AGENTS FOR (sales and service)

MARCONI – ANSCHUTZ
SAILOR – RACAL-DECCA

FOR SALES, INSTALLATION, REPAIR AND MAINTENANCE OF:

Gyrocompass and Auto Pilot
SATNAV and INMARSAT equipment

Mr Rob Van Woudenberg
(03) 347 0148
138 Berkley Street,
Carlton, Vic, 3053
The Retirement Benefit Limit. Thankfully, it will only limit very few Australians.

The Retirement Benefit Limit, otherwise known as the Reasonable Benefit Limit, applies to all Australians.

But the truth is, nine out of ten people won’t be affected by the limit.

For these nine out of ten Australians a National Mutual rollover is still as good an investment as it’s always been.

To find out how good, contact your National Mutual agent, your financial adviser or phone us on the number below.

We can help you calculate your Reasonable Benefit Limit and choose the rollover that’s best for you.

For the most important person in the world. You.

---

A major Navy League Initiative

Despite the efforts made by the Navy League and other organisations and individuals associated with the sea, the community in general has what can only be described as a shallow understanding of just how important the sea is to the nation.

To help increase this understanding, particularly among young people, the League has produced a video entitled "The Sea and Australia". The video consists of six self-contained episodes, each lasting for about 25 minutes, and covers the following topics:

**Episode 1**
Introduction: The voyage of the First Fleet, and a short maritime heritage tour of Sydney Cove and Port Jackson.

**Episode 2**
The Nature of the Sea: The properties of sea water; tides; currents; weather; underwater volcanoes; hurricanes and cyclones; tsunamis; oceanography and hydrography.

**Episode 3**
The Resources of the Sea: Fish and other marine sources of protein food; pearls; seaweed; plankton; Aquaculture; oil and gas; salt; minerals; winds and tides.

**Episode 4**
Commercial Shipping, Ports and Factories: Our economic dependence on sea transport; our shipping industry; our major ports and their facilities.

**Episode 5**
Finding Our Way and Safety at Sea: Early navigation; the development of the modern science of navigation; charts; navigational aids; ships’ safety equipment and safety at sea.

**Episode 6**
Protection and Conservation: Protecting our maritime heritage; our defence and the role of the Royal Australian Navy; conserving our maritime resources; control of pollution; quarantine; smuggling and illegal immigration.

It is proposed to make the video available to schools throughout Australia and to assist teachers a booklet will be supplied containing ten general recall questions and five further research questions on projects for each of the six episodes.

Contemplated several years ago, the task proved much more difficult, time consuming and expensive than at first anticipated; it is to the credit of the NSW Division of the Navy League, particularly the President (Otto Albert) and a small team who bore the brunt of the exercise, that they persevered and produced a video which in terms of choice of subject matter and technical quality, is first-class measured against any standard.

---

THE NAVY

All enquiries regarding the Navy Magazine, subscriptions and editorial matters should be sent to:

The Hon. Secretary, NSW Division NAVY LEAGUE OF AUSTRALIA

GPO Box 1719, SYDNEY, NSW. 2001
An Unexpected Decision
by GEOFFREY EVANS

The decision by the Chief of Naval Staff, Vice Admiral Michael Hudson, to increase the number of women serving at sea in RAN ships and provided privacy problems can be overcome, to exclude only submarines from the types of ship to which they can be posted, has several interesting implications which must have been considered by the Government before the decision was made.

A present about 40 women are serving at sea in what could be classified as non-combatant ships, a very small proportion of the 1400 or so serving in the RAN.

No one doubts the intellectual talents of women or their capacity to perform extraordinarily well under stress - two major wars, several 'undeclared' wars and numerous civil disasters attest to this.

Rightly or wrongly however it has been the policy of most democratic governments to refrain from giving women practical experience in warships. There are other very debatable issues involved including the desirability of having mixed crews in the limited space available in most Australian naval vessels, conversion costs and so on; the 'readiness' factor however would seem of particular importance.

It is understood some other navies are taking the same path or contemplating doing so, the main reason being manpower shortages; if so, either conditions of service in the armed forces will have to be greatly improved which would not double the expense, or communities must be prepared to accept (here women) in combat roles.

Will your superannuation payout continue to be super?

It certainly will if you put it into a Commonwealth Bank Group Rollover Product.

Commonwealth Bank Group Financial Services* offer a range of rollover options for your lump sum investment.

To see what we can put together for you, call our hotline on 008 023 906, or drop into any branch of the Commonwealth Bank.

Commonwealth Bank Group Financial Services

*Issued by Commonwealth Savings Bank of Australia and Commonwealth Life Limited

Page Four

July-September, 1990

THE NAVY

July-September, 1990

THE NAVY

Page Five
CORPORATE COMPUTER SALES

FOR ALL YOUR DESKTOP AND PORTABLE COMPUTER NEEDS

Complete range of AST Desktops and peripherals

Upgrades to 486 from AST 386SX
25Mhz and 33Mhz Systems
AST Premium 286
386SX • 386/25Mhz • 386/33Mhz
and 486 Based Computers

Zenith Portables and Desktops
286, 386SX, Portables
EGA and VGA Monitors

Novell Network Products

Available Under PE40 Contract Now

* ALL POPULAR BRANDS OF PRINTERS *

RESEARCH
The Natural Progression

AUTHORIZED DEALER

Phone: (02) 411-4788

Australia-wide Service and Installation and Support

---

CURLEW — The Last Ton

The Navy's oldest commissioned ship, the mine countermeasures vessel HMAS Curlew, ended her 36-year career on 30 April, 38 years to the day after her keel was laid in Scotland.

HMAS Curlew was decommissioned in a ceremony at her base, HMAS Waterhen, at Waverton in Sydney. After sailing down Sydney Harbour, she was farewelled by the RAN Support Command Band and a full naval ceremony. She was the last of the six Ton class ships purchased from the Royal Navy in 1962.

HMAS CURLEW was laid down at Monirose Shipyards, Angus, on 30 April 1952 and was constructed as HMS CHEDISTON.

She was launched on 6 October 1953 and completed on 28 September 1954. She was immediately paid off into the reserve and re-named HMS CHEDISTON.

Following the RAN's decision to purchase six minesweepers in 1961/62 she was taken out of reserve and refitted for the RAN. The refit was completed in August 1962 and the ship was re-named HMAS CURLEW. During the conversion for the RAN she was fitted for minchunting but not with the associated sonar.

In company with HMAS SUPPLY and the five other minesweepers she sailed for Australia on 1 October 1962 arriving on 6 December 1962.

In 1963 HMAS CURLEW was involved in an operation in Tonolci Harbour which had the Minesweeping Squadron sweeping the harbour of war time mines so that the harbour could be used for timber exporters.

On completion of a mid cycle docking in 1964 she carried out Mine Countermeasures Exercises before leaving for her first tour of duty with the strategic reserve during the Malaysian/Indonesian confrontation in May 1964.

HMAS CURLEW arrived back in Australia in February 1965 and commenced a major refit. It was during this period in dock that most of the hull planking was replaced.

She sailed from Sydney on 23 September 1965 for her second tour of duty with the strategic reserve. CURLEW was engaged on patrols during the confrontation until August 1966 when hostilities between the two
Countries ceased. She arrived in Sydney in October 1966 and decommissioned on 19 December 1966 for final conversion to a Minehunter, the task she was originally purchased for.

During the conversion the equipment fitted was the 193 sonar and associated generators, a plotting table, activated rudders and a portable mine disposal weapon bomb room. The equipment removed included the magnetic and acoustic sweeping gear.

On 13 December 1968 HMAS CURLEW was commissioned at HMAS WATERHEN, Waverton, as a Minehunter.

Over the years age has taken its toll of the six ships of the Mine Countermine Squadron. HMAS CURLEW was the only remaining vessel of that Squadron still in service with the RAN. At the ripe old age of 36 years she had steamed in excess of 400,000 miles and had been underway in excess of 36,000 hours and was the oldest commissioned vessel in the RAN. With the advent of the new Mine Hunter Catamaran HMAS CURLEW's years were numbered and with the passing of CURLEW an era in Mine Countermine also passed.
Penang Review — A Wet One

For most RAN personnel at the Royal Malaysian Navy's International Fleet Review, it seemed that the clock had been turned back two and for some four years. Over 800 officers and men, mostly embarked in six Fleet units plus others ashore, with COMAUSNAVSUP and the Naval Support Command Band were representing Australia at the celebrations marking the RMN's 55th Anniversary. The week of events was held on Penang Harbour and ashore at various locations around the island from 16-21 May.

Like the RAN's own 75th and Bicentennial Reviews, the 1990 Malaysian event was highlighted by the presence of a large fleet of ships, including 35 foreign and 25 Malaysian naval units.

From Australia came the FFG HMAS CANBERRA (CMDR G.A. WALPOLE), the DES HMAS PARRAMATTA (CMDR T.J. SCOTT) and HMAS DERWENT (CMDR J.R. STAPLETON), the oiler HMAS WESTRALIA (CMDR J.S. MOORE) and the patrol boats HMAS IPSWICH (LCDR R.A. KEHL) and HMAS CESSNOCK (LCDR J.V.P. GOLDRICK). At 40,870 tonnes displacement, WESTRALIA was the largest ship to attend the review and with six ships, the RAN the third largest naval group represented, after Malaysia and Indonesia.

Representing the Chief of Naval Staff was RADM Tony Horton, AO, RAN, flying his flag from the guided missile frigate HMAS CANBERRA. COMAUSNAVSUP arrived in Penang on Monday 4 May to begin a round of official discussions and ceremonies to mark the Royal Fleet Review.

"The presence of the six Fleet units at the Review emphasises the close relations between the two nations and navies", RADM Horton said. "In fact there has been..."
32 visits by RAN ships already this year", he added.

"The Malaysian Review has allowed the RAN personnel present to meet the cultures and customs from such navies as the USSR and the middle east."

Prior to the arrival of the ships, the NSC Band performed at a number of locations, including school concerts near Butterworth. "We received a tremendous reception at each performance and later for the RAN reception aboard CANBERRA and for the official March through Georgetown on Saturday 19 May", said LEUT Phil Anderson, the band master. This was despite the fact that ten other naval bands were present and the Malaysian officials exhausted the number and locations where each national band could play."

The arrival of the 60 plus ships was heralded by gun salutes from each vessel entering Penang Harbour and was responded by Fort Cornwallis, on the forshores of the city.

To mark the era of 'glasnost' and 'perestroika' a number of crew from the DE PARRAMATTA got together with the sailors from the Russian destroyer ADMIRAL TRIBUTS, which was anchored only a short distance from the RAN DEs and FFG.

Penang, like Sydney in 1988, soon became an international city, with over 10,000 officers and men from the various world's navies. A large sports programme was available with RAN teams competing in soccer, badminton, tennis and hockey as well as trishaw races and the Dragon Boat Competition on the harbour.

One of the first events attended by COMAUSNAVSUP and other personnel was the opening of the Naval exhibition, a pictorial presentation of the past and present Malaysian Navy.

The streets of the city of Georgetown were transformed into a carnival ground on Saturday 19 May as 3,000 sailors undertook a five kilometre march through the old streets. Unfortunately for the organisers and the participants the weather was unkind to all as the heavens opened up with an almost continuous downpour. The Australian Naval contingent followed after the large Malaysian platoon.

The actual Review Day, Sunday 20 May, began well enough, but by 9.00am ominous black clouds were seen threatening from the direction of the mountains, behind the city. His Majesty, the King of Malaysia was embarked on the reviewing vessel KD MUTIARA, and at 9.30am began inspecting the first of three static lines of ships followed by a moving line of small patrol boats from various nations.

"All of our ships in the static and moving lines were in immaculate condition and represented the RAN well", said RADM Harron, who was embarked in CANBERRA.

With the conclusion of the Review many of the ships weighed anchor and sailed for conducting a series of exercises with Malaysian and Singapore patrol boats enroute. Both arrived on the 24th.
NAVY MATTERS
by A.W. GRAZEBROOK

**ARMY AND NAVY PROPOSE HELICOPTER SUPPORT SHIP**

Navy's plan to modify their training ship HEMMER BAY to enable her to operate a number of larger helicopters has been postponed indefinitely. Insufficient funds were available. More important than that, as details of the modifications were studied it became apparent that there is insufficient headroom in HEMMER BAY to accommodate suitable helicopters in the vehicle deck.

For a significant power projection capability, a force would be required to be able not only to land the force against opposition, but also to operate a number of other ships in the vicinity. Support that force logistically, and provide ground attack and defensive air cover for an extended period after the landing.

The landing capabilities of the proposed helicopter support ship would be sufficient to land a force and rescue Australian citizens. The Navy League argues that helicopter support ships for the ADF should be fitted for operating Sea Harrier aircraft. This is important because newly being developed as flight deck for Sea Harrier is not enough for operating Sea Harriers in the combat role.

It is a fact that, unless the helicopter support ships are fitted for Sea Harrier operations when they are built, it would be extremely time consuming and expensive to modify them later.

The design options available are of interest. The French, British, Italian and US navies operate a number of ships which are basically landing ships dock (LPD, LSD) with a flight deck. However, their helicopter capacity is insufficient for ADF purposes.

Other navies — India, Indonesia — operate ships which are large enough for operating Sea Harriers. For helicopter operations, these suffer from similar disadvantages to TOBRUK.

The US Navy's IWO JIMA class LPDs — with full length flight decks and "islands" set to starboard — are steam driven, manpower intensive and probably larger than the ADF needs. Although a second very large ship might be attractive superficially, they are already (at least twenty years old), steam driven, and manpower intensive (600 ship's company).

Converted merchant ships may be cost effective although this would have to be offset with an extra considerable capability.

The design options available are of interest. The French, British, Italian and US navies operate a number of ships which are basically landing ships dock (LPD, LSD) with a flight deck. However, their helicopter capacity is insufficient for ADF purposes.

Other navies — India, Indonesia — operate ships which are large enough for operating Sea Harriers. For helicopter operations, these suffer from similar disadvantages to TOBRUK.

The US Navy's IWO JIMA class LPDs — with full length flight decks and "islands" set to starboard — are steam driven, manpower intensive and probably larger than the ADF needs. Although a second very large ship might be attractive superficially, they are already (at least twenty years old), steam driven, and manpower intensive (600 ship's company).

Converted merchant ships may be cost effective although this would have to be offset with an extra considerable capability.

The design options available are of interest. The French, British, Italian and US navies operate a number of ships which are basically landing ships dock (LPD, LSD) with a flight deck. However, their helicopter capacity is insufficient for ADF purposes.

Other navies — India, Indonesia — operate ships which are large enough for operating Sea Harriers. For helicopter operations, these suffer from similar disadvantages to TOBRUK.

The US Navy's IWO JIMA class LPDs — with full length flight decks and "islands" set to starboard — are steam driven, manpower intensive and probably larger than the ADF needs. Although a second very large ship might be attractive superficially, they are already (at least twenty years old), steam driven, and manpower intensive (600 ship's company).

Converted merchant ships may be cost effective although this would have to be offset with an extra considerable capability.
HMAS SPRIGHTLY  

**Naval Service**

**Type:**  Fleet Tug (Diesel Electric)  
**Displacement:**  800 tons (full load) 570 tons (standard)  
**Length:**  143 feet  
**Beam:**  33 feet  
**Draft:**  16 feet (maximum)  
**Speed:**  12 knots (maximum)  
**Builder:**  Livingstone S. B. Co, Orange, Texas, USA  
**Laid down:**  6th June 1942  
**Launched:**  7th August 1942  
**Commissioned:**  23rd November 1942.

HMAS SPRIGHTLY and her sister ships RESERVE and TANCRED were built on behalf of the Commonwealth Government for the Commonwealth Salvage Board which was constituted on 14th March 1942 to organise an effective marine salvage area in Australian waters.

SPRIGHTLY, a steel vessel of all welded construction was designed to maintain a towing speed of 10 knots in fair weather Australian waters from May 1944 until July 1946 when she was placed in Reserve classified as a Submarine Rescue Ship. On 28th August 1969 SPRIGHTLY was sold to T. Korevaar and Sons Pty Ltd, Williamstown, Victoria for $65,150.

**A SHORT HISTORY ON THE COMMERCIAL ACTIVITIES OF THE FORMER R.A.N. TUG SPRIGHTLY**

SPRIGHTLY was purchased by T Korevaar & Sons Pty Ltd in 1969 and registered in Melbourne in the name of Pacific Towing Co., a Korevaar subsidiary. Although the SPRIGHTLY was originally purchased by Korevaar for towage work it was found that this type of work was not available and SPRIGHTLY was initially contracted to Esso Exploration for approximately 12 months to carry out geophysical work in Bass Strait between Flinders Island, Eden, and Lakes Entrance. Additional work was also found with 12 week survey around Tasmania for the Bureau of Mineral Resources and a 6 week contract for Shell to act as a Standby vessel for helicopters operating to the drilling rig OCEAN DIGGER which was carrying out drilling operations 30 miles off Port Lincoln.

In 1973 SPRIGHTLY was contracted to the Commonwealth Scientific and Industrial Research Organisation's Division of Fisheries and Oceanography as a research vessel. To suit SPRIGHTLY to her new role extensive modifications were made to the vessel at Korvraar's Geelong workshops during May to October in 1973. These included removal of the towing winch and conversion of the winch room into a laboratory, the extension of the boat deck to provide a sheltered area for a wet laboratory and the installation of a new office for researchers directly behind the wheelhouse.

To enable sampling work to be carried out the rear deck was built up to the level of the bulwarks with a wood deck to provide a clear working area. A twin barrel hydraulic winch was installed on the bow to clear towing of nets and handling mooring equipment for current meters etc. A hydraulic oceanographic winch was installed on the starboard side of the boat deck to handle water sampling equipment. In each case the winches were taken over the stern via a hydraulic A frame. To handle the additional hydraulic load new hydraulic power equipment was located on the boat deck.

Subsequent modifications included the fitting of a bow thruster in 1975 and the addition of airconditioning in 1976. 35 KVA alternators were added, one in 1973 and other in 1976, the wet laboratory below the boat deck was enclosed and the hydraulic equipment updated including enclosing the hydraulic power room on the boat deck.

SPRIGHTLY was also repainted with a white hull and superstructure and light blue funnel with CSIRO markings replacing the previous scheme of red hull, white superstructure and black funnel with a broad white band.

In her final configuration as a research vessel SPRIGHTLY was equipped with three laboratories (electronics, chemistry and wet) the winching equipment described above, substantial radio, radar, direction finding and depth sounding equipment and accommodation for up to 20 people. The usual complement consisted of 8 crew and up to 8 scientists and technicians.

During the 12 years SPRIGHTLY was contracted to the CSIRO she carried out a variety of assignments which included 3 years based in Fremantle researching the crayfish industry, 6 months in the Gulf of Carpentaria working on the prawn fishing industry and approximately 7 years based in Sydney carrying out research in coastal waters around NSW, Queensland and Victoria. SPRIGHTLY did however venture further afield on two occasions when she was chartered to T. Korevaar & Sons Pty Ltd, Williamstown, Victoria for $65,150.

During this period SPRIGHTLY was also returned to her original role, towage and salvage carrying out the salvage of the trawler CAPE FLINDERS from the beach at Jan Juc near Torquay on 16 February 1987 and towing the vessel back to Melbourne, arriving the following day.

In Melbourne she frequently towed the dumb hopper barge BIG YELLA carrying spoil dredged from the Yarra River out to the dumping ground in Port Phillip Bay as part of a contract Korevaar's held with the Melbourne and Metropolitan Board of Works. During October 1987, SPRIGHTLY was engaged by Howard Smith Industries to locate an anchor and chain lost tanks near Barrow Heads although recovery of the anchor was left to an anchor handling tug/supply vessel.

By the late 1980s work was becoming infrequent and Korevaar's had placed SPRIGHTLY on the market however the way she was carried out one more memorable assignment, when on the 31st December 1987 she carried families and friends of the Korevaar's and 60 members of the Victoria Branch of the World Ship Society to view the arrival of the Tall Ships in Melbourne, SPRIGHTLY being granted a certificate to carry up to 100 passengers by the Marine Board of Victoria on this special occasion.

SPRIGHTLY remained laid up for most of 1988 except for a short period when she was used as an accommodation ship for crew working on a dredging project at Corio Quay, Geelong.

On the 21 March 1989 an agreement of sale was signed with the firm Kirvag Investments Pty, Ltd, who took delivery of SPRIGHTLY in Victoria Dock, Melbourne on the 31 March 1999 immediately commencing work refurbishing the vessel.
Weller

performance and reliability

Made with top quality materials and attention to detail, they're made to last, and, best of all, made with pride. So when you purchase Weller soldering equipment, you'll feel that warm satisfaction of quality and reliability of every product.

Cordless Pyropen WSTA3
Portability, no power and no batteries, but with temperature controlled soldering, a hot air facility and a brazing torch for electronic, electrical, hobby and model work.

BR200
200 gram butane gas refill for Weller Pyropen and gas powered soldering irons.

DS650
A self contained desoldering station with built-in vacuum pump. The station is lightweight and portable.

WTCP5
Weller "closed loop" system of temperature control immediately replaces temperature loss for constant control.

EC1001D
A professional soldering station with dial up temperature function.

Made with top quality materials and attention to detail, they're made to last, and, best of all, made with pride. So when you purchase Weller soldering equipment, you'll feel that warm satisfaction of quality and reliability of every product.

Weller "closed loop" system of temperature control immediately replaces temperature loss for constant control.

German Navy's Seeadler

One of the most unusual, yet most successful warships of the 1914-1918 Great War was the sailing ship SEEADLER, herself a war prize and from all records, the oldest vessel to be employed in the role of raider by the German Naval Command.

Constructed in Scotland in 1878 as the PASS OF BELMAHA, the vessel was captured by U-36, while flying the United States flag. She was taken to Germany and converted to the raider SEEADLER. As part of her mission the ship was disguised as the Norwegian IRMA, a merchantman known in European and...
Atlantic waters. To accomplish her new role the 4,500 ton SEEADLER was armed with two 105mm guns, which could be hidden from approaching ships. She carried a crew of 64 officers and men and was powered by an auxiliary diesel for 9 knots. Her three tall masts carried 21 sails.

At the close of 1916 SEEADLER sailed from the Atlantic with Felix, Graf von Luckner in command. On 25 December the ship was stopped and searched by the British auxiliary PATIA, but allowed to continue.

SEEADLER proceeded south to Brazil, sinking two merchantmen en route. During the next eight weeks the raider took nine ships and accepted many prisoners. Using a captured French barque, von Luckner rid himself of the unwanted crews, who made their way to Brazil.

On 19 April, 1917 SEEADLER sailed around Cape Horn, to begin cruising along the coast of Chile to latitude 35 degrees south. Subsequently the raider made for the north-west, crossing the equator in June. During both June and July she captured three American inter-island trading vessels.

Crew health, had by now become critical. Little or no fresh provisions remained and some of the crew were suffering from scurvy. Von Luckner headed towards the Society Islands for some rest from raider activities, a period during which SEEADLER have captured or sunk 16 ships, totalling 30,100 gross tons.

However, after a few days at the island the ship was struck by a storm and grounded on the island's reef. SEEADLER'S crew took to the ships' boats and headed for an adjacent island. Later they commanded an island schooner, but since they had just captured three ships with their best efforts all personnel were finally captured, being interned for the remainder of the war.

SEEADLER — Ships Data
4,500 tons, length 83.5m, beam 11.8m, draught 5.5m, one auxiliary diesel, 900 bhp, single shaft, two 105mm guns.
CURRENT CONTRACTORS TO THE DEPARTMENT OF DEFENCE (NAVAL SUPPLY)

SOFRACO International Pty Ltd
- Ship repair and maintenance contractors.
- Suppliers of equipment for marine systems. Specialist supplier of material of French origin.
- Agents for:
  - PIELSTICK diesels for marine propulsion
  - ACB marine gearboxes shafting and C.P. propellers
  - CMR vessel automation and alarm systems
  - HEPBURN deck machinery replenishment of sea equipment

SOFRACO Engineering Systems Pty Ltd
- Engineering design support.
- Integrated logistic support.

TEL: (02) 29 2668
163-165 CLARENCE STREET, SYDNEY, NSW 2000
FAX: (02) 290 2553

Kodak.
You can rely on Kodak diagnostic x-ray imaging products.

Kodak are contractors to the Australian Department of Defence Support.

Kodak (A/Asia) Pty Ltd
173 Elizabeth Street Coburg, Vic, 3058
Telephone: (03) 353 2521
Facsimile: (03) 353 2389

OUT OF THE PAST
by ALAN J. MORGAN

Kodak (A/Asia) Pty Ltd
173 Elizabeth Street Coburg, Vic, 3058
Telephone: (03) 353 2521
Facsimile: (03) 353 2389

LAUREL AND HARDY
SPRAYING THE WHOLE OF N.S.W.
SPECIALISTS IN ON-SITE ELECTROSTATIC REFINISHING
COMMERCIAL & INDUSTRIAL
- All Steel Office Furniture - Lifts
- Roller Doors - Commercial Framer Units
- Machinery/Steel Structures
FAST = CLEAN = EFFICIENT
51 4251 or 939 2110
274 Enmore Road, Marrickville, 2204

Australian Car Transporters
Professionals with Competitive Rates
Daily Service to Adelaide, Melbourne, Sydney, Brisbane
Special Rates for Rockingham and Kwinana Districts, also Naval Personnel
Available to all Naval Departments
Lot 283 Albion CI, Rockingham, Telephone: 527 4977
H.O.: 140 Railway Pde, Bassan. Telephone: 377 1833. Fax: 279 2244

Page Twenty Four
Life Begins at 40!

A history of the Military Sealift Command

In August of 1949, the United States Secretary of Defense issued a directive making the Secretary of the Navy the single manager for ocean transportation and directing him to establish an operating agency within the Navy. Two months later the Military Sea Transportation service — renamed the Military Sealift Command in 1970 — was established as the operating agency for ocean transportation. MSTS initially began operations with 223 personnel transports, cargo vessels and tankers from the Naval Transportation Service and the Army Transportation Service. In the 1950s, at the height of the Korean War, MSC had a fleet of 467 ships that operated around the world. They carried United Nations troops from their homelands to Korea; they evacuated wounded and refugees, they provided everything from beans, bullets and black oil, to helicopters and military hardware needed at the battlefront.

1950s

By early had MSC come into its own when hostilities erupted in Korea on June 25, 1950. The command already had received 92 ships from the Navy, but 115 Army ships were in the process of being transferred when the conflict began.

By July 1, MSC had an additional six ships on charter from private companies and the Maritime Administration had been asked to remove 130 more vessels from mothballs to be turned over to commercial firms that would operate them from MSC under government contract.

The mission was achieved. Statistics indicate that 87 per cent of United Nations fighting forces and equipment were moved to Korea by sea. This figure represents 3.5 million passengers and 98.1 million measurement tons of cargo.

In December 1950, MSC ships evacuated 102,000 soldiers, 91,000 civilians, 17,500 vehicles and 350,000 tons of supplies from Hungnam, Korea only hours ahead of an advancing enemy.

And at Inchon, MSC ships were involved in the amphibious landings of UN troops as their crews worked around the clock unloading supplies.

Some 3,000 American prisoners of war in Korea returned to the US aboard MSC ships in June 1954.

In other operations of the 1950s, MSC ships supplied US bases on the west coast of Alaska and together with the US Coast Guard and the Canadian Navy navigated and charted the Northwest Passage for the first time.

And from MSC's Gulf subarea headquarters, flour, grain and fertilizer were shipped to Marshall Plan countries in Europe in 1950 while foodstuffs was delivered monthly to Japan, Korea, Germany, Egypt, Libya and Italy.

Throughout the 50s MSC ships were involved in helping the nations of the world — from Europe and the Far East — to ports of the Indian subcontinent, the Mediterranean and Red Sea, the Arab Gulf and the Indian Ocean.

And the command also shipped supplies to scientists involved in multinational research in Antarctica as part of the well-known Operation Deep Freeze.

Indeed, in 1958 the MSC charter was expanded to include operation of scientific support ships, vessels that would be involved in geophysical, oceanographic research missile tracking, communications and other unusual missions.

Civilian refugees, a tragedy in all wars, were evacuated by MSC ships wherever trouble erupted in the world of the 1950s.

In October 1951, the USNS Rose brought 2,300 aliens from Czechoslovakia, Estonia, Hungary, Poland, Romania and Russia to join the US Army in New York.

And in a foreboding forecast of things to come, the MSC operated aircraft transporter, the Windham Ray, first large ship to navigate the Long Tart River since 1925, tied up in Sagon, French Indochina in February 1951. During its stay, 17 hand grenades were tossed at the ship by terrorists.

From 1954 to 1955, USNS vessels served as one of the largest cities of the world, the USNS Mutr rescued 118 passengers and crew from the Italian ship Tripoli in 1955, rescuing 24 passengers and crew from the Swedish ship Christian Salen which broke in half during a typhoon off the coast of Sicily.

Civilian refugees, a tragedy in all wars, were evacuated by MSC ships wherever trouble erupted in the world of the 1950s.

In October 1951, the USNS Rose brought 2,300 aliens from Czechoslovakia, Estonia, Hungary, Poland, Romania and Russia to join the US Army in New York.

And in a foreboding forecast of things to come, the MSC operated aircraft transporter, the Windham Ray, first large ship to navigate the Long Tart River since 1925, tied up in Sagon, French Indochina in February 1951. During its stay, 17 hand grenades were tossed at the ship by terrorists.

From 1954 to 1955, USNS vessels served as one of the largest cities of the world, the USNS Mutr rescued 118 passengers and crew from the Italian ship Tripoli in 1955, rescuing 24 passengers and crew from the Swedish ship Christian Salen which broke in half during a typhoon off the coast of Sicily.
Pestiv Twenty Eight
continued to occupy its ships around the world.

MSC ships and their crews were involved in major national tragedies during the 1960s, beginning in August 1963 when USNS Mizar located and photographed the sunken submarine USS Thresher.

In one of the worst sea tragedies of modern times, the sinking of the Andrea Doria following a collision with the Swedish ship Stockholm, the USNS Thomas was credited with rescuing 159 survivors.

In December 1961 and during the first three months of the Berlin buildup, MSC transports sailed 29,882 troops to Europe.

When the Cuban crisis developed, USNS Uphur was on a routine voyage to Panama via Guantanamo Bay, Cuba. With less than four hours notice, Uphur was diverted to evacuate dependents from Guantnamo. It lifted 1,725 passengers to Norfolk.

In April 1965, after President Lyndon B. Johnson sent US troops to the Dominican Republic to protect American nationals, USNS Laurentia and the SS Santo Cerra were dispatched there to deliver supplies for the armed forces. MSC was involved in far reaching though routine operations between crises but the big story was command support of the war in Vietnam.

Even before the escalation, there was an MSC casualty when the USNS Card was mined and sunk on May 1, 1964 while moored in Saigon.

MSC ships first came on the scene in March 1965 when USNS Mass transported an advance element of 2,000 Republic of Korea soldiers from their homes to South Vietnam.

USNS Marine Fiddler was involved in an unusual mission in September 1968. Together with USNS Towle it hauled hundreds of thousands of gallons of contaminated water for burial in Charleston, S.C. The water had been contaminated when a B-52 carrying an atomic bomb crashed while landing in Thule, Greenland.

In October 1964, Mizar located the USS Scorpion, a submarine that had disappeared with all hands. She was found in the Atlantic, 400 miles southwest of the Azores, in 10,000 feet of water.

When the miniature research submarine Alvin sank early in 1969 in 5,000 feet of water off the New England Coast, Mizar was sent to find her. The Mizar crew again accomplished their mission and photographed the Alvin.

In October 1966, two vessels, the SS Meredith Victory operated by American President Lines and the converted Liberty ship Benjamin Chew operated by US Lines, were added to the MSC fleet in Southeast Asia. The Meredith Victory was awarded the Gallant Ship Award for evacuating 14,000 Korean refugees in a single voyage.

USNS Observation Island, missile range support US Navy The Vietnam war became personal for American soldiers 12,500 miles — halfway around the world — from Boston to Vietnam.

MSC entered the space age in the 1960s with the launch of new space exploration projects. The decade ended on an optimistic note when the MSC ships and their crews were involved in far reaching though routine operations between crises but the big story was command support of the war in Vietnam.

Even before the escalation, there was an MSC casualty when the USNS Card was mined and sunk on May 1, 1964 while moored in Saigon.

MSC ships first came on the scene in March 1965 when USNS Mass transported an advance element of 2,000 Republic of Korea soldiers from their homes to South Vietnam.

In June, MSC chartered ships scuffled U.S. Coast Guard Station One, composed of 17 patrol craft, to the war zone and in August elements of the Army's 1st Cavalry Division sailed to Vietnam aboard USNS Kula Gulf.

One year later, in August 1966, USNS Patch and Darby completed the longest troop lift in US military history carrying American soldiers 12,500 miles — halfway around the world — from Boston to Vietnam.

From 1960 until the Vietnam buildup in 1965-66, the MSC fleet averaged 85 ships. At one point the chartered fleet was down to two vessels.

But, during the early 1960s, the US Merchant Marine underwent the greatest change since steam replaced sail. The era of the container ship had begun.

With such ships one gang of longshoremen could load as much cargo in 12 hours as six to eight gangs formerly loaded in a week.

MSC customers, Army, Navy, Marine Corps and Air Force soon developed an "appetite" for container service which helped reduce cargo pilferage, limited damage, and lowered cargo handling time.

The box which could be delivered from door to door — from factory and field — was attractive to the military shipper and MSC was a pioneer in use of container ships.

MSC also was an industry partner in the continued development of the roll-on, roll-off ships in the 1960s.

Troop transports went out of service during the 1960s although they were used right up to the end of the decade, shuttling US troops in and out of South Vietnam. One result was the merger of the passenger and cargo divisions at MSC headquarters with more troops now moving by air.

During the years the shooting was going on in Southeast Asia — with Americans involved — the MSC fleet remained relatively stable after the buildup. More than 400 ships were controlled by MSC during much of the latter half of the 1960s.

The problem, after US withdrawal, was to reduce MSC assets to a needed level, a process that was completed over a couple of years. During the war years, MSC delivered nearly 123 trillion measurement tons of dry cargo and almost 198 million long tons of petroleum products to military customers.
The US Transportation Command was established in 1967 with MSC as one of its three component commands. Along with the US Army's Military Traffic Management Command and the US Air Force's Military Airlift Command, MSC is headquartered in Washington, D.C., with area commands in London, England; Bayonne, N.J.; Oakland, Calif.; and Yokohama, Japan. Smaller sub-area commands are located in Norfolk, Va.; Naples, Italy; and Subic Bay, Republic of the Philippines.

MSC's expanding role in Navy fleet support began with a single step in the early 1970s, when the command was assigned to replenish fleet ships under way. With the MSC celebrating 40 years, it has a fleet of 128 ships and more than 9,000 employees.

MSC TODAY

The MSC's primary mission is to supply the sealift required for as long as operational requirements exist. MSC's mission received special impetus in 1984 when the Secretary of the Navy and the Chief of Naval Operations formally designated strategic sealift as one of the US Navy's major functions. Together with sea control, power projection and strategic deterrence, to be able to respond, it must develop procedures and techniques for maintaining the sealift base. It must coordinate with the maritime industry on which the US must rely so heavily for emergency augmentation. A prime mover of fulfilling those roles is by time-economizing delivery of Department of Defense worldwide cargo.

Though ocean transportation remains its primary mission, MSC has added new dimensions in the past four decades. It now operates 23 Special Mission Support Force ships that are involved in oceanographic surveys and research in support of the space program and military missile test centers. In addition, MSC has 46 ships that are specially committed to fleet support missions on the Naval Fleet Auxiliary Force. Included in NFAF are six T-AO 187-class units, with 10 being built and seven included in the construction program for a total of 18 of these new specialized oilers.

Another aspect of MSC's changing face is combat medical support. Two very large hospital ships support the combat forces. Each contains a 1,000-bed treatment facility and 12 operating rooms. The first of these ships, the USNS Mercy, provided humanitarian medical care to more than 70,000 people in the Philippines and the South Pacific in 1987.

MSC's mission was expanded in 1987 with MSC as one of the three component commands. These ships are almost as large as the sealift base, and MSC must coordinate with the maritime industry for emergency augmentation. A prime mover of fulfilling those roles is by time-economizing delivery of Department of Defense worldwide cargo.

The results justified the expectations of the optimistic and overcame objections of the sceptics. Civilian manned auxiliaries frees highly trained military men for service on warships. Civilian manned ships cost less to operate.

MSC tug and barge operations became routine in the 1970s. Joint MSC MARAD efforts in the 1970s helped strengthen the Ready Reserve Force. As MSC moved into the 1980s, the Afloat Prepositioning Force was established.

The USNS Taluga, manned by a 105-lt CDR, operated mostly of older cargo ships capable of carrying over 100,000 cubic feet (900) numbers and 93 ships. When activated, the RRF ships are controlled by MSC. The RRF is projected to increase to 142 ships by 1994.

The successful deployment of US military forces depends on the ability to act quickly. Recognising that hostilities can erupt at any time, the Afloat Prepositioning Force was established. The RRF is made up of 25 ships loaded with military equipment and prepositioned around the world. Included as a part of the Afloat Prepositioning Force is the Maritime Prepositioning Force consisting of 13 ships divided into three squadrons.

Another aspect of MSC was the acquisition of eight Fast Sealift Ships for the rapid deployment of a mechanised Army division. These ships are almost as large as an aircraft carrier and can cruise at 33 knots. An even more important aspect of MSC's changing face is combat medical support. Two very large hospital ships support the combat forces. Each contains a 1,000-bed treatment facility and 12 operating rooms. The first of these ships, the USNS Mercy, provided humanitarian medical care to more than 70,000 people in the Philippines and the South Pacific in 1987.

MSC's mission was expanded in 1987 with MSC as one of the three component commands. These ships are almost as large as the sealift base, and MSC must coordinate with the maritime industry for emergency augmentation. A prime mover of fulfilling those roles is by time-economizing delivery of Department of Defense worldwide cargo.

The results justified the expectations of the optimistic and overcame objections of the sceptics. Civilian manned auxiliaries frees highly trained military men for service on warships. Civilian manned ships cost less to operate.

MSC tug and barge operations became routine in the 1970s. Joint MSC MARAD efforts in the 1970s helped strengthen the Ready Reserve Force. As MSC moved into the 1980s, the Afloat Prepositioning Force was established.

The USNS Taluga, manned by a 105-lt CDR, operated mostly of older cargo ships capable of carrying over 100,000 cubic feet (900) numbers and 93 ships. When activated, the RRF ships are controlled by MSC. The RRF is projected to increase to 142 ships by 1994.

The successful deployment of US military forces depends on the ability to act quickly. Recognising that hostilities can erupt at any time, the Afloat Prepositioning Force was established. The RRF is made up of 25 ships loaded with military equipment and prepositioned around the world. Included as a part of the Afloat Prepositioning Force is the Maritime Prepositioning Force consisting of 13 ships divided into three squadrons.

Another aspect of MSC was the acquisition of eight Fast Sealift Ships for the rapid deployment of a mechanised Army division. These ships are almost as large as an aircraft carrier and can cruise at 33 knots. An even more important aspect of MSC's changing face is combat medical support. Two very large hospital ships support the combat forces. Each contains a 1,000-bed treatment facility and 12 operating rooms. The first of these ships, the USNS Mercy, provided humanitarian medical care to more than 70,000 people in the Philippines and the South Pacific in 1987.

MSC's mission was expanded in 1987 with MSC as one of the three component commands. These ships are almost as large as the sealift base, and MSC must coordinate with the maritime industry for emergency augmentation. A prime mover of fulfilling those roles is by time-economizing delivery of Department of Defense worldwide cargo.

The results justified the expectations of the optimistic and overcame objections of the sceptics. Civilian manned auxiliaries frees highly trained military men for service on warships. Civilian manned ships cost less to operate.

MSC tug and barge operations became routine in the 1970s. Joint MSC MARAD efforts in the 1970s helped strengthen the Ready Reserve Force. As MSC moved into the 1980s, the Afloat Prepositioning Force was established.

The USNS Taluga, manned by a 105-lt CDR, operated mostly of older cargo ships capable of carrying over 100,000 cubic feet (900) numbers and 93 ships. When activated, the RRF ships are controlled by MSC. The RRF is projected to increase to 142 ships by 1994.

The successful deployment of US military forces depends on the ability to act quickly. Recognising that hostilities can erupt at any time, the Afloat Prepositioning Force was established. The RRF is made up of 25 ships loaded with military equipment and prepositioned around the world. Included as a part of the Afloat Prepositioning Force is the Maritime Prepositioning Force consisting of 13 ships divided into three squadrons.

Another aspect of MSC was the acquisition of eight Fast Sealift Ships for the rapid deployment of a mechanised Army division. These ships are almost as large as an aircraft carrier and can cruise at 33 knots. An even more important aspect of MSC's changing face is combat medical support. Two very large hospital ships support the combat forces. Each contains a 1,000-bed treatment facility and 12 operating rooms. The first of these ships, the USNS Mercy, provided humanitarian medical care to more than 70,000 people in the Philippines and the South Pacific in 1987.

MSC's mission was expanded in 1987 with MSC as one of the three component commands. These ships are almost as large as the sealift base, and MSC must coordinate with the maritime industry for emergency augmentation. A prime mover of fulfilling those roles is by time-economizing delivery of Department of Defense worldwide cargo.

The results justified the expectations of the optimistic and overcame objections of the sceptics. Civilian manned auxiliaries frees highly trained military men for service on warships. Civilian manned ships cost less to operate.

MSC tug and barge operations became routine in the 1970s. Joint MSC MARAD efforts in the 1970s helped strengthen the Ready Reserve Force. As MSC moved into the 1980s, the Afloat Prepositioning Force was established.

The USNS Taluga, manned by a 105-lt CDR, operated mostly of older cargo ships capable of carrying over 100,000 cubic feet (900) numbers and 93 ships. When activated, the RRF ships are controlled by MSC. The RRF is projected to increase to 142 ships by 1994.

The successful deployment of US military forces depends on the ability to act quickly. Recognising that hostilities can erupt at any time, the Afloat Prepositioning Force was established. The RRF is made up of 25 ships loaded with military equipment and prepositioned around the world. Included as a part of the Afloat Prepositioning Force is the Maritime Prepositioning Force consisting of 13 ships divided into three squadrons.

Another aspect of MSC was the acquisition of eight Fast Sealift Ships for the rapid deployment of a mechanised Army division. These ships are almost as large as an aircraft carrier and can cruise at 33 knots. An even more important aspect of MSC's changing face is combat medical support. Two very large hospital ships support the combat forces. Each contains a 1,000-bed treatment facility and 12 operating rooms. The first of these ships, the USNS Mercy, provided humanitarian medical care to more than 70,000 people in the Philippines and the South Pacific in 1987.

MSC's mission was expanded in 1987 with MSC as one of the three component commands. These ships are almost as large as the sealift base, and MSC must coordinate with the maritime industry for emergency augmentation. A prime mover of fulfilling those roles is by time-economizing delivery of Department of Defense worldwide cargo.

The results justified the expectations of the optimistic and overcame objections of the sceptics. Civilian manned auxiliaries frees highly trained military men for service on warships. Civilian manned ships cost less to operate.

MSC tug and barge operations became routine in the 1970s. Joint MSC MARAD efforts in the 1970s helped strengthen the Ready Reserve Force. As MSC moved into the 1980s, the Afloat Prepositioning Force was established.

The USNS Taluga, manned by a 105-lt CDR, operated mostly of older cargo ships capable of carrying over 100,000 cubic feet (900) numbers and 93 ships. When activated, the RRF ships are controlled by MSC. The RRF is projected to increase to 142 ships by 1994.

The successful deployment of US military forces depends on the ability to act quickly. Recognising that hostilities can erupt at any time, the Afloat Prepositioning Force was established. The RRF is made up of 25 ships loaded with military equipment and prepositioned around the world. Included as a part of the Afloat Prepositioning Force is the Maritime Prepositioning Force consisting of 13 ships divided into three squadrons.

Another aspect of MSC was the acquisition of eight Fast Sealift Ships for the rapid deployment of a mechanised Army division. These ships are almost as large as an aircraft carrier and can cruise at 33 knots. An even more important aspect of MSC's changing face is combat medical support. Two very large hospital ships support the combat forces. Each contains a 1,000-bed treatment facility and 12 operating rooms. The first of these ships, the USNS Mercy, provided humanitarian medical care to more than 70,000 people in the Philippines and the South Pacific in 1987.
Women in the Navy

The Chief of Naval Staff, Vice Admiral Michael Hudson, has forecasted an increase in the number of women in the Navy and the opening up of new positions including more for women at sea.

Admiral Hudson said that the Navy has been actively pursuing a policy of employing more women, and the percentage in the RAN was now 11.5%, a significant improvement on the situation five years ago, when the percentage was only 6.5%.

"This percentage needs to increase even more if the Navy is to capitalise on the talents of women and there is scope for this within the constraints imposed by the Navy," he said.

Admiral Hudson said that the number of women at sea would build up steadily and he noted that all females who had joined the RAN since 1984 are liable for sea service.

"At present there are only 40 women at sea, which is hardly more than half of 1% of the Navy," he said.

"My aim is to achieve the same percentage of women at sea as there are women throughout the Navy overall," Admiral Hudson said that the only constraint on the employment of women at sea would be the resources needed to provide appropriate accommodation.

"Although the present interpretation of Government policy on the employment of women in combat or combat-related situations imposes some restrictions on sea going employment," he said, "it is my view that at least in peacetime, women should be given training and experience in every aspect of naval operations ashore and afloat.

The Government has approved the acquisition of two second-hand tugs to undertake minesweeping duties for the RAN's minesweeping force. Senator Ray said that the contract was signed on April 18, 1990.

"The tugs, to be purchased this year, would be used to tow the new 'clip-on' sweeps designed and developed by the Royal Australian Navy Research Laboratories in Sydney and the Maritime Research Laboratory in Melbourne. The RAN has been using fishing trawlers, acquired in 1988, to develop the tactics and doctrine to be used in the operation of the new sweeping equipment. These trawlers are not powerful enough to tow the large sweeps designed and developed by the RAN.

"As many Australians will have observed in the media, the Royal Navy's First Sea Lord has since announced that sea postings will now be available to women in the Royal Navy.

"Although we have certainly had women in certain seagoing billets for some time, I have directed my personnel staff to bring forward detailed plans to increase the range of positions available to women - and that includes jobs at sea, for women."
J & R COMMUNICATIONS PTY. LTD.

J & R Communications is a national company with offices in every major capital city throughout Australia. Specialising in all types of Communications installations and Equipment.

- TELEPHONE SYSTEMS
- TELEPHONES
- TIME CLOCKS & TIME MANAGEMENT SYSTEMS
- FACSIMILE MACHINES
- INTERCOM SYSTEMS
- INSTALLATIONS - TELEPHONE POINTS & RELOCATIONS
- DATA POINTS
- BLOCK CABLING
- MORE

We have qualified personnel available to work on projects of a more sensitive nature, presently one of our Defence Contracts is the installation of “Project Discon”.

REMEMBER we offer PROMPT AND EFFICIENT service. Call us for a competitive quotation. We will SAVE TIME AND MONEY.

Telephone Numbers:
- MELBOURNE: (03) 758 5466
- SYDNEY: 02 683 3155
- BRISBANE: (07) 397 3731
- ADELAIDE: 08 362 3777
- PERTH: (09) 430 6500
- ALBURY: 060 41 1166
- CANBERRA: (062) 39 1333

AVERY LABEL (AUSTRALIA)
Supplier to all Government Departments/Organisations of Self Adhesive Labels

- Computer Printer Labels *(various kinds IN contract)*
- Photocopier labels *(Whole range of IN contract)*
- Laser printer labels*
- Office labels*
- Customised labels*
- Security labels*
- File cover labels*
* Bulk Discounts available

PHONE: Toll Free – 008-252-237
SYDNEY (02) 560 7177
MELBOURNE (03) 882 8027
ADELAIDE (08) 274 3704
PERTH (09) 458 5509

Addresses:
- SYDNEY – 75 Union Street, Dulwich Hill 2203
- MELBOURNE – 96 Camberwell Road, Hawthorn East 3123
- ADELAIDE – 213 Greenhill Road, Eastwood 5063
- PERTH – 2 Denby Street, Wilson 6107

Contractor to the Department of Defence
The book "The American Steel Navy" by John D. Alden, Commander, USN (retired) is published by Naval Institute Press. This writer was only half way through his book "Forging a Modern Steel Navy," the second volume of his historical work on the development of the United States Navy, when he decided to begin this review. The book is a compilation of both narrative and photographic (mostly from glass plates) material covering the development of the United States naval forces from the introduction of ironclads in the 1860s to the end of the Civil War in 1865. The author has succeeded in bringing together his well-researched writings with the best photographs of the era, but unlike the more traditional publications, this has divided his efforts into two parts: the first section contains the new construction, while the second section describes the construction and repair of the American Ironclads. This book is a wonderful collection of the various ships, battles and other naval developments that took place during this formative period of the United States Navy.

This writer was only half way through his book "Forging a Modern Steel Navy," the second volume of his historical work on the development of the United States Navy, when he decided to begin this review. The book is a compilation of both narrative and photographic (mostly from glass plates) material covering the development of the United States naval forces from the introduction of ironclads in the 1860s to the end of the Civil War in 1865. The author has succeeded in bringing together his well-researched writings with the best photographs of the era, but unlike the more traditional publications, this has divided his efforts into two parts: the first section contains the new construction, while the second section describes the construction and repair of the American Ironclads. This book is a wonderful collection of the various ships, battles and other naval developments that took place during this formative period of the United States Navy.

This writer was only half way through his book "Forging a Modern Steel Navy," the second volume of his historical work on the development of the United States Navy, when he decided to begin this review. The book is a compilation of both narrative and photographic (mostly from glass plates) material covering the development of the United States naval forces from the introduction of ironclads in the 1860s to the end of the Civil War in 1865. The author has succeeded in bringing together his well-researched writings with the best photographs of the era, but unlike the more traditional publications, this has divided his efforts into two parts: the first section contains the new construction, while the second section describes the construction and repair of the American Ironclads. This book is a wonderful collection of the various ships, battles and other naval developments that took place during this formative period of the United States Navy.
The amazing Mitsubishi Canter 4WD, with limited slip diff, has the strength and toughness of a real truck with the comfort of a car. So you can carry a full 225 tonne body and payload on road, or off-road. Experience Canter at your nearest Mitsubishi dealer.

Canter 4WD — It Commands Respect.

**NAVY LEAGUE ANDcadet news**

## SHIPPPING AND WATERFRONT REFORM

It has always been popular to link shipping and the waterfront in the public mind as if they were one and the same industry, whose problems should be addressed as such.

Of course both are fundamental parts of the maritime scene but in many ways they, and the problems of those who work in them, are different as chalk and cheese.

It is perfectly possible to have a highly efficient shipping industry trading world-wide while also having poorly organised inefficient local waterfronts, and vice-versa. Clearly the nation is in the most advantageous position when both the Aust-shipping industry and the waterfront which services shipping of all nations, are highly efficient.

In many ways the differences between these two different but inter-related industries were highlighted at the conference on Shipping and Waterfront reform held at Darling Harbour, Sydney, on 19/20 February, 1990. This conference, arranged by Aust. Shipowners' Conferences and endorsed by the Aust. National Maritime Association was well attended by representatives of virtually all interested parties from all corners of the continent.

Apart from a short address by the Hon. Ralph Willis MP Minister for Trade and Communications who delivered an address covering the Government update of the various reform packages, Representatives from both sides of Parliament were noticeable by their absence — an unfortunate omission given the national importance and relevance of reform measures in the current economic climate.

There seemed to be widespread agreement that there has been much improvement in the general international competitiveness of our shipping industry. Indeed it was claimed, with some justification, that shipping was the clear leader among all our industries in structural adjustment, internal re-organisation, and improved productivity and efficiency.

With generally close co-operation between owners, management, unions and Government following a series of inquiries and agreements, much has been achieved in the last 7 years.

The benefits of the establishment of the Australian Maritime College at Launceston, with its many training courses including those for ‘integrated ratings’, are now being felt.

Along with new co-organisation in new ships, the introduction of new manpower replacement technology, training, and restructuring, amalgamations have reduced the number of unions in Australian flag ships from 7 to 3, and hopefully this will reduce to 2 (officers and ratings) in the near future. With these changes have gone improvements in social relationships and conditions aboard ships, thus allowing major reductions in crew sizes and greater feelings of ‘all manning’.

Indicative of the growing competitiveness of the Australian merchant fleet is the gradual increase in its size as ship owners gain confidence and find the industry more rewarding. Additions of new ships have grown gradually each year from 2 in 1987/88 to a projected 10 in 1990/91. While older ships will drop off the list, the overall numbers of ships and the total fleet cargo capacity are growing steadily.

While much remains to be done, the industry seems on course for an expanding and bright future with all the advantages this should bring to the nation. There is a huge and immediate opportunity to increase the proportion of our seaborne trade carried in Australian ships from its current low level of 4%.

Cargo carried in Australian ships ‘value-adds’ to the export economy. It means less imports; reduces our balance of payments deficit; protects national wealth and employment and with the consequent expansion of our merchant fleet, supports our defence capability.

The waterfront however, is a different story.

While there is no denying that some reforms have been achieved such as gradual rejuvenation of the workforce; improved training; improved incentives; a reduction in industrial disputes and hours lost, reducing the number of casuals; management and loading times; removal of 200 redundant gangway watchmen; and some reductions in tug crew sizes, a great deal remains to be done.

**GEC ALSTHOM**

**AUSTRALIA LIMITED**

**ENGINES DIVISION**

Diesel & Gas Turbine Engines

To Suit All

**INDUSTRIAL, MARINE & RURAL APPLICATIONS**

Sales • Installation

• Compressing Maintenance Repairs & Spare Parts

**DORMAN, RUSTON PAXMAN, HINO & BAUDOUIN, RUSTON GAS TURBINES, IVECO GENERATOR SETS**

**LOT 105, COCKBURN ROAD, HENDERSON, WA**

Tel: (09) 410 2944 Fax: (04) 439 2223
There was some trenchant criticism at the conference of the snails pace of reform despite the plethora of investigations, reports and recommendations of recent years.

These appeared to be much ammunition to support this general disenchantment.

Waterfront reform is urgent, irrespective of whose ships carry our goods, freight charges, a significant proportion of which are our own port handling charges, affect our international competitiveness, the return to our producers of all exports and the cost of imports.

It was stated for instance that no less than 60% of the freight charges for Trans Tasman shipments are due to port handling charges in Australia and New Zealand — a staggering percentage by any standards, and a significant load on our economy.

While stevedoring charges are the most significant elements, there are other areas where our ports are not competitive with many overseas. Towing charges, berthing dues, and inshore/mooring charges are often several times those of foreign ports such as Hong Kong.

The waterfront is of course a much more complicated and fragmented industry than shipping. There are many participants with differing interests: Federal and State Governments and instrumentalities; port authorities; shippers; ship owners; stevedoring firms and personnel; many unions, agents, transport organisations; pilots, tugs, repair and maintenance organisations; and others.

Nevertheless, it seems clear that the overall problem of speeding up ship turnaround times and cargo distribution, reducing costs, increasing security of cargoes and equipment and greatly improving efficiency must be tackled, and quickly.

It was refreshing to hear that some steps are being taken to introduce E.D.I. (Electronic Data Interchange) systems which will reduce costs by as much as 5%. Many other measures will be needed to improve organisation, training, labour productivity.

Fundamentally, however, a new spirit of endeavour is needed on the waterfront, with all organisations concerned working together for the nation's good and the necessary recovery of our economy.

ANDREW ROBERTSON
Rear Admiral (Retired)

The President of the Townsville Branch of the Navy League Mr. E. Bowen (Left) receives a cheque for $10,000 from Mr. Hal Slaney (Right) representing the Sheraton Breakwater Island Casino Community Benefit Trust. The money is being used to help pay for the recently completed Boat Deck and Bosuns Stone for TS Coral Sea.

The Universal Solution

Ada is becoming the universally preferred defence language and it's also the language we adopted right from the outset at Universal Defence Systems.

Whilst other Australian companies are involved with Ada, we specialise in it.

Universal Defence Systems is an Australian Company, specialising in systems and software engineering for defence. Our products include an artificial intelligence expert system shell and a comprehensive and flexible, real-time C2 system written in Ada, a Universal data base management system, a formatted message editor and a Mission Computer System (MCS shown above).

We also have hundreds of reusable Ada utility packages, ready for specialised application or integration into existing systems. The adaptability of this code means lower cost and greater efficiency, whatever the application.

Our armoury of expertise is growing daily! For more information, contact our Managing Director, Peter Jupp.

Proud to be Associated with the R.A.N.

ANCHOR FOODS
PTY LTD

148 CARRINGTON STREET,
O'CONNOR, WA, 6163

Food Manufacturers & Exporters
"You Can't Buy Better than Anchor"

Telephone: (09) 337 3911
Fax: (09) 337 3509
We keep you flying.

AVIATION SALES AND PRODUCT SUPPORT.

At Hawker Pacific, keeping you flying is our top priority. Across Australia, New Zealand, the Pacific, Asia, USA, the Middle East and Europe. Hawker Pacific is the name for

- Aircraft and helicopter sales.
- Aviation parts and pilot accessories.
- Engineering service and maintenance.
- Aircraft modifications, conversions and rebuilds.
- Engine sales and overhauls.
- Landing gear overhauls and repairs.
- Rotary and fixed wing hydraulic overhauls.
- Technical training.
- Corporate flight centres.
- Defence equipment marketing.
- Aviation infrastructure.

Like to know more?
Contact David Bell
Aviation Marketing Director
4-8 Hartey Crescent, Bankstown, NSW 2200 Australia
Tel (02) 7088555, Fax (02) 7081480

Hawker Pacific
Sydney, Canberra, Melbourne, Brisbane, Perth, Cairns, Auckland, Singapore, Kuala Lumpur, Jakarta, Bangkok, Manila, Hong Kong, Seoul, Beijing, Los Angeles, Miami, Amsterdam, Bahrain.
WHY TAPE BACK-UP?

One of the most noticeable advancements in Personal Computers (PCs) in recent years is the amount of data they are now able to handle. The average size of a hard disk installed has grown to 80 Megabytes and there are now hard disk drives available for the PCs that offer a staggering 1.2 GB of storage capacity.

These recent developments have made the drives more delicate and more susceptible to the adverse effects of dust and poor handling. With the disk platter turning at 3600 revolutions per minute, if even a small speck of dust should come between the platter and the read/write heads which fly at less than one air molecule above the platters, data on the disk can be greatly damaged. Add to this the possibilities of human error, power failure, earthquakes and fires. and you can see the need for an effective tape back up system.

At Allaw, we recommend Archive's Viper Data Cartridge Tape Back-up units which handle from 40 to 150 MB of data. These recent developments have made the drives more delicate and more susceptible to the adverse effects of dust and poor handling.

Phone Allaw for all your Tape Back-up Needs:

**Allaw Technologies**

- **SYDNEY** - Phone: (02) 415 9111
- **MELBOURNE** - Phone: (03) 561 8644
- **QUEENSLAND** - Phone: (07) 691 6860

Fax: (07) 691 6915

Current Suppliers to the R.A.N. ....

AUSTRALIAN SAFETY ENGINEERS (W.A.)

A Division of Chubb Australia Ltd

26 YAMPI WAY, WILLETTON, WA 6155

Endorsed Company AS1822

Defence Assessed AS1823

Services include ....

H.P. Air Cylinders Testing and Maintenance

Hale Hamilton Valves – WA Agent

CO2 Extinguishers & Systems

H.P. & L.P. Air Systems

Breathing Air Apparatus

Compressor Maintenance

Manager: ALLAN WATSON

Telephone: (09) 457 8500

Facsimile: (09) 457 7152

277-289 Woodpark Rd

Smithfield, NSW, 2164

Phone: (02) 609 7599

Fax: (02) 725 1804

Copyright © 1990

REGISTRATION NUMBER 331 933

THE NAVY LEAGUE OF AUSTRALIA

FEDERAL COUNCIL


President: Thomas J. Suiter

Vice-President: A. W. Brown

Secretary: Dr. H. V. Vorago

Treasurer: L. M. Johnson

Honorary Chief Editor: G. W. Tinker

Executive Officer: M. T. K. Bicknell

Phone: 319 8231

SOUTH AUSTIN DIVISION

President: D. A. Thomas

Vice-President: G. M. L. Kerr

Secretary: D. H. Beale

Treasurer: J. H. Jeffery

Honorary Chief Editor: W. R. L. Cameron

Executive Officer: J. A. H. St Clair

Phone: 670 4209

WESTERN AUSTRALIA DIVISION

President: G. G. Smith

Vice-President: H. J. Carr

Secretary: M. J. Kidd

Treasurer: D. J. L. Page

Honorary Chief Editor: W. R. L. Cameron

Executive Officer: J. A. H. St Clair

Phone: 670 4209

QUEENSLAND DIVISION

President: R. A. M. Cameron

Vice-President: R. G. B. M. Cameron

Secretary: H. A. G. Cameron

Treasurer: M. J. Kidd

Honorary Chief Editor: W. R. L. Cameron

Executive Officer: J. A. H. St Clair

Phone: 670 4209

VICTORIA DIVISION

President: G. G. Smith

Vice-President: H. J. Carr

Secretary: M. J. Kidd

Treasurer: D. J. L. Page

Honorary Chief Editor: W. R. L. Cameron

Executive Officer: J. A. H. St Clair

Phone: 670 4209

NEW SOUTH WALES DIVISION

President: G. G. Smith

Vice-President: H. J. Carr

Secretary: M. J. Kidd

Treasurer: D. J. L. Page

Honorary Chief Editor: W. R. L. Cameron

Executive Officer: J. A. H. St Clair

Phone: 670 4209

TASMANIA DIVISION

President: G. G. Smith

Vice-President: H. J. Carr

Secretary: M. J. Kidd

Treasurer: D. J. L. Page

Honorary Chief Editor: W. R. L. Cameron

Executive Officer: J. A. H. St Clair

Phone: 670 4209

AUSTRALIAN CAPITAL TERRITORY DIVISION

President: J. A. H. St Clair

Vice-President: M. J. Kidd

Secretary: D. J. L. Page

Treasurer: G. G. Smith

Honorary Chief Editor: W. R. L. Cameron

Executive Officer: J. A. H. St Clair

Phone: 670 4209

Current Suppliers to the R.A.N. ....

AUSTRALIAN SAFETY ENGINEERS (W.A.)

A Division of Chubb Australia Ltd

26 YAMPI WAY, WILLETTON, WA 6155

Endorsed Company AS1822

Defence Assessed AS1823

Services include ....

H.P. Air Cylinders Testing and Maintenance

Hale Hamilton Valves – WA Agent

CO2 Extinguishers & Systems

H.P. & L.P. Air Systems

Breathing Air Apparatus

Compressor Maintenance

Manager: ALLAN WATSON

Telephone: (09) 457 8500

Facsimile: (09) 457 7152

277-289 Woodpark Rd

Smithfield, NSW, 2164

Phone: (02) 609 7599

Fax: (02) 725 1804
THE DEFENCE FORCE AND THE COMMUNITY
THE WRIGLEY REPORT

The following comments are not to be taken as a review of the recently issued report by Mr Alan Wrigley entitled "The Defence Force and the Community", a report commissioned by former Defence Minister Beazley in May 1989. To review a 600-page document containing a host of recommendations in the space available to Viewpoint is impossible and unfortunately publishing deadlines preclude a detailed review in this issue of THE NAVY.

The Wrigley Report is an important document as it deals with an important subject – the relationship between the Defence Force and the community. It is written by an official experienced in the defence decision-making process and whose recommendations, if accepted by government, would quite drastically change Australia's defence organisation.

In brief, the object of author Wrigley is to create in the Australian community an understanding of the country's security problems and to do so by involving the community to a much greater extent in defence activities. Involvement would be in several ways but principally through a greatly increased Reserve Force component and the replacement of civilians in support functions ranging from communications to catering. A smaller number of civilians would be directly employed by the Defence Department but a vastly increased number would be involved in functions contracted out to industry.

The report is highly critical of the proclivities of a militarily self-sufficient Defence Force, this the Report maintains is wasteful, makes timely expansion difficult to achieve in an emergency and tends to separate the armed forces from the wider community.

The Report acknowledges that attitudes in some areas, not least in the ADF, would have to change if a "bipartisan" approach were to be introduced. The Report concludes that Mr Wrigley's proposals are acceptable or practicable, at least a major attempt has been made to remedy a serious deficiency and his Report warrants wide attention.

One cannot quarrel with the object of the Wrigley Report – better community understanding of, and involvement in, national defence but the writer of Viewpoint is of the opinion that a number of assertions are arguable and some proposals unrealistic; for example, in almost double the size of the Reserve (and use Reservists to replace personnel) is surely impractical given existing recruiting/recruitment difficulties.

To preclude the deployment of ADF units overseas, thus removing an important option available to governments, is a proposal unlikely to be accepted by political leaders; the recent decision to send a naval force to the Middle East bears this out.

The Report's direct and implicit criticism of the Wrigley Report - better community understanding of, and involvement in, national defence but the writer of Viewpoint is of the opinion that a number of assertions are arguable and some proposals unrealistic; for example, in almost double the size of the Reserve (and use Reservists to replace personnel) is surely impractical given existing recruiting/recruitment difficulties.

Mr Wrigley correctly regards the lack of understanding and disinterest of far too many Australians in their Defence Force as a weakness in our country's security and wants to bridge the gap (in passing, one might add his Report does not recommend incorporation). The internal workings were described as complex and the writer of Viewpoint would suggest that, instead of being commissioned in 1953 (except for two years laid up during the war 1941-43 whilst STRADBROKE II operated), WYUNA was sold on 23 March 1954, to J. Dent for demolition in Melbourne.

AKUNA in 1975. (Photo - G. Andrews)

THE NAVY
All enquiries regarding the Navy Magazine, subscriptions and editorial matters should be sent to:
The Hon. Secretary, NSW Division
NAVY LEAGUE OF AUSTRALIA
GPO Box 1719, SYDNEY, NSW, 2001

AKUNA as a pilot vessel

Dear Sir,
Following on from the article on STRADBROKE II (July/Sept 1990 issue), it is interesting to note that the Port Phillip Sea Pilots have a further connection with the RAN in two of their other vessels: both named AKUNA, and both with long, varied careers.

The first AKUNA was purchased from the RAN on 6 January 1925 as the ex-HMAS UNA. This twin screw, coal fired steamer of 953 tons gross, 210 LOA, and 15 knots; was originally built in 1911 by Bremner Vulcan as the KOMET and used by the colonial administration of the German Imperial Govt in New Guinea. By July 1914 she was part of the German Navy. When captured by the RAN in October, she was converted to a sloop, and used as a patrol vessel, renamed HMAS UNA.

On purchase by the PPSP, she was registered in Melbourne, 12 May 1925 and named AKUNA (meaning "flowing waters"). She was fitted out as a cruising pilot cutter to operate off Port Phillip Heads, in conjunction with the SS VICTORIA. The internal fittings were described as luxurious; and she served the PPSP very well until WYUNA commissioned in 1953 (except for two years laid up during the war 1941-43 whilst STRADBROKE II operated).

AKUNA was sold on 23 March 1954, to J. Dent for demolition in the Maribyrnong River. This work proceeded slowly till 1957. The Navy sold HMAS GLADSTONE to the PPSP in July 56 to become the second AKUNA. Built by Walkers, Maryborough, in 1943 as one of the 56 Bathurst class minesweepers. After conversion at Williamstown 1956-6 to a cruising pilot cutter, she was registered as AKUNA on 22 April 1958, and served as such, in conjunction with WYUNA, till 1974 when the PPSP commenced operating "fast launches" as a means of shipping pilots.

AKUNA was sold in March 1974 to S. Bevan-Davies, but remained laid up in Melbourne. Sold to B. Holohan in September 1977, she sailed to Brisbane, where I remember her laid up at North Rocks. While she remained under arrest, and bankrupt, I understand both owners intended to operate her as a private yacht, but failed. When sold again on 7 September 1978, to B. Baros, she sailed to Singapore to be fitted out as a hospital/relief ship for service in the South China Seas assisting Vietnamese boat people, from December 1978.

Whilst unofficially referred to as the "Bamboo Croaz", she was the cause of some official embarrassment: refugees were a diplomatic headache by this time! On 3 September 1979 the ship was reported anchored off Singapore with 135 refugee aboard awaiting Australian Government approval to land them.

HER Melbourne register was closed on 21 April 1980. AKUNA was re-registered earlier under the Panamanian flag on 4 February 1980 as AKUNA II; the first time she had been officially used. Mr B. Baron sold her on 14 April 1980 to the 'Food for the Hungry International' of Arizona, USA, under whom she continued refuge operations.

The vessel developed boiler troubles about this time, and eventually operated only on one boiler, at a speed of five knots. By 1981 AKUNA had rescued 365 refugees for the new owners, who sold her late 1981. After shifting to Song Kla, Thailand, the Singapore, 1980, as AKUNA II.
purchaser defaulted on payments, and "Food for the Hungry" had to repossess the ship. AKUNA ex GLADSTONE was sold in 1983 to be broken up in Thailand. The name AKUNA is continued today in a current FPSP pilot launch.

SUBMARINES AT MALTA

Dear Sir,

I was surprised to see in the July-September 1990 issue of The Navy on page 33 an illustration of submarine L 26 with caption underneath reading HMS OTUS. HMS OTUS was a sister to HMS OTHRIS (not OTHIS as shown) which is illustrated on the same page. Both sisters were OTOYPA and OXLEY. Other sisters were ODIN, OLYMPUS, ORPHNEUS and OSWALD. OBERON of same class differed in having a blunt bow.

L 26 was one of 33 L class submarines built for the Royal Navy under the Emergency War Programme 1917-1922. The class followed the K class steam driven submarines and were an improved H class. Early Ls appeared similar to the H class but some were given a 4in gun mounted on a fair water in front of the conning-tower. Later Ls were also given a 4in of the conning-tower and some were converted for mine laying.

Only 3 Ls served during WWII, L 23, L 26 and L 27. All three were built by Vickers Armstrong. Barrow and completed at Chatham. L23 lost off Nova Scotia while under tow to shipbreakers. 1946. L 26 broken up Canada 1946. L 27 broken up Canada 1947.

The Ls were 236ft 23.5ft 13.5ft. 760/1080 tons. 17.5 knots on the surface. 10.5 knots submerged. 4 bow tubes for 2, 4in guns.

Only a few details are given in the article, however the wheel house was a little different.

Lambert in 1956.

Dear Sir,

I have read with interest your article on STRADBROKE II. I am curious to know what vessel was covered in the article, however the wheel house was a little different.

Lambert in 1956.

STRADBROKE

Dear Sir,

Captain Carotin's article on STRADBROKE II brought a query about the vessel that was referred to in his article. Unfortunately, I do not have any information on the vessel that was cited.

Captain Carotin's article on STRADBROKE II brought a query about the vessel that was referred to in his article. Unfortunately, I do not have any information on the vessel that was cited.

STRADBROKE I

Dear Sir,

I was surprised to see in the July-September 1990 issue of The Navy on page 33 an illustration of submarine L 26 with caption underneath reading HMS OTUS. HMS OTUS was a sister to HMS OTHRIS (not OTHIS as shown) which is illustrated on the same page. Both sisters were OTOYPA and OXLEY. Other sisters were ODIN, OLYMPUS, ORPHNEUS and OSWALD. OBERON of same class differed in having a blunt bow.

L 26 was one of 33 L class submarines built for the Royal Navy under the Emergency War Programme 1917-1922. The class followed the K class steam driven submarines and were an improved H class. Early Ls appeared similar to the H class but some were given a 4in gun mounted on a fair water in front of the conning-tower. Later Ls were also given a 4in of the conning-tower and some were converted for mine laying.

Only 3 Ls served during WWII, L 23, L 26 and L 27. All three were built by Vickers Armstrong. Barrow and completed at Chatham. L23 lost off Nova Scotia while under tow to shipbreakers. 1946. L 26 broken up Canada 1946. L 27 broken up Canada 1947.

The Ls were 236ft 23.5ft 13.5ft. 760/1080 tons. 17.5 knots on the surface. 10.5 knots submerged. 4 bow tubes for 2, 4in guns.

The photo of HMS QUEEN ELIZABETH was taken after the conversion was completed. The vessel was exactly the same as the one as in the photographs under the Emergency War Programme. The L class submarines were 236ft 23.5ft 13.5ft. 760/1080 tons. 17.5 knots on the surface. 10.5 knots submerged. 4 bow tubes for 2, 4in guns.

The Ls were 236ft 23.5ft 13.5ft. 760/1080 tons. 17.5 knots on the surface. 10.5 knots submerged. 4 bow tubes for 2, 4in guns.

The attitude produced by such standards of operational readiness is a product of the Navy's history and means that in the opening moves of every conflict in which Australia has been involved, the RAN has played the dominant role.

World War I was declared on 10 am on August 4, 1914. The immediate fear was German activity in New Guinea and the wharf of the East Asia Squadron under Admiral Von Spee.

At that very moment, the battleship and flagship, HMAS AUSTRALIA, was hurrying north up the eastern coast to a prearranged rendezvous having departed Port Jackson the previous evening at 9.45 in anticipation of war starting. She would join with the SYDNEY, the WARRANG and the YARRA which had sailed from Townsville on August 3.

The cruiser MELBOURNE had sailed from Sydney just over an hour later steaming south about the continent to take up her patrol off Cape Lambert in 1956.

A vessel named the Stradbroke and registered in Gladstone was used in the 6th and 7th by a Mr Tim Robinson in Brisbane.

The vessel was exactly the same as the one as in the photographs under the Emergency War Programme. The L class submarines were 236ft 23.5ft 13.5ft. 760/1080 tons. 17.5 knots on the surface. 10.5 knots submerged. 4 bow tubes for 2, 4in guns.

The Ls were 236ft 23.5ft 13.5ft. 760/1080 tons. 17.5 knots on the surface. 10.5 knots submerged. 4 bow tubes for 2, 4in guns.

I have read with interest your article on STRADBROKE II. I am curious to know what vessel was covered in the article, however the wheel house was a little different.

Lambert in 1956.

Dear Sir,

I have read with interest your article on STRADBROKE II. I am curious to know what vessel was covered in the article, however the wheel house was a little different.

Lambert in 1956.

Dear Sir,

I have read with interest your article on STRADBROKE II. I am curious to know what vessel was covered in the article, however the wheel house was a little different.

Lambert in 1956.

Dear Sir,

I have read with interest your article on STRADBROKE II. I am curious to know what vessel was covered in the article, however the wheel house was a little different.

Lambert in 1956.

Dear Sir,

I have read with interest your article on STRADBROKE II. I am curious to know what vessel was covered in the article, however the wheel house was a little different.

Lambert in 1956.

Dear Sir,

I have read with interest your article on STRADBROKE II. I am curious to know what vessel was covered in the article, however the wheel house was a little different.

Lambert in 1956.
Menzies' decision to send Australian troops to Vietnam depended to some degree on their transportation to South Vietnam, together with their equipment and supplies. This vital support would undoubtedly come from the Navy.

Information that Australia would need to be involved on the ground in Vietnam was passed to the captain of HMAS DUKESS before Menzies' announcement in Parliament. Commander Ian Burns was told to prepare his ship for service off Vietnam, including the escort of SYDNEY. However, the "troopship" was then refitting at Garden Island Dockyard in Sydney. On May 4, 1965, its captain was informed the ship was required to sail for Vietnam.

In a Herculean effort, the refit was curtailed and painting completed. 533 sailors were recalled from leave to make up her full wartime complement. They prepared for sea trials and sorting of the ship beforeagoon 17, when relieved by the destroyer WARRAMUNGA.

By May 26, cargo and military vehicles were loaded, and the soldiers of the 1st Battalion, Royal Australian Regiment, were embarked. Sydney sailed for Vietnam, at 11 am on May 27.

Since the end of Australia's involvement in the Vietnam conflict, the Navy has been called upon with short notice to play a leading role in Australian diplomacy. The demands placed on the Navy have been diverse. There was the impromptu decision to send HMAS SUPPLY to Mururoa in 1973 to protest against French atomic testing. After the Soviet invasion of Afghanistan on the early 1980s the Navy was involved in Persian Gulf patrols. Five RAN ships were sent to help for the purpose of evacuating Australian nationals within two days of the first military coup.

There are two reasons for the Navy usually being the first on the scene:

First, the Navy's ships are maintained at a high level of operational readiness or can be brought to that state in very little time. This has meant they are available for deployment almost immediately.

Second, because the navy is the most mobile of the armed forces and has units deployed continuously in South-East Asia and the Pacific, it is often very close to the scene of activity and in the best position to demonstrate Australia's interests and resolve. This was certainly the case during the Malayan Emergency and "confrontation" when the presence of RAN units throughout the region saw them immediately thrust into action. There was not a ship or a single life lost in that period.

The fact that this level of readiness is maintained in peacetime means Australia has some flexibility in its diplomacy and can select from a range of options, including the prompt despatch of the three ships. The characteristics of the ships also allow plenty of freedom of action.

Whereas in the past RAN units often had to rely upon fuel of dubious quality from foreign supply ships or ports, the tanker SUCCESS, which sailed recently, will provide fuel of guaranteed quality throughout the long passage and reduce Australia's dependence upon any other nation.

As the RAN has developed a deep understanding of the US Navy and its operating procedures from ANZUS exercises over the last 40 years, the Australians should have little trouble in becoming an integral part of the vast naval armada assembling in the Gulf.

The long passage across the Indian Ocean provided an extended opportunity for exercises and the fine tuning of the ships' organisation, particularly the command teams.

The rapid response from nations such as Australia and Canada to the Gulf crisis should leave Iraq in no doubt as to the determination of the large part of the world to resist its aggression. The arrival of this vast international fleet will hopefully deter President Saddam Hussein from aggression against Saudi Arabia and force him to withdraw from Kuwait.

Certainly there is no chance of any of the fruit of this incursion, passing through the Gulf, which has only recently been completely cleared after Iraq's protracted war with Iran.

The outcome of the current crisis is by no means clear and is impossible to predict. But whatever happens, it has already shown that the prolonged period of peace since Vietnam has not diminished the readiness of the RAN to respond to an international crisis or the Government's confidence in the ability to perform in a tough situation.

Farewell to family and friends, August, 1990.
School Ship SOBRAON

Beginning in 1866 the Colonial Government of New South Wales moored the old school ship Vernon in Sydney Harbour as accommodation for the child offenders of the colony. In 1890 the twenty-four-year-old composite sailing ship Sobraon was purchased as a replacement for Vernon. The new ship remained in this capacity until joining the Royal Australian Navy in 1911 as a training vessel for the 'lower deck'. Fred Hanger, a former incumbent of the ship, wrote of his experiences aboard Sobraon:

...the decks had been thoroughly washed down; all cane and was not afraid to use it. Great care was not taken by the hose boys, done by crouching on our haunches and of minutes while we walked down the ladder side to side on the wet and sanded deck. A malingerer, for the mate had a large thick cold sea water, pumped up from the harbour so that we were copiously splashed with the that lovely on a cold morning; for sometimes slowly moving along on the toes. And wasn't the mam deck; for all this scrubbing was and. oh! what a relief, to stand for a couple of half a coconut husk, which was wielded from herded together with "bruges". Each being male, the drones, such as pump boys, gangway boys etc. were sorted out, and the rest were lamped, ready for stowing in the nettings, and any man and each part of the ship. After the inspection, the captain's "Carry on, Mr Mate" was the signal for several pipes - to muster the pinnace crew, the school party and the various working parties. All the positions aboard ship were assumed by boys under the eyes of the supervisors. The crew for the pinnace, a 12-oared barge, brought her alongside the port side ladder, and she took on the working party who were being taught carpentry over at Cockatoo Island. Other boys onboard were distributed to their various classes, including school for the younger and backward ones. Others went to classes in seamanship, compass or knotting and splicing. All these activities continued until seven bells.

Then the pinnace crew had again to run out along the boom and down the lizard into the pinnace, which they pulled over to Cockatoo Island. Other boys onboard were distributed to their various classes, including school for the younger and backward ones. Others went to classes in seamanship, compass or knotting and splicing. All these activities continued until seven bells.

On coal ship days it was quite a day's work. The boys brought the punt alongside the port side ladder, and she took on the working party who were being taught carpentry over at Cockatoo Island. Other boys onboard were distributed to their various classes, including school for the younger and backward ones. Others went to classes in seamanship, compass or knotting and splicing. All these activities continued until seven bells.

After breakfast, each boy had his allotted task cleaning and polishing cutlery, etc. There had to be all load out on the mess tables ready for captain's inspection at nine o'clock. Before that it was a case of away to the sleeping deck to change into No 1 ducks, ready for Divisions.

Divisions sounded at two bells. All hands, about 300, then mustered on the main deck in a double row on each side of the main deck. After the roll had been called, the mate went to the captain's office on the poop and reported all correct. The captain now came out in all his glory, and, with the mate and second officer trailing behind the bugler and drummer, made an inspection of every man and each part of the ship.

After the inspection, the captain's "Carry on, Mr Mate" was the signal for several pipes - to muster the pinnace crew, the school party and the various working parties. All the positions aboard ship were assumed by boys under the eyes of the supervisors. The crew for the pinnace, a 12-oared barge, brought her alongside the port side ladder, and she took on the working party who were being taught carpentry over at Cockatoo Island. Other boys onboard were distributed to their various classes, including school for the younger and backward ones. Others went to classes in seamanship, compass or knotting and splicing. All these activities continued until seven bells.

Then the pinnace crew had again to run out along the boom and down the lizard into the pinnace, which they pulled over to Cockatoo Island. Other boys onboard were distributed to their various classes, including school for the younger and backward ones. Others went to classes in seamanship, compass or knotting and splicing. All these activities continued until seven bells.

On coal ship days it was quite a day's work. The boys brought the punt alongside the port side ladder, and she took on the working party who were being taught carpentry over at Cockatoo Island. Other boys onboard were distributed to their various classes, including school for the younger and backward ones. Others went to classes in seamanship, compass or knotting and splicing. All these activities continued until seven bells.

After breakfast, each boy had his allotted task cleaning and polishing cutlery, etc. There had to be all load out on the mess tables ready for captain's inspection at nine o'clock. Before that it was a case of away to the sleeping deck to change into No 1 ducks, ready for Divisions.

Divisions sounded at two bells. All hands, about 300, then mustered on the main deck in a double row on each side of the main deck. After the roll had been called, the mate went to the captain's office on the poop and reported all correct. The captain now came out in all his glory, and, with the mate and second officer trailing behind the bugler and drummer, made an inspection of every man and each part of the ship.

After the inspection, the captain's "Carry on, Mr Mate" was the signal for several pipes - to muster the pinnace crew, the school party and the various working parties. All the positions aboard ship were assumed by boys under the eyes of the supervisors. The crew for the pinnace, a 12-oared barge, brought her alongside the port side ladder, and she took on the working party who were being taught carpentry over at Cockatoo Island. Other boys onboard were distributed to their various classes, including school for the younger and backward ones. Others went to classes in seamanship, compass or knotting and splicing. All these activities continued until seven bells.
School Ship Sobraon – Continued

next wharf. The visitors marvelled at the cutter’s speed and ordered a case of fruit to be sent aboard for us next day.

The Dart was a small tender, brigate-rigged, I think. She had steam as well as sail propulsion and took only a limited number of boys, those who were anxious to go to sea. Each year she sailed for a few months around the north of Australia.

Captain Thompson, the Dart’s skipper, lived at Long Nose Point, and whenever the Dart was going out, he always blew a few long blasts on the whistle as his wife came to the front of the house to wave goodbye. The boys, of course, said he had to stop the engines in order to blow the whistle.

In conclusion let me say I have none but very happy memories of the Sobraon. Although she was a tight ship, she gave me the happiest years of my boyhood.

In 1911 Sobraon was purchased by the Royal Australian Navy, renamed Tingira (the open sea) and anchored usually in Rose Bay. She remained in the naval ranks until decommissioning on 30 June 1927.

In 1933, moves were made by the newly formed Australian Nautical Exhibition and Museum Company Limited to refit Tingira as a show ship to accommodate meetings, fetes, lectures and other entertainments. She was to be moored in Circular Quay.

The estimated cost for the venture was £10,000. A total of 10,000 shares were to be offered. The plan did not draw sufficient public support and, after changing ownership a number of times, Tingira, ex Sobraon, was broken up in Berrys Bay in 1941.

SPECIALISED WELDING (WA) PTY LTD

Fabricators of • Heat Exchange Equipment • Pressure Vessels • Pipe Spooling
• VALVE MAINTENANCE • TESTING AND OVERHAUL

Our Valve Maintenance Overhaul and Testing Dept has been set up to accommodate the majority of Valves used in the Petrochemical, Industrial and Marine Fields

N.A.T.A. APPROVED

1 ALICE STREET, BASSENDEN, WA 6054
Phone: (09) 279 5922 • Fax: (09) 378 2299
On 5 April 1990, a surprising signal from the Chief of the Australian Naval Staff to numerous authorities stated and... and accordingly I have directed that, subject to the provision of suitable accommodation, women shall be permitted to serve in peacetime in all ships except submarines. Clearly someone had given the Chief of Naval Staff permission to make this statement. Who was it?

The new Federal Cabinet was sworn in on 3 April 1990. It seems unlikely that either the new Minister for Defence (Mr Ray) or new Minister for Defence, Science and Personnel (Mr Bilney) would have the time to study and make a decision on such a complex and controversial matter in the few hours after the new Federal Cabinet's signal was released. There can be little doubt that the decision was taken by the previous Ministers (Mr Beasley and Mrs Kelly) prior to the Federal election on 24 March although no mention was made of it during the election campaign. Only two months later, on 30 May, Mr Bilney announced in a press statement “Women will serve in combat-related positions”, he went on to say, inter alia:

- “I have taken this decision on the advice of the Chiefs of Staff Committee”. It will be noted that the Minister used the word “advice” rather than “recommendation” and this is hardly surprising when the Chief of the Defence Force, General Peter Grant, was subsequently quoted in several newspapers as saying “I don’t think the country is ready to put women into combat, I don’t know if it ever will.”

- “The Services will no longer use the exemption under the Sex Discrimination Act which allows women to be excluded from combat-related duties. At this stage the exemption for combat-related duties will remain alongside the exemption for combat duties”. Can an individual Chief of Staff, a junior Minister or indeed Cabinet disregard or alter a regulation made under an Act of Parliament without first explaining or tabling the proposed amendment in the Senate and the House of Representatives?

Do Australian parents really want their daughters and grand-daugthers to be engaged in combat? Although war of 1939-45 dimensions may seem a remote possibility, it should be remembered that in the last 45 years of “peace” our armed forces have been in action in some of the most dangerous conflicts in the world: the Korean War, Malaysia, Vietnam, Cambodia, the Phillipines. Australian welfare benefits for women should be able to do likewise. Even if the reports are correct do we want to follow these few countries and not the overwhelming majority of countries which do not allow their women to engage in combat? Should we be leading the way in this matter as it has been claimed we are doing?

It has been suggested that, as women are reported to fight alongside men in places such as Nicaragua, Sri Lanka and the Phillipines, Australian women should be to able to do likewise. Even if the reports are correct do we want to follow these few countries and not the overwhelming majority of countries which do not allow their women to engage in combat? Should we be leading the way in this matter as it has been claimed we are doing?

It is widely believed in the defence community that the real and compelling reason for the ministerial decision is the inability of the Defence Force to recruit and retain sufficient male personnel to man RAN ships, including combat ships, and to man the combat-related units of the Army and Air Force. So far as the Navy is concerned the current male naval establishment is about 14,000. If we cannot attract and retain this very small percentage of a male population in excess of seven million, there is something desperately wrong with our young men, the Defence/Treasury administration of pay, allowances and conditions of service, or our political leadership. To my knowledge, there is nothing the matter with our young men.

Perhaps Ministers should devote more of their abilities and energy to attacking the real problems and forget about the “quality career opportunities” for talented women.

On 5 April 1990, a surprising signal from the Chief of the Australian Naval Staff to numerous authorities stated ... and accordingly I have directed that, subject to the provision of suitable accommodation, women shall be permitted to serve in peacetime in all ships except submarines. Clearly someone had given the Chief of Naval Staff permission to make this statement. Who was it? The new Federal Cabinet was sworn in on 3 April 1990. It seems unlikely that either the new Minister for Defence (Mr Ray) or new Minister for Defence, Science and Personnel (Mr Bilney) would have the time to study and make a decision on such a complex and controversial matter in the few hours after the new Federal Cabinet’s signal was released. There can be little doubt that the decision was taken by the previous Ministers (Mr Beasley and Mrs Kelly) prior to the Federal election on 24 March although no mention was made of it during the election campaign. Only two months later, on 30 May, Mr Bilney announced in a press statement “Women will serve in combat-related positions”, he went on to say, inter alia:

- “I have taken this decision on the advice of the Chiefs of Staff Committee”. It will be noted that the Minister used the word “advice” rather than “recommendation” and this is hardly surprising when the Chief of the Defence Force, General Peter Grant, was subsequently quoted in several newspapers as saying “I don’t think the country is ready to put women into combat, I don’t know if it ever will.”

- “The Services will no longer use the exemption under the Sex Discrimination Act which allows women to be excluded from combat-related duties. At this stage the exemption for combat-related duties will remain alongside the exemption for combat duties”. Can an individual Chief of Staff, a junior Minister or indeed Cabinet disregard or alter a regulation made under an Act of Parliament without first explaining or tabling the proposed amendment in the Senate and the House of Representatives?

Do Australian parents really want their daughters and grand-daughters to be engaged in combat? Although war of 1939-45 dimensions may seem a remote possibility, it should be remembered that in the last 45 years of “peace” our armed forces have been in action in some of the most dangerous conflicts in the world: the Korean War, Malaysia, Vietnam, Cambodia, the Phillipines. Australian women should be able to do likewise. Even if the reports are correct do we want to follow these few countries and not the overwhelming majority of countries which do not allow their women to engage in combat? Should we be leading the way in this matter as it has been claimed we are doing?

It has been suggested that, as women are reported to fight alongside men in places such as Nicaragua, Sri Lanka and the Phillipines, Australian women should be able to do likewise. Even if the reports are correct do we want to follow these few countries and not the overwhelming majority of countries which do not allow their women to engage in combat? Should we be leading the way in this matter as it has been claimed we are doing?

It is widely believed in the defence community that the real and compelling reason for the ministerial decision is the inability of the Defence Force to recruit and retain sufficient male personnel to man RAN ships, including combat ships, and to man the combat-related units of the Army and Air Force. So far as the Navy is concerned the current male naval establishment is about 14,000. If we cannot attract and retain this very small percentage of a male population in excess of seven million, there is something desperately wrong with our young men, the Defence/Treasury administration of pay, allowances and conditions of service, or our political leadership. To my knowledge, there is nothing the matter with our young men.

Perhaps Ministers should devote more of their abilities and energy to attacking the real problems and forget about the “quality career opportunities” for talented women.

On 5 April 1990, a surprising signal from the Chief of the Australian Naval Staff to numerous authorities stated and... and accordingly I have directed that, subject to the provision of suitable accommodation, women shall be permitted to serve in peacetime in all ships except submarines. Clearly someone had given the Chief of Naval Staff permission to make this statement. Who was it?

The new Federal Cabinet was sworn in on 3 April 1990. It seems unlikely that either the new Minister for Defence (Mr Ray) or new Minister for Defence, Science and Personnel (Mr Bilney) would have the time to study and make a decision on such a complex and controversial matter in the few hours after the new Federal Cabinet's signal was released. There can be little doubt that the decision was taken by the previous Ministers (Mr Beasley and Mrs Kelly) prior to the Federal election on 24 March although no mention was made of it during the election campaign. Only two months later, on 30 May, Mr Bilney announced in a press statement “Women will serve in combat-related positions”, he went on to say, inter alia:

- “I have taken this decision on the advice of the Chiefs of Staff Committee”. It will be noted that the Minister used the word “advice” rather than “recommendation” and this is hardly surprising when the Chief of the Defence Force, General Peter Grant, was subsequently quoted in several newspapers as saying “I don’t think the country is ready to put women into combat, I don’t know if it ever will.”

- “The Services will no longer use the exemption under the Sex Discrimination Act which allows women to be excluded from combat-related duties. At this stage the exemption for combat-related duties will remain alongside the exemption for combat duties”. Can an individual Chief of Staff, a junior Minister or indeed Cabinet disregard or alter a regulation made under an Act of Parliament without first explaining or tabling the proposed amendment in the Senate and the House of Representatives?

Do Australian parents really want their daughters and grand-daughters to be engaged in combat? Although war of 1939-45 dimensions may seem a remote possibility, it should be remembered that in the last 45 years of “peace” our armed forces have been in action in some of the most dangerous conflicts in the world: the Korean War, Malaysia, Vietnam, Cambodia, the Phillipines. Australian women should be able to do likewise. Even if the reports are correct do we want to follow these few countries and not the overwhelming majority of countries which do not allow their women to engage in combat? Should we be leading the way in this matter as it has been claimed we are doing?

It has been suggested that, as women are reported to fight alongside men in places such as Nicaragua, Sri Lanka and the Phillipines, Australian women should be able to do likewise. Even if the reports are correct do we want to follow these few countries and not the overwhelming majority of countries which do not allow their women to engage in combat? Should we be leading the way in this matter as it has been claimed we are doing?

It is widely believed in the defence community that the real and compelling reason for the ministerial decision is the inability of the Defence Force to recruit and retain sufficient male personnel to man RAN ships, including combat ships, and to man the combat-related units of the Army and Air Force. So far as the Navy is concerned the current male naval establishment is about 14,000. If we cannot attract and retain this very small percentage of a male population in excess of seven million, there is something desperately wrong with our young men, the Defence/Treasury administration of pay, allowances and conditions of service, or our political leadership. To my knowledge, there is nothing the matter with our young men.

Perhaps Ministers should devote more of their abilities and energy to attacking the real problems and forget about the “quality career opportunities” for talented women.
With other regional powers of similar size clearly concerned at the strategic outlook, and spending more to develop the forces they need, the Australian Government is right to be concerned. We would be unwise to assume that our outlook is better than that of our neighbours.

In our region, there are five populous countries which have internal stability problems superimposed on very real international stability problems. There are several areas of potential international conflict. Internal instability in a nation is at best unsettling and potentially very damaging to its neighbours. At the very least, there is a risk that surplus manpower will become havens for supporters of insurgents.

This has already happened in the case of the Phillipines where tension with the communist insurgency in the South Chinese Sea has increased. The Indonesian annexation of East Timor led to East Timorese setting up an armed insurgency in the South, and Australia has already involved in some ways.

Faced with Hobson's choice over Papua New Guinea's troubles in Bougainville, we have opted for the lesser of two evils and supplied equipment to the PNG Defence Force. This has been used against armed separatists who have forced the closure of a significant Australian owned mining operation which is also vital to the PNG economy.

Population regional stability problems include Myanmar, Sri Lanka, Cambodia, The Philippines and Papua New Guinea. There are several areas of potential conflict. The most optimistic outcome of the current negotiations in Cambodia are almost certain to see a government in which a brutal tycoon, with an horrendous record of mass killings, rogue soldiers and war lords that Thailand is strengthening her defence forces.

The long running civil war in The Philippines has weakened her economy. Her defence forces are now almost wholly equipped for the civil war and would be unable to resist a seizure of existing possessions with important economic potential.

Myanmar is in a state of turmoil. There seems little prospect of a long term peaceful solution to Sri Lanka's racial fighting.

It is reported in Jane's Defence Weekly that the Japanese Defence Agency study of the future composition of the Soviet Pacific Fleet is illuminating. They forecast that as 141 submarines and 103 major surface combatants, 114 will be withdrawn and 49 new ships and submarines will be commissioned into the Fleet to maintain the current level of naval strength.

The Navy, October-December, 1990 15

With the other forces of similar size clearly concerned at the strategic outlook, and spending more to develop the forces they need, the Australian Government is right to be concerned. We would be unwise to assume that our outlook is better than that of our neighbours.

In our region, there are five populous countries which have internal stability problems superimposed on very real international stability problems. There are several areas of potential international conflict. Internal instability in a nation is at best unsettling and potentially very damaging to its neighbours. At the very least, there is a risk that surplus manpower will become havens for supporters of insurgents.

This has already happened in the case of the Phillipines where tension with the communist insurgency in the South Chinese Sea has increased. The Indonesian annexation of East Timor led to East Timorese setting up an armed insurgency in the South, and Australia has already involved in some ways.

Faced with Hobson's choice over Papua New Guinea's troubles in Bougainville, we have opted for the lesser of two evils and supplied equipment to the PNG Defence Force. This has been used against armed separatists who have forced the closure of a significant Australian owned mining operation which is also vital to the PNG economy.

Population regional stability problems include Myanmar, Sri Lanka, Cambodia, The Philippines and Papua New Guinea. There are several areas of potential conflict. The most optimistic outcome of the current negotiations in Cambodia are almost certain to see a government in which a brutal tycoon, with an horrendous record of mass killings, rogue soldiers and war lords that Thailand is strengthening her defence forces.

The long running civil war in The Philippines has weakened her economy. Her defence forces are now almost wholly equipped for the civil war and would be unable to resist a seizure of existing possessions with important economic potential.

Myanmar is in a state of turmoil. There seems little prospect of a long term peaceful solution to Sri Lanka's racial fighting.

It is reported in Jane's Defence Weekly that the Japanese Defence Agency study of the future composition of the Soviet Pacific Fleet is illuminating. They forecast that as 141 submarines and 103 major surface combatants, 114 will be withdrawn and 49 new ships and submarines will be commissioned into the Fleet to maintain the current level of naval strength.
In most, if not all the developed countries, the defence industry is big business. Although there have been no major conflicts since World War II, there have been some serious localised wars, which sustain a state of tension and general readiness to defend one's own interests or those of others.

In spite of the dramatic changes which occurred after the second world war, the defence industries of Western Europe, Asia and the United States have continued to grow. After World War II, the United Kingdom, France, Germany and Australia were left with war-time industries that were not well suited to peacetime. The governments of these countries realised that the economies of scale and the capital equipment needed for the production of defence equipment were not available in the civilian sectors. As a result, the defence industries were able to grow in size and importance to Australia.

The Australian Defence Industry has been a significant contributor to the Australian economy since the beginning of the 20th century. It has played a vital role in the defence of Australia and the security of the region. The industry is made up of a number of companies, including private companies, government-owned companies, and some foreign-owned companies. The industry is regulated by the Department of Defence, which is responsible for ensuring that the industry is contributing to the defence needs of the country.

For some years, the Commonwealth Government has encouraged local participation in the manufacture of defence equipment. Indeed a level of 50% was until recently a reasonable criterion for the defence industry. However, the situation has changed in recent times. The current criterion of 70% ANZIP, the Commonwealth Australian and New Zealand industry participation (ANZIP) has been much higher and on the ANZAC Frigate contract suppliers from overseas have had to find Australian and New Zealand manufacturing partners and achieve a 70% ANZIP participation (ANZIP). Of course, if equipment meets the criterion of 70% ANZIP, the Commonwealth Australian and New Zealand industry participation (ANZIP) has been much higher and on the ANZAC Frigate contract suppliers from overseas have had to find Australian and New Zealand manufacturing partners and achieve a 70% ANZIP participation.

For some years, the Commonwealth Government has encouraged local participation in the manufacture of defence equipment. Indeed a level of 50% was until recently a reasonable criterion for the defence industry. However, the situation has changed in recent times. The current criterion of 70% ANZIP, the Commonwealth Australian and New Zealand industry participation (ANZIP) has been much higher and on the ANZAC Frigate contract suppliers from overseas have had to find Australian and New Zealand manufacturing partners and achieve a 70% ANZIP participation (ANZIP).

Frick Engineering are manufacturing six of these new Mitchell Thrust Blocks for the Collins class submarines.

Cockatoo Dockyard P/L is a bit in limbo until the future of the remaining Oberon class submarines has been decided by Dept of Defence, which decision is imminent. Cockatoo Dockyard is actually owned by the government, but has been leased to private enterprise for over fifty years. A key feature of the current investment programme in defence equipment, is the involvement of local industries as much as possible. In other words, we must become self-reliant in defence.

For some years, the Commonwealth Government has encouraged local participation in the manufacture of defence equipment. Indeed a level of 50% was until recently a reasonable criterion for the defence industry. However, the situation has changed in recent times. The current criterion of 70% ANZIP, the Commonwealth Australian and New Zealand industry participation (ANZIP) has been much higher and on the ANZAC Frigate contract suppliers from overseas have had to find Australian and New Zealand manufacturing partners and achieve a 70% ANZIP participation (ANZIP). Of course, if equipment meets the criterion of 70% ANZIP, the Commonwealth Australian and New Zealand industry participation (ANZIP) has been much higher and on the ANZAC Frigate contract suppliers from overseas have had to find Australian and New Zealand manufacturing partners and achieve a 70% ANZIP participation (ANZIP).

For some years, the Commonwealth Government has encouraged local participation in the manufacture of defence equipment. Indeed a level of 50% was until recently a reasonable criterion for the defence industry. However, the situation has changed in recent times. The current criterion of 70% ANZIP, the Commonwealth Australian and New Zealand industry participation (ANZIP) has been much higher and on the ANZAC Frigate contract suppliers from overseas have had to find Australian and New Zealand manufacturing partners and achieve a 70% ANZIP participation (ANZIP). Of course, if equipment meets the criterion of 70% ANZIP, the Commonwealth Australian and New Zealand industry participation (ANZIP) has been much higher and on the ANZAC Frigate contract suppliers from overseas have had to find Australian and New Zealand manufacturing partners and achieve a 70% ANZIP participation (ANZIP).
Survey
Motor Launch Pictorial

The science of hydrography originated in the need for the production of maps specially designed for the use of the mariner. Nothing has been more important to the foundation and expansion of seaborne trade among the nations than the production of such charts - the end result of the hydrographic surveyor's work.

By any standards the task facing the Royal Australian Navy's Hydrographic Service is a daunting one. The Australian area of charting responsibility covers some 11.5 million square nautical miles of oceans and seas, including the waters of Papua New Guinea. Between 1945 and 1987 only 30% of the area within the continental shelf had been surveyed to an adequate standard, with a further 20% to a temporarily adequate standard. The remaining area accounts for much of the Navy's current survey effort.

For some years the Hydrographer has been attempting to improve the Navy's survey resources in order to make the huge task easier to accomplish. HMAS Ships PALUMA, MERMAID, BENALLA and SHEPPARTON are fine examples of such resources. All four vessels were commissioned 1989/90.

In November 1987 a contract was signed with Eglo Engineering of Adelaide, South Australia, for the building of four catamaran hulled vessels based upon the "Prince" class of Ro-Ro passenger ferries. The twin hulls have bulbous bows and raked transom provide good stability in heavy conditions, concurrent with good living room and space below the main deck. In addition, the catamaran hull sits well out of the water, the ship drawing only 1.9 metres - a favourable characteristic in shoaling and reef waters where the ships will be required to operate.

Each SML carries the latest in survey equipment onboard. The heart of the survey outfit onboard is the Hydrographic Data Logging and Processing System (HYDLAPS). The system collects and logs all information obtained on the survey ground as soon as it is received. This is a large step from the procedure not so long ago when all information was manually processed after the day's work. HYDLAPS has post-processing abilities that enable the surveyor to see the finished product of a day's work at the press of a button.

All data collected by the ship is stored on computer data cassettes that are forwarded to the RAN's Hydrographic Office to allow comprehensive checking of the survey results. The SMLs are the first ships in the RAN Marine Science and Hydrographic Force to be installed with the HYDLAPS system; the remaining vessels are progressively being fitted out.

The class is fitted with the latest aids to navigation as in all RAN ships. Each vessel is capable of conducting most seamanship evolutions at sea, an ability of particular importance to a survey vessel where lowering boats into the water, taking bottom samples, laying markers and erecting shore stations are part of everyday life. There are 12 billeted positions onboard each SML. The crew includes two surveying officers, four ship's engineers/technicians, four team/landing party engineers, a radio operator and a cook. In order to provide the required level of technical expertise the ships will operate in pairs and members of crew will be interchangeable. For example one vessel of a pair will have a senior mechanical engineer, while the other will have a senior electrical engineer. This pooling of expertise is important for operations in remote areas.

America's
Underwater Navy

by ANTONY PRESTON

Since the 1960s the US Navy's submarine force has been the sealassembled of a number of the nation's strategic triad, it the form of submarine-launched ballistic missiles (SLBM) systems. These are deployed on nuclear-powered submarine vessels (SSNs), while the attack submarine force is largely comprised of the United-Nation-registered attack submarines (SSNs) and a handful of ageing diesel-electric craft (SSKs).

The USN is now so committed to nuclear propulsion for submarines that American shipyards have dropped out of the SSK business altogether. Today, only two yards undertake the building of SSNs and SSNs: Newport News Shipbuilding at Newport News, Virginia, and the Electric Boat Division of General Dynamics at Groton, Connecticut. It is an ideal position for the Navy and the DoD, but one made inevitable by the contraction of the American shipbuilding industry and the complexity of SSNs.

Starting with strategic forces, the venerable A3 Polaris SLBM system has been phased out, leaving 14 of the surviving 25 BENJAMIN FRANKLIN (SSBN-640) and LAFAYETTE (SSBN-673) class SSNs armed with the C3 Poseidon system. This was introduced to improve terminal accuracy - its warheads have a CEP of only 500m - and to increase range to 4000n.m. Each missile carries eight 100kT MRV warheads. Its successor is the D5 Trident II, an even more fearsome weapon, carrying 14 500kT MRV's or seven 800kT or 470kT MRV's out to 6000n.m. The missile is 44f (13.4m) long and weighs 120t, and is capable of undersea journeys of 11 days in December, followed by two more in January. This year, the Trident II has been equipped with the D5 Trident II triad programme. For example, one eight will be the retrofit cycle to replace their missile systems with Trident II.

The OHIO class are designed to spend less time in harbour between Blue and Gold patrols (exchanging crews each time), and to deploy as economically as possible the total strategic deterrent force of M47 warheads permitted under the SALT I Treaty. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics at Groton, Connecticut. It is an ideal position for the Navy and the DoD, but one made inevitable by the contraction of the American shipbuilding industry and the complexity of SSNs.

Since the end of the Cold War, only two yards undertake the building of SSNs and SSNs: Newport News Shipbuilding in Newport News, Virginia, and the Electric Boat Division of General Dynamics at Groton, Connecticut. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics in Groton, Connecticut. It is an ideal position for the Navy and the DoD, but one made inevitable by the contraction of the American shipbuilding industry and the complexity of SSNs. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics in Groton, Connecticut. It is an ideal position for the Navy and the DoD, but one made inevitable by the contraction of the American shipbuilding industry and the complexity of SSNs. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics in Groton, Connecticut. It is an ideal position for the Navy and the DoD, but one made inevitable by the contraction of the American shipbuilding industry and the complexity of SSNs.

Starting with strategic forces, the venerable A3 Polaris SLBM system has been phased out, leaving 14 of the surviving 25 BENJAMIN FRANKLIN (SSBN-640) and LAFAYETTE (SSBN-673) class SSNs armed with the C3 Poseidon system. This was introduced to improve terminal accuracy - its warheads have a CEP of only 500m - and to increase range to 4000n.m. Each missile carries eight 100kT MRV warheads. Its successor is the D5 Trident II, an even more fearsome weapon, carrying 14 500kT MRV's or seven 800kT or 470kT MRV's out to 6000n.m. The missile is 44f (13.4m) long and weighs 120t, and is capable of undersea journeys of 11 days in December, followed by two more in January. This year, the Trident II has been equipped with the D5 Trident II triad programme. For example, one eight will be the retrofit cycle to replace their missile systems with Trident II.

The OHIO class are designed to spend less time in harbour between Blue and Gold patrols (exchanging crews each time), and to deploy as economically as possible the total strategic deterrent force of M47 warheads permitted under the SALT I Treaty. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics in Groton, Connecticut. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics in Groton, Connecticut. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics in Groton, Connecticut. The SCB 304 design also introduced a new nuclear reactor, the Electric Boat Division of General Dynamics in Groton, Connecticut.
The backbone of the SSN force is the 47-strong LOS ANGELES class. From the SAN JUAN (SSN-751) onwards, the last year to release funds for more modern construction. The last four plus four more in 1992. Ten were approved in FY 1987-the early 1970s. Three more were to be delivered this year, four in 1992. Five were to be approved in FY 1989, and another four in FY 1990. The SEAWOLF was ordered in January, last year, at a cost (inclusive of R&D) of $1.3 billion. A second was approved in FY90 and two more were planned under FY91 funding, at an estimated cost of $1.5 billion each. The first was to be fitted in theelson-688 or Improved LOS ANGELES class, from the SAN JUAN (SSN-751) onwards. The forward diving planes were moved from the sail to the forward part of the hull, and were made reducible to improve handling under ice. Anhealing tiling has been fitted for the first time, as part of the continuing search for silent running. Most greater attention is paid to silencing of main machinery, when compared to earlier SSNs-one reason for the greater size of the LOS ANGELES class. The new BSY-1 SUBAC have encountered some problems, but promises to give these SSNs and their successors greater enhanced combat effectiveness (see below).

A few other submarine rescue assets are of interest. The US Navy has two purpose-built rescue ships, the twin-hulled USNS BAKERSFIELD (T-ARS-50) and the single-hulled USNS SCURVEYD (T-ARS-49). The latter was built by the Royal Navy SSBN REPULSE on two separate occasions. The US Navy has two purpose-built rescue ships, the twin-hulled PIGEON (ASR-21) and ORTOLAN (ASR-22). These two 37t submersibles were developed after the loss of the SSN THRESHER in 1963, to provide the only rescue vehicles designed to operate with submarines already authorised would be 40% greater than the sum budgeted.

The Navy took over management of the project and restructured it to allow a two-track approach. Under the new arrangement BSY-1 is being built by IBM for the SAN JUAN and her sisters, while BSY-2 is standardised for Electric and RCA. The Navy's troubles were not for, even the first BSY-1 was installed in the SAN JUAN, and the failure did not fit into the submarine. Rectifying that problem resulted in further cost overruns, but all reports suggest that the project is now back on course. The problems encountered with the BSY-2 were due, in part, to the US Navy's failure to note the achievements of the US Navy and industry in successfully developing the BSY-1. As with other naval designs, the BSY-1 was expensive now, but only on paper. The design suffered from difficulties and, by the end of 1985, Congress knew that the US Navy and industry in successfully developing the BSY-1. As with other naval designs, the BSY-1 was expensive now, but only on paper. The design suffered from difficulties and, by the end of 1985, Congress knew that
On 3 June, in almost perfect conditions, the Navy's latest guided missile frigate, FFG 05, MELBOURNE, took to the waters of Port Phillip, undocked and for the first time since her launch was floating free!

Not quite thirteen months after her launch by Mrs Hazel Hawke on 5 May, 1989, MELBOURNE was towed from her building dock with no fuss, no bands, no assembled media and most importantly, no problems. The frigate has now been fitted with her gas turbine propulsion, the funnel and mast are in place and the missile launcher installed before the bridge structure. Also fitted are her sonar dome, auxiliary propulsion units, active fin stabilisers controllable pitch propeller system and the radars.

Now berthed alongside Nelson Pier for the installation of navigational and fin control radars, MELBOURNE will also receive the important command and control equipments and the remainder of her major armament.

FFG 06 Update

Progress with the sixth FFG, NEWCASTLE, proceeds to schedule. The basic unit of the aluminium superstructure is being built upside down at EGLO in South Australia and when completed will be shipped to Williamstown to be joined to the hull, when the latter is ready. In Newcastle, hull sections for the FFG 06 are now taking shape.

In early 1991 the completed hull sections will be barged to Williamstown to be placed on the ramp. Subsequently the whole sections will start assuming the shape of the new ship in quick time.

Hands to the capstan as FFG 05 takes another step towards her commissioning.

The 60 tonnes GMLS Mk 13 Mod 4 missile launcher is lowered into place.

RAN OBERON Class Submarine Refits

"Australian Defence Industries Naval Engineering Division has been selected as the preferred tenderer for the remaining two refits of Navy's OBERON Class Submarines", the Minister for Defence, Robert Ray, has announced.

"Contract negotiations with ADI will commence shortly to enable the refit of HMAS ONSLOW to begin as soon as possible at ADI's Garden Island Facility in Sydney."

The decision follows the Minister's announcement on 20 June 1990 that the Government had reaffirmed its decision to proceed with the sale of Cockatoo Island, the present venue for OBERON Class refits, and that the island would be sold at the completion of refit work on HMAS ORION now in progress.

As part of the Government's examination of the possible benefits of the early closure of the dockyard on Cockatoo Island, tenders for the remaining refits were invited from ADI and two Western Australian Companies, Australian Shipbuilding Industries and Clough Engineering Companies, in July 1989.

"The decision to select ADI follows an exhaustive evaluation of the tenders which was conducted in accordance with the strict probity conventions required for Commonwealth contracts, and involved the thorough and impartial Department of Defence procedures normally applied only to major capital equipment projects."

"The tenders received were of high quality and reflected the high capabilities of industry in both the Sydney and Fremantle areas. ADI has been selected as its tender was judged as giving the best value for money", Senator Ray said.

Submarine Rededication - HMAS OVENS to resume service

The Oberon class submarine, HMAS OVENS, re-entered Naval service on 4 July after a two-year refit.

In a ceremony at the Submarine Base HMAS Platypus at Neutral Bay, the Minister for Defence, Science and Personnel, Mr Gordon Bilney, rededicated OVENS on her return from a $64 million refit at Cockatoo Island dockyard.

"The refit included updating of her communications and machinery as well as replacement or refurbishment of almost every fitting onboard," the Minister said.

"The ceremony will mark the beginning of OVENS's fourth commission in the RAN and this will probably be her last."

Mr Bilney explained that the

HMAS OXLEY - Home from Gallipoli

The HMAS STIRLING-based submarine HMAS OXLEY arrived home on 24 July as the last participating Australian Defence Force unit in the ANZAC 75th anniversary celebrations. Despite appalling weather conditions the submarine was met by a large crowd of family and friends with the Band of the 5th Military District providing the music for the occasion. HMAS OXLEY deployed on 19 March and after emulating the voyage of her predecessor AE2 visited Taranto before deploying to south-east Asia where she took part in the Five Power Defence Arrangement 'Starfish' exercise.

Photo LDF W. Johnson, RAN.
introduction of the new Collins Class submarines, now under construction in South Australia, should be well under way by the time Ovens' new operational term expires.

A British-designed and built submarine, Ovens was the third of the six Oberon class boats bought by the RAN.

First commissioned in 1969, Ovens will complete operational preparations in September and resume her role in the front line of Australia's maritime defence.

50th Anniversary of Cape Spada Action

The Navy has presented a uniform of its most famous hero, Vice Admiral Sir John Collis, to the Australian War Memorial in Canberra on 19 July.

The presentation marked the 50th anniversary of the sinking of the Italian cruiser, BARTOLOMEO COLLEONI, the RAN's most successful engagement of World War II.

The uniform to be presented has the rank insignia of a Captain, the same rank as Sir John wore when he led the attack by HMAS SYDNEY off Cape Spada, Crete, 50 years ago.

The presentation of the uniform - an loan to the memorial for its Naval gallery for 18 months from the RAN College - was made by the Deputy Chief of Naval Staff, Rear Admiral Ian McDougall, to the Acting Director of the Memorial, Mr Brendan Kelson.

New Life Saving Device for Navy

Sailors of the Royal Australian Navy will have a much better chance of surviving fires in ships using an Australian-made breathing device.

The RAN has ordered 8000 of the emergency life support respiratory devices (ELSRDs) from MSA (Aust) Pty Limited in a contract worth about $1.8 million.

MSA (Aust) Pty Limited had competed against international rivals for the right to develop their 'MSA Lifeguard' for the RAN.

The 'MSA Lifeguard' consists of a small rechargeable storage bottle for emergency life support respiratory devices. The device gives a minimum of eight minutes of breathable air when activated - allowing personnel to escape to the upper deck and clean air.

The 8000 units on order for the RAN will be delivered at a rate of 1000 a month.

First Regional Maritime Exercise

Fiji has hosted its first regional maritime surveillance exercise, involving the Australian Defence Force. The exercise was held over the week during the country's 10th Anniversary of Independence.

The exercise, called Mantas 90, took place between August 1 and 8. Other nations participating in the exercise included New Zealand, Solomon Islands and Tonga.

Naval Personnel to Face Charges

Four naval officers from the guided missile frigate (FFG) HMAS DARWIN are to face court martial because their ship ran aground near the northern tip of Oahu in the Hawaiian Islands on May 7.

Commanding Officer of Darwin, Commander B. G. I. Nye, the Executive Officer, Lieutenant Commander G. J. James, the then Navigator, Lieutenant R. B. Vucor and the Principal Warfare Officer, Lieutenant W. F. Lloyd will appear before a joint General Court Martial at HMAS PENGUIN.

NAVAL NEWS - Continued

CHARGE on DISCO NIGHT

GOOD MUSIC - EXCELLENT ATMOSPHERE

All NAVAL PERSONNEL are admitted FREE OF

NAVAL NEWS - Continued

RAN staff assisted in the planning of the exercise and RAN participation included the patrol boat HMAS CESSNOCK and two instructors/exercise co-ordinators. A RAAF PC6 Orion long-range maritime patrol aircraft also took part in the exercise.

Naval Personnel to Face Charges

Four naval officers from the guided missile frigate (FFG) HMAS DARWIN

been preparing to berth at the HMAS STIRLING fleet support facility in Western Australia on 12 June, the United States Navy nuclear-powered guided-missile cruiser USS TRUXTUN was making a historic fourth visit to the base. USS TRUXTUN is the only foreign warship to have made four visits, having previously visited in 1978, 1982 and 1986. This was almost certainly her last visit to the west as TRUXTUN seems certain to decommission in 1991 as part of the USA's defence cutbacks.

Photo: GATANIO BALENDER, RAN PUBLICATIONS

The Kingdom of Tonga patrol boat VOEA PANGAI departing from the HMAS STIRLING fleet support facility in Western Australia on 13 August, 1990, as part of her work-up. VOEA PANGAI was handed over and commissioned in Fremantle on 30 June as the eleventh patrol boat of the Pacific Patrol Boat Project and the second to go to Tonga.

Form: Navy Public Relations (WA).
WARSHIPS FOTOFAK
German Battleships 1897-1945 and Japanese Battleships 1897-1945
Published by Arms and Armour Press
Review copies from Capricorn Link, London
This series has now been expanded to cover the period from 1897 to 1945 with the latest books of wartime and describing German and Japanese Battleships.
Eighty plus photographs, all captioned, allow the reader to follow the development of the two navies principal battleships from pre-dreadnoughts to the massive BISMARCK and YAMATO and MUSASHI commissioned by the Imperial Japanese Navy.
A feature of both booklets is the inclusion of additional technical and historical data plus line drawings of the largest units in the centre of each booklet.
Note: Other recently released Fotofax titles include British Submarines of World War One and from the Vintage Aviation titles include British Submarines of World War Two reprints at $56.00 and distributed in Australia by Capricorn Link (Australia) Pty Ltd of Lane Cove, NSW. Recommended reading.

* * *
GERMAN WARSHIPS
1815-1945
by Erich Groner
Revised and Expanded by Damerung Jung and Martin Meason
Published by Conway Maritime Press
This book was first published in 1965, shortly after the death of its author. In its years since, two naval writers, Dieder Jung and Martin Meason have updated the volume and by adding new information where appropriate, have now re-released the book with Conway Maritime Press.
German Warships covers the period from the earliest recorded naval vessels, from tiny oared and sail powered gunboats to the end of the Third Reich and its belated war ships in 1945. The book details design, construction, dimensions, machinery and armament and provides commentary on careers, seaweeding and performance.
With only a few exceptions, mostly very old or very small, all cases of warships in the period are illustrated via an impressive selective series of line drawings. Many of the ships and classes the vessels are depicted through several drawings, to represent different classes of service career. Altogether 10,000 ships and crafts are described.
For readers searching for a definitive work on the German Navy from inception to 1945, one has to look no further than this book currently on offer. Three additional volumes are expected to be published for the remaining warship types: submarines, mine warfare craft, auxiliary warships (raiders), amphibious ships and support vessels to mention but a few.
German Warships is published by Conway and should be available in most of the larger or specialist military bookshops throughout Australia.
* * *
BRITISH NAVAL AVIATION
The Fleet Air Arm, 1917-1990
by Roy Sturtivant
Published by Arms and Armour Press
Review Copy from Capricorn Link, London
The age of military aviation had barely dawned when it was realised that the power and influence of the warships would be multiplied if it were able to operate closer to the heart of the battlefield. Unless a landbase was first secured in the vicinity, this could only be done by devising a floating airstrip and thus, via evolutionary steps, the aircraft carrier was born and naval aviation came of age.
If it was the Second World War that first saw extended use of seaborne air power, it is often overlooked that the Falklands conflict that so recently demonstrated the effect of fixed and rotary-wing aircraft when delivered to the war zone by carrier vessels far from home territory.
In this first substantial history of British naval aviation for many years, Ray Sturtivant takes the reader back through the infant days of the first deck landings, into the years of improvisation and experiment, the drama of the Second World War and the first jet-powered naval aircraft, to the advances offered by the helicopter and the test of modern naval air strategies in the South Atlantic.
If the giant carrier has had its day, the small helicopter and its support and awesome firepower has ensured it will continue to be a feature of naval warfare. In the last century, And, if drawing-board theories overcome budgetary restraints to reach manifestly better naval fighting aircraft now are on the books. The volume will encourage amongst serving officers, professional historians and laymen.

* * *
ALLIED SUBMARINES of World War Two
Review copy from Arms and Armour Press, London
Reviewed by VIC JEFFERY
Highly respected maritime author Kenneth Poolman has made a concise and commendable effort in his endeavour to describe the war in detail of the Allied submarine fleets in World War Two with accuracy and interest.
Including the submarines of Great Britain, France, United States of America, Soviet Union, The Netherlands, Greece, Norway, Poland and Yugoslavia, this reference work packs an enormous amount of information into 160 pages.
The author looks at the principal theatres of action in the Atlantic and Pacific Oceans, the Mediterranean Sea and lesser waters also. The inclusion of many historical accounts of action along with a descriptive easy-to-read format supported by 163 black and white photographs, maps, logs and four line drawings make this a most enjoyable read.
There are some superb photographs included in ALLIED SUBMARINES of World War Two, including an excellent shot of HMS TUKU riding the turbulent waters of the Bay of Biscay, a fine view of the former RAN HMS OXLEY and of a personal interest, a full page shot of the Netherlands K I which was built as HMS RENOWN by Vickers Armstrongs of Barrow-in-Furness.
As far as this writer is aware, no photos have survived of the famous USS TANG (SS-306) as she was the hunted as well as the hunters. The TANG was the ship most decorated warvessel of World War Two and many onboard scenes depicting both the fighters and equipment are available.

* * *
WARSHIPS OF THE CIVIL NAVIES
by Paul H. Silverstone
Published by The Naval Institute Press, Annapolis Maryland, USA 21402
A most enjoyable reference book, ALLIED SUBMARINES of World War Two reprints at $56.00 and is distributed in Australia by Capricorn Link (Australia) Pty Ltd of Lane Cove, NSW. Recommended reading.

* * *
THE SHELL CO OF AUS LTD
200 St Georges Terrace, Perth, WA 6000
CONTRACTORS TO THE DEPARTMENT OF DEFENCE CONTRACTING OFFICE

GEF ALSTHOM
AUSTRALIA LIMITED
ADDITIONAL ENGINEERING WORK
Diesel & Gas Turbine Engines To Suit All
INDUSTRIAL, MARINE & RURAL APPLICATIONS
Sales, Installation, Commissioning, Maintenance, Repairs & Spare Parts
DORMAN, RUSTON
PAXTON & BLACK, B&BAUDuin, RUSTON GAS TURBINES, IVECO
GENERATOR SETS
LOT 105, COCKBURN ROAD, HENDERSON, WA
Tel: (09) 410 2944
Fax: (09) 439 2223

PROUD SUPPORTERS OF TOP QUALITY AVIATION FUEL TO THE ROYAL AUSTRALIAN NAVY IN WA

BOOK REVIEWS - Continued

Reviewed by 'ACHERION'
This is an unusual book, describing as it does the performance of the American Civil War. The author states that it is the first ever publication to list and describe all of the supporting vessels.
Supporting the narrative is a unique collection of photographs of the 1861-65 period, with section devoted to USS Flying Cloud, the Revenue and Coast Survey organisations and naturally, the Confederate States Navy.
The Mississippi River fleets of both sides provides a detailed insight into the riverine armoured craft including monitors, ironclads, ironclads, gunboats and rams. Side-wheelers and stern-wheelers, traditional river ferries were also taken up for war duties and outfitted with various types and degrees of armament.

MONITOR AND VIRGINIA (ex MERRIMACK), the two most famous civil war vessels are described with their respective fleets. Details of hundreds of craft are included in the book, giving the reader a total picture of this important era of naval warfare and ship construction.

GEF ALSTHOM
AUSTRALIA LIMITED
ADDITIONAL ENGINEERING WORK
Diesel & Gas Turbine Engines To Suit All
INDUSTRIAL, MARINE & RURAL APPLICATIONS
Sales, Installation, Commissioning, Maintenance, Repairs & Spare Parts
DORMAN, RUSTON
PAXTON & BLACK, B&BAUDuin, RUSTON GAS TURBINES, IVECO
GENERATOR SETS
LOT 105, COCKBURN ROAD, HENDERSON, WA

Proud supporters of Top Quality Aviation Fuel to the Royal Australian Navy in WA.
Telephone: (09) 327 1222

26 - The Navy, October-December, 1990
NAVY LEAGUE AND CADET NEWS

NAVY LEAGUE MARITIME VIDEO LAUNCHED

The Navy League's two and a half hour six-episode educational video, *The Sea and Australia*, which was featured in VIEWPOINT last edition (The Navy, July-September, 1990), was launched by the Federal President on 26 July at a special function at the University and Schools Club in Sydney.

The series has since been launched in Melbourne, and separate functions will follow in other States and Territories. The video, which has already been enthusiastically endorsed by the NSW Director-General of School Education and by the RAN, is being sent free by the League to all Australian secondary schools. Copies are available for purchase by using the order form on this page.

In producing the series, the Navy League gratefully acknowledges the support of the following: Australian National Maritime Museum, Commonwealth Bank, Albert Recording Studios, Australian Radio Network and the Sydney Maritime School Club in Sydney.

Copies are available for purchase by using the order form on this page.

The video, which has already been enthusiastically endorsed by the NSW Director-General of School Education and by the RAN, is being sent free by the League to all Australian secondary schools.

The series has since been launched in Melbourne, and separate functions will follow in other States and Territories. Copies are available for purchase by using the order form on this page.

In producing the series, the Navy League gratefully acknowledges the support of the following: Australian National Maritime Museum, Commonwealth Bank, Albert Recording Studios, Australian Radio Network and the Sydney Maritime School Club in Sydney.

Copies are available for purchase by using the order form on this page.

THE SEA AND AUSTRALIA ORDER FORM

To: The Secretary
The Navy League of Australia (NSW Division)
Box 1719 GPO
SYDNEY, NSW 2001

Please send me copies of The Sea and Australia @ $55 each (including postage and handling).

Please send me copies of The Sea and Australia @ $55 each (including postage and handling).

I enclose cheque/postal order for $________ payable to The Navy League of Australia.

BLOCK LETTERS PLEASE

FORMAT

□ VHS

□ Beta

□ Beta

NAME

ADDRESS

POSTCODE

THE SEA AND AUSTRALIA is the Navy League of Australia's most ambitious project to date, and perhaps the most important, as it is designed primarily for the upcoming generation on which our country's future depends.
Performance

The ultimate proof of performance is continuing customer satisfaction.

For over 25 years, Rockwell International has been a major supplier of electronics for commercial and defence requirements.

We also helped build the first commercial Australian satellite earth station. And we are proud to share our technological expertise with many areas of industry, including automation and automotive products.

For further information, contact:
Rockwell Ship Systems Australia.
Level 6, 3 Thomas Holt Drive, North Ryde, NSW 2113. Telephone (02) 805 5555
PLEASE NOTE

THIS MATERIAL WAS FILMED AT A REDUCTION RATIO OF 23.5x

SOME PAGES MAY CONTAIN POOR PRINT, TIGHT BINDING, FLAWS AND OTHER DEFECTS WHICH APPEAR ON THE FILM