

THE Navy

359/Nov.

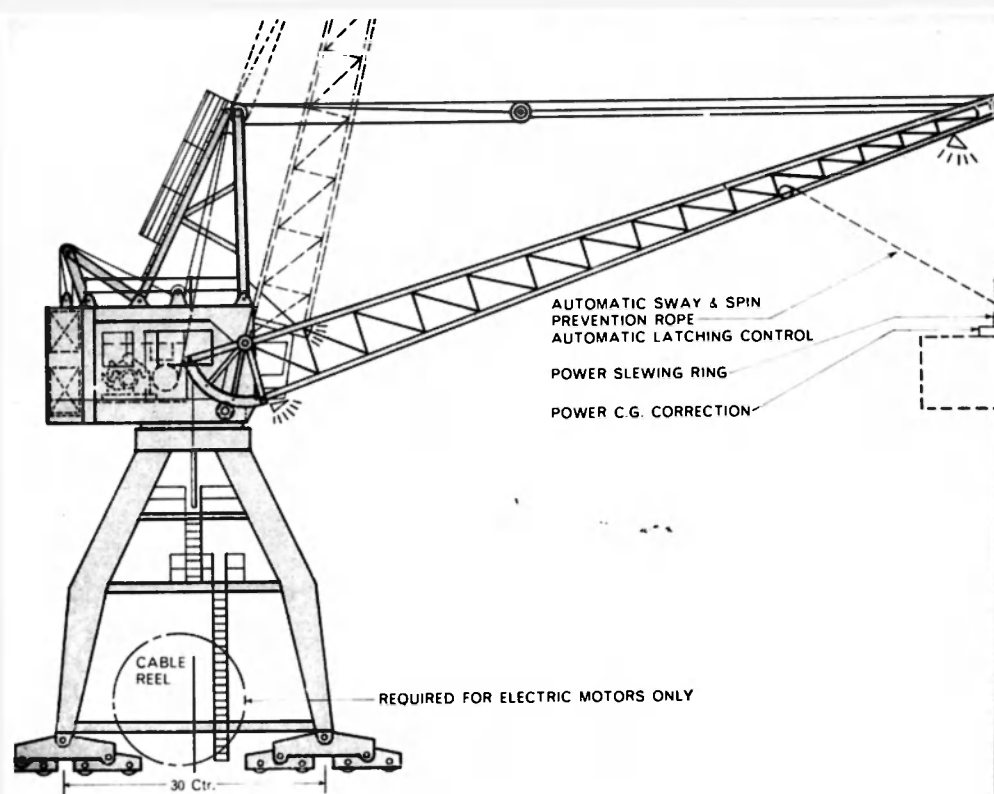
RECEIVED LIBRARY
4 - JUL 1967
SYDNEY



29, 2

May-June-July 1967

15 cents



How Favco helps you be prepared for 'containerization day'!

new efficient method of cargo handling is shortly to be seen and applied at Australian ports — containerization. And Favco have designed a Universal Wharf Crane to meet this need. A crane that also has the advantage of being more versatile and adaptable than other wharf cranes. The Favco Universal Wharf Crane can be used for:

1. **Container handling** with automatic latching — no slings. And it is capable of handling any type of container.
2. **Large capacity work.** Grabs loads to and from stockpiles or ships.

3. **Handling long-dimensional and awkward loads.** Its dual hooks and swivelling head sheaves make it ideally suited for this.

The Favco Universal Wharf Crane is rail mounted and can lift up to 25 tons weight. For further details concerning the crane that can help you be prepared for 'containerization day' and do all your other cargo handling work —

Contact:

FAVELLE INDUSTRIES PTY. LTD.

300-310 Botany Road, Alexandria. Phone 69-6651.



THE NAVY

The magazine of the Navy League of Australia

Vol. 29

MAY-JUNE-JULY, 1967

No. 2

CONTENTS

	Page		Page
Battleships resurrected for Vietnam		See Cadet Corps News (N.S.W. Division)	45
Belo	3	Rescue Submarines for the U.S.N.	53
Periscope on Australia	5	Second-Hand Warships for Argentina	51
Book Review	15	H.M.A.S. Perth — by John Mortimer	55
Japan's Maritime Self-Defence Force	17	25th Anniversary of the Coral Sea Battle	57
Nautical Notes from All Compass	33		
Navy League Visit to U.S.C.G.C. Olacior	43		

Plus sundry stories and photographs

The views expressed in articles appearing in this publication are those of the authors concerned. They do not necessarily represent the views of the editor, the Navy League, or official opinions or policy

Published by the Navy League of Australia, 66 Clarence Street, Sydney. 29-6531

Postal Address: Box 1719, G.P.O., Sydney, N.S.W.

EDITOR: Dennis P. Trickett, Esq., Box C178, Clarence Street Post Office, Sydney, N.S.W., Australia

ADVERTISING AND PUBLICATION: PERCIVAL PUBLISHING CO. PTY. LTD.

SYDNEY 108 Henderson Rd. Alexandria Phone: 69-6231	MELBOURNE 17 Elizabeth St. Melbourne Phone 62-6411	ADELAIDE 17 Currie St. Adelaide Phone 51-6225	BRISBANE 546 Queen St. Brisbane Phone 31-2531	PERTH 63 St. George's Tce. Perth Phone 23-2031	HOBART 152 Collins St. Hobart Phone: 23-732
--	--	---	---	--	---

THE NAVY LEAGUE OF AUSTRALIA

PATRON: The Governor-General, His Excellency the Right Honourable Lord Casey, P.C., G.C.M.G., C.H., D.S.O., M.C., K.St.J.

FEDERAL COUNCIL

President: Rear Admiral H. A. Showers, C.B.E.

Deputy-President: Lieut. Cdr. J. B. Howse, V.R.D., R.A.N.V.R.

Secretary: Sub-Lt. R. Taylor, R.A.N.R.

New South Wales Division

Patron: His Excellency, The Governor of New South Wales

Chairman: Rear Admiral H. A. Showers, C.B.E.

Secretary: Lieut. Cdr. A. A. Andrews, M.B.E., R.A.N., Retd., 28 Royal Street, Chateaufort, Sydney.

Victorian Division

Patron: His Excellency, the Governor of Victoria

Chairman: Randall H. Collins, Esq.

Secretary: Miss E. C. Shorrocks, 528 Collins Street, Melbourne, C.I.

Queensland Division

Patron: His Excellency, The Governor of Queensland

Chairman: Cdr. N. S. Pixley, M.B.E., V.R.D., R.A.N.R. (Retd.)

Men. Secretary: G. B. O'Neill, Esq., Box 376E, G.P.O., Brisbane

Australian Capital Territory Division

Chairman: Lieut. Cdr. J. B. Howse, V.R.D., R.A.N.V.R.

Men. Secretary: Lieut. Cdr. D. M. Blake, R.A.N.V.R., 60 Limestone Avenue, Ainslie, A.C.T.

Northern Territory Division

Patron: His Honour the Administrator

Chairman: Lieut. Cdr. J. J. Ravenscroft, V.R.D., R.A.N.V.R.

Men. Secretary: Mrs. V. M. Slide, c/o H.M.A.S. 'Melville', Darwin, N.T.

AUSTRALIAN SEA CADET COUNCIL

Navy League:

Rear Admiral H. A. Showers, C.B.E.; Lieut. Cdr. J. B. Howse, V.R.D., R.A.N.V.R.

South Australian Division

Patron: His Excellency, the Governor of South Australia

Chairman: F. M. Dunn, Esq., Men. Secretary: R. R. Sutton, Esq., 30 Pirie Street, Adelaide

Tasmanian Division

Patron: Vice Admiral Sir Guy Wyatt, K.B.E., C.B. Chairman

Men. Secretary: Lieut.-Cmdr. J. C. Mohan, R.A.N.R., 11 Quorn Street, Sandy Bay, Hobart, Tasmania

Western Australian Division

Patron: His Excellency, the Governor of Western Australia

Chairman: Roland Smith, Esq., Men. Secretary: R. A. Hannah, Esq., 182 Coode Street, Como, W.A.

A Representative from each Navy League Division, also —

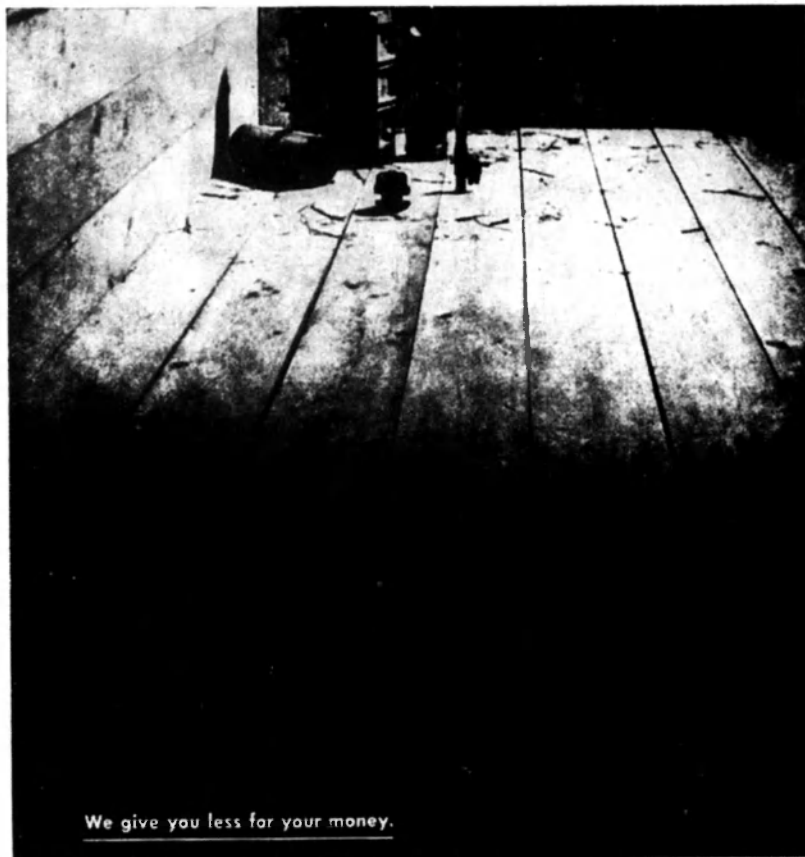
S.C. Cdr. L. E. Forsythe, Lieut. Cdr. F. G. Evans, V.R.D., R.A.N.V.R.

Men. Secretary: Sub-Lt. R. Taylor, R.A.N.R.

May-June-July, 1967

THE NAVY

Page One



We give you less for your money.

What more could you ask?

You see, we're selling power, not parts. That's why we lopped all the fat off our engines. To give you less. Less engine weight, fewer parts and half as many strokes per power cycle.

The more comes later. Like when your engines kick over and you head out for open water. Less engine weight means greater fuel capacity. Fewer parts, less maintenance. No wasted piston strokes, more responsive power. And that's the Detroit Diesel story. Power. Pure and simple.



Check the record. In Sydney, one skipper repowered his cruiser with a pair of Detroit Diesels. He not only increased cruising speed, but saved almost \$5.00 an hour on fuel. He's getting less . . . less cost. And in Brisbane, a yachtsman operated his boat for three years without anyone looking at the engines. He's getting less . . . less grief.

There's more and Claie Engine are ready to tell you about it. Contact Authorised GM Detroit Diesel

Distributor:

CLAE ENGINE PTY. LTD.

31 Hoskins Avenue, Bechtelville, N.S.W. Phone: 79 8886.
Laversack Ave., Eagle Farm, Queensland. Phone: 88-4186.

THE NAVY

May-June-July, 1967

Battleships Resurrected for Vietnam Role?

U.S. Defence Secretary Mr. Robert McNamara has ordered a Pentagon study of gunfire support requirements in Vietnam which may involve recommissioning of one or two of America's four 16-inch-gun battleships in the reserve fleet.

An earlier Navy study recommended recommissioning of two more 8-inch gun cruisers to assist inshore bombardments.

According to "New York Times" military writer Hanson Baldwin, the Navy is split on the battleship issue. Previous plans to use battleships have foundered on the basis of targets, costs and manpower.

One high-ranking Naval officer is quoted in Washington as describing battleships as "antediluvian monsters out of the dark age of Naval power."

But other officers, notably Vice-Admiral John S. McCain, commander of the Eastern Sea Frontier, have urged recommissioning of battleships for shore bombardment and as Commando-type ships.

According to Hanson Baldwin, "these would be equipped with helicopters, a small Marine landing force and a command and control

communications system — a kind of amphibious landing threat compressed into one ship.

"The Marines have solidly supported the relatively few Naval officers who have urged the recommissioning of battleships."

It was not until the White House gave the Navy permission to use its guns against coastal targets in North Vietnam that the arguments for a 16-inch gun, as compared to the 5-inch, 6-inch and 8-inch Naval guns now available, won support at high levels in the Pentagon.

Battleship men are encouraged by Mr. McNamara's action in ordering a review of naval gunfire requirements.

Many navy officers say privately that the Navy went too far too fast in converting its gunned ships to missiles, and that Vietnam demonstrated conclusively that more guns were needed in a balanced fleet.

However, the yardsticks against which the utility of the battleship will be judged are its targets.

Gunfire can be directed against map targets or fixed grid coordinates, such as crossroads and bridges, or against coastal targets that can be "seen" by radar without the need of spotting aircraft.

The U.S. has retained four battleships of the Iowa class of World War II in its reserve fleet, each with nine 16-inch guns.

The "Missouri" is laid up in Bremerton Navy Yard on the Pacific coast; the Iowa, Wisconsin and New Jersey are in the Philadelphia Navy Yard.

Navy sources say there is an ample supply of 16-inch, high capacity, 2,400 pound shells in storage. The powder, which is old, would have to be reworked, but at slight cost.

Recommissioned battleships would have to be furnished with new electronic equipment and thoroughly overhauled. The cost for each ship is estimated at between \$11 million to \$25 million.

They would require crews, if fully manned, of about 3,500 men, but suggestions to secure one boiler room and to leave undermanned some secondary battery guns are under study.

Some experts believe that the ships could be operated safely with as few as 1,100 men each.

The time required to take battleships or cruisers out of mothballs, to modernise them and to assemble and train their crews would be measured in months, doubtless more for a battleship than a cruiser.

According to the "New York Times" expert, nine to 16 months might elapse before a battleship could be in action off Vietnam after recommissioning started.

Because of this time element, the Navy is pressing the Pentagon high-ups for a quick decision.



The mighty battleships NEW JERSEY (left) and IOWA, each displacing 45,000 tons, were the largest war vessels of their day. Both were mothballed in 1957-58, but the NEW JERSEY is yet to be dry-docked. Pentagon sources stated recently that she might be refurbished — and assigned to pound enemy shore targets in the Vietnam war.

May-June-July, 1967

THE NAVY

Page Three



Scottish Cream

HOLDS THE CROWN
FOR SMOOTHNESS

Reward your shipmates with Scottish Cream Scotch Whisky —
everybody goes overboard for it. At all good bottle departments

Periscope on Australia

by Grommet

THIRD NAVAL MEMBER RETIRES

Rear Admiral Frank Leveson George, C.B.E., 57, who has been Third Naval Member of the Naval Board and Chief of Naval Technical Services since February, 1963, retired on 14th March.

Admiral George was succeeded by Captain Frederick William Purves, O.B.E., who has been promoted to Rear Admiral.

Since graduating from the Naval College at Jervis Bay in 1924, Admiral George has specialised in engineering and has held many of the Navy's senior engineering posts, including that of General Manager of Garden Island Dockyard, Sydney. He was the first Captain of the R.A.N.'s Training Establishment, H.M.A.S. "Nirimba", and, with the rank of Commodore, the first Engineer officer to command H.M.A.S. "Cerberus".

During the Second World War he served in the Mediterranean and Pacific.

Admiral Purves, like Admiral George, has specialised in engineering since joining the R.A.N.R. (Seagoing Branch) as a Lieutenant in 1940. He was granted a permanent commission in 1946 with the rank of Lieutenant Commander.

Prior to his appointment as Third Naval Member, Admiral Purves had been in England for two years on the staff of the Australian Naval Representative as Chief Staff Officer (Technical).

UNITED STATES NATIONAL WAR COLLEGE

A party from the U.S. National War College visited Australia during April in the course of a tour of the Far East.

The group comprising 34 students (senior officers from the U.S. Departments of State, Navy, Army and Air Force) and members of the faculty staff was led by Colonel

Stuart M. Porter. The National War College was established in 1946 and is controlled by the American Joint Chiefs of Staff. It prepares selected members of the Department of Defence, the State Department and other agencies of the Federal Government to exercise high level policy, command staff functions. Other groups from the College are currently visiting countries in Europe, the Middle East, Africa and Latin America. These visits are an integral part of the College curriculum and permit first-hand observation by the students of conditions in various parts of the world in preparation for their future duties.

FLAGSHIP TO DELIVER NEW AIRCRAFT

The aircraft carrier H.M.A.S. "Melbourne" (see photo) will sail to the United States about October/November to take delivery of fourteen S-2E Tracker aircraft, eight A-4G Skyhawks and two, two-seat

TA-4G Skyhawk trainers, together with ground equipment and training aids for use at H.M.A.S. "Albatross", the Naval Air Station at Nowra, N.S.W.

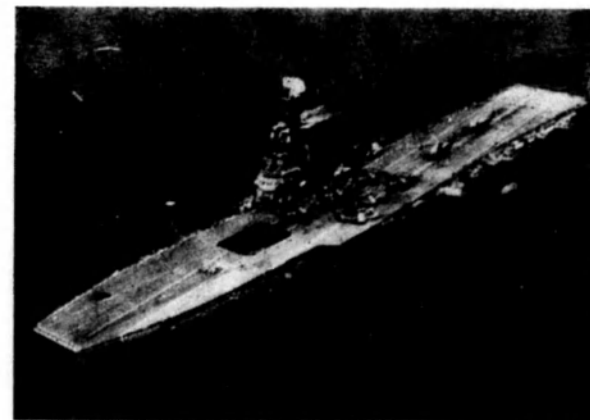
"Melbourne" will sail to the U.S. after service in South-East Asian waters, attached to the British Commonwealth Strategic Reserve.

JOINT AUSTRALIAN/U.S. DEFENCE REVIEW

The second annual review of Co-operative Logistics between the Australian and American Governments, was held at the Department of Defence, Canberra, from April 26 to May 4.

In addition to reviewing planned procurement of weapons from the U.S., the representatives also discussed the feasibility of Australian production of supplies and equipment for U.S. military forces in South-East Asia.

A Logistics Arrangement, first agreed to in February, 1963, between the two Governments, was



H.M.A.S. MELBOURNE, Flagship of the R.A.N., which is to sail to the U.S. at the end of the year.



Proudly Present

"See the U.S.A."

This airholiday programme includes 4 major tours to the U.S.A. where Pacific Pathways own offices will look after you, pamper you and possibly spoil you. Duration of these attractive tours range from 20 to 31 days with possible extensions. Costs range from as low as \$A970 including a tour of Fiji.

For reservations contact your travel agent or airline office
Send for brochures to:

PACIFIC PATHWAYS
11 Loftus Street, Sydney
Telephone 278897 — Cables Pacpath

Wishing the Navy every success from . . .

Thomas Playfair Pty. Ltd.

ARGYLE STREET, SYDNEY
Phone 27-5771

Suppliers to the R.A.N. of
MEAT AND SMALLGOODS FOR THE PAST 50 YEARS



H.M.A.S. PERTH, the first of Australia's Guided Missile Destroyers purchased from the United States.

designed to assist in equipping the Australian Services during the three-year defence programme ending in June, 1968.

The review confirmed the credit financing programme of Australian purchases for \$U.S. 350 million at 4½%, \$U.S. 80 million at 4% and \$U.S. 20 million at 5½%.

Lengthy discussions were held over the F-111 aircraft and covered ceiling price, interest rate and production delivery schedule.

Production costs on the first two guided missile destroyers (DDG) (see photo) being bought by Australia showed a 16% saving on estimates.

There was a warning however, that there could be a possible delay destroyer, H.M.A.S. "Brisbane", owing to outfitting delays.

The further extension of mutually advantageous use of logistics in S.E.A.T.O. planning was also discussed by the representatives.

HOBART FOR VIETNAM WATERS

The Guided Missile Destroyer, H.M.A.S. "Hobart" (D39) sailed from Sydney at 5.30 p.m., 7th March for service in Vietnamese waters.

"Hobart", under the command of Captain G. R. Griffiths, R.A.N., and carrying a ship's company of 330 officers and sailors, has been attached to the U.S. Seventh Fleet.

VISIT BY TUNKU GENERAL OSMAN

The Chief of the Malaysian Armed Forces Staff, General Tunku Osman bin Tunku Mohamed Jawa, P.M.N., visited Australia during May.

While in Australia he exchanged views on matters of mutual interest with the Chiefs of Staff Committee and others and undertook a programme of visits to Service establishments in three States where he

saw at first hand the training being undertaken by the Malaysian Services personnel in Australia under the Malaysian Aid Programme.

ARMED SERVICES STATISTICS

A statement released on May 1 gave details of recruiting for the Armed Services for February and March of this year.

Actual strengths at March 31 were: Navy 15,795; Army 39,187 (25,291 regulars and 13,896 National Servicemen); Air Force 20,064.

COLLINS TROPHY—1966

The Collins Trophy donated to the R.A.N. by the Fairey Aviation Company for annual competition between Squadrons of the Fleet Air Arm was won last year by 723 Squadron.

The Squadron which is stationed at H.M.A.S. Albatross, has the responsibility of training helicopter pilots and is also involved in search and rescue duties (see photo).

The men of 723 Squadron played a prominent part in the search for survivors from the dredge "W. D. Atlas" during May last year, rescuing four men from the sea.

Rear Admiral T. K. Morrison, C.B., C.B.E., D.S.C., made the presentation at H.M.A.S. "Albatross" on February 17.



A Westland Wessex H.C.2 helicopter of the type flown by the winning squadron.

PROUD TO BE ASSOCIATED WITH THE NAVY JOURNAL

Berghofer Disposals Pty. Ltd.

DEALER IN ALL TYPES OF ARMY DISPOSALS CAMPING GEAR
CLOTHING ETC. — SCRAP METAL MERCHANTS — HIGHEST PRICES
PAID FOR BRASS, LEAD, ALUMINIUM, ZINC, COPPER, BATTERIES ETC

605 RUTHVEN STREET, TOOWOOMBA, QLD.
Phone 21826

HONG KONG AIR CONDITIONED RESTAURANT

Welcomes you to have a meal with wine or beer
Enjoy the cool setting with Oriental Atmosphere
Weddings and Parties a Speciality
For a Rest — Our Take-away containers are the Best

264 FLINDERS STREET (Opp. Bulletin),
TOWNSVILLE, QLD.

For Reservations Phone 5818

H.M.A.S. BOONAROO

"Boonaroo" was commissioned as an R.A.N. ship on March 1 and has since carried a cargo of munitions and other supplies for the Australian forces in South Vietnam.

H.M.A.S. "Boonaroo" decommissioned from the Royal Australian Navy at an informal ceremony held on Monday, May 8, 1967, was handed back to her civilian owners, the Australian National Line.

H.M.A.S. OXLEY COMMISSIONED

At the yards of Scotts' Shipbuilding and Engineering Company,

Greenock, Scotland, on March 21, H.M.A.S. "Oxley", first of four Oberon Class submarines for the R.A.N. was commissioned.

The commissioning of "Oxley" marked the re-introduction of a submarine force into the R.A.N. for the first time in 35 years. "Oxley" was launched (see photo) on September 24, 1965, by Lady Downer, wife of the Australian High Commissioner in Britain. The second of the class "Otway" was launched by Princess Marina in November, 1966. "Ovens" is expected to be launched early in 1967 and "Onslow" about a year later.



H.M.A.S. OXLEY at her launching. She is now a commissioned vessel in the R.A.N.

TECHNICAL CO-OPERATION PROGRAMME

The ninth annual meeting of representatives of the U.S., U.K., Canada and Australia on the Technical Co-operation Programme took place at Canberra on May 15.

The mission of the Programme is to further defence research and development among the four countries, to avoid duplication of effort and to provide economies in the use of scientific resources of the member countries as well as to afford mutual assistance through collaboration among scientists engaged in selected fields of research.

VISIT BY NEW ZEALAND ADMIRAL

The Royal New Zealand Navy's Chief of Naval Staff, Rear Admiral John O'Connor Ross, C.B., C.B.E., visited Canberra last March.

While at Canberra he held discussions with the Australian Naval Board, the Chairman of the Chiefs of Staff Committee and the Secretary, Department of Defence. He also visited the R.A.N. College at Jervis Bay to see the New Zealand Cadet Midshipmen in training. Finally on March 14, Admiral O'Connor Ross held discussions with the Flag Officer in Charge, East Australia Area, Rear Admiral T. K. Morrison, C.B., C.B.E., D.S.C.

UNITED STATES ARMED FORCES STAFF COLLEGE

Three officers, one from each Service, have been selected to attend the 42nd course at the United States Armed Forces Staff College at Norfolk, Virginia.

The officers selected are Commander J. G. Sommerville, R.A.N., Lieutenant Colonel K. P. Outridge, Army and Wing Commander H. J. Hurley, R.A.A.F.

AUSTRALIAN TECHNICAL MISSION TO MALAYSIA

An Australian Technical Mission visited Malaysia from May 22-June 5 for discussions on defence aid.

Within the limits imposed by competing demands on resources, it

Helicopter Pilots
Helicopter Engineers

HELICOPTER UTILITIES

PTY. LIMITED

Australia's Largest Helicopter Company Operates Helicopters throughout Australia and New Guinea.

OPPORTUNITIES EXIST

FOR PILOTS AND ENGINEERS retiring from the service to fit themselves for civilian employment in an interesting, well paid position. For full details apply to —

HELICOPTER UTILITIES PTY. LTD.
P.O. Box 173, Mascot, N.S.W.
(TELEPHONE: SYDNEY 67-3125)

ROYLEN CRUISES

☆ FOR YOUR NEXT CLUB OUTING

Whether as
A DAY CRUISE — A DAY'S FISHING TRIP OR A COMPLETE
WEEKEND FISHING TRIP

MODERATE CHARGES

For Further Information, contact

ROYLEN CRUISES

72 VICTORIA STREET, MACKAY, QLD.
P.O. Box 169 Phone 2595



A model of the Patrol Craft recently launched from Queensland yards for the R.A.N.

was agreed that the current defence aid programme would be extended until the end of 1970, the termination date for Malaysia's present expansion programme.

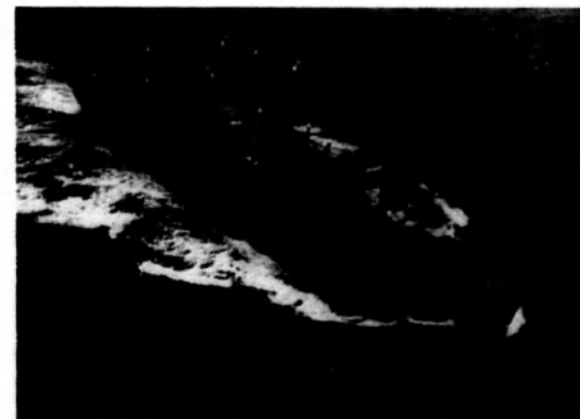
The current programme covers the provision of training courses in Australia for Malaysian Servicemen, the secondment of Australian Servicemen to the Malaysian Armed Forces and a wide range of military equipment.

In addition to discussions with the Malaysian Ministry of Defence and Royal Malaysian Police authorities, the members visited Service installations, ammunition depots and dockyards to obtain as complete a picture as possible of Malaysia's defence and internal security requirements.

INDUSTRIAL MOBILISATION REFRESHER

The problems associated with industrial support for the Defence effort were discussed by more than 100 representatives of industry, the armed forces and State and Commonwealth Departments at an Industrial Mobilisation Refresher Course in Sydney on May 10 and 11.

Commenting on the object of the course, the Honourable Allen Fairhall, M.P., Minister for Defence, said that it was in the best interests of both the Government and the industrialists to keep abreast of developments in industry and defence. Planning necessary to meet equipment needs of the forces could then be undertaken.



H.M.A.S. SUPPLY, the fast Fleet Replenishment Oiler which has recently visited Japan on a goodwill mission.

PATROL BOATS

H.M.A.S. "Attack" was launched by the Mayoress of Darwin, Mrs. Lilyan Chan at the shipyards of Evans Deakin and Company Pty. Ltd., Brisbane, at 9.35 a.m. on Saturday, April 8.

The wife of the Member for Manus in the Papua-New Guinea House of Assembly, Mrs. Maloat Paliau launched H.M.A.S. "Aitape", the first of five patrol boats being built for the R.A.N.'s Papua-New Guinea Division, late last May at Walkers Limited, Maryborough, Queensland (see photo).

THAI NATIONAL DEFENCE COLLEGE

A party of senior Service officers and Government officials attending the Thai National Defence College visited Australia from May 14-16, as part of the group's 1967 study tour of the Far East.

The Superintendent of the College, Lieutenant General Chalerm Mar-Haddh-Na-Nond, led the party whose principal objective was to see at first hand various aspects of neighbouring countries.

"PERTH" TO RELIEVE "HOBART"

Australia's first guided missile destroyer, H.M.A.S. "Perth", under the command of Captain P. H. Doyle, R.A.N. is to relieve

**AUSTRALIA'S
MOST
DEPENDABLE**

SPEED-E GAS

**BOTTLED
GAS**

**"Formerly known
as Heatane-Gas"**

Whether Hotel, Motel, Cafe or Home in the City or Country, Gas installed for Cooking and Hot Water provides the most reliable and efficient service. For advice on Speed-E Gas installation contact the nearest Gas Supply Co. Dealer or Branch Manager.

Full technical details are readily given to all Builders and Architects for the installation of this modern method of

**COOKING
REFRIGERATION**

**HOT WATER
ROOM HEATING**

Speed-E Gas supplied to the Commonwealth and State Government Departments — Hospitals — Army Establishments — P.M.G. — Railways, Main Roads — Hotels — Motels and Leading Cafes

**THE GAS SUPPLY CO. (QLD.)
PTY. LTD.**

HEAD OFFICE: 97-99 Albert Street, Brisbane. 2-2471.

BRANCHES AT: Warwick, Toowoomba, Gympie, Gladstone, Maryborough, Bundaberg, Mackay, Rockhampton, Mt. Morgan, Townsville, Cairns, Charters Towers, Mt. Isa, Bowen, Proserpine, Ingham, Innisfail, Cloncurry, Yeppean, Harvey Bay and throughout Victoria, New South Wales and New Guinea.

Walkers Limited

**23 BOWEN STREET, MARYBOROUGH
QUEENSLAND**

ALSO AT MACKAY, QLD.

**GENERAL ENGINEERS AND SHIP BUILDERS
STEEL IRON AND NON FERROUS FOUNDRY
SHIP BUILDING CAPACITY VESSELS TO 350 FEET LONG
FORGE SHOP REGISTERED WITH LLOYDS
FOR CASTINGS AND FORGINGS**

Phones Maryborough 2321 Mackay 2471

H.M.A.S. "Hobart" for service with the U.S. Seventh Fleet in Vietnamese waters in mid-September.

AUSTRALIAN SHIPS VISIT JAPAN

Flagship of the Royal Australian Navy, the aircraft carrier, H.M.A.S. "Melbourne", the fleet tanker H.M.A.S. "Supply" (see photo on previous page) and the destroyer escort H.M.A.S. "Derwent" made goodwill visits to Japan during May-June.

"Melbourne", currently serving with the British Commonwealth Strategic Reserve called at Yokohama from May 25-29 and Kure from May 31-June 3.

"Supply" was in Yokosuka from May 25-June 2 and "Derwent" visited Tokyo, May 25-27, Hiroshima, May 29-31, and Sasebo from June 1-3.

RECORD CHART SALES

Sales of Royal Australian Navy charts reached the record number of 24,118 in 1966.

Nineteen new charts were published last year, including Mackay, Cairns, Whitsunday Passage, Groote Eylandt, Port Hedland and Dampier and a yachting chart of the approaches to Port Jackson.

There are 34 new charts scheduled to be produced this year, covering the entire coast of Tasmania, approaches to Melbourne and Fremantle, Queensland and North-western Western Australia.



OUR COVER

Rear Admiral T. K. Morrison, C.B., C.B.E., D.S.C., Flag Officer in Charge, East Australia Area, inspecting members of the guard at the annual Church Parade of the New South Wales Division of the Australian Sea Cadet Corps, Garden Island, Sydney (see story under heading "Sea Cadet Corps News").

— R.A.N. Official Photograph.

Park Howard Distributors

465 King Georges Rd., Beverley Hills, N.S.W.

HUGE DISCOUNTS ON ALL
CARPETS—FURNITURE—ELECTRICAL AND GENERAL MERCHANDISE

Terms Buyers Catered For — Trade-ins Accepted

A.H. Ted Keigbram 53-8979, Audrey, K. 57-8191, Bill Howard, 50-8254
20-25% DISCOUNT on all Furniture and Furnishings

Nobody Beats Our Prices — 22½% on Carpets — OR Free Underfelt and Laying
25-50% Discount on all Electrical Goods — We deliver immediately your flat
becomes due

RING US FOR YOUR REMOVALS

Make use of your Relief Fund Loan Monies — Select your goods TODAY
We move you in TONIGHT — Ring for our FREE car service — We pick you up
and take you direct to the Factory Showrooms — We are also able to attend to
your Hire Purchase

ELECTRICAL INSTALLATIONS PTY. LTD.

6 NAPOLEON STREET, SYDNEY
Tel.: 29-5311 (4 lines)

Who have been actively engaged in carrying out work on vessels and shore
establishments for the past 25 years, extend congratulations to all who have
served or are still serving for a job well done and a wonderful record of
achievement both at sea and in dock yards and establishments

Experienced Service available for all classes of:
Electrical Installation and Repair, Motor-Generator Winding
Radar Installations, etc. — For Ships, Factories,
Commercial Buildings, etc.

— BOOK REVIEW —

"From the Dreadnought to Scapa Flow"

The Royal Navy in the Fisher era, 1904-1919. Volume III. Jutland and After: May, 1916-December, 1916.
Author: Arthur J. Marder, Professor of History, The University of California, Irvine.
Publisher: Oxford University Press. 1966. 297 pages; 16 folding charts. Price: \$10.90.
Review By: B. R. Nield, Lieutenant Commander, R.A.N.R. (Retd).

In recent years it has become easier to study the First World War. A generation ago, much information was available but it was rather indigestible: voluminous official histories, personal reminiscences and so forth. Finally, some very scholarly concise works have been written. Arthur Marder, of the University of California, has written these three volumes — one volume has yet to appear — using all the information, official and unofficial, which is now available.

In these three volumes Professor Marder has shown outstanding zeal for historical research. He has ransacked published works, official documents, unpublished manuscripts and every other other source of information, and has, of course, corresponded with individuals who were able to provide further facts or opinions. By these labours he has produced, in these volumes, an excellent guide to the events of the war and to the doctrines held by the naval leaders. By this full command of his material he has composed, instead of a dull thesis or a jumble of data, a vivid, apparently effortless narrative.

It can be used as a work of reference even for specialised questions. Let us consider, for example, two matters of specifically Australian interest. Firstly, we may wish to know something about the career of that distinguished Australian, Lord Hankey. Professor Marder tells us so much about the part played by Lord Hankey in strategic planning, and also refers us to Lord Hankey's own account. Secondly, we may, perhaps in connection with Anzac Day, wish to know something about the Gallipoli campaign. Professor Marder gives us the strategic background of that campaign and traces the controversies which it caused.

The limitations of Professor Marder's history are those which he states himself. He concentrate on the Grand Fleet and on major strategic issues and does not attempt to deal in detail with minor engagements or with events in the minor theatres of the war. These limitations are perfectly reasonable, but it is worth bearing in mind that some of the small-scale activities of the First World War had very important consequences. This applies to the beginning of naval aviation and to naval activities in the Far East and Middle East.

The British admirals of this period had been greatly influenced by the tradition of Nelson and by the writings of A. T. Mahan. Battles against enemy warships were expected to be decisive in a war, and the protection or destruction of merchant ships was regarded as less important. Along these lines, we can explain the Admiralty's failure to anticipate U-boat warfare or to institute a convoy system in 1914. In learning from history, a little knowledge is dangerous. Why concentrate on the battle of Trafalgar? It did not bring Napoleon to his knees. In the fifth century B.C., the Greeks defeated the Persian invasion by commerce destruction and then, two generations later, the Spartans defeated the Athenians by commerce destruction. That was long ago. Very recently, in 1945, Japan was defeated by commerce destruction.

Much of the controversy about the battle of Jutland can be explained in the same way. On the Mahan theory, it should have been the decisive battle of the war, but obviously it was not. The first person to blame should be Mahan, not Beatty or Jellicoe.

Professor Marder provides food for thought in this matter and in

others, not by partisanship but by facts. His book is a good first book on the period, and many readers who have been led farther afield will finally turn back to him, thinking "What does Marder say?"

OBITUARY

Commander A. H. Green who died in Hobart on April 3 almost became a legendary figure in the Service.

He had been in retirement for some years but memories of his "exploits" were revived by the series of articles published in "Navy News" under the nom-de-plume of "Garnold Reen".

These humorous stories, all true, and which reflected the character of Commander Green, created wide interest.

Commander Green, who was born at Surrey Hills, Victoria, on March 23, 1906, entered the Royal Australian Naval College in 1920.

He gained his colours for cricket, athletics and rowing and his career was full of interest.

He served in the Royal Australian Navy and Royal Navy ships, and at the outbreak of war in 1939, he was serving in H.M.A.S. "Cambera" in which he remained until August, 1940, when he was posted to H.M.A.S. "Stuart".

While in this ship he was lent to H.M.S. "Nile" as liaison officer with the Western Desert Forces.

In 1942 he commanded H.M.A.S. "Warrego" and was in command of H.M.A.S. "Napier" from 1942 to 1944. A year later he commanded H.M.A.S. "Norman".

Commander Green was awarded the D.S.C. while serving in H.M.S. "Nile" during the Libyan Campaign and a Bar to the D.S.C. for similar liaison work in the Far East.

Mount Isa Hotel Pty. Ltd.

(M. J. McHUGH, Licensee)

17-19 MILES STREET, MT. ISA, QLD.

☆ FIRST CLASS ACCOMMODATION
Excellent Cuisine — Friendly Service

Air Conditioned Bars and Lounge

CHILLED ALE ALWAYS ON TAP

Enquiries Phone Mt. Isa 2 or 9

Hollimans Limited

FLINDERS STREET, TOWNSVILLE, QLD.

PHONE 2057

OPEN A PERSONAL BUDGET ACCOUNT

Purchase Goods up to the value of £60.00 and pay Small
Repayments each week — As simple as that!

JAPAN'S MARITIME SELF-DEFENCE FORCE (MSDF)

A survey compiled from information supplied by the Maritime Staff, Japanese Defence Agency and other sources. All photographs produced are official. The Editor expresses his appreciation for the assistance and co-operation rendered by Chihiro Katsuta, a Consul in the Consulate-General of Japan.

More than 2,000 years of victory had come to an end when the Emperor of Japan called upon the Supreme Commander of the Allied Powers in 1945.

With the end of the War, Japan was thrown into confusion. A Navy which had once been the pride of the nation was forgotten as were all other things military. But, by the end of a decade the new Japan was a stable reality.

THE MISSION OF THE SELF-DEFENCE FORCES

Japan has no navy, army or air force but she does have Maritime, Ground and Air Self-Defence Forces whose basic mission, organisation, equipment and training are generally the same as those of the military forces of other nations.

The primary mission of the three Self-Defence Forces, as defined by

the Self-Defence Forces Law "... is to defend our country against direct and indirect aggression for the purpose of preserving peace and the independence of our country, and to maintain the national security and when necessary, take charge of maintaining public order."

When Japan was occupied by the Allied Powers in 1945, she was totally disarmed. All regular officers of the armed forces were demobilised as were members of parliament, businessmen and industrialists.

However, in 1952, as the Korean War continued, General Douglas MacArthur, Supreme Commander Allied Powers, authorised the formation of a Maritime Safety Force, the forerunner of the Maritime Self-Defence Force and on 12th November of the same year Japan

concluded an Agreement with the United States for the loan of Naval vessels.

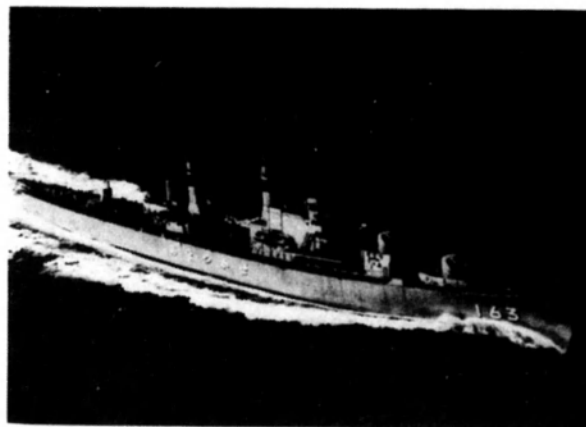
Mutual Defence Assistance Agreement and Establishment of the Maritime Self-Defence Force

During the first half of 1954 the Mutual Defence Assistance Agreement was signed by Japan and the United States of America. Also further agreements for the loan of U.S. Naval vessels were concluded whereby eight destroyers, one submarine and aircraft together with ammunition, were supplied. Thus Japan, like Spain, Iran, South Korea and Taiwan is now classified as a U.S. Bilateral Treaty Power.

On 1st July, 1954 the Coastal Safety Force became the Maritime Self-Defence Force (MSDF). The same year saw the formation of the Ground Self-Defence Force (GSDF) and the Air Self-Defence Force (ASDF).

Together with the establishment of the Joint Staff Council and with the increase of civilian staffs, the Self-Defence Forces (SDF) were formed and the Japan Defence Agency (JDA) was established as the overall administrative body.

Two distinct features of the total defence establishment are the Defence Agency and Defence Academy. Except for the defence capability plan and the operating plan of the Joint Staff Council and the three Services, all major defence plans are formulated within the defence Bureau of the Defence Agency without the direct participation of uniformed personnel and it should be made clear that there appears to be no objection to the



The recently constructed Guided Missile Destroyer, "Amatsukaze"

Navy Men Always Look For the Whisky That Offers the Most
You'll Find it in All Well Stocked Bottle Departments
Wherever You Go—Look For It!

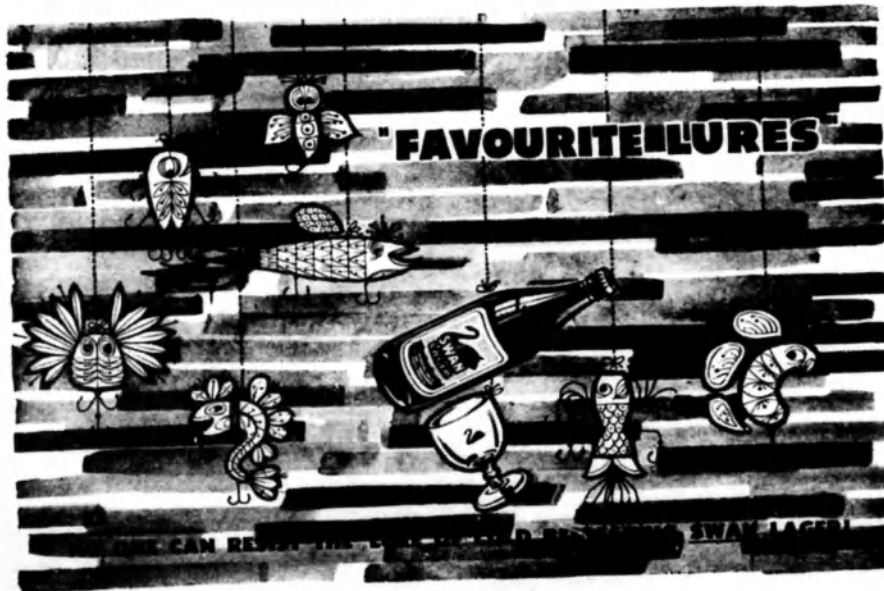


Old Grouse Brand Whisky

Distributed by

Elders - GM

111-113 ST. GEORGES TERRACE
PERTH, W.A.



This exclusive release shows the new Destroyer (completed in February, 1967) TAKATSUKI at sea.

defence organisations being administered by civilians.

Defence Academy

The Japanese are one of the first powers to fully realise the feasibility, importance and advantage of three-force co-operation, viz: a single combined force to play the major role in any future war, thus the Defence Academy is a combined naval, military and air college where a total of 530 cadets (current figure) are admitted annually.

The first year of the four year course provides a common curriculum for all cadets regardless of service interest, but from the second

year 100 are assigned as officer candidates for the MSDF, 300 for the GSDF and 130 for the ASDF. From this time on cadets receive a specialised education in the service to which they have been assigned.

Unique Features of the Japanese Self Defence Forces

There are five very interesting and distinct facets peculiar to the Forces, namely:

(1) No person serving in the Forces can be court martialled; instead, a defendant is brought before a civil court and may choose his own counsel who in turn has access to

any classified information regardless of his security rating.

(2) Censorship is prohibited — freedom of expression in any form is permitted and guaranteed by the Constitution.

(3) All members must be volunteers; conscription is not permitted, neither are Reserve forces except for 19,000 in the GSDF Reserve. When a man leaves the Service his obligations also cease, he retains neither rank nor uniform and even in a national emergency no former member of the forces is obligated to re-enlist.

(4) The terms of the Constitution prohibit the sending of any Self-Defence Force unit abroad for defence purposes.

(5) The Emperor holds no rank in the forces, nor does he wear Service uniform, and to date, has never visited a Self-Defence Force Unit.

The MSDF Today

There are at present more than 35,180 officers and ratings in the MSDF and some 4,980 civilian personnel. Japan's total Defence Estimates for 1966/67 were 340,635,000,000 Yen, equal to \$946,000,000; which figure is 1.3% of the Gross National Product and 8.2% of total government expenditure. There are approximately 205 ships and 240 aircraft attached to the MSDF.

Present Strength

Destroyers, Total: 22.

(a) Antisubmarine type of the improved "Moon" class.

Takatsuki—DD164 (Photograph) is the first of four of this class to be completed. One sister ship will be named Mochizuki—DD165 and the remaining two to be listed as DDA's are as yet unnamed. Ships of this class have combined masts and stacks.

Displacing 3,000 tons and having a length of 426½ feet and a beam of 44½ feet, vessels of this class mount two, 5 inch dual purpose guns in single mounts. Anti-submarine equipment comprises octuple ASROC; a DASH helicopter; one, four-barrelled rocket launcher and two, triple homing-torpedo launchers. Two Foster-Wheeler boilers together with geared turbines turning two shafts, develop 60,000 S.H.P. equal to 32 knots.



The Destroyer OONAMI of the Wave Class.

Contact Mr. Alan Davies for . . .

PLANT HIRE SERVICE

Specialised General Plant for Builders & Contractors

ALSO

COLES 20-40 TON MOBILE CRANE AVAILABLE
SHORT OR LONG TERM

M. R. HORNIBROOK PTY. LTD.

CARR STREET, BULIMBA, QLD.

Phone 95-4001 — Res. 95-5753

CAPRICORNIA CARRYING COMPANY PTY. LTD.

8 CHARLES STREET,
NORTH ROCKHAMPTON, QLD.

FOR EFFICIENT AND PROMPT SERVICE

Phone 6-3066 — A.H. 6-3369

Ready Mixed Concrete — Crushed Metal Aggregates
Sand (All Grades) — Stonedust Loams (All Grades)
Garden Soil — Decomposed Granite Filling Materials



MAKIGUMO, a recently constructed Destroyer, is equipped with Octuple Asroc.

(b) Diesel type of the "Cloud class.

Of a total of seven to be constructed, the Yamagumo—DD113 and Makigumo—DD114 (photograph) have been completed, the third vessel has as yet only been named, Murakumo—DD115: the maining four of this class will be built under the five year defence plan—1962 to 1966.

Vessels of the "Cloud" class are fitted with a lattice mast and two funnels. Their official displacement figure is 2,050 tons; dimensions: 347 feet in length with a beam of 38 feet. Weapons include four, 3 inch anti-aircraft guns in two twin mounts; Octuple (viz: eight) ASROC; one, four-barrelled rocket launcher; two, triple homing torpedo launchers. Power is provided by Mitsui B & W diesels turning two shafts and developing 26,500 B.H.P. equalling 27 knots. Complement—215 officers and men.

(c) Guided Missile Armed Type—one only.

Amatsukaze (photograph) DD163 was laid down on 29th November, 1962, launched 5th October, 1963 and completed 15th February, 1965: a creditable feat for a prototype of the size and complexity of this vessel. Displacing 3,050 tons standard and 4,000 tons full load, she is the largest naval vessel completed in Japan since the end of World War II and the first to be armed with a guided missile launcher. She is distinguished by very clean lines,

with flush deck and a marked absence of superstructure.

This ship has an overall length of 429 feet and beam of 44 feet and is fitted with the radar guided, surface-to-air guided missile, "Tartar", in one single launcher.

This destroyer is equipped with four, 3 inch anti-aircraft guns in two twin mounts; her anti-submarine weapons comprising one set of Short Torpedo Dropping Gear

on each side and two Hedgehogs. Ship's complement is 290 officers and ratings. Two Ishikawajima Foster-Wheeler boilers and geared turbines turning two shafts and developing 60,000 shaft horsepower provide a speed of 33 knots.

Amatsukaze is designed to carry a helicopter and it is understood she is shortly to have ASROC fitted amidships.

(d) Two, "Moon" class—Akizuki—DD161 (photograph) and Teruzuki—DD162.

Destroyers of a new design having a long forecastle hull these vessels were built in Japan under an Off-Shore Procurement Agreement. They serve as flotilla leaders and senior officers' ships. Akizuki visited Sydney and Melbourne during August last year with the MSDF training squadron.

Having an overall length of 387 1/6 feet and a beam of 39 1/3 feet, vessels of the "Moon" class are fitted with three, 5 inch dual-purpose guns in single turrets and four, 3 inch anti-aircraft guns in two twin mounts.

They are equipped with four, 21 inch (quadrupled) torpedo tubes and anti-submarine weapons include two hedgehogs; two Y-guns; one U.S. model Mk 108 rocket launcher



The Destroyer AKIZUKI of the Moon Class

J. A. & S. J. GILES

GRASSWORK CONTRACTOR

Specialising in

THE CONSTRUCTION OF BOWLING GREENS, OVALS AND PLAYGROUNDS —
MANURIAL TREATMENTS AND SYSTEMATIC LEVELLING WORK — FUNGICIDAL.
INSECTIVOROUS, MONOCAT, DICOT AND FOLIAR SPRAYING TREATMENTS —
CONTRACT AND CUTTING WITH TRACTOR AND GANGMOWERS

14 COOPER PLACE, BEAUMONT, S.A.

Phone 79-1550

ADELAIDE SHIP CONSTRUCTION PTY. LTD.

BIRKENHEAD, SOUTH AUSTRALIA

BUILDERS OF STEEL SHIPS TO 400 FT. LENGTH
COASTERS, TUGS, FISHING & SERVICE VESSELS

Sole Australian Licensees for Hydroconic Ship Construction

CABLES "HYDROCONIC ADELAIDE"

DUNNIKIER ROAD, BIRKENHEAD, STH. AUST.

Telephone 49-8371

and two depth charge throwers. These destroyers are also equipped with two homing-torpedo launchers, two radar systems and two sonar installations.

Shaft horsepower is 45,000 equal to 32 knots. Ships' complement is 330 officers and men.

(c) Seven Tnti-Submarine ("A" Type DDK)—"Wave" class: Ayanami, Isonami, Shikunami, Takanami, Uranami, Oonami (photograph) and Makinami.

All vessels of this class were completed during the period 1958/1960 under the First Defence Build-up Programme and are reported to be very successful ships.

Displacing 2,500 tons full load, vessels of this class measure 357 2/3rd feet at the waterline and are 35 feet in beam. Armament consists of six, 3 inch anti-aircraft guns in three twin turrets; four, 21 inch (quadrupled) torpedo tubes (four torpedo loading racks are mounted in pairs abreast the after funnel); four fixed anti-submarine homing torpedo launchers mounted on the quarter deck; two U.S. model Mk 15 hedgehog type depth charge throwers mounted on turntables before the bridge, and two Y-guns.

Machinery consists of two Mitsubishi-Nagasaki CE type boilers supplying high-pressure superheated steam to two sets of Mitsubishi-Escher-Weiss geared turbines turning two shafts and developing 35,000 shaft horsepower, equal to a speed of 32 knots. These destroyers carry 229 officers and men.

(f) Other older destroyers include three anti-aircraft ("A" Type DDA) of the "Rain" class. Harusame, Murasame and Yudachi; two of the "Wind" class Harukaze and Yukikaze. Classed as high speed escort vessels, they were modelled after the Shiratsuyu of the Imperial Japanese Navy and "Gearing" class destroyer of the U.S. Navy; two "Twilight" class being ex U.S. vessels of the later "Fletcher" type—Ariake and Yuugure were modernised in 1962; finally, two "Breeze" class being ex U.S. vessels of the "Gleaves-Livermore" Type.

Frigates and/or Destroyer Escorts. Total—18

Fourteen of the vessels in this classification were completed before



The Destroyer Escort of the River Class, KITAKAMI

1956. Japan's latest vessels are four of the "River" class. Isuzu and Mogami were completed in 1961 whilst Kitakami (photograph) and Ooi were completed in 1964 and have a number of improvements in armament and other equipment and are reported to be of slightly different dimensions.

Destroyer Escorts of this class displace 1,490 tons standard and 1,700 tons full load, having an overall length of 308½ feet and beam of 34½ feet.

Four, 3 inch guns in twin mounts; four, 21 inch (quadrupled) torpedo tubes; one, four barrelled rocket launcher; two, triple homing-torpedo launchers; one depth charge thrower and one depth charge rack comprise their armament.

Machinery consists of four diesels. Two shafts. Brake horsepower: 16,000 equal to 25 knots.

These airconditioned vessels carry a crew of 180.

Submarines. Total—6
(Four yet to be built under the Five-year Defence Plan, 1962-1966)

(a) Of the two boats of the "Ooshio" class, "Asashio", SS562 and "Ooshio", SS561 (photograph), the latter is the only boat yet completed. Of a large design these boats are being constructed to obtain improved seaworthiness, increase torpedo carrying capacity, are fitted with more comprehensive sonar and electronic devices and be capable of diving to a considerable depth.

Standard displacement is 1,600 tons, the dimensions being 288½ x 27 x 15½ feet. Six bow and two stern, 21 inch torpedo tubes are fitted.

Designed surface speed is 14 knots, submerged speed 16 knots, power being derived from two sets of Kawasaki MAN diesels or two electric motors.

(b) "Hayashio" class. Total—4.
These boats, "Fuyushio", "Nat-



Completed in 1965, OOSHIO is the first of five submarines of this type.

Best Wishes from . . .

North Queensland Stevedoring Pty. Ltd.

JETTY WHARF, TOWNSVILLE, QLD.

Phone 4084

Phone 4084

Miami Hotel

(PAT KELLY, Lic.)

Sparkling XXXX served to your Liking, in chilled glasses
First-class self contained accommodation, with every Modern
convenience, including telephone, luncheon and dinner a
La-Carte, Tariff Bed and Breakfast Daily or Weekly Excellent
Counter Lunches Served Daily 12 noon-1.45 p.m.

For Enquiries and Reservations

Phone Burleigh Heads (Qld.)

5 1061

sushio" "Hayashio" (photograph) and "Wakashio", were all completed during 1962/63, are classed as medium submarines and are fully air-conditioned.

Displacing 750/780 tons standard these submarines are 1931-200 feet in overall length and are fitted with three, 21 inch torpedo tubes.

Complement: 40 officers and men.

Submerged speed is 14 knots and surface speed 11 knots.

(c) "Oyashio" class. One only.

The one submarine "Oyashio"—SS511, was laid down on December 25, 1947, launched on December 25, 1959 and completed on June 30, 1960; she was the first submarine to be built in a Japanese shipyard since the end of World War II.

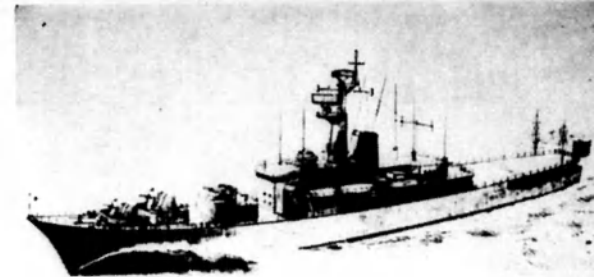
Displacing 1,130 tons surface and 1,420 tons submerged, she is 2581 feet in length and is fitted with four, 21 inch torpedo tubes and can carry ten torpedoes.

Her machinery comprises two diesels, B.H.P. 2,700 equal to 13 knots (surface); two electric motors, S.H.P. 5,960 equal to 19 knots (submerged).

General:

Other minor vessels include 20 submarine chasers, 10 motor torpedo boats, 39 minesweepers and minelayers, 52 landing craft and landing ships and 39 other vessels.

Japan also has a Maritime Safety Agency which was formed in 1948 and which operates as an external organisation of the Ministry of



A drawing of Japan's new training ship—her keel was laid during March, 1967

Transport. The Maritime Safety Agency is the equivalent of the U.S. Coast Guard—another example of the strong U.S. influence over the Japanese people.

The force comprises 8 large patrol vessels, 22 medium patrol vessels, 54 small patrol vessels, 40 patrol craft, 5 surveying vessels, 31 coastal patrol craft, numerous harbour patrol and service craft and 3 tenders. Personnel number 11,300 approximately.

New Construction Programme (Five Year Defence Plan)

Under the second five-year defence programme, 1962 to 1966, as well as building new destroyers and submarines, Japan is building one training ship of 3,500 tons, one minelayer of 2,000 tons and one experimental hydroplane.

Details of the training ship (photograph) are as follows:

Her keel was laid during March this year and she is scheduled for completion in 1969. Overall length to be 415 feet with a beam of 49 feet (approx. figures). Armament to comprise four, 3 inch rapid fire guns in twin mounts, a rocket launcher and two sets of three torpedo tubes mounted abreast the funnel. This vessel will be provided with a helicopter landing platform. Designed speed is 25 knots (approx.). Ship's complement will be 460 officers and men.

Third Defence Build-up Programme

This programme was finalised by the National Defence Council in March, 1967, whose objective is to promote home production of equipment to support the build-up attained by the Second Programme (1962-1966).

The Defence Council has agreed to build 60 Self-Defence ships having a total tonnage of approximately 53,000, including 14 destroyer escorts and 5 submarines, with the objective of maintaining 207 ships (total tonnage approx. 142,000) by the end of 1971. The Council hopes to have 196 Supporting ships in commission by the end of 1971 — total tonnage approximately 21,550. Besides maintaining 60 fixed wing aircraft for anti-submarine search, 33 helicopters and 28 training planes the Council intend having 218 operational aircraft by the end of 1971.



"Hayashio" the name submarine of the class

Australian Dried Fruits Association

(W.A. BRANCH)

DRIED FRUITS PUT HEALTH INTO EVERY RECIPE

THEY PROVIDE ENERGY

Dried fruits are an easily assimilated food and give quick, healthy energy for adults and children. Calory-rich grape sugar is abundant in Currants, Sultanas and Seeded Raisins.

THEY SUPPLY VITAMINS

Dried Fruits contain essential vitamins which help to tone up the system and contribute to better health.

THEY CONTAIN IRON

You need iron every day to keep your bloodstream rich and free from injurious impurities. Dried fruits give you iron in a way that makes it easily absorbed into the system.

THEY PROTECT TEETH

The pure grape sugar in Currants, Sultanas and Seeded Raisins does not contribute to tooth decay. Dried fruits are, therefore, ideal for between meal snacks and as a substitute for confectionery.

VITAMINS — ENERGY — IRON

SEND FOR A FREE RECIPE BOOK

A.D.F.A., BOX 15, MIDLAND, W.A.

PHONE 74-7223

Best wishes to R.A.N. from . . .

**EQUIPMENT PRODUCED IN
WESTERN AUSTRALIA**

- ★ Transformers up to 30,000 kva
- ★ Switchgear up to 66 kv
- ★ Dropout Fuses up to 33 kv
- ★ Cathodic Protection Power Supplies

Designed and Manufactured by

**Westralian
Transformers
Pty. Ltd.**

Scarborough Beach Road,
Osborne Park, Perth

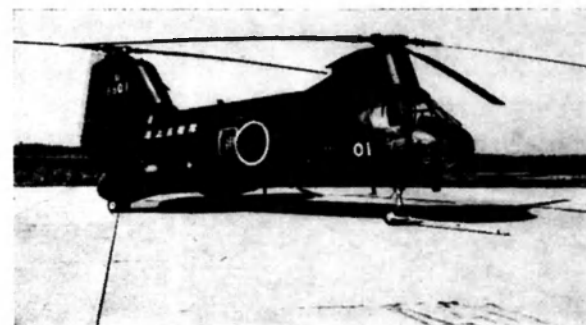
Phone 24-4821

Cable Address: "Westtransform"

☆ Suppliers to R.A.N.



Cathodic Protection Unit



Japan's Minesweeping Helicopter, The V-107

Aircraft in Service with the JMSDF

The Naval air component currently comprises Trackers, Neptunes and anti-submarine warfare helicopters.

Other lesser known types include:

Eight HSS—2's, American designed anti-submarine warfare helicopters, variants of the Sikorsky S-61B-1 (SH-3A Sea King), see photograph.

One B-65, a light executive transport seating 4 to 5 passengers. It is a non-pressurised version of the U.S. built Beech 65-90 King Air.

One NAMC YS-11M, a short-medium haul commercial transport.

One, S-62, Sikorsky General Purpose Transport helicopter already operated by the ASDF.

An unknown number of medium assault transport helicopters known as V-107 (Boeing-Vertol CH-46A Sea Knight). Their principal tasks will include anti-submarine functions, mine-sweeping, reconnaissance, rescue and transport duties (see photograph).

Development of A.S.W. systems has lagged behind that of the vessel that they are intended to counter, and considerable effort is being expended in the West (and presumably in the Soviet Union also) to close the gap and nullify the threat posed by the nuclear underwater vessel that can lay submerged at great depths and undetected until it launches its missiles and then moves stealthily away. It would be idle to suggest that the necessary breakthrough in the development of A.S.W. systems has yet been made, but the vehicles that will carry such

systems when they become available are already taking form, and the Japanese have had two new maritime patrol aircraft under development for some considerable time, the shore-based PX-L and the waterborne PX-S.

NEPTUNE DERIVATIVE

The PX-L which recently commenced its test programme, is a derivative of the Lockheed P-2H Neptune evolved by the Japanese Neptune licensee, Kawasaki. Although widely considered to be too small to carry adequately comprehensive A.S.W. gear, an updated Neptune is attractive to the Japanese on the score of cost, for the

existing jigs and tools on which Kawasaki has manufactured 48 P-2H Neptunes can also be used for its proposed successor, known to Kawasaki as the GK-210 and to the Japanese Maritime Self-Defence Force as the P2V-Kai. Apart from inadequate internal capacity, the existing Neptune is somewhat short on range and speed, and lacks the crew comfort demanded if peak efficiency is to be maintained over long-duration patrols. Kawasaki's only concession to increasing internal capacity has been the insertion of a 45-in section in the fuselage between the wing leading edge and the flight deck, but as an additional crew member is to be carried by the P2V-Kai (a tactical co-ordinator), the problem of providing sufficient space to accommodate new A.S.W. systems as they are developed would seem to remain, and speed have been tackled, and the P2V-Kai replaces the Wright turbo-compounds of the Neptune with 2,850 eshp licence-built General Electric T64-IHI-10 turboprops, and the Westinghouse J34-WE-36 auxiliary turbojets are supplanted by indigenous J-3-IHI-7C turbojets of 3,086 lb st. The APS-20 search radar has given place to X-band APS-80A with its very much smaller ventral radome; the main undercarriage members have been redesigned



Japan's new Anti-Submarine Patrol Aircraft PX-L
The Kawasaki PV2-KAI



The Royal Yacht "Brittania"
is equipped with

NU-SWIFT

The World's Fastest
Fire Extinguishers

Easy to Handle!

CERTAIN
to Operate!

Nu-Swift are installed in every ship of Her Majesty's Royal Navy and are standard equipment in 23 other Navies, including the Royal Australian, Royal New Zealand, Royal Canadian, French, South African, Royal Netherlands and Royal Hellenic Navies.



A size and type for every fire risk
SOLD BY STORES AND GARAGES

Distributed in Western Australia by:

SANDOVERS

44 Belmont Ave., Belmont, W.A.

Phone Inquiries 65-1711 Ext. 353

Clover Meats are proud to be associated with the
provisioning of Australia's Armed Forces

CLOVER MEATS

WHOLESALE BUTCHER

49 ALBERT STREET
NORTH PERTH

PHONES—28-2377, 28-2129

Best wishes from . . .

C. L. PEAKE & SONS

• MASTER PLUMBERS

Specialists in

- Hot Water Installations
- Plumbing Repairs and Maintenance
- Sewerage Connections.

18 BANNISTER STREET
FREMANTLE, W.A.

Finance Can Be Arranged

PHONE 5-1815

PRIVATE PHONE 39-1666

and are now of twin-wheel type, and the vertical tail surface area has been increased by a foot extension of the tip chord. By comparison with the P-2H, empty weight of the P2V-Kai has been reduced by some 10,000 lb. gross take-off weight being 8,000 lb. lower.

Current plans call for the acquisition of 68 P2V-Kai maritime patrol aircraft by the JMSDF.

THE PX-S FLYING BOAT

Apart from the Soviet Union only Japan appears to retain any interest in the flying boat for the maritime patrol task, although the U.S. Navy has apparently thought twice about phasing out the Martin SP-5B Marlin flying boats that still equip three patrol squadrons, and is initiating a retrofit programme in which a single General Electric J85-GE-2 turbojet is mounted in the rear of the hull to reduce take-off time and distance at the high gross weights that the Marlin now operates with its ever-increasing load of A.S.W. gear. In Japan, the PX-S programme for a new patrol flying boat will bear fruit with the completion of the first Shin Meiwa flying boat built to meet the requirements of the JMSDF's specification, although flight trials will not begin until August (refer page 11, Aug-Sept.-Oct., 1966, edition).

Like the P2V-Kai, the PX-S has 2,850 eshp T64-1H1-10 turboprops, and boundary layer control (BLC) is utilised for high lift, this being supplemented by an airscrew slipstream deflection system, and it is claimed that the high length-to-beam



The HSS-2 Helicopter of the Japanese Maritime Self-Defence Force (JMSDF)

ratio will endow the PX-S with outstanding seaworthiness, a groove-type spray suppressor evolved by Dr. S. Kikuhara aiding operating in rough seas. With empty and normal gross weights of 50,700 lb. and 72,750 lb. and an overload gross weight of 88,200 lb. the PX-S has an estimated maximum speed of 345 mph, a cruising speed of 230 mph, and normal maximum ranges of 1,380 miles and 2,300 miles. Offensive stores are to be housed in underwing pods between the engine nacelles, each pod housing two homing torpedoes or depth bombs.

The second PX-S prototype is expected to be completed in March, 1968, and if flight trials are success-

ful, it is anticipated that 22 flying boats of this type will be delivered to the JMSDF between 1971 and 1973.

Anti-submarine fixed-wing aircraft currently in service with the JMSDF is the P2V-7, which, like its successor, the P-2J, belongs to the "Neptune" family (see photograph). The P-2J is still in process of development, however, major modifications include the installation of home-manufactured turbo-prop engines and the enlargement of the air frame thus providing increased anti-submarine patrol capabilities.

Conclusion.

The relatively orderly advancement of all Self-Defence Forces is due to the support rendered by the United States — support in the form of weapons, vehicles, ships, aircraft, communications equipment and other aid. At the same time, the knowledge gained in the use of that equipment has developed Japan's operational and technical ability to overcome and supplement her deficiencies.

In the wider sense, it is essential that Japan, in its vital strategic and tactical position in the world, develop long-range, co-ordinated defence programmes of her own so that she is in a position to counter-balance the changing developments in the Far East and other areas as problems arise.



A model of the Shin Meiwa PX-S four-turboprop flying-boat being developed for anti-submarine and patrol duties for the Japanese Navy. Weighing 40 tons, it is expected to fly this year. Preliminary research has been done, using a converted Grumman Albatross

Thompson's Sports Store

For a Complete Range of
Sporting Goods & Toys

AGENTS FOR MALVERN STAR CYCLES
ALL SPORT EQUIPMENT REPAIRS
HOBBIES — TOYS — GAMES, etc.

Special Prices Available to Organisations,
Clubs, etc.

**24 CENTRAL PARK,
FRANKSTON, VIC.**

Phone 78-34910

Please Mention this ad. when calling

NAVY PERSONNEL LET

Easicut High Speed Steel Cutting Tools

Solve your tooling problem — Drills, Taps
Milling Cutter, Reamers, Countersinks
Counterbores, SR Boring Cutters, Tools Bits
Butt-welded Tools, Files, Hacksaw Blades
100T Cutter — For technical assistance
Special tooling design and quote

CONTACT HEAD OFFICE
250 Princes Highway, Dandenong, Vic.

Phone Dandenong 2-9351

N.S.W. OFFICE
22 Mandible St., Alexandria, N.S.W.

Phone 69-5566

THE DIRECTORS AND STAFF OF

AVIATION ENGINEERING SUPPLIES

(Late A.E.S. Trading Co. Pty. Ltd.)

**MELBOURNE AIRPORT MATTHEWS AVENUE
NIDDRIE, VICTORIA**

TAKE THIS OPPORTUNITY TO EXTEND BEST WISHES

TO ALL MEMBERS



"The Civilian Arm of the Navy"

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

The League in conjunction with the Commonwealth Naval Board administers the Australian Sea Cadet Corps, by providing finance and technical sea training for boys who intend to serve in the Naval or Merchant Services, also to those sea-minded boys, who do not intend to follow a sea career, but who given this knowledge will form a valuable reserve for the Naval Service.

We invite you to swell our ranks and so keep up to date with Maritime Affairs to help to build an ever-increasing weight of informed public opinion. The Navy League will then become widely known and exercise an important influence in the life of the Australian Nation.

The League consists of Fellows and Associates. All British subjects who support the objectives of the League are eligible for membership. Members receive copies of the League's magazine "The Navy". For further particulars please dispatch the form provided below to your local Secretary.

New South Wales — Box 1719,
G.P.O., Sydney.

Victoria — Room 8, 8th Floor, 528
Collins Street, Melbourne, C.I.

Queensland — Box 376E, G.P.O.,
Brisbane

Tasmania — 11 Quorn Street, Sandy
Bay, Hobart.

South Australia — 30 Pirie Street,
Adelaide.

Western Australia — 182 Coode
Street, Como.

Australian Capital Territory — 60
Limestone Avenue, Ainslie, Can-
berra.

Northern Territory — C/- H.M.A.S.
Melville, Darwin.

TO: The Secretary,
The Navy League of Australia.

Please send me details of membership of the Navy League of Australia.

Name:

(Please print clearly)

Address:

(Please print clearly)

State:

Best wishes to All Naval Personnel from . . .

Newstead Stevedores Pty. Ltd.

NEWSTEAD AVENUE,
NEWSTEAD, BRISBANE

Phone 51-1711

Bona Vista Restaurant

(L. G. & B. MYLONAS. Props.)

Exclusive for Weddings, Birthday Parties and
Social Functions

A very Scenic Spot of Mackay (Qld.). It has now
been extended to hold 400 guests and other
necessary facilities are being carried out for guests
convenience.

Any menu of your choice can be undertaken in
a fork and knife or buffet style.

Bona Vista is a place to enjoy — no external
noise or gate-crashers — Personal Calls are
welcomed.

Phone 4631 — A.H. 5730

Booking Can Also Be Made at the

Capitol Cafe Telephone 3913

Best Wishes to All Naval Personnel from . . .

THE WATERSIDE WORKERS CLUB

471 ADELAIDE STREET
BRISBANE

Manager MR. LES COOPER

Phone 2-5681

Kindly sponsored by . . .

L. S. WATKINS PTY. LTD.

69 Cemetery Rd., Raceview
Ipswich, Qld.

Specialising in All Classes of
Bricklaying—Concrete Work—Terrazzo Floors
Our Name is Your Guarantee

Phone 81-4448

Nautical Notes from All Compass Points

By SONAR

CANADA NEW A.D.A. SYSTEM

Britain has her Action Data Automation system, America has her Naval Tactical Data System and now Canada is to have a system called Command and Control System 280. All three are highly sophisticated methods of collecting all the information obtained by the various sensors, such as radar, sonar, reports from other ships and so on, and then analysing these reports and displaying them to the Command.

The Canadian system is being developed by Litton Industries of the U.S.A. and will be the first of such equipments to be largely micro-electronic. The heart of the system will be a L340F computer, which is the latest version of the Litton 300 series of computers and there will be a number of newly developed modular display consoles.

The system is intended principally for anti-submarine work and will be fitted in Canada's helicopter destroyers now under construction.

SEA SPARROW

The Canadian Navy is to develop Sea Sparrow, the U.S. close-range surface-to-air missile system, for her four new helicopter destroyers now building and two new operational support ships. The system will use the Sparrow III missile coupled with a Dutch fire-control system and a Canadian launcher.

ANTI-SUBMARINE EXERCISE

A combined U.S. and Canadian anti-submarine exercise took place in the Caribbean from January to the end of March with ships operating out of Roosevelt Roads naval station, Puerto Rico.

Canadian ships taking part included the mobile repair ship, Cape Scott, helicopter destroyers Saguenay, Annapolis, Skeena, Assiniboine, Margaree and Ottawa, the destroyer escorts Kootenay, Restigouche, Mackenzie and Saskatchewan, Argus maritime aircraft, navy Tracker aircraft, Sea King and Sikorsky helicopters were also involved. The naval aircraft operating from Shear-

water Naval Air Station, Nova Scotia.

CENTENNIAL YEAR

Apart from two naval reviews at Halifax and Victoria, ships of the R.C.N. will have a busy year visiting nearly a hundred Canadian ports during 1967, Canada's Centennial Year.

The programme commenced with the visit of a destroyer squadron to Montreal in April to participate in the opening ceremony of Expo '67.

CENTRAL AFRICAN REPUBLIC

LANDLUBBER NAVY

The Central African Republic, which is 500 miles away from the nearest ocean, is starting a navy.

An announcement from the office of President Jean Bedel Bokassa said the navy was being created as part of a general strengthening of the country's armed forces. It had just acquired a vessel — a river tug donated by neighbouring Kinshasa.

FRANCE SS.12 AT SEA

A new navalised version of the Nord SS.12 tactical surface-to-surface missile has been developed for operation from fast patrol boats. The object is to provide effective armament against much larger vessels and shore targets.

Powered by a Nord two-stage solid-propellant motor, SS.12 is wire guided and steered by jet-deflection. It weighs 167 lb with a 67 lb high-explosive warhead. Hitting power is equivalent to a 155 mm artillery shell.

The lightweight launcher can accommodate two SS.12 or four SS.11 missiles. Optical sighting, guidance and control facilities are self-contained.

The versatility of the Nord Aviation family of tactical missiles is evident in many successful variations of the basic type. The SS.11, originally developed as an anti-tank weapon, has since been used in an AS.11 version in an air-to-surface role; it is also basic armament on military helicopters. The AS.12

also is very similar to its surface-to-surface SS.12 version and has the same warhead. It, too, is in service with several types of aircraft and helicopters.



During recent trials at Toulon, two navalised SS.12's were fired from the coastal patrol boat "La Combattante" at a moving target over 6,000 yds. distance. Both hit the 12 ft. x 16 ft. target, within a yard of its centre and about one yard above the waterline. According to the manufacturer, the missile's high accuracy is as much due to a special optical sight as the missile's inherent flight accuracy. Developed by the Puteaux Arsenal (a branch of the Technical Direction of Land Armaments), this sight was originally designed for helicopter use, but is being adapted to other vehicles. It has a high degree of magnification and is completely gyro-stabilised to compensate for ship movements.

In the same trial period at Toulon an Alouette III helicopter fired AS.11 and AS.12 missiles at a moving sea target with full success, using a similar sight to that on "La Combattante."

Best Wishes to the "Navy League"
from

RYAN & RYAN HIRE CARS

1 CANNING HIGHWAY,
EAST FREMANTLE, W.A.

Phone 39-3126

SPECIAL RATES TO NAVY PERSONNEL

Best Wishes to the "Navy League"
from

James McLarty & Son Pty. Ltd.

GENERAL AND MARINE ENGINEERS

41 DE LISLE STREET
NORTH FREMANTLE, W.A.

Phone 5-2313 — 5-2872

Best wishes from . . .

West Australian Tanners and Fellmongers Ltd.

22 RUSSELL STREET
FREMANTLE, W.A.

- LEATHER BREATHES — SO DO YOUR FEET
- HEALTH AND LEATHER GO TOGETHER

Phone 5-2692

STATE SHIPPING SERVICE

REGULAR CARGO & PASSENGER SERVICE

Fremantle to North-West Ports and Darwin
with two-monthly extensions round
Australia

Enjoy a Cruise in Air-conditioned
COMFORT

For Passenger Fares and Bookings apply
HEAD OFFICE, FREMANTLE and
TOURIST BUREAU, PERTH

For Cargo Bookings: Head Office
1 Short St., Fremantle, W.A.
PHONE 5-2151

FIRST ATOMIC SUBMARINE

The French Navy launched its first nuclear-powered "Polaris-type" submarine, the Q252 Redoubtable, at Cherbourg on March 29. France has already ordered three of this French-developed type, described as SNLE (Sousmarin Nucleaire Lance-Engins) and may increase the order to five. They are due to enter service in the 1970-74 period. With a length of 420 ft. and a beam of 34.76 ft., they have a displacement of 7900 tons (surface) and 9000 tons submerged, and will be armed with 16 MSBS (underwater-fired sea to shore ballistic strategic) nuclear missiles, and four torpedo tubes. MSBS missiles, already tested aboard the 3800 tons Gymnote (refer article "French Submarine Effort" below) experimental submarine, have a 10-ton thrust (P10) first stage and a four-ton thrust (P4) second stage, both solid propellant. They can be launched from a depth of 60 ft., using compressed air, with aiming and firing after they break surface, and have a range between 1250 and 1900nm. Size problems now limit them to 200 kiloton doped nuclear warheads, but they will eventually have megaton thermo-nuclear warheads when miniaturisation problems imposed by SNLE capacity are overcome. Powered by a PWR type atomic reactor, developed by the Cadarache Nuclear Research Centre, and delivering 20,000 h.p. they will have a submerged speed of more than 20 kt., and an endurance, without refuelling, of three years. Cruise endurance capability submerged is listed as 90 days, but in practice will be about three days.

VASI UNIT

From Paris comes news of a new visual approach slope indicator (VASI) with three optical units, each one being sufficient by itself to meet the ICAO requirement covering these indicators. Each lamp unit is permanently adjusted in the manufacturer's factory — Barbier, Benard & Turenne. They are mounted in rigid frames designed not to lose their shape or the required approach slope. A simple levelling device is fitted to make setting-up easy.

FRENCH SUBMARINE EFFORT

It looks as if, following the United States and British lead, France is to stop building conventionally powered submarines and concentrate in future on nuclear-power.

The latest project is "Rubis", a nuclear-power fleet submarine of 3,800 tons with a length of 275-2-3 ft. and a beam of 34.1 ft., of a new hunter-killer type with high performance. This is evidently the prototype for the French submarine fleet of the future.

For the construction of this vessel, and for the construction of France's first nuclear-powered ballistic-missile-armed submarine, "Redoubtable", experience was undoubtedly gained with the building of Gymnote, completed at Cherbourg last year.

"Gymnote" was specifically designed as an experimental platform for testing fleet ballistic missiles destined for "Redoubtable", prototype of the Force de Frappe of three, or possibly five, such vessels which the French Navy hopes to have in the 1970s.

She was also intended for use as an underwater laboratory to prove trial equipment and arms for nuclear-powered submarines. With a displacement of 3,800 tons she has a length of 275 ft. and a beam of 34.1 ft. She is quite unlike any other submarine in appearance, her two prominent features being her high

missile-section abaft the conning tower fin or "sail" and the sonar dome forward. The missile section, housing four vertical tubes for Polaris-type fleet ballistic missiles extends upwards a deck higher than the normal upper deck. She is conventionally powered with diesels and electric motors, her 2,600 brake horsepower and two shafts giving her a speed of 11 knots on the surface and 10 knots submerged.

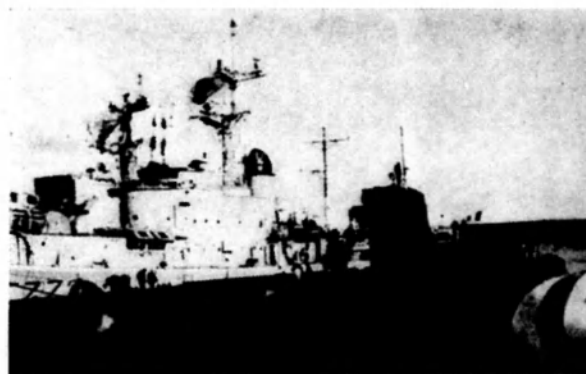
"Redoubtable" is reputed to be designed for a displacement of 7,900 tons on the surface and 9,000 tons submerged with a length of 420 ft. and a beam of 34.1 ft. She will be armed with 16 Polaris tubes and four torpedo tubes and will have a speed of 20 knots on the surface and 25 knots submerged.

DOLPHIN MATELOTS

The French Navy has recruited a number of dolphins. They are to be trained to respond to commands underwater and the French hope that it might eventually be possible to use them to tow frogmen and for other experimental underwater work.

The French are showing considerably more interest in the ocean depths than we are and are now spending almost as much money on oceanography as are Russia and the U.S.A.

Britain's oceanographers fully realise the importance of extending their work, but are having a hard time in convincing the Treasury.



F.S. GYMNOTE, showing the raised superstructure abaft the fin.

V. BOALCH'S SHIPPING AGENCY PTY. LTD.

CUSTOMS — SHIPPING FORWARDING
AGENTS
OPERATING MANAGERS AND STEAMSHIP
AGENTS

Phone 5-4366
P.O. Box 290, Fremantle
16 PHILLIMORE STREET,
FREMANTLE, W.A.



Cash for Christmas

Make sure you have the money
you need for Christmas
presents, entertainment, holi-
days through a Christmas Club
Account. Go to any branch of
the "Commonwealth" and

join our Christmas
Club NOW.

Get with the Strength
BANK COMMONWEALTH
(It's the Biggest!)

- ☆ FREE DELIVERY
- ☆ QUICK SERVICE
- ☆ LOW PRICES
- ☆ FRESH STOCK

Phone 2302

PITMAN'S SUPERMARKET

336 SHAKESPEARE STREET
MACKAY, QLD.

(Near Showgrounds)

☆ Country Orders Welcome

Depot: Tooma Dry Cleaners

IRAN MORE SHIPS

It turns out that the four new warships, the order for which Vosper Limited, Portsmouth, announced on August 25, 1966, had been received from the Imperial Iranian Government and which the Imperial Iranian Navy referred to as "destroyers", will not in fact be anything like the conventional fleet destroyers as we know that type today, that is the big vessels with the heaviest possible gun and torpedo-tube armaments commensurate with the highest possible speed derived from orthodox propelling machinery comprising boilers and geared turbines, and built by most of the major naval powers during and since the Second World War.

Rather will they be a revival, in size but not layout, appearance, armament or propulsion, of the small destroyers of pre-war years and of the famous escort destroyers of the "Hunt" classes afterwards related as frigates.

In fact the four ships being built for the Iranians are to the Vosper Mark 5 Frigate design, an improved and considerably enlarged version of the handsome and successful corvette type now proved in service in the navies of Ghana and Libya. So the evolution and development of this new type has been entirely different — not from diminutive steam torpedo boat to destroyer but from the Vosper conception of small corvette to frigate.

The artist's impression of the Vosper Mark 5 frigate, while not depicting the exact design of the ships which will be delivered to Iran, has been provided by the builders as being quite sufficiently like it to give readers a good general idea.

Two of the ships will be built at Woolston, Southampton, shipyard of John I. Thornycroft & Co. Ltd., recently taken over by the Vosper Group, and two at the Newcastle-upon-Tyne shipyard of Vickers in conjunction with Vosper, thus perpetuating the association of the two latter firms initiated with the building of the recent corvettes.

It is estimated that the new frigates will turn out at about 1,200



Artist's impression of the Vosper Mark 5 Frigate.

tons displacement. As well as one main gun forward they will be armed with powerful anti-submarine and anti-aircraft weapons, and will have a very high speed obtained from Bristol Siddeley marine Olympus gas turbines, with diesel machinery for cruising.

Meanwhile, until these new type frigates are completed, the Imperial Iranian Navy will not have been without experience of operating British built and equipped warships of comparable size and category. Ever since 1949 Iran has made good use of two former ships of the Royal Navy, namely "Babr" (ex-H.M.S. "Derby Haven"), a depot and repair ship of 1,650 tons standard and 2,160 tons full load displacement with an armament of two 4-inch guns and a speed of 19½ knots, converted from the "Loch" class frigate "Loch Assynt"; and the escort vessel "Palang", formerly the British "Algerine" class ocean minesweeper, H.M.S. "Fly", with a displacement of 1,040 tons standard and 1,225 tons full load and carrying a similar armament at a speed of 16½ knots.

And now the "Battle" class destroyer "Sluys", which has been in reserve for several years on the sales disposal list, is being transferred from the Royal Navy to the Imperial Iranian Navy.

This considerably larger, more heavily armed and more sophisticated ship will be the largest unit in the Imperial Iranian Navy and should provide considerable assistance in training the personnel who will eventually be drafted as the companies of the new frigates under construction in the United Kingdom.

When last in operational service with the Royal Navy "Sluys" had a displacement of 2,325 tons standard and 3,361 tons full load and an armament of four 4.5 inch guns, nine 40 mm. anti-aircraft guns, eight 21-inch torpedo tubes, and a Squid triple-barrelled anti-submarine depth charge mortar. Her propelling machinery comprises two Admiralty three-drum boilers and a two-shaft arrangement of Parsons geared turbines aggregating 50,000 shaft horsepower designed for a speed of 35½ knots. She will doubtless require extensive modification to render her suitable for conditions in the Imperial Iranian Navy and in particular for exacting service in the Persian Gulf.

ITALY POLARIS

The guided-missile cruiser "Vittorio Veneto" (8,850 tons) is to be fitted with Polaris and a helicopter platform. She has been taken in hand for a refit at Castellomare di Stabia near Naples.

NORWAY IROQUOIS HELICOPTERS

In addition to the 16 Bell UH-1B's in service or in process of delivery to "Luftforsvaret", the Norwegian Government is to place supplementary orders for the Iroquois to bring the total for tri-service operation to 40 helicopters of this type. One Iroquois will be carried by each Norwegian Navy "Oslo" class destroyer.

TIGHT BINDING

Purdon and Featherstone Pty. Ltd.

- SHIP BUILDERS
- SHIP REPAIRS
- SLIPWAYS
- SHIP DUNNAGING

2 NAPOLEON STREET
BATTERY POINT, HOBART

Phone 2-3980

Contractors for the Slipping, Repairs and Refit
of Small Craft for the Department of Navy

Best wishes to all Navy League members . . .

C. J. NIBBS

ELECTRICAL CONTRACTOR

Industrial, Domestic Installation and Hot Water
Town and Country
Contractor to the Services

29 KARoola ROAD
LINDISFARNE, HOBART

Phone 43-9063

Best wishes . . . When in Hobart call at . . .

The Empire Hotel

Licensee: BAS MURRAY, ex-R.A.N.

Situated in the Heart of Hobart
Warm Welcome and Cold Ale Assured

299 ELIZABETH STREET
HOBART, TAS.

Phone 2-4954

ELECTRICAL CONTRACTOR

J. BURNS

Phone 43-8197

24-HOUR SERVICE

All Classes of Electrical Installations and
Maintenance, including

TELECOMMUNICATION SYSTEMS

GEILSTON CREEK ROAD
GEILSTON BAY, TAS.

Contractor to Armed Services

JAPAN

GIANT DRY DOCK

The Hitachi Shipbuilding and Engineering Company has announced plans to construct a 400,000-ton deadweight building and repair dock at its Sakai shipyard in western Japan by the end of next year.

The giant dock will be 1,246 ft. long, 203 ft. wide, and 29 ft. deep. One of the three 173,900 ton deadweight oil tankers, ordered by Shell International Marine, of London, will be the first vessel to be built there.

UNITED KINGDOM

NEW-LOOK CHARTS FOR ROYAL NAVY

New-look, easier to read charts are to be produced for the Royal Navy, according to the annual report of the Hydrographer of the Navy, Rear-Admiral G. S. Ritchie.

Features of the new charts, which will be available later this year, are the use of colour to show land areas and inter-tidal zones, modern symbols to mark traditional features and modern lettering and numerals.

Though designed for the Royal Navy, Admiralty charts are widely used by merchant fleets of many countries. Last year's sales of charts and sailing directions totalled \$1,665,000.

An agreement with Australian authorities resulted in the reproduction of 12 Australian charts during the year. The resulting improvement in charting applied in particular to where recent mineral developments necessitated charting of new and expanded ports.

MINELAYER LAUNCHED

One of the rarest ships in the Royal Navy — a minelayer — was launched on January 27. In line with tradition she was named "Abdiel" and she was launched by Lady Hopkins, the wife of Admiral Sir Frank Hopkins, Commander-in-Chief, Portsmouth.

"Abdiel" is designated an exercise minelayer and will have a displacement of about 1,500 tons, an

extreme length of 265 ft. and a beam of just over 38 ft. She will be powered by two Paxman "Ventura" diesel engines. Her complement will be 14 officers and 109 ratings.

SIXTH NUCLEAR SUBMARINE DEFINITE

Vickers Ltd. has been awarded the contract, worth about £20m. (\$50m.), to build the Royal Navy's sixth hunter-killer nuclear submarine at Barrow-in-Furness, and it was announced in London that a seventh of the type is to be ordered later this year. Three of the hunter-killer type (which are being built in addition to the R.N.'s four Polaris-type submarines) are already in commission. They are the Dreadnought, Warspite and Valiant. The Churchill and another, so far unnamed, are under construction (refer notes in previous edition).

SUB AIDS FISHERMEN

British scientists have designed a two-man submarine to help deep-sea fishermen catch more fish.

The project, still in the blue-print stage, was announced at the London International Engineering and Marine Exhibition.

The submarine, with a submerged speed of six knots, could carry a pilot and observer 600 feet under water.

They could follow the trawl net of a fishing vessel to see how it behaved — and how fish entered it.

UNITED STATES OF AMERICA

SUBMARINE NAVIGATION

U.S.N. has awarded Sperry Rand a \$US16,000,000 contract to continue development of the Polaris-Poseidon submarine navigation system, which constantly provides the position, altitude and velocity needed to put the missiles on target. Accuracy goals are reported to be 400 per cent better than the system now backing the Polaris A-3 system. One microminiaturised digital computer will replace the three computers now used, and a new technique will be employed for cali-

brating at sea the system's inertial gyros.

M.C.M. SUPPORT

One of the most remarkable looking specialist warships ever commissioned is the U.S.S. "Ozark", the first mine-counter-measures support ship ever built for the United States Navy. This vessel has had a very chequered history. Originally intended to be a transport with the designation AP 107, she was actually designed as a Large (Cruiser) Mine-layer and numbered CM 7, but she was subsequently converted into a vehicle landing ship and redesignated LSV 2.

Originally built by Willamette Iron and Steel Corporation, Portland, Oregon, she has latterly been entirely rebuilt as a minesweeper carrier by Norfolk Shipbuilding & Dry Dock Corporation, Norfolk, Virginia, and she is now capable of transporting, maintaining, operating and supporting no fewer than 20 36-foot minesweeping launches and two helicopter minesweepers. She will be used in forward areas in support of amphibious landing operations.

Of 5,875 tons standard and 9,040 tons full-load displacement, with an overall length of 455 ft. and a beam of 60 ft., she is armed with two 5 in. guns and eight 40 m.m. anti-aircraft guns. Her propelling machinery comprises four boilers and geared turbines of 11,000 shaft horsepower turning two shafts and giving a speed of over 20 knots. She has accommodation for 114 officers and 450 men.

"STANDARD" ANTI-AIRCRAFT MISSILES

U.S.N. contract worth \$120m. has been awarded to General Dynamics Pomona Division for quantity production of the Extended Range (ER) and Medium Range (MR) Standard anti-aircraft missiles that will replace Terrier, Tartar and Talos missiles on ships now equipped from the "3 T's" range, which, according to Defence Secretary McNamara, have proved "disappointing" in service. Closely resembling the Tartar-Terrier missiles, also designed by GD, the Standard missiles can be used in their place with

Regards to all Navy Personnel from

Jack & Newell Pty. Ltd.

Customs & Forwarding Agent
Trucks, Semi-Trailers & Mobile Cranes
for Hire

27 WHARF STREET
CAIRNS, QLD.

Phone 2303

Standard Weighbridges (Qld.)

16 Chester St., Fort Valley,
Brisbane

Phone 51-1196

Harbour Road, Hamilton
Brisbane

Phone 68-3489

C. W. CHATER

MARINE PLUMBER AND SHEET
METAL MANUFACTURER

1-6 REID STREET
KANGAROO POINT, QLD.

Phone 91-3316

Phone 91-3316
3 Lines

We Specialise in the Pallet and Platform
Construction and Hiring

SEAMAN & CO. PTY. LTD.

80 WEBSTER ROAD
STAFFORD, QLD.

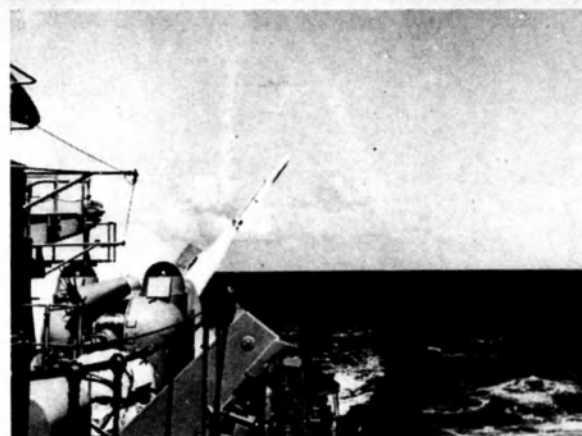
Prompt and Reliable Service is Our
Motto

No Job Too Big or Too Small

RING 56-6925

For Personalised Attention Phone
85-5588

P.O. Box 36 Strathpine



minor changes to magazines, radars and launchers on the guided missile ships, but improvements incorporated are reported to make the Standards twice as effective: with unreliability rate halved and ship-board test equipment and maintenance eliminated. Pre-firing warm-up time on the launcher is reported to have been reduced from about 30 sec. to one sec. The ER and MR versions differ only in propulsion, and feature solid state electronics, re-packaging, maintenance simplicity, faster reaction time, a semi-active homing guidance system (said to incorporate improved penetrability against counter measures) and enlarged growth potential. Standard MR, to replace the RIM 24B Improved Tartar, has dual solid thrust propulsion, a launch weight of 1200 lb., a max. altitude of 50,000 ft., and a range of 15-plus miles. Standard ER (replacing the RIM-2E Homing Terrier), with solid motor and booster propulsion has a launch weight of 3000 lb., a max. altitude of 75,000 ft. and range of more than 35 miles. Standard length is 5 ft. (ER, with booster, 27 ft.) and diameter 13 in.

POSEIDON

The United States is to fit the Poseidon missile into 31 of their 41

ballistic missile submarines. The remaining 10 will have the A3 Polaris missile. Both missiles are to have the MIRV multiple warheads. In this system, each warhead is capable of being guided on to a different target.

AIRCRAFT DEVELOPMENT

Development of a torpedo-carrying version of the Hughes OH-6A, possibly for the U.S. Navy, is now being undertaken. Capable of carrying two 400 lb torpedoes, it will feature a longer undercarriage and will be cleared for deck operations. Several European navies are allegedly evincing interest in this development.

NEW TOWED SONAR

Brief details have been released of a new towed sonar being developed by the Hughes Aircraft Company for the U.S. Navy.

It is apparently a listening sonar only and consists of a string of hydrophones which are towed a great distance astern of the ship and, when necessary, at great depth. In addition to the underwater array there are five cabinets of processing and display equipment on board the ship.

OCEANOGRAPHIC BUOYS

The U.S. Navy has recently been carrying out experiments with large buoys moored in deep water and fitted with electronic devices to collect oceanographic data and transmit it to the shore, over considerable distances, by H.F. radio.

The buoys are said to be as much as 40 feet in diameter, weigh 50 tons and are topped by a 40 foot aerial mast.

Although the buoys are expensive, they are said to be much cheaper in the long run than using ships to obtain the same data.

U.S.S.R. FLEET CONTROL

A system of controlling Russia's merchant fleet based on the use of computers is being developed in the Soviet Union, according to the Soviet News Agency, Tass.

Soviet sea transport had become one of the most complex, multi-faceted branches of the national economy, creating a need for such a system, Tass said.

RUSSIAN NAVAL STRENGTH IN THE BALTIC

Over a quarter of the Soviet Navy is currently based in the Baltic, according to a statement issued by the West German Defence Ministry. Its present strength there is said to consist of the following:

- 5 Conventional Cruisers.
- 4 GM Ships.
- 20 Conventional Destroyers.
- 20 Escort Destroyers.
- 100 Anti-submarine Vessels.
- 185 Fast Patrol Boats, of which 65 have guided missiles.
- 130 Minesweepers.
- 70 Landing Vessels.
- 80 Submarines.
- 200 Naval Aircraft.

The German report stresses the build-up of Russian amphibious capacity in the Baltic and it is stated that the Warsaw Pact countries have, for many years, carried out amphibious landing exercises in the Baltic area.

SMIT'S SPLICING SERVICE

STUBBS TERRACE
SHENTON PARK, W.A.

The Wire Rope Specialists

- ☆ Sisal Rope and Cordage for all purposes
- ☆ Splicing of all descriptions

Work Guaranteed — Free Quotes

Phone: 8-4363

For All Information

Best wishes to Fremantle & Districts R.S.L.
Members & ex-Navy Men from . . .

Swan Brushware Ltd.

36 DUKE STREET
EAST FREMANTLE, W.A.

- Manufacturers of Millett Brooms, Household
Paint, Industrial and Wire Brushes, Mops and
Feather Dusters

Phone 39-1501

Best Wishes to the "Navy League"
from

B. M. BAHEN PTY. LTD.

Woolbrokers

9 PAKENHAM STREET
FREMANTLE, W.A.

Phone: 5-4571

Boat Building?

See . . .

Bunnings



Everything a Boat
Builder Needs

- MARINE PLYS
- SELECTED BOAT
BUILDING TIMBERS
- MARINE PAINTS &
VARNISHES

49 Charles St., Perth
Ph. 28-0121 & Branches

Navy League Visit to U.S.C.G.C. "Glacier"

On 19th March last, about 150 Fellows of the New South Wales Division and their friends inspected the U.S. Coast Guard Cutter GLACIER (WAGB-4), the United States' largest and most powerful icebreaker, which is under the command of Captain Opie L. Dawson, U.S.C.G.

"Glacier" was designed and constructed to open polar regions never before accessible to ships. Her primary missions are to provide ice-breaking services and to support polar scientific research programs. Her tasks include the escorting of other ships through the ice, logistic support of polar stations, oceanographic and survey work, and weather ice observations in polar regions. She also shares the responsibility of protecting life and property on the high seas with her sister Coast Guard cutters.

As a U.S. Navy vessel, "Glacier" participated in each of the Navy DEEP FREEZE operations in the Antarctic from 1955 to 1965. Her transfer to the U.S. Coast Guard on June 30, 1966, did not alter that assignment; she continues to lead the annual re-supply mission.

She is fitted with the largest diesel-electric propulsion plant afloat, with a total of 21,000 horsepower. Designed to provide flexible power for continuous icebreaking operation. Two 17' 06", 17 ton propellers are mounted on shafts over two feet in diameter. Shafts are driven by two 10,500 horsepower motors that receive power from 10 diesel-driven generators. Maximum speed is 18 knots.

To loosen gripping ice "Glacier" has a built-in heeling system that induces an artificial 10 degree roll by rapidly pumping 140,000 gallons of water from side to side.

The ship has a flight deck, hangar and maintenance facilities for two helicopters, used for ice reconnaissance,

transport, and exploratory work. "Glacier" is equipped for scientific research and data collection with aerological, hydrographic, and photographic laboratories, as well as depth-sounding equipment and extensive communications and radar capabilities.

— Official Coast Guard photograph.



U.S.C.G.C. GLACIER in the Bellinghausen Sea, off Antarctica's little known
Eight Coast.

Contributions Invited

The Editor invites persons to submit articles and photographs for inclusion in the magazine, but regrets that no payment can be made for contributions submitted. Contributions should be addressed: The Editor, "The Navy", Box C178, Clarence Street Post Office, Sydney, N.S.W., Australia.

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

Best wishes to R.A.N. Personnel from . . .

B.P. Hi-Mark Service Station

(Alex Brown and Allen Sweeney. Props.)

☆ EXPERT MECHANICAL REPAIRS
AND DRIVEWAY SERVICE

27-33 South Terrace, Fremantle, W.A.

PHONE 5-2950

ASHTON DRY CLEANERS

Well Known in R.A.N. Circles for
Quality and Service

68 OXFORD STREET
SYDNEY

Phone: 31-4473

Nicol Bros. Pty. Ltd.

ALL CLASSES OF
STEAM, DIESEL AND GENERAL
ENGINEERING

Boilermakers
Oxy Acetylene and Electric Welders
Plumbing and Electrical Work

10-20 WESTON STREET
BALMAIN EAST, N.S.W.

Phone: 82-0367 (3 lines)

After Hours:
76-9485 — 86-3225 — 36-5708

Sydney Slipway & Engineering Co.

PTY. LTD.

123 DARLING STREET, BALMAIN
N.S.W.

MARINE AND GENERAL ENGINEERS

- Slipway Capacity up to 850 tons
- Fabrications up to 20 tons
- Pressure Vessels
- Manufacturing of the Victor Oily Water Separators
- Fitting and Machining of all Types
- Certified Testing of Cargo Blocks
- Contractors to the Army and Navy Departments

Phone: 82-1506, 82-1482, 82-3277

Compliments to all Naval Personnel from:

G & G STORES

*You save at
G & G Stores*

Branches in All Principal
Suburbs and Country Towns

"YOU'LL LIKE THE CHANGE"

SEA CADET CORPS NEWS

NEW SOUTH WALES DIVISION

Report of Activities and Training Undertaken by the New South Wales Division for the Quarter Ending 31st March, 1967.

Periods of continuous training were carried out in the following establishments and the opportunity was taken to conduct courses as indicated.

H.M.A.S. "Albatross", 2nd-13th January, Air Badge Course.

H.M.A.S. "Albatross", 2nd-13th January, Physical Trainer's Badge Course.

H.M.A.S. "Creswell", 2nd-13th January, Boat Charge Certificate Course.

H.M.A.S. "Penguin", 2nd-13th January, Recruits and Ordinary Seamen's Course.

A total of 80 Cadets plus Officers and Instructions attended these courses.

Harbour and weekend training took place in the following ships and establishments.

H.M.A.S. "Vendetta", 10th-12th February.

H.M.A.S. "Sydney", 17th-19th February.

H.M.A.S. "Penguin", 24th-26th February.

H.M.A.S. "Watson", 24th-26th February.

H.M.A.S. "Creswell", 10th-12th March.

H.M.A.S. "Sydney", 17th-19th March.

The Annual Swimming Carnival was held in H.M.A.S. "Penguin" on Saturday, 25th February, at which some 200 Cadets and parents were present. Both T.S. "Tobruk" (Newcastle Unit) and T.S. "Sydney" (Snapper Island) topped the point score, gaining equal first place.

Unfortunately, due to inclement

weather on Sunday, 26th February, there was no option but to cancel the transfer of the A.S.C.C. Colour from T.S. "Tobruk" (Newcastle Unit) to T.S. "Albatross" (Wollongong Unit). The ceremony had been scheduled for 1500 in H.M.A.S. "Watson".

L. MACKAY-CRUISE.

Lieut-Commander R.A.N.R.
Senior Officer.

Annual Church Parade of the New South Wales Division

The annual Church Parade of the New South Wales Division of the Corps was held at H.M. Australian Dockyard Church, Garden Island, Sydney, on Sunday, 7th May, 1967.

More than 300 Cadets paraded and were inspected prior to the Service by the Flag Officer in Charge, East Australia Area, Rear Admiral T. K. Morrison, C.B., C.B.E., D.S.C. (see photograph, front cover).

The Service was conducted by the Reverend L. W. Long, ThL., R.A.N., and the lessons were read by Petty Officer Ian Hind, A.S.C.C. and Rear Admiral T. K. Morrison. The Division's Colours were "laid up" in the Sanctuary during the Service.

The East Australia Area Band of the Royal Australian Navy, conduct-



Rear Admiral T. K. Morrison, C.B., C.B.E., D.S.C., the Flag Officer in Charge, East Australia Area, reading the Second Lesson—St. Mark, Chap. 4, verses 30 to 41—at the Annual Church Parade of the New South Wales Division of the Australian Sea Cadet Corps

Best wishes from STEWARTS . . .

HAMILTON HOTEL

Phone 68-2564
442 KINGSFORD SMITH DRIVE, HAMILTON, QLD.

— and —

ALBION HOTEL

300 SANDGATE ROAD, ALBION, QLD. — Phone 62-2733

For a Glass of Your Favourite Beer
Best Brands of Wines and Spirits Stocked in Our Bottle Depts.

Free Delivery



You'll Enjoy a Glass of
Clear Sparkling Amber
CASTLEMAINE
X X X X
The Popular Beer
'It's Quality Never Varies'
The Beer Queenslanders
Prefer
Brewed in Queensland by
**CASTLEMAINE PERKINS
LIMITED**



KEN MOIR

ELECTRICAL ENGINEER

Electrical Repairs and Rewinding
Services and Spares for Kanga Hammers
Sales, Service and Spares for
METABO ELECTRICAL TOOLS

Phone 5-2397

32 CHESTER ST., FORTITUDE VALLEY, QLD.

REX ROBINSON & SONS PTY. LTD.

165 BARRY PARADE VALLEY
BRISBANE

Phone 5-3031 — After Hours 95-5984

WIRE ROPES & SPlicing SPECIALISTS

Suppliers of Wire Rope Clamps, Shackles,
Nipples, Sockets, Chains (Alloy & Steel) Sisal,
Manilla, Coir, Nylon, Terylene, Polythene Ropes
Trevhella Jacks

Cannon Hill Newsagency

951 WYNNUM RD., CANNON HILL, QLD

FOR STATIONERY, TOYS, CARDS

Receiving Depot for Brisbane City Council
Casket Agency

Phone 95-3479



(DOES NOT BURN SOFTEN)

ENJOY NEW DAIRY CUP
hot drinking chocolate

TRY ITS DELICIOUS MALTY FLAVOUR!

NU-PRODUCTS OF AUSTRALIA PTY. LTD.

17-19 Trafalgar St., Woolloongabba, Brisbane, Qld.

G.P.O. BOX 1677V, BRISBANE

PHONE 91-4111

107. The service concluded with the hymn "Soldiers of Christ Arise", the National Anthem and the Blessing.

A large number of families and friends of the Cadets witnessed the Parade and Service, which events were mentioned over the radio news and featured in the daily press and by TV Channels 2 and 10 during subsequent programmes.

At the conclusion of the Service, the Division, led by the R.A.N.R. band, "Marched Past" outside the Chapel; Admiral Morrison taking the salute.

The Editor is always pleased to receive news and photographs concerning the activities of all Divisions of the Corps.

AHOY THERE!

A new life raft that might be mistaken for an unidentified object from outer space, but which will carry and shelter from sun, wave and wind as many as 30 survivors, has been invented by Danish boatswain Anton Bak Sorensen. The doughnut-shaped Survivosphere is fire-resistant and carries its passengers inside the welded hull. Power is supplied by an 18 h.p. Evinrude outboard motor that propels the 4,500 pound craft at 10 m.p.h. The Survivosphere is a prototype craft and production costs are not yet available.

HULL SPEED AHEAD

Japan's rapidly growing ship-building industry has been given another edge over its competition with a new automatic welding system developed by a team of engineers. The machine, which embodies nine welding processes, makes it possible to weld a ton of steel in seven hours — half the time required by conventional methods. With the new device, the Japanese say they can build a 100,000 ton vessel in four and one-half months (compared with a normal seven to eight months). The welder, jointly developed by Kawasaki Dockyard, Kobe Steel, Yawata Steel and Osaka Transformer Manufacturing Co., is capable of handling bottom welds and welds in curved hull plates. The engineers responsible have been given the Okochi Memorial Award (the highest award for scientific achievement in Japan), for outstanding industrial development.



Members of the Australian Sea Cadet Corps, New South Wales Division, marching to H.M. Australian Dockyard Church, Garden Island, Sydney, to attend the Division's Annual Church Parade.



Best wishes on Trafalgar Day from . . .

Marell Chemicals Pty. Ltd.

Manufacturers and Suppliers of
LIQUID DETERGENTS AND SOAPS
DISINFECTANTS — DEODORANTS
SANITARY PRODUCTS — SHAMPOOS
INSECTICIDES — POLISHES, etc.



**2 MURRAY STREET,
RICHMOND, VIC.**

Phone 42-4794

From the Management and Staff of . . .

AXIS ENGINEERING CO. PTY. LTD.

**417 ALBERT STREET,
WEST BRUNSWICK, VIC.**

Phone:

387-1731 — 387-1724

CONTRACTORS TO THE AUSTRALIAN
GOVERNMENT

Greetings to all H.M.A.S. Cerberus
personnel and families from . . .

Your AMP Society Life Assurance

Representatives:

Messrs. Ashton and John Latham

**12 RITCHIE STREET
FRANKSTON, VIC.**

FOR ALL YOUR INSURANCE NEEDS
LIFE — FIRE — ACCIDENT

Phone Frankston 78-32822

The Management and Staff . . .

ANDERSONS PTY. LTD. FURNITURE WAREHOUSE

50 Wells St., Frankston, Vic.

PHONE: FRANKSTON 3-2368

WISH SUCCESS TO THE "NAVY"

Anzac Greetings to R.A.N. from . . .

THE DE LA VILLE HOTEL (Mine host Laurie and Joyce Davey)

Little Myers Street, Geelong, Vic.

Don't forget lads always a good beer and
a good counter lunch here

Note our New Phone number
GEELONG 21-4469

JOIN THE AUSTRALIAN SEA CADET CORPS

If you are between the ages of 13 and 18 years

The Australian Sea Cadet Corps is a voluntary organisation administered by the Commonwealth Naval Board and The Navy League of Australia.

The aim of the Australian Sea Cadet Corps is to provide for the spiritual, social and educational welfare of boys and to develop in them character, a sense of patriotism, self-reliance, citizenship and discipline.

Uniforms are supplied free of charge.

Cadets are not required to undergo any medical examination and are fully insured against accident while on duty.

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

The interesting syllabus of training covers a wide sphere and includes seamanship, handling of boats under sail and power, navigation, physical training, rifle shooting, signalling, splicing of wire and ropes.

general sporting activities and other varied subjects.

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

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

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

Senior Officers, Australian Sea Cadet Corps

NEW SOUTH WALES: "El Abrigo", 4 Rangers Ave., Cremorne.

QUEENSLAND: C/- Box 376E, G.P.O., Brisbane.

SOUTH AUSTRALIA: C/- 30 Pirie Street, Adelaide.

TASMANIA: C/- 11 Quorn Street, Sandy Bay, Hobart.

VICTORIA: C/- Room 8, 8th floor, 528 Collins St., Melbourne, C.I.

WESTERN AUSTRALIA: C/- 182 Coode St., Como.

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

NORTHERN TERRITORY: Box 444, P.O., Darwin

TO: The Senior Officer,

Australian Sea Cadet Corps

I am interested in joining the Australian Sea Cadet Corps and would be pleased to receive further information.

NAME

ADDRESS PHONE NO.

STATE OR TERRITORY AGE

(Please print clearly)

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

A Company of the Vickers Group

Cockatoo Docks & Engineering Co. Pty. Limited

BUILDERS OF MANY OF THE NAVY'S
FINEST FIGHTING SHIPS

**COCKATOO ISLAND
SYDNEY**

Telegraph Address: Codock
Phone: 82-0661

BODEN'S BOAT DESIGNS

3 RAWSON PLACE, SYDNEY — 211-0781

We have two marvellous publications on the market — BODEN'S DESIGN BOOK and BODEN'S BOATBUILDING BOOK. Both these books are NEW and full of up-to-the-minute designs and knowledge, and are yours for \$2.95 from Newsagents and Booksellers throughout Australia.

If you want them mailed direct from here, the cost is \$3.20.

3 RAWSON PLACE SYDNEY — 211-0781

See the New 67 Range of MOLCO TRAILERS

All MOLCO Trailers are:

- Completely dipped in our unique rust resisting solution.
 - Fully certified by the Transport Dept. prior to pick-up.
 - Equipped with guaranteed HIGH SPEED wheels
 - Obtainable at all leading Marine Dealers
- MOLCO: Specialists in Trailer Designs for Australian Conditions
590 FOREST ROAD, PENSHURST, N.S.W.
Phone 57-0440

AT YOUR SERVICE

For Your Holiday Requirements

Information & Bookings Call or Telephone
HOWARD SMITH TRAVEL CENTRES

Sydney: 269 George St. — Tel. 27-5611
Melbourne: 522 Collins St. — Tel. 62-3711
Port Adelaide: 3 Todd St. — Tel. 4-1461
Fremantle: 1 Mouatt St. — Tel. 5-1071
Newcastle: 16 Watt St. — Tel. 2-4711
Cairns: 18 Abbott St. — Tel. 2115-6
Ballarat: Cnr. Lydiard & Malr Sts. — Tel. 2-5462

Wishing the Navy every success from . . .

ROBIN HOOD INN BLACKTOWN, N.S.W.

(Popular Mine Host: JOHN LAZANA)

- ICY COLD TOOTH AT ITS BEST
 - POPULAR SNACK BAR
- PHONE: 622-0205

USE . . .

OLDFIELDS PAINT BRUSHES

The Famous OLDFIELDS Brushes are
used by the R.A.N. and are Available
Everywhere throughout Australia

Manufactured by

**H. OLDFIELD & SON
PTY. LTD.**

Henry St., Leichhardt, N.S.W.

56-6211-2-3

Second-hand Warships for Argentina

Argentina has always shown a lively interest in naval affairs. Whenever any new warship type has been evolved or developed out of the orthodox by the chief maritime countries abroad, Argentina has been quick to evaluate its possibilities for the Argentine Navy. All this century Argentina has shown a ready appreciation of the major warships of the principal naval powers as potential for her own Navy and for possible application to her peculiar strategic and tactical requirements, and where practicable she has emulated them and placed orders for similar ships: sometimes, it seemed, beyond her actual defence needs. All too often this policy seemed to be engendered by the incentive of keeping up with the Joneses in South America, for it was usually the case that if any one of the three principal maritime countries in the sub-continent, Argentina, Brazil and Chile, acquired major warships of any prestige value the other two followed suit. Thus it was with battleships in the past and big cruisers and aircraft carriers after the war.

But recently it has been more difficult to find the money for building capital ships and major warships abroad, so recourse has had to be made to the purchase of surplus warships from the United States or Great Britain. Time was when Argentina came straight to Great Britain for new warships, but latterly Argentina has been cutting her cloth to suit her pocket and is acquiring secondhand warships wherever the price demanded is economical.

It will be recalled that early in 1962 the Argentine Embassy in London announced that it had been decided to place orders with British shipbuilding firms for the construction of four general purpose frigates of the "Leander" class — two from J. Samuel White & Co. Ltd., Cowes, Isle of Wight, and two from Yarrow & Co. Ltd., Scotstoun, Glasgow. This first rate and very versatile anti-submarine class of improved "Type 12" had proved to be highly successful and more than one country abroad were casting envious eyes in their direction. Unfortunately only four months later it was officially stated that the orders had been shelved for an indefinite period because of Argentina's financial position. Similarly, John I. Thornycroft & Co. Ltd., Woolston, Southampton, were selected by the Argentine Navy to build six non-magnetic coastal minesweepers of the well-proved British "Ton" class, built in large numbers for the Royal Navy.

The order was placed at the same time as that for the frigates but was also shelved later for reasons of financial stringency.

Now comes an echo from those difficult days. Argentina still has a requirement for both escorts of "Leander" size and the coastal minesweepers and is taking belated steps to acquire them, but whereas the original acquisitions would have been new ships and all from Great Britain, giving work to three shipyards (of which White's has since gone out of business as shipbuilders, and Thornycroft's has been merged with Vosper's) the acquisitions presently decided are secondhand ships and only the coastal minesweepers will be purchased from Great Britain, the indent for the bigger warships going to the United States.

From the U.S.A. the Argentine Navy is getting two destroyers of the later "Fletcher" class, "Charles J. Badger" and "Hickox", both completed in 1943, the former by the Bethlehem Steel Company, San Francisco, and the latter by the Federal Shipbuilding & Dry Dock Company, Port Newark. With a displacement of 2,050 tons standard and 3,050 tons full load, they have a length of 376½ ft. overall and a beam of 39½ ft. They originally carried five 5-in. guns and 10 40 mm. anti-aircraft guns, but are being re-armed with four 5-in. guns and six 3-in. dual purpose guns. They are also armed with five 21-in. torpedo tubes, two hedgehogs, two side-launching torpedo racks and a depth-charge rack. Their propelling machinery comprises four Babcock & Wilcox boilers supplying high-pressure superheated steam to a two-shaft arrangement of General Electric geared turbines developing 60,000 shaft horsepower and equal to a speed of 34 knots. With a bunker capacity of 650 tons of oil fuel they have an endurance of 6,000 miles at 15 knots. They have accommodation for 24 officers and 300 men, but normally have a comple-



U.S.S. HICKOX

Best wishes from . . .

C. G. McLACHLAN & CO.

CUSTOMS & SHIPPING AGENTS

13 DIVETT STREET
PORT ADELAIDE

Phone 4 1694

Best of wishes to the boys from . . .

PORT ADELAIDE GALVANIZING SERVICE

174 Port Rd., Alberton, S.A.

PHONE 4-2322

For the happiest night in Adelaide Wine and
Dine at the . . .

Olde Kings Music Hall Restaurant

and witness the fruity melodrama
"The Curse of a Girl from the Poorhouse"
Hiss the Villain, Cheer the Hero and Sigh for the
Beautiful Heroine—starring Barry Egginton and
Phyl Skinner; also featuring the legendary
Nellie Koller—Wed., Thurs., Fri., Sat., from
6.30 p.m.

Bookings at John Martin—Phone 8-4326

Best Wishes from Norm Bull's

SOUTHERN TYRE DEPOT

South Rd., Darlington, S.A.

FOR TOYO TYRES

The Better Tyre at a Lower Price
Save on Batteries too

PHONE NORM BULL 96-4810

Best of Wishes from Ray Wheatland

Port Adelaide Service Station

FAST SERVICE . . . BY EXPERTS

164 Commercial Road, Port Adelaide

Phone: 4-2739

Best wishes to the Boys from . . .

ERN TAYLOR

(Late 2nd A.I.F.)

Petrol Co. — 7th Div.

OXY WELDER

Phone 46-3792

Crash Repairs — Dent Knocking — Oxy Welding

Electric Welding — Painting

All Done by Experts

20 FIFTH STREET
BROMPTON, S.A.

ment of 14 officers and 236 men in peacetime. These two ships will form a homogeneous squadron with "Brown" (ex-U.S.S. "Heerman"), "Espora" (ex-U.S.S. "Dortch") and "Rosales" (ex-U.S.S. "Stembel") which were acquired from the United States in 1961.

From Great Britain the Argentine Navy is purchasing six coastal minesweepers of the "Ton" class built in a repeat series since 1953 and the first 14 units of which have recently been listed for disposal. And Argentina is acquiring them now at only a small fraction of the price which she would have had to pay for the same ships five years ago. Of 360 tons standard and 425 tons full-load displacement, they have an overall length of 153 ft. and a beam of 28½ ft. and are armed with two 20 mm. anti-aircraft guns. They are propelled by two Deltic diesels of 3,000 brake horsepower turning two shafts and de-

veloping a speed of 15 knots. With 45 tons of oil they have a range of 2,300 miles at 13 knots and their normal complement is 27 to 36 officers and men. These ships are needed to replace the four old minesweepers of not much larger size built in Argentine local shipyards in 1937-38.

The representation of British-built and United States-built warships in the Argentine Navy is already very considerable. The fleet comprises the aircraft carrier "Independencia", formerly the British "Warrior", 19,540 tons full load; the submarines "Santa Fe" (ex-U.S.S. "Lamprey") and "Santiago de Estero" (ex-U.S.S. "Macabi"), 2,425 tons submerged; the cruisers "General Belgrano" (ex-U.S.S. "Phoenix") and 9 "de Julio" (ex-U.S.S. "Boise") both 13,645 tons full load, and the British-built "La Argentina", 8,630 tons full load; nine destroyers, in-

cluding the three former U.S. vessels mentioned above, and six British-built ships of 2,000 tons full load, two from Vickers-Armstrongs Ltd., Barrow-in-Furness, two from Cammell Laird & Co. Ltd., Birkenhead, and two from John Brown & Co. Ltd., Clydebank; three frigates, two of 1,400 tons full load built at Astillero Nav., Rio Santiago, and one former U.S. vessel of 2,415 tons full load; three corvettes, two of 1,032 tons full load built at the Rio Santiago Naval Yard and one former British vessel of 1,375 tons full load; four minesweepers built in local shipyards; a U.S. built motor torpedo boat; eight patrol vessels, all former U.S. units; three surveying vessels; five tank landing ships; two medium landing ships; three infantry landing craft; a salvage vessel, two training ships, five transports, four oilers, an ice-breaker (Antarctic research ship), and 10 tugs.

Rescue Submarines For The United States Navy

The Navy has ordered the first of six baby subs designed to rescue crews from disabled submarines.

The 25-ton, 44-foot long "submarine rescue vehicles" will be equipped also for underwater research, oceanography and for search missions.

Lockheed Missile and Space Co. of Sunnyvale, California, has been picked to build the first model. Following evaluation, contracts will be awarded for the five sister craft.

The baby subs mark the first step in developing an operational submarine location, escape and rescue system under the Deep Submergence Systems Project run by the Special Projects Office. The need for the subs was illustrated by the loss of 19 men in the "Thresher" disaster three years' ago and the long, difficult search for the Air Force's lost H-bomb off Spain.

The size of the baby subs is dictated by the requirement that they must be able to respond to a submarine disaster anywhere in the world in 24 hours. They will be carried, fully assembled, in a C-141 aircraft, in a surface ship, or piggy-back on a nuclear submarine. The

rescue subs should be able to operate under any weather conditions and under ice.

At a disaster, the subs will operate from a mother submarine or a surface ship, making shuttle trips to the sunken submarine, and could return 12 to 14 survivors per trip. The rescue craft will mate with the escape hatch of the downed sub, forming an airtight seal. Survivors will enter the small centre sphere compartment of the "triple bubble" pressure hull. From there they would go to a larger centre compartment and ride to safety.

The two-man crew will operate the vehicle from a third compartment with controls similar to those in aircraft.

The prototype will be operational by early 1968 and the rest of the class is scheduled for completion by 1970. This will give the Navy a two-ocean rescue capability.

The baby subs will be designed to operate as deep as 3,000 feet (the H-bomb was recovered from 2,850 feet). They will be able to operate submerged for 12 hours at three knots with a maximum speed of five knots.

Existing miniature subs like the "Alvin" and "Aluminaut" were used in the H-bomb search, but they have no submarine rescue equipment and are not very maneuverable.

Lockheed already has under construction a research submarine, "Deep Quest", which will be in operation this fall. A 50-ton, multi-mission research craft, "Deep Quest" will carry a crew of four and 7,000 pounds of scientific equipment to a depth of 6,000 feet.

The problems of operating at extreme depths was emphasised by Lt. Comdr. J. Bradford Mooney at a conference on oceanography here when he told of a close call in the bathyscaphe "Trieste II" off Cape Cod.

"We were down to 8,400 feet searching for the 'Thresher' remains when an electrical short burned a hole in a water tank," Mooney said. "It was only inches from a gas tank and, of course, that would have been the end." This was the first mention of the near disaster.

Remember the thousands of
CRIPPLED CHILDREN
who will never take part in sporting activities.
THEY NEED YOUR HELP NOW

Send Your Donation to—

The Crippled Children's Assoc.

67 Franklin St., Adelaide
PHONE 51-6931

Sponsored by

COLLISON & CO.
97 KING WILLIAM ST., ADELAIDE

Best of wishes from . . .

MICK AND INA McDONNELL of the

LION HOTEL

Where You're Always Welcome

163 Melbourne St., Nth. Adelaide
PHONE 6-9535

Buy your Philips and Hecla Electric Blankets
at the best price from . . .

KEITH BOWDEN

ELECTRICAL SALES AND SERVICE

1155 South Road, St. Marys, S.A.

Phone 76-2815—After Hours: 76-2628

Special Discounts for Naval Members

Best of wishes to the Navy Boys from . . .

GLOBE HOTEL PTY. LTD.

(Mike Connor, Lic.)

You're Always Welcome at the Globe—Week-End
Supplies Delivered

144 St. Vincent St.,
Pt. Adelaide

PHONE 4-1512 For Deliveries

Best wishes from . . .

STIRLING ELECTRICS

73 REDWOOD CRESCENT
MELVILLE, W.A.

Telephone 30-3291

Specialising in
MARINE and INDUSTRIAL
INSTALLATIONS
REPAIRS and MAINTENANCE

Best of wishes from . . .

CUMBERLAND HOTEL

(Don and Jack Lock, Ex-2/43rd Bn.)

228 Semaphore Road, Glanville
S.A.

PHONE 49-6694

A friendly welcome and a cold beer assured

H.M.A.S. PERTH

By JOHN MORTIMER

H.M.A.S. "Perth" is one of three modified Charles F. Adams class destroyers purchased by Australia from the United States. The "Perth's" sister ships are the "Hobart" and "Brisbane". The "Perth" was the first to be laid down and was begun on the 21st of September, 1962. She was subsequently commissioned at Boston, Massachusetts on the 17th July, 1965.

While the "Perth" was under construction the 333 officers and men of her crew undertook courses in the United States to familiarise themselves with their new ship. After her commissioning the "Perth" carried out a series of trials and tested her Tartar missile system. These were successful, and in March, 1966, the "Perth" reached Australia.

During March and April, 1966, the "Perth" made visits to all the Australian capital cities, where the ship was open to public inspection. When this was completed, the "Perth" returned to Garden Island where she has remained, apart for coastal exercises.

The reason for the "Perth's" inactivity has been due to her being fitted with the Australian designed Ikara anti-submarine missile. The "Perth" is the first destroyer in the world to be fitted out with the Ikara missile system and has recently carried out sea trials with the missile. The Ikara now makes the "Perth" more advanced than her American counter-parts which are fitted with the Asroc anti-submarine missile. However, this missile lacks both the range and accuracy of the Australian built weapon.

The Ikara missile carries a homing torpedo and is controlled from the ship until it drops its torpedo in the vicinity of the submarine. Then the homing device guides the torpedo to its target. The mechanism such that the torpedo is directed to strike its target amidships.

The "Perth" is also armed with Tartar surface to air missile system, which has a range of 15 to 20 miles. The missile has one rocket engine, which, when fired, produces speeds greater than that of sound.

The engine then cuts back its power to give the missile endurance for a long high-speed chase. The Tartar missile is fired on computed information from the ship's radar, but once in flight it changes to its own guidance system which enables it to follow a moving target. The "Perth" has a single rail launcher in "X" position and carries 42 missiles.

The "Perth" also has two single turret 5 inch 54 calibre, rapid firing, fully automatic guns. One is placed forward in the "A" position and the other in the aft "Y" position.

Besides this formidable armament the "Perth" also has two triple anti-submarine torpedo launchers. These have a shorter range than the Ikara system and are found on both sides of the deck just behind the forward 5 inch gun turret.

This fire-power is linked with a control system that automatically selects targets, aims the weapons, and then locks them onto the target.

The "Perth" has a standard displacement of 3,370 tons and a full load displacement of 4,500 tons. She has an overall length of 437 feet, her beam is 47 feet and her draught is 20 feet.

The "Perth's" geared steam turbines enable her two shafts to develop 70,000 shaft horse power and this gives her a speed in excess of 35 knots.

The "Perth" also has the latest equipment in long range sonar and radar. This, coupled with her communication and electronic equipment, provides the operations room with the necessary up to date information.

All the living quarters are air-conditioned and amenities include regular movie shows, television, internal news and broadcasting services, free laundry and a canteen which is stocked with a wide variety of goods.

These destroyers have a new hull design, which is an evolution of the "Forrest Sherman" type. As compared with previous destroyers they have a greater overall length, a wider beam and a heavier displacement. Also, the "Perth" has an all-aluminium superstructure and her hull is welded instead of riveted. Both these features are aimed to make the "Perth" lighter and thus faster.

The "Perth" was purchased from the United States at a cost of \$45,000,000 (U.S.). This includes the cost of spare parts, stores, ammunition and other accessories.

The design of ships of this class is particularly versatile as they have particularly formidable anti-submarine, surface gunnery and anti-aircraft capabilities. Therefore they can be used to escort amphibious forces and support them after their landings, to work with hunter-killer groups in attacking submarines and to protect convoys.

EDITOR'S NOTE:—

Many readers have probably read my plea for contributions to the magazine which is printed in every edition yet brings very little result.

You can imagine therefore, how pleased I was to receive John Mortimer's article, not only was it technically correct in every detail, but perfectly typewritten — I wonder who his secretary is? Well done John, keep up your interest in the R.A.N.

I would mention that John included two very good photographs of H.M.A.S. "Perth", snapped by him, but I regret that because of limited space available it was not possible to reproduce them.

KENNETT'S

Kennett Bros. Pty. Ltd.
Kennett Constructions Pty. Ltd.
Kennett Hardware Pty. Ltd.

47 TYNTE STREET
NORTH ADELAIDE

BUILDERS AND CONTRACTORS

PHONE 6-8822

Motorists—Call in and see MIKE EDWARDS
For Personal Attention—We are open from
7.30 a.m. to 8 p.m. to serve you

Electronic Tune-up — Car and Engine Washing
Range of Spare Parts in Stock — Lubrication,
Fuel, Oil, etc.—Agents for Suzuki Motor Cycles

ESSO SERVICENTER

Beach Road, Christies Beach, S.A.
PHONE 82-1755

Greetings to the Boys from . . .

MARCONI RESTAURANT

Wine and Dine in Continental Cuisine
WHERE YOU'RE ALWAYS WELCOME

153 Rundle Street, Adelaide

PHONE 23-5228

NAN'S REPAIR SERVICE

160 Jetty Rd., Glenelg, S.A.

Coat, Frock and Skirt Alterations
Waist Adjusted — Trousers Tapered
Zips Replaced—FAST SERVICE

PHONE 9-1182

Minbrie Private Hospital

Matron: G. P. Lake (R.A.N.F.)

Post-Operative, Medical and Convalescent Patients

123 Cambridge Tce., Malvern, S.A.

PHONE: 71-7501

Best wishes to the Navy League from . . .

**Lewis—Martin
—Batchelor**

(J. L. LEWIS & CO. PTY. LTD.)

(H. J. MARTIN & SONS PTY. LTD.)

(O. C. BATCHELOR & SONS PTY. LTD.)

Customs — Shipping — City, Suburban and
Interstate Hauliers

**LIPSON STREET
PORT ADELAIDE**

Phone: 4-3325

VISITS TO AUSTRALIAN PORTS BY THIRTEEN U.S. WARSHIPS TO COMMEMORATE THE 25th ANNIVERSARY OF THE CORAL SEA BATTLE

Admiral David L. McDonald, U.S. Navy Chief of Naval Operations, Official Guest of Honour at the 25th Coral Sea Celebrations, is the most senior U.S. officer to come to Australia since General Macarthur.

Although it is traditional for the Guest of Honour to be a four star officer, this marks the first time that the head of a U.S. military service has taken part in the festivities.

Aged 57, he joined the U.S. Navy in 1924 and has built a reputation

as a "master diplomat", a "tough across the table operator in uniform" and is a most likeable and personable man of great character.

He wanted to be a lawyer, but once he had decided to join the Navy, he was soon at sea and as the years have passed, has carried

out many difficult assignments.

In 25 years he rose from Ensign McDonald (1928) to Admiral McDonald (1963).

A chronological transcript of Service shows rapid advancement at sea and on land, and decorations during service at sea and in war.

Citations issued upon conferring of honours show Admiral McDonald has been decorated many times.

In World War II he won the Bronze Star Medal when as OIC of the Combat Information Centre of USS "Essex", he evaluated and disseminated combat information which contributed to a decisive defeat of Japanese units in the Battle of Leyte Gulf in 1944.

He is entitled also to wear the Presidential Unit Citation (USS "Essex") for "extraordinary heroism in action against enemy forces in the air, ashore and afloat, in the Pacific War from August 31, 1943, to August 15, 1945.

In post war years he has been Commanding Officer of the carriers "Mindora" and "Coral Sea", Commander Carrier Division 6, Commander Sixth Fleet and Commander Naval Striking and Support Forces, Southern Europe.

He was awarded the Distinguished Service Medal for "exceptionally meritorious service" as Commander Sixth Fleet from July 13, 1961, to March 18, 1963.

He became Chief of Naval Operations Navy Department in August, 1963.

A free thinker and forceful speaker, Admiral McDonald pulls no punches when addressing gatherings.

The Anti-submarine warfare carrier "Bennington", the Fleet replenishment ship "Sacramento" and the destroyer "Epperson" visited Sydney;



USS BENNINGTON

Best wishes to all Members from ...
MATRON RUTH MURRAY (Ex W.R.E.N.)

Greenglades Private Hospital

Post Operative
Medical and Chronic
Patients

Delightful Seafront View at:

**83 ESPLANADE
HENLEY SOUTH, S.A.**

PHONE 56-8592

CRUICKSHANK PTY. LTD. PRINTERS

151-155 Gouger Street, Adelaide

Modern Letterpress Plant Small Offset Dept.
and Bindery—Travellers calling to all
suburbs weekly

PHONE 51-3741—51-2837

To all Clubs, Associations, etc.—When having
Bottle Collecting Drives—Contact

C. F. Byerley & Sons Pty. Ltd.

77 Carrington Street, Adelaide

Bags Supplied—PHONE 23-5011

the Guided Missile cruiser "Canberra", two destroyers of the "Frank Knox" class, "Turner" and "McKean", visited Melbourne; the destroyer of the "Allen M. Sumner" class, "Maddox" and the Guided Missile armed Destroyer Leader of the "Leahy" class, visited Adelaide; the Amphibious Transport Dock of the "Ogden" class, "Duluth" and the "Balao" class submarine "Blackfin", visited Perth; the "Balao" class submarine "Carbonero" visited Geraldton and the two converted "Fletcher" class destroyers "Fletcher" and "Nicholas" called at Brisbane.

All vessels being under the overall command of Rear Admiral Ralph Weymouth, Commander Anti-submarine Warfare Group One.

After a week of official function, entertainment and sightseeing, the ships sailed for California on May 7, 1967.



S-28 Grumman tracker aircraft from the carrier Bennington.

SEA CADET CORPS (QUEENSLAND DIVISION) NEWS

QUEENSLAND SEA CADETS HELP TASMANIA

The sum of \$119.90 has been forwarded to the Senior Officer of the Tasmania Sea Cadet Division for the relief of the families of Sea Cadets affected by the recent disastrous fires in Tasmania.

This gesture was initiated by the Welfare Committee of T.S. "Gayundah" and supported by the Officers, Instructors and Cadets of both T.S. "Gayundah" and T.S. "Paluma", including the Welfare Committee of the latter Unit.

Both "Paluma" and "Gayundah" are outstanding Units in Queensland. In 1961 "Gayundah" won the Navy League Efficiency Trophy and "Paluma" is the current holder of the converted Trophy.

The spirit of mutual help and cooperation which exists between them and to other Queensland Units has now been extended outside the State. This can only reflect credit on the A.S.C.C. in general.

SUBSCRIPTION FORM

To "The Navy",
Box C178, Clarence Street Post Office,
Sydney, N.S.W., AUSTRALIA.

I enclose \$1.80 for half-yearly Subscription to "The Navy",
post free.

Name
Street
Suburb State
Date

PLEASE PRINT CLEARLY

Please make cheques, postal orders or money orders payable to
"The Navy League".

Subscriptions commence in January of each year, at which
time a subscription reminder notice is forwarded to current subscribers — Annual Subscription, \$2.40.

Those commencing subscriptions to "The Navy" magazine in the
quarter commencing APRIL, should remit \$1.80, JULY, \$1.20 and
OCTOBER, 60c.

Best of wishes to the Navy Boys from ...

AMATO'S FISH SHOP

WHERE YOU'RE ALWAYS WELCOME

60 St. Vincent St., Pt. Adelaide

PHONE 4-1598—Clubs Catered For

Bring the family to Pt. Noarlunga for the day
and see ...

D. E. GUTTERIDGE

AT THE
RIVERSIDE KIOSK
Pt. Noarlunga, S.A.

FISHING AND ROWING BOATS FOR
HIRE AND SALE

PHONE 82-1339

Only \$2 Weekly enables you to Purchase a
Hand Made-Tailored Suit — JOIN NOW

ALLAN MARTIN

The Mens Wear Store
Your Assurance of Friendly Service

94 Jetty Road, Glenelg, S.A.
PHONE 9-1223

Best wishes to the Navy League from . . .

RUDDER'S LTD.

CUSTOMS. SHIPPING. FORWARDING.
CARRYING & DISTRIBUTION AGENTS

Phone 4 1104

10 TODD STREET
PORT ADELAIDE

Branches in all major centres throughout
Australia

Best Wishes from . . .

R. C. DURHAM PTY. LTD.

VICTORIA ROAD, LARGS BAY, S.A.
PHONE 49-9270

BENDIX CONSOLIDATED INDUSTRIES LTD.

9 GROVE AVENUE, RICHMOND, S.A.
Phone 53-7621

Swivel Office Chairs — Domestic Chrome
Furniture — Hospital Equipment

STURT PRIVATE HOSPITAL

Sister E. M. Cathro

CASUAL and PERMANENT PATIENTS

58 Dover St., Malvern, S.A.
PHONE 71-7367

Best wishes to the Boys . . .

You are Always Welcome to Call in for
Refreshing Ice Cold Beer at the

COMMERCIAL HOTEL

Commercial Road,
Port Adelaide, S.A.

Mine Host: BILL ROGERS

Best wishes to the Navy League from . . .

J. C. FORBES LTD.

Manufacturing Engineers

110 ROYCE AVENUE
CROYDON PARK, S.A.

Phone 46-2611

AFTER HOURS: 46-2578

X-ray bursts new defence from missile attack

Tremendous bursts of X-rays from high altitude thermo-nuclear explosions will be used to destroy incoming ballistic missile warheads in a revolutionary development of the U.S. missile defence system.

This was disclosed in testimony before the Senate Foreign Relations Committee's disarmament sub-committee, released in Washington recently.

Experts said the new approach of using X-rays for destruction of warheads has opened up a whole new concept in ballistic missile defence and made it possible to develop an "area defence" against missile attack.

The wide destructive range of the X-rays has greatly simplified the complex problem of intercepting and destroying enemy missile warheads.

For high-altitude interception it is no longer necessary for the defensive missile to be aimed directly at the incoming warhead — a problem in ballistics that has been compared with trying to hit a bullet with another bullet.

Because the destructive range of the X-rays extends for several miles, the defensive missile has only to be fired in the general vicinity of the incoming warheads.

Furthermore, it will be possible with relatively few defensive missiles to provide a "first line" defence for all of the United States or an Allied country against small-scale missile attacks, such as might be launched in the future by Communist China.

There has been considerable speculation in recent months that the use of X-rays was a key element in the Nike-X missile defence system being developed by the Pentagon.

The first official confirmation of this development has now come from Dr. John S. Foster, director of defence research and engineering in his evidence before the Congressional group.

In heavily censored testimony Dr. Foster said "a change in the concept of the nuclear warhead" had permitted an "advance" in ballistic

missile defences "which made area defence feasible."

The change, he said, was to "a high-yield nuclear warhead" — a technical euphemism used by officials for a thermonuclear warhead with a yield measured in megatons or millions of tons of T.N.T.

The fact that the thermonuclear warheads would depend upon X-rays for their destructive effect came out indirectly in a question by Senator Albert Gore of Tennessee, the sub-committee chairman who asked Dr. Foster to indicate

"just what would be the kill radius from X-rays?"

Dr. Foster's answer was deleted by Pentagon censors, but the Gore question was left in the published testimony because of the sub-committee's insistence that the Pentagon's authority should not extend to censorship of questions asked by Senators.

From the subsequent statements by Dr. Foster, however, observers said it was apparent that in his censored testimony he had been talking about a "kill radius" measured in miles from X-rays.

N.W. Cape Radio to Operate in June

The U.S. Navy's V.L.F. radio station at North-West Cape became operational on June 1 — 11 months late.

Some circuits in the installation are already in use and others will be handed over to the station's permanent staff every week.

Training procedures are under way and although the station will be operational in about eight weeks, these procedures could go on until August.

Some of the buildings attached to the station may not be completed until July. Major construction contracts should have been completed by March last year, making them about 15 months late.

However, by improvising some accommodation and moving into some buildings before they have been completed, the Navy has been able to make up some of this time.

About half the 350 American military personnel to be stationed at North-West Cape have already arrived and recruiting has started for the 400 civilians to be employed.

Almost all these will be Australians.

The supply jetty at the Cape, delays on which have caused bottlenecks in other work, is still not completed.

But it has been used by vessels since January.

Coastal ships used it then and ocean-going ships, including a tanker, have called since.

Completion of the station and its support facilities will end a long complex and dispute-riddled project.

The first American Navy staff on the project arrived in W.A. in June, 1962, and the first major construction contract was awarded a year later.

There have been claims for millions of dollars against the U.S. Navy by contractors and more are still to come.

The original cost of the project was between \$60 and \$80 million, but until all claims are settled no one knows the cost today.

The V.L.F. — very low frequency — radio station will be used for contacting U.S. Navy vessels and bases and particularly submarines.

Best wishes to the Navy from . . .

MALABAR ENGINEERING CO.

(H. R. DOCKETT, Ex-R.A.N.)

1537 BOTANY ROAD
BOTANY, N.S.W.

Phone 666-8294

Wishing the Navy Every Success

ANSETT FREIGHT EXPRESS

5-9 RICKETTY STREET
MASCOT, N.S.W.

The system of the Cargo Clipper gets there
sooner than air freight at less than half
the cost

REGULAR DAILY SERVICE TO AND FROM
BRISBANE, MELBOURNE, ADELAIDE
PERTH and TASMANIA

For Door to Door Service
RING 67-0533

Best wishes from the Management and Staff of:

A. H. Stanton Pty. Ltd.

FRUIT & PRODUCE MERCHANTS

106 HARRINGTON STREET, HOBART

Phone 3-3981

Suppliers of fresh fruit and vegetables to
the Royal Australian Navy

**Alex Baddiley & Sons
Pty. Ltd.**

83 McCONNELL ST., BULIMBA, QLD.
Phone 95-1116

Marine Engine Installations
Manufacture of Propellers and Boat Fittings

From the MANAGEMENT and STAFF of

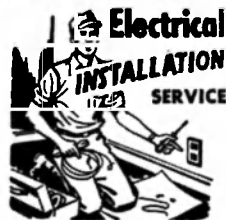
Eldridge Electric Pty. Ltd.

ELECTRICAL CONTRACTORS

147 ELIZABETH STREET, HOBART

TELEPHONE 3-3301

Contractors to
THE ROYAL AUSTRALIAN NAVY



Anti-sub War in Navy Trainer

Battle situations of an entire anti-submarine warfare task force can be simulated by an electronic trainer developed for the Navy by the Lockheed Electronics Company.

Designed to give officers and men practical experience in sub-hunting without the time and expense of sending ships and aircraft to sea, the equipment is already operating at the U.S. Navy's Atlantic Fleet Anti-submarine Warfare Tactical School.

The trainer has 36 individual units containing the same command and control equipment found on ships and aircraft of an anti-submarine force.

Eighteen of the units may be used

as destroyers or submarines, 16 units as fixed-wing aircraft or helicopters, one unit as an anti-submarine carrier and one unit as a plotting centre of the task force commander.

In a make-believe ocean of 360,000 square miles, trainees operate these simulated vehicles and their equipment in combat exercises against instructor-controlled target submarines.

Use of this equipment will make possible at least one week of co-

ordinated A.S.W. tactical training per year for every A.S.W. decision-maker — from seaman to admiral — in the Atlantic Fleet. It can be done at a fraction of the cost of similar training at sea.

Actions and decisions will be observed and assessed by A.S.W. officers assigned to the school.

This group is composed of surface, aviation and submarine officers. In addition, unit and ground commanders can observe and comment on actions and decisions of their subordinate commanders.

Why a ship is called "She"

A ship is called "she" because she's all decked out and usually pretty well stacked. She has pleasing lines from stem to stern and there's generally a gang of men around her. It's not her initial cost which breaks you — it's the upkeep. Her rigging costs a fortune and she always looks best in a new coat of paint.

Bows and bells are standard equipment and sometimes she wears a bonnet. There's usually a lot of bustle about her but she usually manages to show off her superstructure to advantage. When entering port she heads straight for the buoys — when sailing she usually knows her destination, but this is not common knowledge.

When you want to attract her attention, a whistle is the appropriate signal. In some parts of the world the man who takes care of her needs at home is known as her "husband", but when she goes out she leaves him at home. Once you really get to know her you never want to leave her.

On a balmy night she can make tired men forget their troubles. Finally, she has as many tricks and teases as any woman and consequently it takes a capable man to handle one properly.



FRESH WATER FROM SHIP

A ship-borne desalination plant of British design was described at an Athens conference on "Fresh Water from the Sea", held this month.

The ship would serve small communities on islands or isolated coastal sites, who have inadequate natural supplies of water.

A pipeline dropped overside would feed sea-water to a desalination plant housed in the ship's hull. A second pipeline would take the fresh water to storage ashore. The designers claim that this technique will give a cheaper supply than orthodox water tankers operating on a long haul from a mainland base.

Some 200,000 imperial gallons of fresh water could be supplied daily. Plans allow for the storage of 90,000 gallons on board, and the purification process can be carried out when the ship is under way.

Design of the ship is the work of the British Ship Research Association and the United Kingdom Atomic Energy Authority (who are responsible for co-ordinating all U.K. research on desalination).

The B.S.R.A. specification is for a twin screw single deck vessel of 1,350 long tons displacement having a length of 160 feet, a beam of 34 feet and draught of 12ft. 6in.

The desalination plant itself is a well-proven design by Weir Westgarth Ltd. of Glasgow, and would be housed on the main deck. Main engines and ancillary machinery for the purification plant would be situated aft, with accommodation and deck house and bridge forward.

Choice of main propulsion unit was of considerable importance in

combining economic ship operation with the production of fresh water as cheaply as possible. The marine engineering division of B.S.R.A. investigated various prime movers and recommended a twin engine installation with reasonable reduction gears driving fixed-pitch propellers.

Complete with equipment, the vessel could be built in the U.K. to Lloyd's plus 100 A1 classification at a cost of rather less than £514,000,000 (\$1 million). Fresh water could be produced at about 26/- (\$3.25) each 1,000 imperial

gallons, including ship operating costs and depreciation.

This figure is based on distribution of fresh water to isolated communities in the Mediterranean or Near Eastern waters. However, the vessel, designed to operate in open water, could be used equally well in other parts of the world.

The design was outlined in a paper on "Mobile and floating flash-distillation plants" by two Atomic Energy Authority authors, K. D. B. Johnson, of Harwell, and D. W. Clelland of the engineering group, Risley.

BADGES ARE OUR BUSINESS

(Since 1856)

That's why we can make life so much easier for club secretaries when their committee asks for a new or revised design for the club badge. Simply tell us by letter or phone (ask for Mr. Little) the club colours, emblem or mascot and the approximate number required. We'll do the rest. We'll send you suggested designs in actual colours and our quotation. There's no charge and no obligation.



STOKES (Australasia) LTD. 322 ALBERT STREET, BRUNSWICK, VIC. 306 2100

R. P. NORTH COY. PTY. LTD.

124 WELSHPOOL ROAD
WELSHPOOL, W.A.
Phone: 68-3211 (5 lines)

23 PAKENHAM STREET
FREMANTLE, W.A.
Phone: 5-1195 (3 lines)

CUSTOMS
SHIPPING

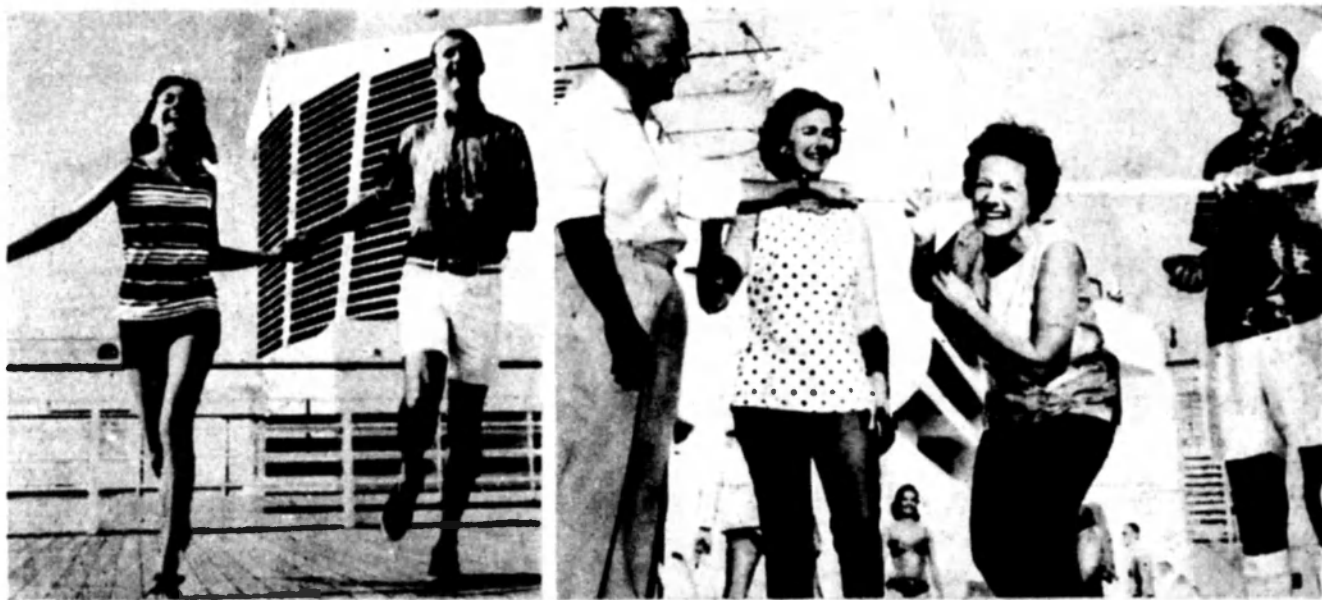
PACKING
FORWARDING

TRANSPORT
STORAGE



FIRST IN EVERY FIELD

After reading this you could find yourself all at sea



...having the greatest holiday of your life on
one of these fabulous P&O Cruises.

Here's the world's best way to have the holiday of a lifetime. Transportation, accommodation, meals, entertainment, recreation are all included in the fare. Your only expenses on board will be personal items such as drinks and cigarettes, and even these are duty-free most of the time. And shore excursions at cruise ports are moderately priced.

Whether you're 20, 40 or 60 you'll find the sunshine, interesting shipmates, excellent food, the fun and lively ship-board life, the unforgettable days ashore at some of the Pacific's most exotic ports, combine to make your cruise with P & O the greatest holiday imaginable.

'CANBERRA' Oriental Cruise. Oct. 19-28 days, from Sydney. Calling at Yokohama (Tokyo), Kobe, Nagasaki, Hong Kong. Returns Sydney. Fares from: First Class, £500 (\$1,000); Tourist Class, £252/10/0 (\$505).

Ask about connecting travel to and from Sydney: by the ship or by other means. Allocation of a cabin of a particular rate depends on availability at the date of application.

'HIMALAYA' December Cruise. Dec. 3-13 days, from Sydney. To Noumea, Suva, Auckland. Returns Sydney. One Class fares from £108/10/0 (\$217).

'HIMALAYA' Christmas Cruise. Dec. 17-13 days, from Sydney. Calling at Brisbane, Suva, Bay of Islands (Russell), Auckland. Returns Sydney. One Class fares from £118 (\$236).

'IBERIA' Christmas/New Year Cruise. Dec. 20-13 days, from Sydney. To Noumea, Wellington, Picton, Auckland, Bay of Islands (Russell). Returns Sydney. Fares from: First Class, £164/10/0 (\$329); Tourist Class, £110/10/0 (\$221).

'ORSOVA' Christmas/New Year Cruise. Dec. 23-13 days, from Sydney. To Noumea, Suva, Melbourne. Returns Sydney. Fares from: First Class, £164/10/0 (\$329); Tourist Class, wait list only.

Special Merry-Go-Round Voyage

By 'Himalaya' Nov. 17-12 days, from Sydney. To Wellington, Auckland, Brisbane, Sydney. One Class fr. £78 (\$156).

All dates and fares quoted are from Sydney back to Sydney.

Mail coupon for the details of the cruise that interests you. Then see your Travel Agent or P & O for reservations.

P & O Lines of Australia Pty. Ltd.,
Box 546, G.P.O., Sydney.

Please send fully illustrated brochure on

Ship _____ Sailing date _____

NAME _____

ADDRESS _____

My Travel Agent is _____