery.

ADD $4 postage handling.

Clip and mail this handy coupon today to

DOLPHIN WET SUITS

16 Ninth Avenue, Campsie, NSW, 2194

Phone: 789 2999

SEX.

SUIT.

SPECIAL INSTRUCTIONS

NAME.

ADDRESS.

CITY STATE.

Page Twelve THE NAVY May/June/July, 1975

much as possible and with ability to be hauled out on existing or enlarged slipways at, say, Cairns and Darwin is an obvious advantage for vessels which operate in shallow and poorly charted waters and where there is always a risk of damaging a propeller or hull fittings. An obvious gain would be a vessel that could be beached by its crew to permit minor repairs to hull and screws.

(7) Habitability is certainly important, both as aid to crew efficiency and morale, so a standard not below that of the ATTACK class boats is necessary.

(8) Superstructure should be kept small—a wheelhouse, flying bridge and ammunition storage. Thereby leaving the decks clear to give a wide field of fire to the armament mounted on the fore and/or aft decks. It also reduces the silhouette, making the craft less conspicuous.

**POSSIBLE ROLES AND APPLICATIONS**

1. Anti-smuggling and infiltration.
2. Control of shipping.
3. Air/sea search and rescue.
4. Police duties—guarding and patrolling the Australian coastline and territorial water (fisheries patrol and surveillance).
5. Harbour defence.
8. Counter-attack by similar craft of another nation.
9. Attack role against an enemy's shore installations (i.e., a small commando raid).

**PATOUL CRAFT AVAILABLE “OFF THE SHELF”**

Brooke Marine Limited Lowestoft

Suffolk, United Kingdom

33 METER FAST PATROL BOAT

Four have been delivered to Pakistan, four to Libya, four to New Zealand, two to Nigeria and an additional two are under construction for Nigeria.

**SPECIFICATION**

- Construction: All-welded mild steel hull with aluminium alloy superstructure.
- Propulsion: Twin marine diesels driving twin screws through reverse-reduction gearboxes.
- Performance: Up to 26.5 knots depending on engines specified.
- Engines: Twin Paxman 12 YJCM diesels; max bhp 1800; max speed 23.5 (knots); max continuous speed (knots) 21.5. Twin Paxman 16 YJCM diesels; max bhp 2400; max speed (knots) 26.5; max continuous speed (knots) 24.0.

PATROL CRAFT AVAILABLE "OFF THE SHELF"

Brooke Marine’s 33m craft combines economy of size with functionality. A variety of duties can be carried out by the craft depending on the armaments selected. With an all-steel hull and aluminium alloy superstructure, the 33m has excellent sea-keeping qualities, performance and reliability. The craft's sea-keeping abilities may be further improved by the installation of stabilisers. Weapon capability can be adapted to particular requirements. The photograph shows one of the large patrol craft recently delivered to the Nigerian Navy.

Depending on the engines specified, the craft can have a maximum speed to 26.5 knots and a range of considerably more than 2000 miles, which can be further extended to 3500 miles when the reserve fuel tanks are utilized.
Recommended Suppliers to the Postmaster-General's Department

EUGENE GRAY
(AUSTRALIA) PTY LTD

SUPPLIERS OF:
- Electronic Components — Mica Capacitors
- Mica Transmission Capacitors
- Electronic Equipment
- Electronic Instruments
- Communication Equipment & Components
- Industrial Electronic Control Systems

1st FLOOR, 361 HUME HIGHWAY
BANKSTOWN, 2200

Telephone: 709 2506

PO Box 151, Revesby
NSW, 2212, Australia

Automatic accommodation arrangements can be worked to suit owners' requirements.

Ventilation
Mechanical supply and natural exhaust of fresh air to all accommodation, operational spaces and toilets. Mechanical supply and exhaust to galley and engine room. Air-conditioning available if required.

Standard armament
Forward — 40mm gun
Aft — 40mm gun
Two 2in rocket flares launchers
Total magazine capacity (40mm) — 560 rounds

BROOKE MARINE'S 37.5 METRE
FAST PATROL BOAT

Four of these vessels have been built and another four are under construction for the Sultanate of Oman; one has been delivered to the British Ministry of Defence (Air); one for an East African country and another three are now being built for an East African country.

SPECIFICATION
Construction
All-welded mild steel hull with aluminium alloy superstructure.

Propulsion
Twin marine diesel engines driving twin screws, through reverse-reduction gearboxes.

Performance
Up to a maximum of 67 km/h (36 knots) may be obtained, depending on engines selected and on overall displacement.

Range
With standard fuel load at 24 km/h (13 knots) 6100 km (3300 nautical miles).

The Brooke Marine 37.5 metre fast patrol boat, the first of four constructed for an East African country.

Stabilizers
Fin-type (optional extra).

Accommodation
Arranged for a total complement of 25 depending on role.
- Commanding officer in separate cabin.
- 2 officers.
- 2 or 4 petty officers.
- 18 ratings.

Ventilation
All living and operational spaces air-conditioned.
Mechanical supply and exhaust of fresh air to all other necessary spaces.

The Strike and Defence Escort versions of the 50 metre fast patrol craft by Brooke Marine. This craft has been designed and developed to meet the requirements of navies for general long range patrol operations, for offensive strike action and for defence escort duties. The ship is offered in two versions: (i) a high speed missile carrying strike craft; (ii) a medium high speed defence escort craft.
Standard armament
Forward — 40mm gun.
Aft — 40mm gun.
Two 2in rocket launchers.
Total magazine capacity (40mm) — 960 rounds.

Alternative armament (including weapon control and radar systems) may be installed to suit purchasers' particular requirements.

BROOKE MARINE'S 50 METRE FAST PATROL CRAFT
A PROJECTED DESIGN IN NEGOTIATION WITH THREE OVERSEAS NAVIES

SPECIFICATION
Principal dimensions (strike and defence and escort craft)
Length overall: 50.65m (166ft 6in)
Length on waterline: 47.55m (156ft 0in). Beam, maximum: 8.23m (27ft 0in). Depth, moulded: 4.57m (15ft 0in). Draught, mean: 2.05m (6ft 9in). Displacement, standard: 275 tons, approximately.

Armament (strike craft)
Guns — forward: 76mm Oto Melara; aft: 30mm twin A32 Naval mounting.
Missiles: ship designed to accept 4 Exocet missiles.
Tracking radar: Selenia Orion RTN 10X.
Surveillance radar: Decca TM1229.
Fire control: Direction and control of main gun from radar by dedicated computers. Provision to receive the direction and control system of the Exocet missiles.

Armament — (defence escort craft)
Guns — forward: Bofors 57mm automatic type; aft: Bofors 57mm automatic type.
Tracking radar: Selenia Orion RTN 10X.
Surveillance radar: Decca TM1229.
Fire control: Direction and control of both guns from radar by dedicated computers.

Performance (strike craft)
Speed (standard displacement): 41 knots maximum; 37 knots continuous; 25 knots cruising (3 diesels only); 15 knots cruising (centre diesel only); 12 knots economical cruising.

Range, at continuous speed: 500 nautical miles; at cruising speed (12 knots): 2160 nautical miles.

Performance (defence escort craft)
Speed (standard displacement): 33 knots maximum; 30 knots continuous; 22.5 knots cruising (wing engines); 15 knots cruising (centre engine); 12 knots economical cruising.

Machinery (strike craft)
The main propulsion comprises:
each wing shaft — one marine gas turbine combined with one marine diesel engine driving a fixed pitch propeller through a reverse/reduction gearbox.
Centre shaft — one marine diesel engine driving a controllable pitch propeller through a reduction gearbox.

Machinery (defence escort craft)
The main propulsion comprises:
each wing shaft — one marine diesel engine driving a fixed pitch propeller through a reverse/reduction gearbox.
Centre shaft — one marine diesel engine driving a controllable pitch propeller through a reduction gearbox.

Maximum rating: 19.660 hp
Continuous rating: 16.500 hp

Machinery (defence escort craft)
The main propulsion comprises:
each wing shaft — one marine diesel engine driving a fixed pitch propeller through a reverse/reduction gearbox.
Centre shaft — one marine diesel engine driving a controllable pitch propeller through a reduction gearbox.

Maximum rating: 11.160 hp
Continuous rating: 9.100 hp

Hull form
Round bilge with raked stem, flush deck and radiused transom stern.

Construction
All welded steel hull with sea water resistant aluminium alloy superstructure.

Accommodation
Commanding officer: day/sleeping cabin and toilet.
Two officers: double cabin, toilet and wardroom.
Six senior ratings: one cabin of three 2-tier berths and toilet.
Twenty-four junior ratings: one mess deck with 3-tier berths and recreational space, and separate washroom and heads.

"GUARDIAN" 20 METRE PATROL BOAT
Navy, Costguard and Marine Police
Small naval escort: Coastal patrol: Harbour defence: Air/Sea rescue; Fishery protection; Anti-smuggling and infiltration; Police surveillance.

Shiplng
Rule of the road/Control of shipping duties.

Best Wishes to All Navy Personnel from . . .

E.M.I.
ELECTRONICS
(AUST) PTY LTD

PO BOX 161, ELIZABETH, SA 5112
Telephone: (08) 255 1322

The GUARDIAN 20m (65ft) patrol boat built by Aquarius Boat Co Ltd and marketed by Marine and Coastal Limited, London. This vessel has recently been delivered to Barbados.
A Company of the Vickers Group

VICKERS COCKATOO DOCKYARD Pty Limited

BUILDERS OF MANY OF THE NAVY’S FINEST FIGHTING SHIPS

COCKATOO ISLAND SYDNEY

Telegraphic Address: CODOCK

Telephone: 82 0661 Telex: AA 21833

W. L. BASSETT & SON PTY LTD

Suppliers of
- Anchors (all types & sizes)
- Short & Stud Link Chain (in all grades)
- plus Accessories

340 BOTANY ROAD
ALEXANDRIA, 2015
Telephone: 699 1733

WALKERS RETRAVISION

"The Store You Know and Trust" Serving the South Coast for 100 years

WALKERS (Next to the TAB)
PRINCES HIGHWAY, NOWRA
Telephone: 2 0285

WALKERS

• First for Colour • First for Service Electrical & Furniture Store Special Attention to Naval Personnel

Oliver Metal Windows Pty Ltd

Manufacturers of All Types of Marine Windows, Portholes, Weld-in and Bolt-on Type Fibre Glass Cowl Vents and Porthole Surrounds All Work to British and American Standards

26 CLEMENTS AVENUE, BANKSTOWN, NSW 2200
Telephone: 70 2836, 709 3604

Oliver Metal Windows Pty Ltd

Manufacturers of All Types of Marine Windows, Portholes, Weld-in and Bolt-on Type Fibre Glass Cowl Vents and Porthole Surrounds All Work to British and American Standards

26 CLEMENTS AVENUE, BANKSTOWN, NSW 2200
Telephone: 70 2836, 709 3604
The 34 metre twin screw diesel patrol boat built by Cammenga Jachtbouw B.V., Amsterdam, Holland.

### Specification for 34.0 Metre Twin Screw Diesel Patrol Boat

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length overall</td>
<td>34.0 metres</td>
</tr>
<tr>
<td>Length at deck</td>
<td>33.8 metres</td>
</tr>
<tr>
<td>Length, waterline</td>
<td>30.0 metres</td>
</tr>
<tr>
<td>Beam</td>
<td>7.35 metres</td>
</tr>
<tr>
<td>Depth, moulded</td>
<td>4.1 metres</td>
</tr>
<tr>
<td>Draft, overall</td>
<td>1.7 metres</td>
</tr>
<tr>
<td>Displacement, light</td>
<td>105 tons</td>
</tr>
<tr>
<td>Displacement, normal</td>
<td>125 tons</td>
</tr>
<tr>
<td>Displacement, load</td>
<td>135 tons</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>20 tons</td>
</tr>
<tr>
<td>Machinery</td>
<td>2 x MTU 12 V 652 TB 71</td>
</tr>
<tr>
<td>Speed Continuous</td>
<td>1650hp (metric) @ 1380rpm</td>
</tr>
<tr>
<td>Speed Maximum</td>
<td>1950hp (metric) @ 1460rpm</td>
</tr>
</tbody>
</table>

### Alternative Propulsion

**Alt 1 — Machinery**

- 1 x MTU 16 V 538 TB 92: 4000hp each at 1900rpm (max): 3350hp each at 1790rpm (cont); Rating DIN 6270

**Performance**

- Extreme tropical conditions, half load displacement: 24 knots maximum and 21 knots continuous.
- Range: In excess of 2500 nautical miles at 12 knots.

**Alt 2 — Machinery**

- 2 x MTU 20 V 538 TB 91: 4500hp each at 1900rpm (max): 3750hp each at 1790rpm (cont); Rating DIN 6270

**Performance**

- Extreme tropical conditions, half load displacement: 34 knots maximum, 30 knots continuous.

---

### Specification for 25.0 Metre Twin Screw Diesel Patrol Boat

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length overall</td>
<td>25.0 metres</td>
</tr>
<tr>
<td>Length at Deck</td>
<td>24.5 metres</td>
</tr>
<tr>
<td>Length, waterline</td>
<td>21.5 metres</td>
</tr>
<tr>
<td>Beam</td>
<td>6.20 metres</td>
</tr>
<tr>
<td>Beam chine</td>
<td>5.31 metres</td>
</tr>
<tr>
<td>Depth, moulded</td>
<td>3.08 metres</td>
</tr>
<tr>
<td>Draft, hull</td>
<td>1.07 metres</td>
</tr>
<tr>
<td>Draft overall</td>
<td>1.90 metres</td>
</tr>
<tr>
<td>Displacement, light</td>
<td>105 tons</td>
</tr>
<tr>
<td>Displacement, normal</td>
<td>125 tons</td>
</tr>
<tr>
<td>Displacement, load</td>
<td>135 tons</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>20 tons</td>
</tr>
<tr>
<td>Machinery</td>
<td>2 x MTU 12 V 652 TB 71</td>
</tr>
<tr>
<td>Speed Continuous</td>
<td>1650hp (metric) @ 1380rpm</td>
</tr>
<tr>
<td>Speed Maximum</td>
<td>1950hp (metric) @ 1460rpm</td>
</tr>
</tbody>
</table>

### Alternative Propulsion

**Alt 1 — Machinery**

- 1 x MTU 16 V 538 TB 92: 4000hp each at 1900rpm (max): 3350hp each at 1790rpm (cont); Rating DIN 6270

**Performance**

- Extreme tropical conditions, half load displacement: 24 knots maximum and 21 knots continuous.
- Range: In excess of 2500 nautical miles at 12 knots.

**Alt 2 — Machinery**

- 2 x MTU 20 V 538 TB 91: 4500hp each at 1900rpm (max): 3750hp each at 1790rpm (cont); Rating DIN 6270

**Performance**

- Extreme tropical conditions, half load displacement: 34 knots maximum, 30 knots continuous.

---

**Marine Diesel Engines**

- 2 x 1950hp — 24 knots maximum, 21 knots maximum continuous: 2 x 4500hp — 34 knots maximum: 30 knots maximum continuous: 3 x 4500hp — 44 knots maximum: 37 knots maximum continuous.
Best Wishes from...

AUSTRAL CANNING CO PTY LTD
Dairy Produce Exporters

* 115 QUEENSBRIDGE ST
SOUTH MELBOURNE, VIC
Telephone: 61 3311

Petrol — Oil — Outboard Fuel
Motor Vehicle Servicing and Spares.
Engine and Car Washing Facilities.
Tyres and Tubes, Batteries, Kerostene,
Crushed Ice, Fishing Tackle, Bait,
Portagas Refills and Accessories,
Welding Facilities

All Mechanical Repairs — Open 7 Days a Week

Cowes Service Station
Les and Ann Milkins, Props

THOMPSON AVENUE
COWES, VIC
Telephone: 52 2024

Best Wishes from...

CORRIGAN'S PHARMACY

20 MITCHELL STREET
BENDIGO, VIC
Telephone: 43 5126

DIMET CONTRACTING (VIC)

PROPRIETOR DIMET INVESTMENT PTY LTD
Application of Anti Corrosive Coatings
— Atmosphere — Marine Chemicals or Foods

CAWLEY ROAD
BROOKLYN, VIC
Telephone: 314 0255

Self contained air-conditioning units are provided throughout the accommodation.
The vessel can be fitted with a 40mm gun forward and a twin 20mm gun aft and two rocket flare
launchers are provided.

VOSPER THORNOCROFT GROUP
PORTSMOUTH, ENGLAND

142ft Fast Patrol Boat —
TENACITY Now in Service with The Royal Navy

Principal dimensions
Length overall 144ft 6in.
Length on deck 142ft 0in.
Length on waterline 130ft 0in.
Beam moulded 26ft 0in.
Depth moulded 13ft 5in.
Draught (approximate) 7ft 9in.
Top speed 40 knots
Displacement (approximate) 220 tons

Construction
The hull is of prefabricated construction in all-welded mild steel, with aluminium alloy superstructure.
The hull is sub-divided into watertight compartments by steel bulkheads; the internal partition
bulkheads are of "Plasticell", faced with laminated plastic. Thermal insulation is fitted to the ship's sides and on the underside of
the weather decks in the superstructure and throughout the accommodation spaces. Acoustic insulation is fitted to the engine room bulkheads.

Machinery
The 142ft fast patrol boats can be powered by two separate machinery arrangements: The diesel version has four Napier Delcic or Maybach diesels, giving a maximum speed of about 40 knots. The CODOG version has three Rolls-Royce Proteus gas turbines also giving a maximum speed of about 40 knots, with Paxman or Maybach 6-cylinder diesels on the wing shafts for manoeuvring or cruising at speeds up to 15 knots.

The engine control room contains all the controls for the main engines and associated generators, as well as alarm and protection equipment for all machinery. The main switchboard is situated in the same compartment, so that one man can maintain complete surveillance of all machinery. Engine order and revolution telegraphs are fitted between the wheelhouse and the control room.

Vosper Thornycroft private venture fast patrol boat Tenacity. This 142 foot, 40 knot, gas turbine-diesel fast patrol boat, armed with an advanced weapons system of powerful modern guns and guided missiles, represents a new generation of fast patrol boats capable of engaging major warships and modern aircraft.

Vosper Thornycroft Fast Patrol Boat Design for Venezuela
Venezuela's new squadron of six 37 metre fast patrol boats is nearing completion at the Portsmouth shipyards of the designers and builders, Vosper Thornycroft Limited. Two of the boats have already sailed for Venezuela and the remaining four are at various stages of fitting out and trials.

The FPBs were designed by Vosper Thornycroft to meet the specific requirements of the Venezuelan Navy. The contract for their design and construction was placed in April, 1972, and valued at over £6 million.

The 37 metre boats have steel hulls driven by two diesel engines at speeds of up to 30 knots. Three of the six carry a gun armament consisting of a 76mm Oto Melara gun mounting with associated Nuova San Giorgio NA 10 fire control system and smaller weapons, while the remaining three are to carry a twin Otomat anti-ship missile system and 40mm gun.

The 76mm Oto Melara gun is a fully automatic weapon capable of rates of fire from single shots up to 85 rounds a minute. It is a very accurate, well-tried gun, comparatively light in weight and very suitable for the larger types of fast patrol boat. It has a range of over 16,000 metres. Where used in conjunction with ELSAG fire control equipment, as in these boats, it is effective against missiles, aircraft or ships and can also be used for bombardment.

When the mounting is ready to fire and switched to remote control the first 80 rounds can be fired with the gun completely unmanned, after which it is only necessary to reload the revolving magazine. The complement of each boat is Captain, three officers, four petty officers and ten ratings, with spare accommodation for two more.

The hull design is a development of earlier Vosper Thornycroft steel FPB forms, having modified round-bilge sections, a spray-deflecting knuckle in the topsides forward, and a spray strake between this and the waterline. The afterbody has a firm rounded bilge and deadrise reducing to about 3 degrees, straight buttock lines and a substantial skeg.

The hull structure is of welded steel, on the longitudinal system with deep framing and longitudinal girders and stringers. The hull is
Compliments from ...  
George Calorovac  
MARLO HOTEL  
At the Mouth of the Famous Snowy River  
• Excellent Cuisine • Superior Accommodation • Hot and Cold Water in All Bedrooms • Glorious Ocean and River Views • Fishing • Boating • Water Skiing • Swimming • Shooting  
MARLO, VIC  
Phone: (STD 051) 548 2Q1

Best Wishes from ...  
NORTHERN BEDDING CO PTY LTD  
Manufacturers of  
Supa Rest Innerspring Mattresses, Base Supports  
Situated at  
393 MT ALEXANDER RD  
ASCOT VALE, VIC  
Telephone: 37 5437

IAN TRUSCOTT  
***  
Radio and TV Repairs  
Quick Service. Reasonable Rates  
***  
27 THE MALL  
SOUTH CROYDON, VIC  
Telephone: 723 3860

Stuart Martin's (ex RAN)  
NEWPORT MOTORS  
Metropolitan Dealers for Triumph, Dolomite Leyland Mini, Minis, Mini Van and Moke and Quest Caravans  
Stuart knows what you want — and can give you more of it!!  
1. Huge bonus — for no trade-ins  
2. Trade-in allowances that really satisfy  
3. Unbeatable after-sales service  
4. Spare parts delivery  
5. Panel beating and crash repairs  
6. Terms to suit you  
Over 60 hand picked workshop reconditioned used cars in stock  
Call in and chat with us at:  
Car OLD PORT & TAPLEYS  
HILLS ROAD HENDON, SA  
Telephone: 47 3822  
Alt: 294 2153 Stuart Martin and  
282 2227 Ken Jefferys

One of three Venezuelan 37 metre fast patrol boats built by Vosper Thornycroft, fitted with a twin Otomat anti-ship missile system and a 40mm gun.

Three of Venezuela's six 37 metre fast patrol boats are fitted with a 76mm Oto Melara gun.
FALKINER CHAINS PTY LTD

All Anchor and Marine Chains
SLINGS — HOOKS — RINGS, ETC
Grade 75 Alloy Chain and Components
— Conveyor Chains for All Materials Handling

THYNNE ROAD
MORNINGSIDE, QLD

Telephone: 99 1122

24 Hour BUNKERING SERVICE

The Riverside Oil Bunkering Company are proud to be associated in servicing the Royal Australian Navy Ships when in the Port of Brisbane.

Our Bunkering Services available round the clock.
We work in conjunction with all major oil companies.

RIVERSIDE OIL
BUNKERING CO. Pty. Ltd.

Macquarie St, New Farm,
Brisbane, Queensland,
Australia
Telephone:
Brisbane 58 2122

SHELL TOURIST DRIVEWAY
(Proprietors: P. J. W. & C. J. RUSH)

All Mechanical Repairs — Windscreens Fitted

Phone: 40 5639
2489 LOGAN ROAD
EIGHT MILE PLAINS

Gates Hygienic Laundry and Dry Cleaners

* Household and Personal Laundry
* Commercial Laundry Service * Towel and Linen Supply * Garment Rental

281 HARCOURT ST, TENERiffe, QLD
Call 56 1122 Today
"Let Our Phone Line Be Your Clothes Line"

MINES
A Threat Today
by A.W. Grazebrook
Federal Vice-President
The Navy

The devastating effectiveness of the mine was first demonstrated by the Japanese seventy years ago in the Russo-Japanese War. Seven decades later, only two years ago, United States mines stopped completely all North Vietnam's maritime trade. Just this could happen to Australia's maritime trade — not in fifteen years but now — and we would be hard put to identify who had laid the mines.

Since World War II, mines have been used in both the offensive (throttling an enemy's trade in coastal waters and port approaches) and defensive (inhibiting an enemy's amphibious attack) roles. The North Koreans used them in both roles against the United Nations in the early nineteen fifties. The mines were laid by small craft. A number of United Nations mine sweepers were destroyed and several larger craft damaged, and the threat of mines forced suspension of maritime activity on several occasions. Mines have been used on a number of occasions in a defensive role in the Suez area during the three major conflicts there since 1948. Clearing of the Suez Canal and its approaches has been one of the factors delaying the re-opening of the Canal.

In the Bangla Desh War, of 1971, both Indians and Pakistanis used mines. The Pakistanis attempted to bottle up the Indian carrier Task Force in Vishakapatnam. The operation was a failure — the Pakistani submarine PNS Ghani was destroyed in the approaches to Vishakapatnam. The Pakistanis used mines to prevent the escape of the Pakistani troops in what became Bangla Desh. In 1972, US aircraft laid mines in the approaches to Haiphong and other North Vietnamese ports. All North Vietnam's external maritime trade ceased, as did much of her coastal trade, until the US Navy cleared the mines from North Vietnamese waters. This apart from demonstrating the effectiveness of the mine, this action finally laid to rest the theory that an attack upon trade will result in escalation to nuclear war.

Probably the most worrying aspect of the mine is the ease with which it can be laid. Mines are cheap and relatively unsophisticated — they can be and have been used by Indian Ocean regional powers. They can be laid from merchant ships adapted for the purpose — the adaption takes only a few weeks. They can be laid by purpose built warships, by aircraft or by submarines. Today there are few purpose built mine layers in the world — the job can be easily done by other means.

Contact mines — the type used seventy years ago — are still in use today. However, other types of mines available today offer a far wider range of capabilities. Types of mines in use today can be divided into two broad types — moored mines and influence mines. A feature of both types is that they are effective only in relatively shallow waters.

Moored mines are exploded by a vessel striking the mine itself or one of its antennae. These mines are relatively easy to clear with the conventional magnetic sweep towed by a minesweeper or helicopter. While the dangers of the moored mine should not be underestimated, the mine clearance problems caused by the ground (or influence) mines are much greater.

There are three basic types of influence mine:

1. Acoustic Mines — exploded by the noise of a ship's propeller or machinery.
2. Magnetic Mines — exploded by a change in the magnetic field resulting from the passage overhead of a vessel.
to simulate various sizes of ship, created a magnetic field similar to that of a ship and exploded the mine — hopefully, far enough away to avoid damage to the MCM vessel.

Recently, the United States has developed a method of using helicopters for clearing magnetic mines — not the least advantage being that there is no danger of an exploding mine damaging the helicopter.

Pressure mines have proven very difficult for the defence to neutralise. The simulation approach — exploding the mine by simulating the pressures of a passing ship — is impracticable. The only known practicable way of dealing with the pressure mine is to locate by sonar each mine and destroy them individually.

Acoustic mines can be neutralised by simulating the noise of a passing ship.

To complicate further a situation in which the defence must be able to cope with a number of different problems, ground mines can be “multi-influence” mines. That is to say, a ground mine can be exploded both magnetically and acoustically. There can be multi-count mines — they do not explode the first time
**Shoalhaven Brake & Repair Service Pty Ltd**

Authorised Agents for the Better Brakes Organisation

All Types of Automotive, Industrial and Agricultural Brake Repairs and Modifications — PBR Power Brakes — Safety Circle Stockists — Exchange Bonded Brakes for All Popular Vehicles

Nowra 2 3123

Member Motor Traders Association of NSW

79 NORTH ST, NOWRA, NSW

---

**FLAMINGO FLORIST**

Nowra Interflora Agent

Specialists in * Sheaths * Wedding Bouquets 

* All Floral Tributes * Indoor Plants * Dried Flower Arrangements

Free Local Delivery

Phone: Nowra 2 2007

51 KINGHORN ST, NOWRA, NSW

After Hours: Nowra 2 3766

---

**SUSSEX INLET TRANSPORT SERVICE**

* * *

* General Carriers * Taxi Trucks * Furniture Removalists * Storage * Express Delivery 

Australia-wide * Radio Controlled Vehicles

* * *

5 GRAHAM AVE, NOWRA, NSW

Telephone: Nowra 2 2996

---

**BOB WALKER’S RADIATOR SERVICE**

CLEANING — REPAIRS — RECORES

Telephone: Nowra 2 0681

"NEWCELL" CORES

18 EAST ST, NOWRA, NSW

---

**CONCRETE**

* Topping * Crushed Blue Metal * Sand

Bomaderry Ready Mixed Concrete Pty Ltd

BOLONG RO, BOMADERRY, NSW

Phone: Nowra 2 3943 or 2 3944

---

**THE NAVY**

May/June/July, 1975

---

"NEWCELL" CORES

After Hours: Nowra 2 3635

---

**BOB WALKER’S RADIATOR SERVICE**

CLEANING — REPAIRS — RECORES

Telephone: Nowra 2 0681

"NEWCELL" CORES

18 EAST ST, NOWRA, NSW

---

**THE NAVY**

May/June/July, 1975

---
As a result of further development work on the minehunting activity, the French now have operational at sea (in FS Circe and her sisters) a considerable improvement on the British method of launching a rubber dinghy with a sonar reflector beneath. The British direct the dinghy by radio to the target. The mine is then buoyed and divers dispose of it by explosive charges. The new French system removes the need for men in the actual disposal operation.

Australia's position in all this is one of woeful inadequacy, in terms of numbers sufficient to deal with today's threat related to the number of points at which the mine threat can be implemented, coupled with maintaining the skills we have until technical developments and operational experience in Europe and North America clarify which MCM methods would be most satisfactory for Australia in the future.

We now have four MCM vessels. Two of these, HMA Ships Snape and Curlew, are fully fitted with the British type minehunting capability. The other two, Ibis and Teal, retain their original minesweeping equipment — to clear moored, magnetic and acoustic mines. Normally, three ships are operational whilst the fourth refits.

The decision to scrap two further minesweepers, it has been estimated by Vice-Admiral Sir Richard Peck ("The Navy", November-December-January, 1974-75) that the four remaining craft will need replacement by 1977.

Clearly, a decision is necessary as to the type of MCM craft the RAN needs to replace her elderly existing vessels. The RAN will have to choose between the North American (AMCM) approach and the European development of the surface based (SMCM) system.

The AMCM cannot yet cope with all types of mines, is cheaper and can move to mined areas very quickly, but requires much greater support effort "in the field". The new European glass reinforced plastic hulls require minimal maintenance, can cope with more types of mine, and require less "field" support than AMCM. However, each unit is more expensive in initial outlay. It is unlikely there will be sufficient funds for the RAN to adopt both systems simultaneously.

Whatever system the Navy chooses one thing is clear — the mine is a threat to Australia, not only in another fifteen years but today.

The operations room of a minehunter at work. A high definition sonar (not visible) gives a television-like picture of mines found on the bottom, and enables the ship to direct a diver to the correct area.
The book review

THE LONG WAY
By Bernard Moitessier
Translated by William Rodamor
Published by Adlard Coles Ltd, London

THE book is written in diary form and the first three parts of the book deal with his journey round the world with the three capses, a journey he describes as being "incensed" at the newspaper's handling of trans-Atlantic race, in these pages not so long ago.

THE book is written in diary form and the first three parts of the book deal with his journey round the world with the three capses, a journey he describes as being "incensed" at the newspaper's handling of trans-Atlantic race, in these pages not so long ago.

In August 1968, Bernard Moitessier set sail from Australia for Tahiti. He had been preparing boats for the Round-the-World race after hearing that he and another Bill had both felt the same way. Moitessier was one of the competitors in the Round-the-World race for single-handed yachts, organised by the "Sunday Times" and the Horn was rounded February 1967. Moitessier was "incensed" at the newspaper's handling of the story and decided to go to Tahiti. Again, the best sections are those dealing with his journey round the world, as well as the third part of the book, which is his reminiscences of his life as a solitaire yachtsman.

In August 1968, Bernard Moitessier set sail from Australia for Tahiti. He had been preparing boats for the Round-the-World race after hearing that he and another Bill had both felt the same way. Moitessier was one of the competitors in the Round-the-World race for single-handed yachts, organised by the "Sunday Times" and the Horn was rounded February 1967. Moitessier was "incensed" at the newspaper's handling of the story and decided to go to Tahiti. Again, the best sections are those dealing with his journey round the world, as well as the third part of the book, which is his reminiscences of his life as a solitaire yachtsman.

What is particularly interesting about the book is the appendix. The yachtsman will find his notes on sailing a junk in the Gulf of Siam after rounding Cape Horn. Instead of heading north to England to finish the race, he set out across the South Atlantic, rounded Cape Horn again and headed for Tahiti. The reasons why he decided to do this are not made clear at the time — he just decided to go to Tahiti. Again, this part of the voyage is glossed over and it seems no time before he has reached Tahiti and joined other yachtsmen there to become a sort of a nautical hippie — protesting against man's rape of his environment. He did at least advise those at home of his decision, but it would have been interesting to see his wife's reaction on receiving the message:

"The Horn was rounded February 5, and today is March 18. I am continuing non-stop, towards the Pacific Islands because I am happy at sea, and perhaps also to save my soul."
Introduction

Australia is the world's largest island and, indeed, may be regarded as a continental island. It measures 2500 miles from west to east and 2300 miles from south to north. Its area is about the same as that of the United States, some 3,000,000 square miles, with a 12,200-miles coastal area.

Most Australians, about three-quarters of the total 12,000,000, live on the eastern, south-eastern, and south-western seaboard, within 100 miles of the coast. The seven coastal capital cities hold 56% of the population — Sydney and Melbourne engrossing 40%. The remaining quarter of the population is distributed irregularly throughout the rest of the country. Most of the central portion is arid and with a very small population.

Australia is immensely rich in natural resources, especially minerals and its capacity to grow food and fibres. It is not only predominately self-sufficient in food but also one of the world's leading exporters of primary raw materials and minerals. The country is also self-sufficient in many other areas of economic importance.

Recent discoveries have shown Australia to be one of the world's major sources of iron ore, and now, after fruitless searches for several decades, oil has also been discovered in payable quantities.

Australia has made a real effort to modernise its economy and has channelled its important resources and skilled manpower into the most productive sectors of the economy. Until very recently, it has attracted large foreign business, but the country has been encouraged to internalise its economy and capital because of its more advanced technology, large untapped natural resources and a government strongly encouraging private enterprise. Australia is self-sufficient in most minerals and its capacity to grow food and fibres.

The Australian population is almost exclusively European. Its growth rate is 2% per year, about half being immigrants. Sperity of population is probably the only limiting factor on its role as a potential world power. With a population of only 12,000,000 living in an area of 3,000,000 square miles, Australia clearly cannot expect to be independent in national security. It can only primarily a European society.

Australia has been considered as a paradox to Australia.

Historical Background

In the years between 1787 and 1918, Australia was almost entirely dependent on Great Britain for its defence. It had few foreign policy interests other than maintaining close economic and political ties with the mother country, Great Britain. After the First World War and during the 1930's, Japanese expansionist activities in North-east Asia were noted with concern, but as long as the British navy dominated the South China Sea and the British base on Singapore was strongly defended, Australians still felt no fear for their own security.

Australia might have succumbed to a Japanese attack in 1942 had it not been turned into a base for the build-up of American forces in the Pacific region. The fall of Singapore in February, 1942, shattered Australia's confidence in British protection and prompted a re-evaluation of Australia's foreign and defense policies. The Second World War thus had a profound influence on the thinking.

Australia's Minister for Defence, the Honourable Lance Barnard, M.P., vital interests are inescapably associated with Asia, yet it is not only primarily a European society, but also basically committed to the preservation of a homogeneous European population. This may be considered as a paradox to Australia.
Interstate Visitors are Eligible to Become

BOOLEROO CENTRE HOTEL
Petrol and Ampol Driveway Service and Courtesy
HIGHWAY ONE, PT AUGUSTA, SA

BROKEN HILL LEGION
NAILSWORTH, SA 5083
39 ASQUITH STREET
Telephone: 44 4846
For Free Quotes

SCOTT BROS
Steel Erectors — Field Welding — Machinery Moving — Demolition
39 ASQUITH STREET
NAILSWORTH, SA 5083
Telephone: 44 4846
For Free Quotes

The staff and Neville and Noreen welcome you to the

GOLDEN GRAIN HOTEL
The Best of Beer, Wine and Spirits
Excellent Accommodation

RAILWAY TCE, PINNAROO, SA
Telephone: Renmark 86 6899

The Navy
May/June/July, 1979
Page 40
The fundamental rationale underlying the national policy of the Labor Government has been that Australia has been served increasingly poorly in recent years by its adherence to cold war postures. The Whitlam Government, therefore, has placed major emphasis on arms control and disarmament activities which appeared to be intensifying confrontation and interdependence rather than bringing about stable order and co-operative relations in the Asian/Pacific area.

There has been an unmistakable disharmony in its alliances, but the Labor Government has not prepared to make radical changes, although it is very clear that the country would be thrown back on its own resources more than at any time in the past, Mr. Lance Barnard, the Labor Minister in Canberra, has said: "Most certainly, military and technical aid must be extended and expanded to our friends in Asia, in association with a greatly expanded civil aid programme, but we insist that Australia’s defence and its commitments are best assured by the concentration of the bulk of its defence forces on the Australian mainland."

Isolationism remains an undercurrent in Australian politics. There are Australians, including some in high places, who would like to pull back to "Fortress Australia", abandon aid to Asia, build a nuclear deterrent, and put up "Keep Out" signboards around its shores. However, most Australians still accept that their country cannot contract out its Asian environment, and that the security of Australia would be best ensured by the development of political stability and economic prosperity in its neighbourhood.

SEATO and ANZUS
SEATO has been a target of the Labor Party for a long time. It is viewed principally as a military organisation and was described by the Labor Party as "irrelevant" by Mr. Whitlam during his election campaign. However, the Labor Government has not yet moved to withdraw Australia from the organisation because it could be done only at the cost of considerable displeasure in Washington. What seems more likely is that it will stress the social and economic aspects of the treaty and gradually decrease its participation of military activity.

Australia’s two principal formal alliances are SEATO and ANZUS. As SEATO’s life expectancy is clearly limited, what about the future of ANZUS? Although it was created originally to reassure Australian and New Zealand fears of a resurgent Japan, ANZUS has established a much broader and seemingly more secure, assurance of American assistance against aggression. The importance of ANZUS is growing markedly as the British phase out their forces in Malaysia-Singapore, and as Australia’s destiny becomes more dependent on American policy in the Western Pacific. A withdrawal of American power from South-east Asia, while it would be deeply regretted, would not be catastrophic. Australia could accept a decline in its SEATO relationship with the United States because it has ANZUS to fall back on.

However, recent developments have demonstrated two important facts: (1) Until recently, the Australian Government and public opinion have placed unrealistically high expectations on the American alliance, as if the alliance were a substitute for the effort of formulating their own foreign policy. (2) Since the announcement of the Nixon Doctrine, it has been obvious that the United States is going to be less ready to enter into military involvement abroad than in the past 20 years.

Nevertheless, ANZUS is still the primary alliance in Australian foreign policy. The Labor Government has stated that it seeks “close and continuous cooperation with the people of the United States and New Zealand to make the ANZUS treaty an instrument for justice, peace and political, economic and social and economic advancement in the Pacific area.” This indicates that the Whitlam Government has chosen to retain the alliance with the United States through the ANZUS Pact as the basis of Australian security. Certainly this alliance continues to come under attack from the left and doubts are also cast on its value from the right. How far there is such broad consensus of Australian public opinion in favour of maintaining the ANZUS alliance that any abrogation of Australia’s part seems most unlikely.

This is not to say that neither the Labor Government of Australia’s military alliances nor the value of the treaty will change in the foreseeable future. There is inevitably uncertainty in any assessment of American intentions a considerable period ahead. On the other hand, some changes in Australian attitudes regarding international affairs have not found favour in Washington, but unless some radically new departures from existing foreign policy are made, the prospects are that Australia will continue to enjoy close and friendly relations with the United States.

Future Threats
There is no apparent prospect that any country would launch an invasion of Australia mainland for many years to come. Few countries would have an incentive to do so, and probably only two of them, the United States and the Soviet Union, would have the capability. Australia is a long way from the major powers in the world, and perhaps the most important factor is that Australia’s defence and its association with a greatly expanded SEATO and ANZUS could give cause for Australian concern during the next 10 or 20 years. They are Japan, Indonesia, Communist China and the Soviet Union. Although it is widely agreed that the security threat to Australia’s security, the situation on the remote future remains unpredictable.

To Australians, Japan is always a great enigma as well as a potential threat. Despite Japan’s crushing defeat in 1945, the nation has rebounded to a position of economic pre-eminence in the Asia-Pacific region, and third only to America and Russia in the world. Japan also has become Australia’s leading trade customer, chiefly in raw materials for its massive secondary industry. Japan’s potential military power should not be underestimated. It already has the eighth largest defence budget in the world. It is once again becoming a naval power of some consequence. Moreover, it has not abandoned the idea of becoming an operational nuclear power in a relatively short
a very small industrial capacity, its population is almost 10 times greater than that of Australia. Under some outside help, Indonesia could develop an aggressive foreign policy at any time in the future.

Australians have been usually sensitive to the ambition and influence of Communist China. By 1971, however, the United States, which once regarded Communist China as a major threat, had begun to look for ways of coming to terms with it. Afterwards, as one of its first changes in foreign policy, Australia's Labor Government established its diplomatic relations with the Peking regime in 1973. However, this did not diminish the threat of Communist China in any way.

Until Communist China has a larger navy than at present, it is unlikely to pose any direct threat to the Australian mainland. But the situation could change during the next one or two decades. At least in the near future, Australia's deep concern will be the situation of South-East Asia. The more the Russians develop their influence in the region, the more the Communists and the Chinese likely to react. The competition between these two red giants could be as dangerous as the co-operation between them.

Prior to the Second World War, Australia was not regarded with any great interest by the Soviet Union. The advances of military technology since 1945 have changed this situation dramatically, because missiles fired from a submarine in the Indian Ocean are now capable of reaching Soviet areas that once were thought to be invulnerable. Hence, the Indian Ocean's waters are today of great importance by the Soviet Union, and so too are the countries bordering them.

The rise of the Soviet sea power, and the deployment of its naval units to the Indian Ocean has introduced a new element into Australia's strategic calculations. In the vacuum created by the withdrawal of British power from the Indian Ocean, Russia has become the chief external power in the area. In short, the growing political, economic and military interests east of Suez, has changed Australia's strategic situation, if as yet only slightly.

The increasing threat in the Indian Ocean, however, has not meant that Australians feel it is as important as the northern waters or the South Pacific. Let in some way the Indian Ocean deserves more attention than the Pacific. The US Seventh Fleet patrols the latter, but there are very few friendly naval forces in the former. Nearly half of Australian overseas trade traverses the Indian Ocean. The immense mineral resources in Western Australia, together with the rapid industrialisation of that State, have given the western coast a strategic significance it never had before.

At the Crossroads: Australia's approach to international and security problems traditionally has been characterised by reliance upon large and powerful friends and a willingness, even an illusory, to prove itself a loyal and faithful ally. Now a new situation is emerging and the traditional concept is seen as illusory. No nation can any longer, depend on SLATO, nor even on ANZUS, and much less on UNO. In the simplest terms, Australia is at a crossroads. The changes in international environment are not welcome and pose difficult problems for Australians. The substitution of self-reliance for reliance cannot be easy. But the country must adjust itself to external changes, even though the multipolar system in international politics can prove difficult for all the smaller countries. So far as Australia is concerned, the key issue will be how it should align itself in the triangular contest between the United States, the Soviet Union and Communist China.
The principal objective of the Navy League of Australia is to stress the vital importance of Sea Power to the Commonwealth of Nations and the important role played by the Royal Australian Navy.

The League supports the Naval Reserve Cadets who are administered by the Royal Australian Navy, which Service provides technical sea training for boys who intend to serve in the Naval or Merchant Services, also to those sea-minded boys, who do not intend to follow a sea career, but who given this knowledge will form a valuable reserve for the Naval Service. I invite you to swell our ranks and to keep up to date with Maritime Affairs to help to build an ever-increasing weight of informed public opinion. The Navy League will then become widely known and exercise an important influence in the life of the Australian Nation.

The League consists of Fellows and Associates. All British subjects who support the objectives of the League are eligible for membership. Members receive copies of the League's magazine "The Navy".

DIVISIONS

Victoria — Box 227, Post Office, Hawthorn, 3122.
Queensland — 29 Pinecroft Street, Camp Hill, Queensland, 4152.
Tasmania — 3 Winmarleigh Street, Taroona, 7006.
South Australia — Box 578, PO, Fremantle, 6160.
Western Australia — PO, Fremantle, 6160.
Australian Capital Territory — 12 Darmody Street, Weetangera, ACT 2614.

THE NAVY LEAGUE OF AUSTRALIA
Application for Membership

To: The Secretary,
The Navy League of Australia,

Sir:

I am desirous of becoming a Member of the Navy League of Australia with whose objects I am in sympathy.

(Mr) Name (Mrs) (Miss) (Rank)

Please Print Clearly.

Street Suburb
State Postcode

Signature Date

Enclosed is a remittance for $4.20 being my first annual subscription.

AFTER COMPLETION, THIS FORM SHOULD BE DISPATCHED TO YOUR DIVISIONAL SECRETARY — NOTE LIST OF ADDRESSES ABOVE.

With the compliments of...

FREMANTLE PROVIDORING CO PTY LTD

Ships Chandlers
Suppliers to RAN

LEASE STREET, FREMANTLE, WA
Phone: 35 6033 Telex: AA 82741

“THINK CRANES — THINK CLARKES”
the big name for marine service all around Australia!

Whether yours is a small boat or a big ship, for pleasure or for profit - there's equipment from AWA to make it better, safer, more enjoyable, more profitable.

A big range of radio telephones, echo sounders, automatic pilots, direction finders, radar - sold and serviced by AWA all around Australia and New Guinea. At major ports all around the coast, you can be assured of the best service back-up for the finest electronic marine equipment available. AWA - the BIG name in marine equipment... the BIG name in service!

AWA MARINE DIVISION

MARINE SALES AND SERVICE DEPOTS:

NEW SOUTH WALES
P.O. Box 146, LEICHARDT 7000 Ph. 500 0544
P.O. Box 329, NEWCASTLE 2300 Ph. 251 165
P.O. Box 1448, WOLLONGONG 7300 Ph. 205 5011

VICTORIA
P.O. Box 417, 5th MELBOURNE 3202 Ph. 881 880
191 York St., SALE 8600 Ph. 44 2870

QUEENSLAND
P.O. Box 150, West End 0815 BNE 4181 Ph. 44 4131
Unit 2E, the Harbour Sails St., Cairns 0812 Ph. 786 1355

QUEENLAND (cont.):
Northern Communications P.O. Box 1271
CABOCH 4570 Ph. 31 1110

SOUTH AUSTRALIA
P.O. Box 41, PORT ADELAIDE 5015 Ph. 47 4327
24 Forsyth St., WHYALLA 5600 Ph. 43 8915

WESTERN AUSTRALIA
P.O. Box 140, FREMANTLE 5016 Ph. 35 2831
P.O. Box 327, PORT MELBOURNE 3271 Ph. 73 1304

NORTHERN TERRITORY
P.O. Box 7000 DARWIN 6794 Ph. 61 9264

TASMANIA
P.O. Box 836, HOBART 7001 Ph. 34 3630
P.O. Box 7000 LAUNCESTON 7250 Ph. 31 5460

PAPUA/NEW guinea
P.O. Box 314, PORT HUNTSBY 3177
P.O. Box 15, LAE Ph. 21 40
P.O. Box 400, WOBURN Ph. 82 2373

NEW BRITAIN
P.O. Box 53, BAIRA Ph. 2557