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THE Navy

FEBRUARY-MARCH-APRIL 1977

Registered for posting as a periodical

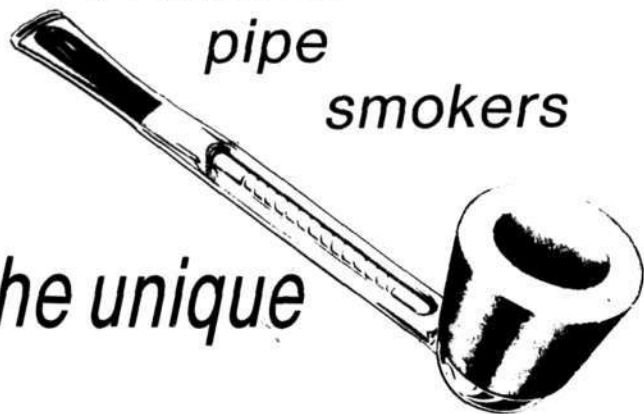
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The magazine of the Navy League of Australia
Registered for posting as a periodical — Category A

Vol 39

FEBRUARY-MARCH-APRIL, 1977

No 1

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EMI Electronics Limited has placed an order worth £1M with the Ferranti Digital Systems Division for a large number of the airborne version of the FM1600D computer. The FM1600D is to be used in the Searchwater radar system, developed by EMI Electronics for the UK Ministry of Defence, to be installed in the new generation of HSA Nimrod maritime reconnaissance aircraft.

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OUR COVER

Test firing from one of the triple banks of torpedo tubes on the first Vosper Thornycroft Mark 10 frigate for Brazil, NITEROI. These tubes fire 12 75-in Mk 44 homing torpedoes against submarines at short and medium ranges. The Ikara anti-submarine weapon system is fitted for long range attacks. NITEROI which is nearing the completion of her trials programme including weapons firing, is the anti submarine version of the Mark 10 design. Vosper Thornycroft designed these heavily armed 3500-ton frigates to the specific requirements of the Brazilian Navy and six are under construction: two anti submarine ships in Rio de Janeiro and two anti-submarine and two general purpose ships at the Vosper Thornycroft shipyard at Woolston, Southampton.

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MUTINY!

In An Australian Ship of War

by JOHN HENRY FORSYTHE

There has never been any doubt in Australia that the executive (the Cabinet and the Minister) has complete authority over the Navy. What has been less clear has been the extent to which the Minister should make detailed decisions on what were normally regarded within the service as internal naval matters and also the degree to which such intervention would be agreed to or cheerfully accepted.

The Navy not only liked to go it alone, it was encouraged to do so by the remoteness of its ministerial masters. Apart from the years 1915 to 1921, there was no minister before 1939 who devoted his whole attention to naval affairs; naval administration was within the portfolio of the Minister for Defence and in detailed administration the Navy experienced considerable ministerial neglect. In naval administrative history therefore there are many cases for the study of conflicts in relations between ministers and their advisers. One source of such cases is in the field of command and discipline and especially that relating to courts martial for the offence of mutiny. Mutiny had always been regarded with great seriousness by naval officers but it had not always been similarly regarded by politicians.

In 1919 there was a mutiny in HMAS *Australia*, the flagship of the Australian Fleet, which led on to a situation in which the professional chief of the Australian Navy and the Fleet Commander both resigned their appointments as a protest against action taken by the Government to remit part of the prison sentences imposed on the mutineers.

On Sunday, 1 June, 1919, the *Australia* was in Fremantle Harbour in Western Australia, on her return voyage to Sydney from Britain where she had been serving with the Royal Navy under Admiralty orders since 1915. Although the Peace Treaty had not been signed at Versailles, the war was over and the Admiralty's control of the ships of the Australian Navy was about to end. When the *Australia* arrived in Fremantle on the previous Wednesday,

most of the ship's company saw their own country again for the first time for some years. All the senior officers on board were members of the Royal Navy; the captain, Captain C. L. Cumberlege RN had been serving in Australian ships since 1913 and the Commodore Commanding the Fleet, Commodore J. S. Dumaresq, RN, had been serving in Australian ships since 1917.

The mutiny can be described simply. About a hundred of the ship's company went up onto the quarter-deck and asked the Captain that the departure of the ship from Fremantle should be delayed by one day until Monday so that they would have an opportunity of entertaining friends on board to repay the hospitality that had been lavished on them. The Captain replied that he could not entertain such a request and he ordered the men from the quarter-deck. Subsequently the stokers ceased duty and the ship's departure was in consequence delayed.

Captain Cumberlege summarily sentenced seven men to 90 days imprisonment, sentences which required and received the approval of Commodore Dumaresq. Five others were court martialled and this was put in motion by a "circumstantial letter" from Cumberlege to Dumaresq setting out what had occurred; Dumaresq convened a Court Martial in HMAS *Encounter* in Sydney on 20 June, 1919. The charge against the five men was of having "joined in a mutiny not accompanied by violence."

The accused pleaded guilty. After some attempt by friends of the accused to turn the court's mind

towards leniency, the court sentenced one to hard labour for 2 years and dismissal, one to 2 years and dismissal, another to imprisonment for 18 months and dismissal and the other two to imprisonment for 1 year. Dumaresq reported the findings and sentences of the court martial to the Naval Board on 25 June, 1919.

R. B. Orchard, MP, had appeared as a friend of the accused and on 26 June, he asked in Parliament whether there was any appeal. The Acting Prime Minister, W. A. Watt, said there was no appeal but that sentences of this nature were subject to review. On the same day Cornelius Wallace, MP considered that the sailors had been "brutally and savagely sentenced" and J. E. Fenton, MP called for the tabling of the papers. The Acting Minister for the Navy, A. Poynton, was not in the Parliament on that day. In the Senate, the circumstances were referred to as a "so called mutiny" by Senator H. E. Pratten; and Senator A. Gardiner referred to the "savagery" sentences.

From this time until October the case was brought up frequently in Parliament — on ten occasions during July, five in August, six in September and four in October. The Government was continually harried. It was asked to "show wisdom and humanity", to approach the Admiralty to seek remission, and to show clemency. Members of the Opposition were strong in criticism and in calling for the release of the prisoners. In addition some members on the Government side pressed the Government to act. The celebrations for peace on 19 July were cited in support of a plea for clemency; after the Government resumed control of the Fleet from the Admiralty on 1 August it was pressed to act independently but replied that as a matter of principle it would wait for advice from the Admiralty from whom some remission had been sought. The case was debated with considerable emotion; it was claimed that a mother had seen

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her son "marched off in irons". Much was made of the fact that one of the prisoners had won the DSM at Zeebrugge, with an inference that this should have had a significant effect on a sentence for any offence committed subsequently. There was some thought of linking consideration of these sentences with the remission of sentences generally as a peace gesture. Throughout, one of the difficulties was that the papers had had to go to Britain by sea mail and the inevitable delay exacerbated the situation.

On 31 July Fenton asked whether there was any truth in the rumour that the Commodore-in-Charge, Sydney, Commodore Glossop, had resigned, but Poynton said there was no truth in this. The genesis of Fenton's question may have been Commodore Dumaresq's letter to the Naval Board warning them of his attitude should the government bow to pressure for variation in the sentences of the mutineers.

But he hoped that press announcements would not give any impression that the Naval Board or the Admiralty or indeed the majority of the Australian people thought the sentences to be unduly severe.

On 15 September the Naval Representative in London cabled the Naval Board sending the gist of the Admiralty decision of 10 September. This decision was never made public.

On 30 August the Prime Minister, W. M. Hughes, and the Minister for the Navy, Sir Joseph Cook, arrived back in Melbourne from overseas. On 11 September, West hoped that Cook would release the prisoners, but Cook took the opportunity to make a speech along the lines that discipline must be maintained. He said "all the statements they care to make in the House will not influence the Navy to the extent of a hair's breadth in the maintenance of discipline." On 16 September, in Sydney, Hughes and Cook received a deputation from the parents and relatives of the men in gaol; the *Sydney Morning Herald* reported that both sides "recognised that discipline was essential, particularly in the navy." The paper stated further that the Ministers "were impressed, however, with the circumstances surrounding the occurrence, with the fact that the disturbance did not arise from cowardice or Bolshevism, or anything of that kind, and with the good war

service of the men."

On 18 September there was a major debate in the Senate on the case. Senator Gardiner waxed ironic and talked of the "awful offence of forming a deputation." He said that his "blood boiled" when he thought of the whole case, and he referred to "that severity which certain officers regard as discipline, although commonsense men regard it as an exaggeration that makes discipline unbearable." Senator Guthrie made much of the fact that the officers concerned were not members of the Australian Navy. Senator Keating was quite flatly opposed to the discipline of the British Navy being applied in the Australian Navy; "tyranny," he said, "can be practised in the name of discipline." Senator Grant said that there had been public meetings condemning the government for continuing to keep the prisoners in gaol for a "trivial offence." Senator Pratten was anti-Royal Navy and attacked Rear-Admiral Grant and Commodore Dumaresq for the stand which he assumed that they had taken and which the government had endorsed for what he called this "trivial so-called mutiny." Senators Bolton, McDougall and Millen defended and Senators Keating and Gardiner were unimpressed with the defence. In the House of Representatives the Prime Minister, Hughes, indicated that the matter was receiving his and Cook's personal attention.

On 6 November the Australian Government sent a telegram to the Secretary of State for the Colonies.

Re sentences of the men of HMAS "Australia" Commonwealth Government desires remission before Christmas of men involved, and would be glad to learn if Admiralty has any objection. Matter is very urgent. Please telegraph reply.

On 13 November the Secretary of State replied that the Admiralty approved the releases proposed. On 21 November the Secretary of the Navy Department wrote to the Secretary of the Prime Minister's Department asking for a copy of the Prime Minister's telegram of 6 November as it had not previously been seen in the Navy Department. On 22 November the heat went out of the whole thing as far as Parliament was concerned when the newspapers reported that Cook said the mutineers would be released on 20

December.

The effect of this decision was that all five mutineers served sentences of 6 months, and thus paid equally except that one served his 6 months at hard labour.

Dumaresq had no direct intelligence of these moves, but he had not been idle and he had used the occasion of a civic welcome to Brisbane on 8 November, 1919, to give a short public lesson on the subject of naval discipline. He was reported as prefacing his remarks that "there were no politics in the Navy but it was the Navy's duty to keep in touch with all shades of political opinion." He then went on "Regarding discipline, the Australian looked at discipline from an entirely different point of view to that of the British soldier or sailor. The Australian was not to blame for this, because Australia had never been brought into actual contact with war conditions before the present war broke out, hence he did not realize, as did the Britisher, the necessity for strict discipline. In the Navy discipline was more essential than it was in the Army, for, though it was possible to put the Army down to a position of civil training, it was not possible to keep the Navy in the same way in peace time. Discipline did not mean tyranny, and it is my business to see that there was none in the Australian Navy."

Dumaresq was at sea when Cook made this statement to the press and did not see the newspapers immediately. On 26 November, 1919, he sent a wireless message to the Board asking whether the *Daily Telegraph* had correctly reported the Minister. He received a brief wireless reply on 28 November that the report was correct and in a letter dated 1 December from the Naval Board he read —

at the time of the granting of the general amnesty to Naval and Military Prisoners, and the reduction of sentences of Civil Prisoners in July last on the occasion of the signing of the Peace Treaty, the Commonwealth Government decided to approach the Admiralty with a view to the five prisoners who had been sentenced to imprisonment on account of the Mutiny in HMAS Australia also being released.

The Commonwealth has since then made representations to the Admiralty with a view to the decision being modified, and on 6



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November a telegram was sent by them requesting that these five prisoners should be released before Christmas.

The letter also asked him to sign the release warrants and proceed with the discharge of all five men. Dumaresq's target then became the Government rather than the Naval Board. In a memorandum of 7 December, 1919, to the Board he asked to:

be informed of the grounds on which the Commonwealth Government arranged for the release of the five mutineers of HMAS Australia.

According to the inference conveyed in the letter (of 1 December), action was taken as a measure of National clemency concerning all Military and Civil as well as Naval offenders.

According to the statement in the Press, attributed to the Minister for the Navy and referred to in my telegram of 26 November, the inferences conveyed are that the action was taken on account of the severity of the sentences for the offences committed, and that the Naval Authority as constituted can always be upset by the use of political influence.

He begged to: Inset that the release of all five mutineers on the 20 December, 1919, even if amnesty reasons be at this late hour promulgated and publicly announced, is fraught with grave danger to the future discipline of the Navies of the Empire and particularly to that of a Commonwealth which is already in an acutely adverse strategic position accentuated by social tendencies and political temptations highly adverse to discipline.

He had complied with the instruction to sign the Release Warrants, but with the "strongest protest I can make, and with the gravest warning I can utter." And finally he begged to submit that I feel it will hardly be consistent with my sense of duty to the Empire for me to continue in this command under certain possible circumstances already referred to above.

The Board did the best it could in its reply dated 11 December. It crossed with Dumaresq's telegraphed messages of 10 December to Hughes, Cook, Grant, and the Secretary of the Department, Macandie, saying that the releases would mean his resignation. The

Board had written — the Press report whose substance you quote in your telegraph is not correct in details in that the primary cause of the representations to the Admiralty was in connection with the Peace Amnesty for all naval and Military Prisoners who had been convicted of disciplinary offences. The Commonwealth Government, in representing this matter to the Imperial Government emphasized the youth of the Mutineers and that one of them had been awarded the Distinguished Conduct (sic) Medal, but there was no mention of the previous good conduct of the prisoners.

On 11 December, Dumaresq sent a personal letter to Cook and on 12 December, Cook telegraphed to Hughes:

Commodore Dumaresq says if all mutineers from Australia released on twentieth he will resign. Admiral Grant also protests that Board not consulted. Dumaresq went Melbourne last night and wishes see you. I have tried to talk him out of it. Wish you would see him and assure him not intended to interfere discipline generally and that is special case etc. Very important no trouble occurs over it. . . .

The situation became more serious on 14 December when Grant wrote to Cook resigning his position. He told a meeting of the Naval Board on Monday, 15 December, that he would continue to carry out his ordinary duties but would not take further part in Board meetings. He nevertheless attended a special meeting of the Naval Board on 17 December, 1919, and said he had been in touch with the Minister by telephone and was to have further talks with the Minister in Melbourne on that day. He said that he had acted quite independently of other members of the Board and that each was therefore quite free to act in his own case as his discretion led him. The position was, however, to him most serious in view of the government having sent the telegram to the Secretary of State requesting the release of the five Australian mutineers without having consulted the Naval Board.

There was another Board Meeting on Thursday, 18 December at which Grant stated that he and Dumaresq had had a long interview with the Prime Minister the previous afternoon. He reported that the Prime

Minister was very much disturbed at the position of affairs. The Board also noted a copy of a letter together with a draft notice for the Commonwealth Gazette and for the Press which had been sent by Grant's Secretary to the Secretary to the Prime Minister. The draft notice was to send a statement by the Government to the Commonwealth Gazette and to the Press to show the mutineers had been released because of the general amnesty granted to members of the Commonwealth Naval and Military Forces who were undergoing imprisonment on account of disciplinary offences at the time of signing of the Peace Treaty at Versailles on 28 June, 1919. The draft notice also affirmed that the sentences were not considered to be severe in view of the seriousness of the offence.

On 19 December Dumaresq submitted his resignation to the Naval Board.

Grant wrote to the Prime Minister on 21 December, 1919, and referred to the interview he had had regarding his resignation. In it he argued that the Australian Navy depended "entirely, for many years to come, on the assistance which it receives from the Imperial Navy"; that it depended on the Admiralty sending good officers and men on loan and that the Admiralty could hardly be expected to send their best if they were not assured that the senior officer responsible was "doing all that in his power lies to place the Navy in the highest state of efficiency and discipline, bearing in mind that it will have to play its part in the event of any emergency, not as an isolated unit, but as a unit of the great Imperial Navy." He went on to say that "in view of what has happened in the past and I regret to say is still happening in the Royal Australian Navy" he was certain the Admiralty would feel diffident about lending their best, and the more efficient officers would not volunteer for service in a Navy unless they would be supported in the maintenance of discipline and efficiency. He went on. "This support is essential in future in view of the disgraceful treatment received in the past, both in Parliament and in the Press, where Officers and men of the Imperial Navy who are giving loyalty and unsparingly of their best to the Commonwealth, have frequently been abused and vilified." This let-

ter was read at a meeting of the Board on 22 December, 1919. Negotiations then began and 24 December saw the issue of a Navy Order (No. 260 of 1919) headed "Release of the Mutineers, Late of HMAS Australia," it read:

With reference to the release of the mutineers, late of HMAS Australia on 20 December, 1919, from prison, the Commonwealth Government has issued the following statement, which has been forwarded to the press throughout the Commonwealth:

"With reference to the release of the mutineers of HMAS Australia on 20 December, 1919, the Government desires to announce that the sentences imposed on these prisoners were just and necessary, in view of the gravity of the offence committed, and it was only due to the clemency extended to all offenders, Naval, Military and Civil, on the very exceptional occasion of the signing of peace that the Commonwealth Government felt justified in asking for their release."

2. This Navy Order is to be displayed on all Notice Boards of HMA Ships and Establishments, and on the return of Ship's Companies from leave it is to be read publicly.

No publication in the newspapers can be found of this statement.

On 29 January, Grant wrote to Cook seeking a decision on his and Dumaresq's resignations. On 6 February Grant wrote yet again to Cook and sent this time a draft letter which he asked should be sent to the Admiralty and on the basis of this and further correspondence with Cook on 12 February, the Naval Board on 13 February, wrote to Dumaresq that his resignation had been received with regret by both the Government and the Naval Board and I am to inform you that the reasons by which you were actuated are fully appreciated by the Naval Board and the Government.

In view of the action which has been taken and is being taken on your representations, it is hoped by the Government and the Naval Board that you may now feel able to reconsider your decision with regard to this matter and see your way to withdrawing your resignation.

Dumaresq replied on the same day and in the same tone
be pleased to lay before the Naval Board in reply to your letter of

today's date that I beg to deeply appreciate the actions which have been taken by the Government and the Naval Board in the matter; and also that in view of these actions and assurances given, I am glad to be able to reconsider the matter and beg that my resignation may be withdrawn.

Also on the same day Grant wrote to Cook withdrawing his resignation. Grant told a meeting of the Naval Board on 16 February that he was withdrawing his resignation. On 18 February Cook noted Dumaresq's letter. On 25 February a Navy Order (No 27 of 1920) was issued —

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The following announcement from the Government is to be read to the Officers and Ship's Companies publicly on board all HMA Ships in commission and about to be commissioned. It is also to be read in all HMA Naval Establishments where Naval Officers and ratings are employed. Copies are to be placed on all Ships and Depot Notice Boards.

2. A report is to be forwarded through the usual channels to the Navy Office stating that this has been done.

Notice to Fleet
The Government has viewed with grave concern the acts of insubordination which have taken place in several of HMA Ships during the past year.

They desire to point out that these highly regrettable occurrences militate severely against the building up of an Australian Navy, worthy of the high tradition of the past and equal to its great task in the future.

The intention of the regulations is to permit of all grievances being ventilated through the proper channels, and it is hoped that full and exclusive use will be made of them.

These regulations must be strictly adhered to in an organized Service like the Navy on which the safety and welfare of the country depend, and the Government will fully support all just and proper actions taken by the constituted authorities to maintain the discipline of the Fleet.

The last action was that on or about 25 February Cook wrote a long letter to the First Lord of the Admiralty explaining the circumstances and the position of Grant

and Dumaresq in it.

What conclusions can be gleaned from this story? First, the attitude in parliament was one of consistent and strong denunciation of the action taken in gaoling the five sailors. This was no doubt based on genuine humanitarian feeling but there was also the continuing need of the Opposition to discomfort the government and especially so with an imminent election. The attitude of the newspapers was restrained. The *Sydney Morning Herald* referred to the "mutinous outbreak" and the report of the court martial was without comment other than that in the heading, "mild mutiny". In an editorial of 14 November, 1919, the paper was firmly on the Navy's side, seeing the court martial as "a warning as to the vital importance of the maintenance of naval discipline in times of peace as well as under war conditions." The paper went further and saw the distinction that while "a fairly liberal interpretation of the term is undoubtedly called for, in the case of our sailors however it cannot be as wide as that accepted by the average Australian soldier."

The *Sydney Bulletin* referred to the case only once. On 26 June, 1919, it said "Nobody will defend the youngsters who made trouble (whose) action . . . was indefensible. But surely much can be said in mitigation of their offence" and that "to assume they would act similarly if real business were under way is ridiculous". The *Bulletin* believed "the sentences should be reviewed without loss of time. The longer the delay the greater the harm to the Australian Navy."

The *Brisbane Courier* accepted Dumaresq's statement that "those in control are always considering how to better the conditions of the men" and it said, "Under such a system as that it should not be difficult to infuse and maintain a system of discipline which will be of great moral service, and to cultivate an esprit de corps which is so essential to success."

The *Melbourne Age* and *Argus* kept their mention of the case to minimal straight reporting.

Naval officers saw the situation around them as dangerous. Many of the institutions they cherished were being challenged and they saw a wholly regrettable air of rebellion against the established order. A prime example before them was the

collapse of authority in the German Navy in the latter part of 1918. The rise of Socialism and the intensity of calls for reform was a subject which worried the naval officer, causing him to adopt a rigid approach to questions such as discipline.

These officers of the British Navy saw their role in the Australian Navy as in part one of making sure that Australia's young and small navy developed on sound lines, and to them "sound" was synonymous with "Royal Navy". To counteract colonial tendencies they made the understandable error of over-stating a good case.

Both Grant and Dumaresq had been second choices for their appointments and they had arrived in Australia at the time of the mutiny. They were able and gallant officers but they were not fully equipped for their appointments in that neither had had service at the Admiralty and had therefore not had the opportunity of experiencing the conflicts between ministers and their naval advisers. This was their blind spot. They were unaware of the finely wrought lines and the nuances of tone and colour and the characteristically changing situation at the point where government administration met the naval service — the Admiralty in London and the Navy Office in Melbourne. Faced with the strong views expressed in parliament and the obvious need for the government to react to these views, Grant and Dumaresq were still unable to adjust their attitudes. Their limited experience showed them only the danger to their own citadel: it failed to show them the need and the way of seeking a formula which would meet the demands for release and yet not imperil discipline.

In part the situation arose from the nature of the naval calling which required early and constant indoctrination that the navy would keep the country safe from foreign domination. It was but a small step from this desirable attitude to an extreme point of view where naval officers wished to be insulated from government and from party politics; to them the Navy should have been immune from the effects of public opinion that governments had to react to.

Grant's appointment to the post of First Naval Member of the Naval Board had been a great leap in status. In Britain he had been one of many rear-admirals and only recent-

ly that. In Australia he was an instant national figure and for this his training in naval operations and internal naval administration was inadequate preparation and certainly no substitute for the long experience in carefully selected posts seen as necessary for the top professional appointment at the Admiralty and no less essential in the relative position in Australia. His case was similar to that of junior administrators who are sent to senior posts in undeveloped countries; no one should be surprised if people in such situations perform patchily.

It was unfortunate that Grant had cut himself off from the advice and assistance of the Secretary of the Department of the Navy, G. L. Macand. Grant attempted to order affairs at the Navy Office as far as possible along the lines of a flagship and with an emphasis on working through naval officers. He contrived to by-pass Macand whose position was not strong as his efficiency had been criticized by a Royal Commission and he was about to go to the Admiralty for a year to enlarge his experience.

It was an unhappy chance that ministerial control was being exercised by an acting minister at the time of the mutiny and the court martial. Poynton had had some months as acting minister and his administration was effective enough, but the expected early return of Cook made him less than forthright in dealing with this awkward situation. Cook vigorously defended Navy discipline in parliament when he returned to Melbourne, and by moving to release the prisoners he took the only political course open to him. But he failed to carry his advisers with him, and took the risk of their challenging him by resigning. When the Australian Government cabled to the British Government without consulting the Naval Board, Cook was primarily responsible for the lack of communication and the

omission to look for an all-embracing solution. Yet Cook might be excused on the ground of his pre-occupations. He was a senior minister, just back in Australia after stirring times overseas with the Prime Minister; he was being feted and he was preparing for an election. As a result he overlooked the naval officers' sensitiveness and extreme reaction to anything that looked like mutiny.

The case brings out the reality of the division, and yet also the link, between the Navy and the rest of the nation. The most avidly professional naval officer did not claim the right to decide how much money should be spent on the Navy. Nor did the most cotton-picking-fingered politician wish to invade a ship and decide a question of command at first hand. But there was a slide towards error, with members of parliament declaring the *Australia* incident at Fremantle to be no mutiny and with Dumaresq entering the public debate and giving a thinly veiled lesson to Parliament on naval discipline. The lack of understanding shown in this case by each side of this division was detrimental to the Australian Navy which needed the support and approbation of the public.

The original sentences were excessive, but when halved by the Admiralty, they were not unreasonable. These reduced sentences would probably have passed without much notice but for the prevailing anti-war feeling and the anti-discipline feeling. In the circumstances of the time it was inevitable that the sentences would be over-attacked and over-defended. Indeed from the moment that Captain Cumberlege made his decision on the quarter-deck of the *Australia* on that Sunday morning, there was an inevitability about the march of events that makes this case a fascinating episode in political naval relations, a memorable if hardly glorious First of June.

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Mine Counter Measures Vessels (MCM)

by A. W. GRAZEBROOK

The Defence White Paper announced the RAN's plans to build locally, two prototypes of an Australian designed, glass-reinforced, plastic-hulled Mine Counter Measures Vessel. The phraseology of the relevant paragraphs of the White Paper leaves little doubt that these two prototypes will be the forerunners of a largish class of MCM vessels for the RAN.

The allocation of A\$13 million to the purchase of long lead items this Financial Year (1976-77) demonstrates that at last the Australian Government has recognised the need to provide the RAN with modern MCM vessels — a need to which the Navy League has drawn attention frequently in this magazine.

The news that the new class are to be constructed in Australia is especially welcome. By this means, Australian industry will develop and up grade, for purposes of warship construction, the glass-reinforced plastics (GRP) expertise already built up by commercial boatbuilders, in the construction of yachts and pleasure craft. Further, local construction will ensure the availability of moulds for further use in the event of an emergency.

However, some commentators have been taken a little by surprise by the RAN's intention to design locally, instead of purchase overseas, the designs for the new craft.

NEW DESIGNS AVAILABLE

During the 1950s, most western navies implemented extensive construction programmes for MCM

vessels. The majority of these were wooden-hulled and are now coming to the end of their hull lives. As a result of the need for replacements, a considerable number of MCM vessel designs, varying widely in size and capability, are now being developed or implemented (see Table). Most of these new designs take advantage of the glass-reinforced plastic hull materials now available.

Therefore, a wide variety of designs are available overseas. There is active competition for orders. This is the cause of the surprise at the RAN's decision to devote scarce technological resources to designing our own mine counter-measures vessels instead of some other category of warship.

The reason may well lie in the strategic purpose of, and environment in which, the new RAN vessels will operate.

As Table A shows, both the British and the French design are large — markedly larger than the ubiquitous TON Class now in service with many western navies and which have provided both the British and the French with the main bulk of their MCM forces for the past 15 years or so.

The new 615 ton British ships (HUNT Class) will be large enough and strongly built, enough to clear mines ahead of say an invasion force approaching a contested over the beach landing. The HUNTS will have both mine-hunting (ie the use of sonar to locate individual mines) and mine-sweeping capability. They will be built to withstand a high degree of shock from explosions — a factor very significant in cost terms.

The French developed CIRCE design, now in service, and still with wooden hulls have only a mine-hunting capability. They work out at 460 tons displacement. Other than that they will have GRP hulls, few details have been released of the new NATO STANDARD design, of which France, the Netherlands, West Germany and Belgium are to build 15 each. However, as France has played a leading part in putting together this package, their CIRCE experience may be expected to have considerable influence on the NATO design.

With tactical thought similar throughout NATO, and with Britain participating with other NATO countries in the NATO Channel MCM force, it may be expected that the NATO Standard MCM vessel will

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have capabilities similar to those of the British HUNTS.

Within British naval circles, there is widespread concern that the HUNTS are too ambitious — "gold-plated ships" is the term used. It is claimed that their undoubtedly extensive capabilities have resulted in the ships becoming too expensive. Therefore, in the view of many naval officers serving outside the Admiralty, too few ships will be built. Certainly, so far only two have been ordered. There is a strong feeling that the Royal Navy should have taken the cost advantages of standardisation with NATO.

Vosper Thornycroft — who developed the GRP hull technique to build the British prototype WILTON — were concerned that the HUNT's would be too expensive for the British export market. As a result, they have designed the smaller M47 GRP hull, offering alternative fits of mine-hunting or mine-sweeping capability. Armed with BLOWPIPE surface-to-air missiles, the M47 offers a ship capable of mine-clearance in waters in which at least some air opposition may be expected.

In MCM, as with other aspects of

their naval expansion, the Russians are having plenty of everything. Their new large NATYA's are ocean-going MCM vessels, whilst the smaller SONYA's will ensure their home waters are cleared. As Captain John E. Moore put it (in his recent book *THE SOVIET NAVY TODAY*), the Russian Navy have a force capable of "port approach clearance, sweeping in amphibious forces, and swept channels in straits and other mineable waters."

The smallest of the new European designs is the GRP hulled M70, now in an advanced stage of development by Sweden. Following the construction of a small trial GRP hulled craft (HSwMS VIKSTEN), ten new M70 type will be ordered from KARLSKRONAVARVET AB. The inclusion of a significant gun armament in the design for the M70 shows that opposed mine clearance operations are envisaged. The Swedish ship design is of interest as it is the smallest to which any nation has gone in the current rash of designs.

The US is not as far advanced as Europe in selecting MCM systems or the vehicles to carry them for the future. Several years ago, the US

switched peacetime operational provision of MCM to helicopters (AMCM). This method was used in clearing the approaches to Haiphong in 1973. However, some displacement hulled capability was retained and manned, largely by reservists.

Haiphong showed that practical AMCM advantages were counter-balanced by the much more extensive support required. Depot ships of HARRIER CARRIER size and capability are required to operate AMCM away from home ports. Furthermore, AMCM is suitable for shallow waters only — displacement hulls remain necessary for clearing deep waters.

The USN now plans (for Financial Years 1977-81) a force of ten new MCM ships. These will be designed to clear advanced Soviet deep water mines. However, these have yet to run the gauntlet of Congressional approval and must be expected to face severe competition for scarce funds. After reading the MCM debates in USN professional journals, the discerning historian might note a similarity between the present position of MCM in the United States Navy and that of anti-



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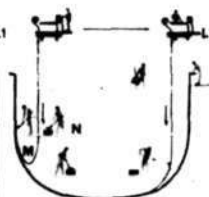
submarine warfare in the British Navy during 1920-38 — in times of acute financial hardship "poor relations unrepresented in top circles get forgotten".

All the major overseas MCM vessels now being built or designed have one thing in common. They are all armed with guns or missiles. All are designed to face opposition in clearing mines.

CHOICE OF MCM SYSTEM

Whilst the White Paper announced that the RAN's new MCM craft would be locally developed, it did not state whether the MCM system itself — that is the method of locating and destroying the mines — would be locally developed.

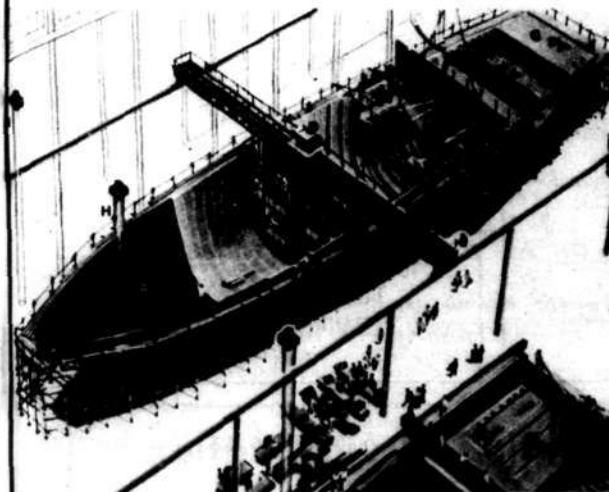
Although the European differences over size and shock resistance of MCM craft are considerable, both the British and their European allies are fitting the French PAP 104 (Poisson Auto-Propulse) system for mine identification and destruction.



Left: Semi-mechanized lay-up arrangement.

Immediate left: Stiffening frames for the moulded hull and panels are formed over cores of expanded plastic foam.

Below: Construction of a glass-reinforced plastics minehunter for the Royal Navy. The work proceeds in a continuous sequence.



- A Steel hull mould
- B Moulded hull shell
- C Temporary protective covering
- D Gantry and lay-up scaffolding
- E Bulkhead being inserted
- F Bulkheads bonded in
- G Deck panel in position
- H Heat control and ventilation units
- J Frames
- K Deck and bulkhead lamination on flat or cambered mould surface

- L1 and L2 Glass cloth impregnating and dispensing machine at the beginning and end of the lay up
- M Impregnated cloth being laid in mould
- N Working platforms for laminators
- P Laminator shell
- Q Plastic foam core former for stiffener
- R Stiffening laminate laid over foam core

This system represents a marked advance on the original mine-hunting methods developed by the British. An object, suspected of being a mine, is located initially by sonar carried on the MCM vessel. Operated from the MCM vessel, PAP104's wire guided vehicle carries a TV camera (for close location and confirmation that the suspect object is a mine) and destruction charge. It can operate up to 500 yards from the vessel and in depths of up to 50 fathoms. PAP104's batteries can operate for up to 20 minutes without re-charging. The system will operate in currents up to 4 knots and wind up to force 4.

Working in conjunction with VT, Sperry Gyroscope have developed the CAT mine disposal system for the "economy size" M47 minehunter. Utilising a Plessey sonar system, and a Decca Navigation and Action Information System, the CAT consists of a small low profile unmanned catamaran type surface craft, powered by a low magnetic diesel engine, and a towed submersible weapon carrier. Controlled by a radio link from the MCM vessel, the catamaran is directed to the mine for placing the demolition charge.

With the US Navy devoting relatively little attention to developing new MCM systems, the PAP104 and CAT systems are the options available for the RAN to purchase.

The RAN has made no public statement indicating its preferred type of mine-hunting system. However, it is noteworthy that the French PAP104 system is being adopted for the RN HUNT's and the new NATO Standard MCM system.

CONSTRUCTION

Developed initially by the British, the prime attractions of GRP hulled MCM craft (sweepers or hunters) are:

- A basic hull of non-magnetic materials. Provided other equipment in the vessel is of suitable material, the GRP hulled craft will not activate magnetic mines.
- Much reduced maintenance costs compared with wood — the material used predominantly in the past.
- Much longer hull life than wood.

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On the other hand, the construction of GRP hulled craft involves completely new methods, and the substantial capital investment involved in new equipment, covered in building berths, etc. Furthermore, the British experience showed demarcation and similar difficulties with labour — of which we can expect at least our fair share.

Specialised moulds must be built. These include not only hull moulds, but also moulds for bulkheads, deck, superstructure etc. Whilst a few of these may be appropriate for other types of ship, the majority are suitable for not only one category of ship (eg MCM vessel) but also for one class of ship.

New construction materials, with shorter shelf lives, require new handling methods and frequently new materials to be used in association with the ship. As one example, the British found that their standard paint remover has an adverse effect on the GRP hull. An alternative had to be developed.

All this adds up to substantial initial capital expenditure. However, this does not recur. Therefore, as the number of GRP hulled ships built to a particular design grows, the unit cost falls sharply. To this economic attraction must be added the very substantial savings achieved by lower maintenance costs and much longer hull life.

AUSTRALIAN MCM STRATEGY

In deciding to design the new MCM vessels locally, it is probable that the RAN considered the self-defence capability as of markedly less significance than in NATO navies.

If the RAN's World War II experience is a basis for judgment, we can expect mine threats mainly in home waters out of range of enemy air attack. Readers will recall that mines were laid in many Australian port approaches and focal areas. To clear these, and meet threats of further mine-laying, the RAN built up two main types of Mine-sweepers:

- BATHURST Class corvettes which had mine-sweeping capability.
- A number of smaller craft — often converted civilian vessels.

However, the BATHURST Class did relatively little mine-clearance work — particularly in home waters.

The main burden of mine-clearance was borne by a number of much smaller craft, operating in groups to clear the focal areas and approaches to: Sydney, Melbourne, Fremantle, Hobart, Brisbane, Newcastle, Darwin and Adelaide.

It may well be that in 1977 the RAN envisages the need for MCM Squadrons capable of maintaining the approaches to these ports (plus a number of newer ports handling minerals), the great majority of which could be cleared unopposed by an enemy. This could explain the RAN's preference for locally-designed MCM vessels, without defensive armament but capable of dealing with the four main types of mines:

- Moored (or contact) mines.
- Acoustic mines — exploded by the noise of a ship's propeller or machinery.
- Magnetic mines — exploded by changes in the magnetic field resulting from the passage overhead of a ship constructed from magnetic materials.
- Pressure mines, exploded by changing water pressure resulting from the passage overhead of a ship.

Without a need for defensive armament, and with relatively

TABLE

Type/Country	Displacement (tons)	Full Load (tons)	Length (feet)	Comp. Element (knots)	Speed (knots)
HUNT (UK)	615	725	197	45	17
(hunter and sweeper)					
TON (UK)	360	425	140	38	15
(hunter or sweeper)					
CIRCE (France)	460	510	167	48	15
M70 (Sweden)	270	?	140	21	?
M47	?	480	153	39	16
(hunter or sweeper) (Vosper Thornycroft commercial design)					
NATYA (USSR)	?	650	200	?	18
SONYA (USSR)	320	?	151	?	?

The figures for the United Kingdom designed TON Class are included for comparison purposes.

All the craft listed except CIRCE and the TON Class are GRP hulled, although the material of construction of the two Soviet ships has not been confirmed.

limited range necessary for sweeping those Australian waters where mine-laying is both possible and attractive in target possibilities, it may well be that the RAN's new MCM vessels will turn out small — even smaller perhaps than the Swedish M70 type.

THE RAN MCM VESSEL

It may well be that the RAN's new MCM Vessels will turn out to be the smallest which can:—

- Carry the PAPI04 mine-hunting and disposal system, together with the necessary sonar equipment.
- Cruise reliably at both the high initial search and low positive mine identification and location speeds necessary.
- Remain constantly in position over an identified mine for up to 20 minutes.
- Operate in the Australian port approaches and those relatively limited open areas which are suitable for mine-laying and through which shipping passes regularly.

Thus, we may well see an RAN mine-hunter which is smaller in size even than the Swedish 270-ton M70 type — a craft of similar length to the ATTACK Class patrol boat.

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HMAS SYDNEY VANISHED IN STRANGEST BATTLE

At 9 pm on 19 November, 1941, the crew of the German raider KORMORAN paused in their efforts to save their burning ship to watch a sheet of flame flicker on the far horizon.

The flame disappeared in the night and with it HMAS SYDNEY vanished without trace. Two hours later the doomed KORMORAN was scuttled and the strangest and loneliest sea battle of World War II ended.

SYDNEY went down with her entire crew and the story of her last battle was unfolded by the 320 survivors of the KORMORAN when they reached Australia. It is a story still shrouded in mystery.

Ship No. 41, the former Hamburg-Amerika Line passenger ship Stiermark, was still being built at the outbreak of World War II. She was a diesel electric vessel of 9400 tons, capable of 17.5 knots and could cruise for a year with her full fuel capacity of 5000 tons. Her armament consisted of six 5.9-inch guns, two 3.7cm and five 2cm anti-aircraft guns, two double torpedo tubes and five heavy machine-guns. The ship carried 400 mines and for reconnaissance shipped two Arado 196 float planes and a fast Motor Torpedo Boat.

KORMORAN, commanded by Commander Theodore Detmers, sailed from Gotenhafen on December 3, 1940. Disguised as the Russian ship Vyacheslav Molotov she steamed north up the Norway coast and then west across Denmark Strait. By following the ice line she succeeded in eluding the Royal Navy patrols and by December 16 had broken out into the Atlantic.

The raider arrived in the South Atlantic on Christmas Day, 1940. She sank her first victim, the Greek ship Antonis, on 7 January. Eleven days later she sent the British tanker, British Union to the bottom. KORMORAN had her first lucky escape in this engagement. Her gun flashes were sighted by the auxiliary cruiser ARAWA. Luckily, Detmers had made off at top speed immediately after the sinking.

On 29 January, the third victim was overtaken and after a short engagement was scuttled by a

German boarding party. She was the 11,900-ton AFRIC STAR. Later in the same day the Blue Funnel Line ship EURYLOCHUS suffered a similar fate.

Commander Detmers decided it was now time to find a safer hunting ground. Intercepted radio messages indicated that British cruisers were converging on KORMORAN's position. He now headed south. In mid-Atlantic on the same latitude as Rio de Janeiro rendezvous was made with the German supply ship NORDMARK. The raider took on 1388 tons of fuel and transferred 170 prisoners.

Cruising in the vicinity of St Helena, KORMORAN rendezvoused with another German raider, the Pinguin, on 25 February.

Commander Detmers and Captain Knuders at this meeting divided the Indian Ocean into two raiding areas.

However, Pinguin was caught by HMS CORNWALL in May and was subsequently sunk so the territorial divisions were to mean little.

Bearing troubles delayed KORMORAN's entry into the Indian Ocean until the end of March. On the 16th she rendezvoused with U-boat 124 and obtained a supply of white metal. The raider and the U-boat were joined next day by the pocket battleship ADMIRAL SHEER which in a month had sunk or captured 156,000 tons of Allied shipping.

Detmers added more victims to his tally before leaving the South Atlantic. The first was the tanker AGNITA of 3561 tons. Three days later he took the 11,309-ton Canadian tanker CANADOLITE. A prize crew was placed on this vessel which was dispatched to Germany.

KORMORAN rendezvoused with two more U-boats on the 26th. These were U105 and U106. The



German Raider KORMORAN.



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NORDMARK joined them and refuelled the submarines.

April brought another two victims, CRAFTSMAN of 8022 tons, and NICHOLAS DEL, a new vessel of 5486 tons. The raider's record stood at eight ships of 56,719 tons.

Re-camouflaged, and now named NIPPON YUSEN KAISHA, KORMORAN entered the Indian Ocean in May. The raider's luck commenced to change. On 24 June, smoke was sighted for the first time in weeks and as the vessels closed it was realised the stranger was an enemy auxiliary cruiser, HMS CANTON. KORMORAN increased speed and eventually outran her pursuer.

Commander Detmers changed his vessel's identity again at the end of July. She became the Dutchman STRAAT MALAKKA. Her first victim in the Indian Ocean, the Australian steamer MAREEBA 3472 tons, was obtained soon after.

Another long period of fruitless search followed this sinking and it was not until September 23 that Kormoran sank her next and last victim, the Greek vessel, STAMATIOS.

The Indian Ocean was proving a disappointment. Early in November, Detmers decided to close the Australian coast and lay his mines. On the 19th the raider was approaching Shark Bay from the south-east. At 3.55 pm the alarm bells shrilled through the ship.

A vessel was sighted dead ahead on the horizon. At first it was thought to be a sailing ship. The heat haze and the fine angle of the ship's approach made identification difficult. Commander Detmers turned his ship to port 260 degrees and increased speed. Five minutes later he identified the stranger as an Australian 6-inch cruiser.

The warship was HMAS SYDNEY which had already won distinction in the Mediterranean for her sinking of the Italian cruiser BARTOLOMEO COLLEONI and the destroyer ESPERO. The 6800-ton cruiser returned to Australia in February, 1941 and underwent a refit. In May, Captain J. A. Collins transferred his command to Captain J. Burnett. The cruiser was engaged in escort duties from Australia to Malaya for the remaining six months of her career. She sailed from Fremantle on November 11, with the transport ZEALANDIA.

The outward voyage was without incident and the transport was handed over to the British cruiser DURBAN off Sunda Strait. She signalled her estimated time of arrival as pm on the 19th or am on the 20th and no more was heard from her.

The German captain knew flight was impossible. SYDNEY was capable of 32 knots. While these thoughts were passing through his mind the engineer reported No. 4 motor out of action. KORMORAN's top speed was reduced to 14 knots. The encounter now meant action.

SYDNEY altered course and was closing the raider. A daylight lamp challenged "What ship?" Detmers ordered his chief signalman to reply with flags "slowly and awkwardly". He needed time to bring the cruiser within range of his guns.

The ships were now 15,000 yards apart and the cruiser had increased speed to 20 knots. SYDNEY requested the raider's tangled signal to be hoisted again. On the second try the flags spelt out STRAAT MALAKKA. Detmers knew the cruiser could radio for the Dutch vessel's position but he was fighting for time.

SYDNEY next asked the ship's destination and after another delay caused by deliberately twisted flags received the reply "Batavia". Nine thousand yards now separated the ships. The raider's guns were trained on SYDNEY waiting for their camouflage flaps to drop.

Commander Detmers looked with apprehension at the cruiser's amphibian aircraft warming up on its catapult. One quick observation

from the air would reveal his ship's true identity. The cruiser was still closing. Only 1500 yards separated them when SYDNEY demanded the secret call sign of STRAAT MALAKKA.

The deception was over. Detmers called "de-camouflage!". The German war flag was run up and simultaneously KORMORAN's guns opened fire. The cruiser had turned broadside on and the range was 1000 yards. With a tearing, belching rasp the raider's anti-aircraft guns and heavy machine guns lashed the cruiser's bridge and decks. The 5.9-inch guns were banging away at point blank range.

SYDNEY opened fire with her 6-inch turrets but the shells whistled harmlessly over KORMORAN. Detmers altered course to bring his torpedo tubes to bear. The first two torpedoes crossed SYDNEY's bows but the third hit abaft of A Turret. A sheet of water rose as high as the mast and she soon developed a list.

Three turrets were now returning KORMORAN's fire with independent control. One salvo ripped into the raider's funnel and the next exploded in the engine room and started a fire.

SYDNEY was also on fire. The aircraft had been blown off its catapult. Two turrets were silent. Mortally hit she came about and unleashed her four torpedoes. They passed clear of the raider's bows.

KORMORAN had now lost way and SYDNEY limped slowly away still under fire. At 6.25 pm the raider ceased fire and the blazing cruiser was last seen heading into the deepening gloom.



Survivors from KORMORAN.



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THE NAVY LEAGUE OF AUSTRALIA

Federal President's Notes INTERNATIONAL CONFERENCE OF NAVY LEAGUES

The Australian Navy League was represented at a "Congress of the Sea" arranged by the Spanish Navy League and held in Barcelona on 6 and 7 November, 1976.

The purpose of the conference was to discuss the formation of an international federation of Maritime and Navy Leagues to promote "sea-culture" and to educate people in the importance of the seas to all nations.

It was hoped that former Federal President, John Howse, who was in Europe at the time, would be able to represent Australia, but unfortunately he became ill and was unable to do so. In the event the Federal President arranged with the National President of the United States Navy League for the American representative at the conference, Ernest Carrere (who visited Australia in 1975 as National President) to act as observer for the Australian Navy League.

Mr Carrere has sent a preliminary report on the conference indicating that a small secretariat has been established to draw up a charter. A decision concerning future Australian participation in the Federation will not, however, be made until a full report is received and discussed by the State Divisions of the League and the Federal Council.

FEDERAL COUNCIL MEETS IN SYDNEY

The Federal Council of the Navy League met in Sydney on Saturday, 27 November, 1975, and was attended by representatives from all States (except Tasmania) and the ACT.

The meeting was held in HMAS PENGUIN at the invitation of the Commanding Officer (Captain Errol Stevens RAN) who with his officers, sailors and Wrens spared no effort to provide comfortable surroundings for what proved to be a strenuous conference.

A welcome break was provided by the arrival of the Chief of Naval Staff (Vice Admiral Tony Synnot) and FOICEA (Rear Admiral Neil McDonald) who both addressed the conference and afterwards lunched with the members. Admiral Synnot had only been in office for four days and his gesture in coming to Sydney to meet the Federal Council was greatly appreciated.

The Council discussed its two major interests — maritime affairs and sea cadets — at some length, and in respect of cadets, made a number of recommendations which it is hoped will provide the League with a useful role in the Naval Reserve Cadet organisation. These included:—

- Sponsorship of overseas visits by cadets.

- Provision of nautical libraries for cadet Units.
- Investigation of a possible sail-training scheme operated by a consortium of organisations interested in the sea-training of Australian youth.
- Establishment of formal links between State and Territory Naval and Navy League authorities (to ensure maximum co-operation on cadet and other matters).
- Re-presentation of the Navy League Trophy for the most efficient NRC Unit in the Commonwealth.
- Presentation of a Navy League Colour to each NRC Division.
- Continued support with accommodation and other facilities.

The meeting also decided to form two Federal committees — a Maritime Affairs committee and a Cadet committee — to carry out the policies of the League between Federal meetings. The Council will also investigate a suggestion that the League should present a competitive trophy to the RAN.

NEW SOUTH WALES HOSPITALITY

Following the Federal Council meeting interstate representatives attended a barbecue supper arranged by the NSW Division of the League and held in HMAS WATERHEN.

On Sunday council members spent the day exploring Sydney Harbour as NSW Division guests in COLORADO, a handsome sea-going motor cruiser owned by a League supporter.

Appropriate refreshments were taken when COLORADO anchored in a small bay in the shadow of Balmoral Naval Depot, venue of the previous day's meeting. It seemed a fitting place to conclude a very successful and happy weekend.

DELEGATES AT THE FEDERAL COUNCIL MEETING:

B. J. BIRD, Victorian President; D. M. BLAKE, ACT President; E. BRYDEN-BROWN, NSW President; D. P. TRICKETT, NSW Secretary/Editor "The Navy"; A. H. BURROWS, Victoria; W. F. M. CLEMENS, Victoria; O. V. DIMMITT, Federal Secretary; F. G. EVANS, Federal President; P. V. O. FLEMING, Queensland Secretary; A. W. GRAZEBROOK, Federal Vice-President; B. GREY, SA President; J. LANCASTER, DNRC; I. NICHOLSON, ACT; L. F. VICKRIDGE, WA President.

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SYDNEY'S FIGHTING FERRIES

by ROSS GILLET

During World War II seven Manly and Sydney Harbour ferries served with the RAN. Another five were requisitioned for the United States Navy and two by the Australian Army. The vessels were employed in a variety of roles and of the seven boats used by the RAN, three were converted to boom defence vessels, one employed as an accommodation vessel, one as a depot ship, another as a training and target vessel and the last was sunk as a naval target.

All Manly ferries plying the seven miles from Sydney were painted either naval grey or dark green (one of the original Manly ferry colours), but still retained their white funnels.

The Sydney Harbour ferry KAI KAI was the first boat to see naval service and was hired on numerous occasions during 1940-42 to act as an accommodation ship. KAI KAI was built in 1907 and was sold to the RAN on 4 March, 1943. She remained in naval service until 1947 and was sold on 2 June.



KUTTABUL, after the Japanese midget submarine attack. Kuttabal was sunk by the torpedo intended for the USS Chicago.



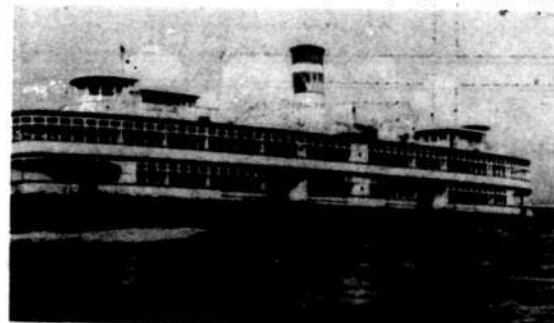
KARA KARA off Jervis Bay after being towed from Sydney by Bronzewing (left).

The most famous ferry to join the RAN was KUTTABUL one of the largest Sydney Harbour ferries

built. She was requisitioned on 7 November, 1940, and commissioned on 26 February the following year. KUTTABUL was employed as both a depot and accommodation ship. She was never purchased outright by the RAN and when sunk was still owned by Sydney Ferries Ltd. To commemorate her loss, Garden Island commissioned as HMAS Kuttabal on 1 January, 1943.

KUTTABUL was originally built during 1922 at the Walsh Island shipyard in Newcastle and displaced 447 tons gross. It has been claimed that she was able to carry over 2000 passengers. Along with over 40 other ferries, KUTTABUL was laid up in 1932 following the Harbour Bridge opening.

KARA KARA was the third ferry to join the RAN, having been requisitioned.



KALANG (Sydney Queen) aground at her last resting place.

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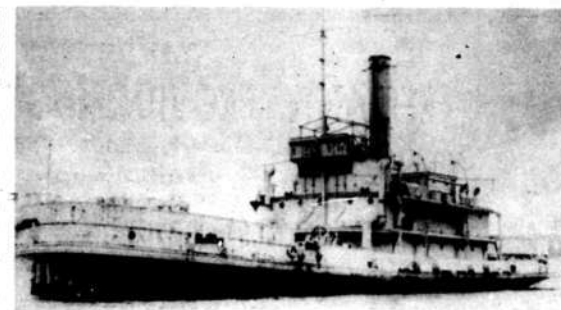
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tioned on 27 February, 1941. She was commissioned on 14 September and later purchased on 7 November. KARA KARA was constructed in England by Saltney and with her sister ferry KALANG, (later requisitioned by the Army) operated as a vehicular ferry until 1932.

KARA KARA was the RAN's longest surviving boom defence vessel (1941-1972). During these 32 years, only five were in active service, the remaining 27 being spent in reserve at Darwin and later Sydney. In March, 1961, she was declared for disposal, but nevertheless was not sold until 1972, when Marrickville Metal Holdings Pty Ltd purchased the old ferry for scrap metal. Stripped of all valuable materials, KARA KARA was offered back to the Navy for target practice.

Holes were drilled in her deck and fitted with small plugs and several supports for the bridge were weakened to facilitate easy sinking. PERTH, YARRA and TEAL together with Skyhawk fighter-bombers from the Fleet Air Arm, sank KARA KARA off the southern NSW coast on 31 January, 1973.

KALANG and KOONDOOLOO were both built in England for service as vehicular ferries. As previously mentioned the opening of the Sydney Harbour Bridge saw the demise of many ferries. However, both were converted to show boats, KALANG emerging as a three-decker in 1938, while the KOONDOOLOO was converted in 1937 and two years later received her third deck. In 1942, both boats were taken over by the Australian Army and adapted to the role of



KOOMPARTOO in reserve at Sydney.

mobile workshops for service in the south-west Pacific region.

In January, 1946, KALANG completed her war service at Rabaul and proceeded to Newcastle under tow for reconversion to a Show Boat. KALANG returned to Sydney and served in her former role until 1958. In 1960 she was sold and worked as a Show Boat until 1963.

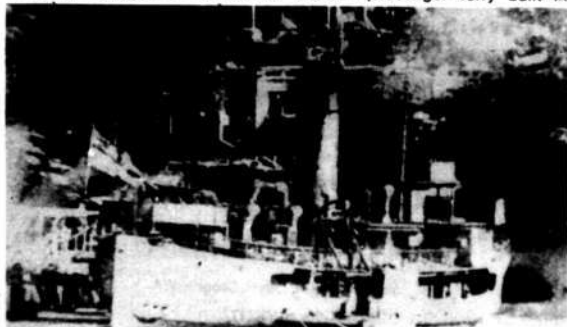
KOONDOOLOO, reconverted to a vehicular ferry, served in Newcastle until 1971 when, like KALANG, she was purchased for use in the Philippines. However in 1972 both vessels ran aground at Trial Bay and despite attempts by the tug POLARIS, (ex HMAS RESERVE), remained embedded ashore with LURGERENA, also under tow to Manila. Little remains today of KALANG or KOONDOOLOO.

The fourth Sydney Harbour ferry to join the RAN was the KURAMIA, a wooden passenger ferry built in

Sydney in 1912. KURAMIA was requisitioned as a boom gate vessel on 20 February, 1942, commissioned on 30 June, and subsequently purchased in September, 1943. She remained based in Sydney during the war and post-1945 served as an amenities vessel. On 3 December, 1945, she paid off and was offered for sale. No buyer could be found and KURAMIA was sunk on 10 October, 1953, by aircraft from the carrier SYDNEY.

A sister ferry to the KUTTABUL, KOOMPARTOO, served on the Circular Quay-Milsons Point passenger run from 1922 to 1932. In 1935 she was returned to service and had her upper deck extended several years later. KOOMPARTOO was purchased in 1941 by the British Ministry of War Transport for deployment in the Middle East. Conversion work was carried out at Morts Dock, but the entry of Japan into the war saw the abandonment of plans to base her overseas. KOOMPARTOO transferred to RAN control on 18 June, 1942, and was formally commissioned on 23 December. Armed with two 20mm Oerlikons and four Vickers .303 MGs, KOOMPARTOO proceeded to Darwin in January, 1943, and remained active until 1945, when she commenced a five year stint in reserve at Darwin. Taken to Sydney in 1950, she remained laid-up until being sold out of service in June, 1962.

The longest, although not the largest, ferry to see service in the RAN was the Manly ferry BURRA BRA. BURRA BRA was the last open deck passenger ferry used on the run to Manly, and was built in 1908 by



BURRA BRA, moored in Athol Bight.



BINGARRA.

Morts Dock. She completed her first official trial on 29 October, 1908 and commenced regular service in November. Manly at that time was the Mecca for weekend outings and the vessels of the Manly ferry fleet maintained a fast, regular service.

BURRA BRA was requisitioned on 13 November, 1942, for target towing and anti-submarine training duties, the conversion and fitting out being carried out by Poole & Steele Ltd, Sydney. BURRA BRA commissioned on 1 February, 1943, under the command of Lieutenant R. E. Morley RANR(S). Like several other Manly ferries, she was fitted with two naval type boilers and triple expansion engines which drove the ferry at over 13 knots.

On 25 August, 1943, she was purchased by the RAN and later paid off to reserve on 1 June, 1944.

BURRA BRA was sold at auction in November, 1947. She is usually listed as being sunk as a target off Sydney but in fact was broken up at Stride's yard in Blackwattle Bay during the 1950s. Like many other auxiliary vessels taken over by the RAN during World War II, BURRA BRA led an unexciting life.

A near sister ferry to the BURRA BRA, BINNGARRA, was taken over by the United States Navy for service as a cargo hulk in New Guinea waters. Previous to this she had been moored in Duck Hole at Port Stephens as a timber stores ship. BINNGARRA's hull was filled with cement to keep out the sea during her tow to northern waters. Post 1945, she was returned to her home port on 11 December, 1946, was sunk off Sydney in 100 fathoms of water.

In addition to the ex-Manly ferry BINNGARRA, three other passenger ferries, all built late in the 19th century, were requisitioned for the United States Navy. KARABELLA (1897), KARAGA (1894) and KIAMALA (1897), were all laid-up in 1932 after the bridge opening, but

had been returned to harbour service during 1936 and 1937. KARAGA was requisitioned on 30 April, 1943, KARABELLA and KIAMALA three days later on 3 May. KIAMALA and KARAGA were purchased from Sydney Ferries Ltd on 12 November for £3,500 and on 17 November for £1,450, respectively, while KARABELLA fetched £2,500 on 7 June next. All three boats were towed to northern bases for use by the United States Navy. The ultimate fate of these ferries is unknown, but it is probable that they were abandoned by the Americans at the war's end.

Another Sydney Harbour ferry to be used by the RAN during World War II was the LADY HAMPDEN. Employed as a naval target she was sunk in 1943.



KURING GAI

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The Manly ferry KURING GAI, built in 1900, also saw war service. KURING GAI was the first double-ended steel screw steamer on the Manly run. After 28 years service, she was sold on 3 August, 1928, and in October left Sydney to commence work with her new owners, Newcastle Ferries Ltd. Six years later, she was laid-up and subsequently hulked in the late-30s. During World War II she was towed to New Guinea and used as a store ship by US forces. Following the end of conflict, KURING GAI was returned to Newcastle and moored below the Hexham Bridge. Some time afterwards the old ferry sank, her rusting hull still being visible today underneath the R. W. Miller coal wharf. A short distance downstream from the rusty remains of KURING GAI is the abandoned hulk of another Manly ferry, the GOOLWA.

Of the 14 ferries mentioned, only one, KOOMPARTOO, remains active, albeit in a humble way. Sold out of service in 1962, she was taken to Tasmania and is still in use as a bauxite barge. In addition to the boats listed, two small Hawkesbury River ferries were requisitioned by the US Army.

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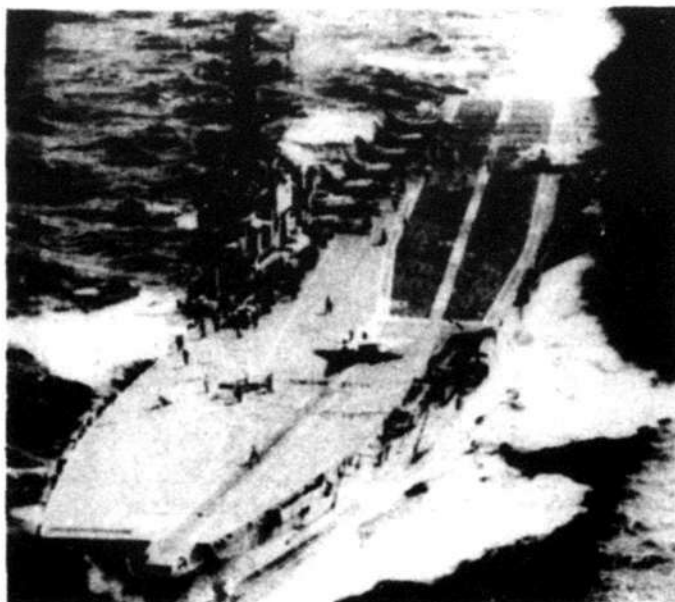
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THE AMERICAN BATTLESHIP STORY

by ROSS GILLET

PART I — 1782-1922

The first battleship built for America was a 74-gun ship-of-the-line, appropriately named AMERICA. She was the first to be constructed in North America and was completed as independence from British rule was approaching. However, in 1782, she was given to the French Navy as a replacement for the MAGNIFIQUE, lost after grounding in Boston Harbour.

During the ensuing years, the young nation was afforded practically no effective naval defence and following the outbreak of war with Britain in 1812, protection was provided by a few frigates and sloops plus several converted merchant ships. This lack of naval power hampered attempts to stop Washington being burnt to the ground in 1811.

Early the previous year an Act was passed calling for the first ships-of-the-line for the United States Navy. The Act, dated 2 January, 1813, authorised four ships, *Independence*, *Washington*, *Franklin* and *Colombus*. Subsequent legislation raised the order by ten ships, but after the cessation of hostilities some were cancelled due to the perennial problem of funds, or more specifically the lack of them. Commonly known as the *Independence* class the three ships (*Colombus* completed as *North Carolina* class) became the first US warships to show the flag in foreign waters, the forerunners of the present US 6th and 7th fleets.

Independence entered service on 3 July, 1815, and four weeks after sailed for the Mediterranean Sea to join the squadron in those waters. *Washington* operated with the squadron until 1818 and was in turn replaced by *Franklin*.

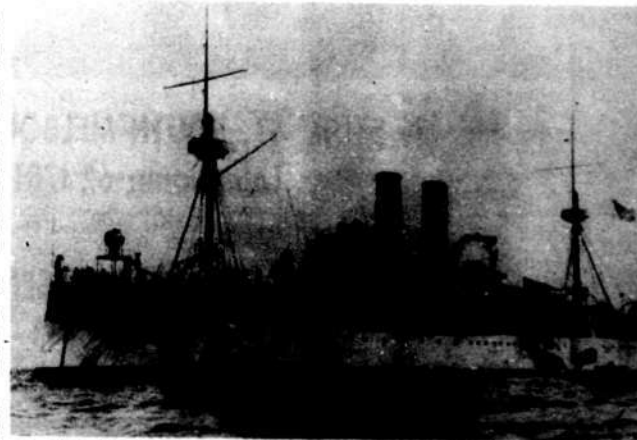
The follow-on *North Carolina* class, described by a serving British naval officer as, the "perfection of a line-of-battleship", were excellent sea-going vessels, far superior

to other ships of that time. The *North Carolinas* operated in the Mediterranean, Pacific Ocean and the Gulf of Mexico.

The two classes served up to the outbreak of Civil War in 1861, three of the latter class being burnt at Norfolk to avoid capture by the Confederate Navy. From nationhood, battleships of the US Navy were named after the States of the Union, the only exception being *Kearsarge*, named after a mountain in New Hampshire. In the 1960s it was decided to name all new

construction nuclear powered frigates (now designated cruisers) for the states.

A new era of naval warfare was launched on 29 October, 1814, when a unique steam battery, named *Demologos*, was launched at New York. Designed by Robert Fulton, the vessel was built to defend New York from attack by the sea. The USN named the catamaran type vessel *Fulton*. She was powered by a large paddlewheel, the engine-room being set deep in the hull. Firepower was provided by 32 pdr guns, but unfortunately the vessel suffered from lack of range, being restricted to a small radius of action. *Fulton's* name was perpetuated again when the Navy commissioned its second steam frigate in 1837.



The ill-fated MAINE. Note the off-centrelined placement of the main battery turrets.

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The world's first screw-driven warships, designed by John Ericsson, joined the fleet in 1843, and by the mid century experiments had also commenced on power driven turrets and armour protection, important components of the modern battleship.

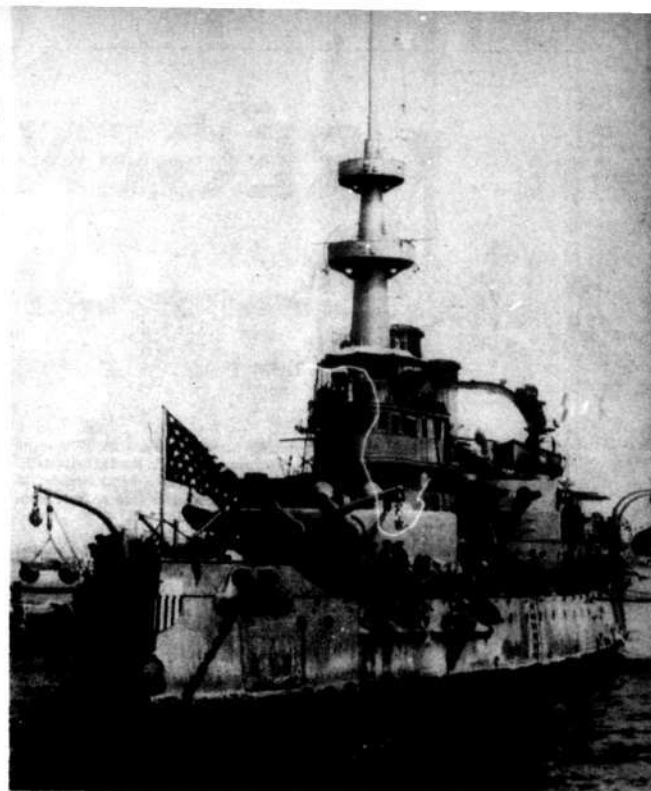
The now famed duel between the Northern *Monitor* and Confederate *Virginia* (ex *Merrimack*), took place at Hampton Roads on 9 March, 1862, leading to an all-out revolution in sea warfare. The *Monitor* was one of three ironclads built to counter Southern naval forces and was protected by iron plates affixed to the wooden hull and decks. *Monitor* was built in 1862, and boasted two 11 inch guns in a steel revolving turret. History records the first battle of the ironclads well, so it is sufficient to note here that the battle issued forth a new era of naval tactics. The *Monitor* type warships proved successful and popular with American Admirals, so much so that a total of sixty-four were constructed. Five Civil War monitors were rebuilt with iron hulls and served until the early 1920s.

The US Navy's first "modern" battleships *Maine* and *Texas* took to the water in 1890 and 1892 respectively. Both were of foreign design, their main guns being located on each beam. This arrangement proved unsatisfactory when the guns were fired directly ahead or astern. As a result all subsequent USN battleships had their main gun mounts in the centreline position.

The *Texas* could fire a broadside of two, 12 inch and four, 6 inch salvoes. Improvements were made on her large guns allowing a salvo to be fired every two minutes. (The multi-barrelled Vulcan Phalanx gun to be fitted to the two RAN patrol frigates and also manufactured in the USA, fires 3000 rounds per minute.) *Texas* burnt a great deal of coal and by the early years of the 20th Century was regarded as a poor steamer.

By this time, the battleship was well protected. *Maine* carried a main belt of 11 inches, while her turrets were also protected by 11 inches of armour. *Texas* was fitted with 12 inch armour on the bulkheads, turrets and conning tower.

Indiana, the Navy's first "true" battleship commissioned on 20 November, 1895, having been laid down on 7 May, 1891, as an

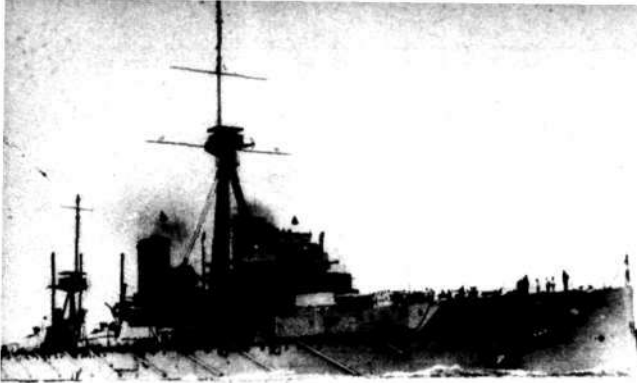


The OREGON, probably the best ship in the Navy during the Spanish-American War. Best known for her record-breaking run from San Francisco to Key West around Cape Horn, OREGON was also the only US ship at the Battle of Santiago to have full boiler power available.

armoured coast defence battleship. *Indiana* (BB-1) and her two sister ships *Massachusetts* and *Oregon*, were influenced in design by the previous *Maine* and *Texas*, completed earlier in 1895. They were armed with four, 13 inch, eight, 8 inch, four, 6 inch and twenty, 6 pdr guns, and four, 18 inch torpedo tubes. Vertical triple expansion reciprocal engines drove the ships at over 15 knots. In this class main belt armour was increased to 18 inches and to 15 inches on the turrets. The large turrets had an arc of fire of 265° and the secondary guns 135°. All three served in the 1898 Spanish-American war and

later during World War I as gunnery training ships (*Indiana* and *Massachusetts*) and as a convoy escort ship (*Oregon*).

The fourth battleship *Iowa*, incorporated features omitted in the first three ships. Her main battery was reduced to 12 inch and her freeboard heightened. A common complaint with the low freeboard *Indiana* class was the inability of their main guns to fire in even a moderate seaway. Ammunition carried totalled 240, 12 inch and 1000, 8 inch rounds. *Iowa* resembled the *Indiana* class ships, but in 1911 was modernised and like many other



HMS DREADNOUGHT, the British battleship that forced a new standard on the navies of the world. Below: The first US "dreadnought", the DELAWARE, commissioned 1910. Note the unusual under-the-bow gun mount, intended to provide protection against torpedo boats, but too often under water to be of much use. It was soon removed.



American battleships was fitted with a large conspicuous cagemast.

Early in 1898, with Spanish-American relations at rock bottom, Maine proceeded to Cuba to show the flag and protect US interests. On 15 February, she sank with the loss of 253 lives, apparently as a result of an underwater explosion. War was declared on 21 April, leading to a blockade of Cuba by the US fleet. The Spanish remained in Havana Harbour until 3 July, when a break-out was attempted. The battle which followed saw the complete annihilation of the Spanish, the few ships not sinking being scuttled by

their own crews. The victory had shown that naval power was based around the battleship, the most powerful ship then afloat.

An unusual gun arrangement whereby a twin 8 inch mount was placed directly above the twin 13 inch turret, distinguished the Kearsage and Kentucky (completed in 1900) from all other US pre-dreadnought battleship classes save one. This unusual arrangement was conceived to save weight by using the ammunition hoists for both calibre guns in a single barbette and to provide increased broadside fire-

power. However, problems arose when one of the turrets was disabled, thus immobilising the other, despite no hit being suffered. The two turrets were unable to be aimed in separate directions. Although this gun arrangement proved unsuccessful, it was again repeated in the five ships of the Virginia class, all of which were launched in 1904.

A keen supporter of naval power and former Assistant Secretary of the Navy, Theodore Roosevelt, assumed the role of President of the United States, following the assassination of President McKinley in 1901. During his first term of office, eleven battleships entered service and another sixteen approved. Altogether a total of twenty-four pre-dreadnought battleships joined the US Fleet from November, 1895, to April, 1908, sixteen armed with 12 inch and eight with 13 inch guns.

The victory of Japan over the Imperial Russian Navy at the Battle of Tsushima in 1905, consequently increased tensions between Japan and the USA. To assert American power in that region and around the globe, a fleet of sixteen battleships, known as the Great White Fleet, sailed from Hampton Roads in December, 1907, to show the flag and remind the world of American interests and ideals. The fleet and its auxiliaries proceeded to Latin America, San Francisco, Hawaii, New Zealand, and Australia, entering Sydney Harbour on 20 August, 1908. The fleet then made for Manila. Yokohama was reached in October. Via the Indian Ocean, through the Suez Canal and into the Mediterranean, the Great White Fleet called into port after port, showing the stars and stripes in America's first public relations exercise. Although the cruise proved a spectacular success, the battleships comprising the fleet had been rendered obsolete for in 1906 the first big gunned battleship in the world, HMS Dreadnought, had entered service. The 17,110 ton Dreadnought established the trend for all future battleship development. Although the American equivalent had been designed, construction had only just begun and it was not until 1 March, 1910, that the US Navy's first Dreadnought, South Carolina, commissioned. Eight, 12 inch guns were mounted on the

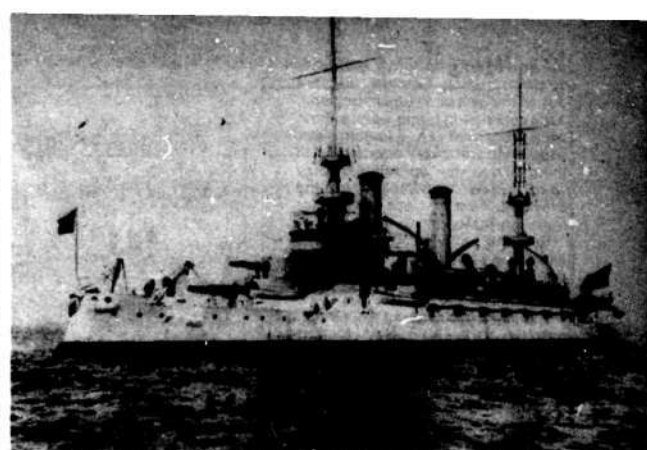
centreline in twin mounts, two forward in A and B positions and aft in X and Y positions. The South Carolina and Michigan were the first American ships built with large cagemasts.

Although armed with five twin 12 inch guns, three on the centreline and one on each beam, Dreadnought was able to fire a broadside of only eight guns. The South Carolina class mounted twenty-two 3 inch guns, whereas Dreadnought carried only 12 pdrs. It must be pointed out, however, that by 1909 the Royal Navy had seen the error of its way and a secondary armament comprising 4 inch guns was being mounted. Both South Carolina class battleships were sold for scrapping in 1924 after service as transports during 1919.

The USN lost no time increasing the firepower of its capital ships. The Delaware and North Dakota, completed later in 1910, at a cost of \$1,575,000 each, fired a broadside of ten 12 inch guns and were built with a heavier calibre secondary armament. In true Dreadnought fashion, both were well protected with armour plates. In 1917, two 3 inch anti-aircraft guns were mounted to counter the new threat to battleships from the sky. Delaware and North Dakota were the first US battleships with turbines and the first to achieve over 20 knots, 25,000 shp-being produced by the two shaft reciprocating machinery onboard. Designed for a complement of 946, over 1300 officers and men were carried on war service. Radius of action was stated to be over 6500 miles at 12 knots or 3000 miles at 21 knots.

A further four, 12 inch gunned battleships joined the fleet during 1911-12. The last pair, Wyoming and Arkansas, were enlarged versions of the first two and mounted an additional twin 12 inch mount. Wyoming was demilitarised in 1931, but Arkansas survived to participate in World War II before being sunk as a target at the Bikini atom bomb tests on 25 July, 1946.

In 1914, the 28,000 ton New York and Texas entered service and introduced with them the larger 14 inch, 45 calibre guns. Original designs had called for fifteen 12 inch guns in five triple mounts, but the large gun was substituted. Texas, the only surviving World War



The changing look of battleships. Cagemasts replaced military masts on older ships, such as KENTUCKY (above and right), and MASSACHUSETTS (below, right) a sister ship of the OREGON, and were installed on all new construction.

I American battleship, has been preserved as a memorial by the state after which she was named. New York was afforded a less dignified fate, being used initially as an atom bomb test ship at Bikini atoll and later as a gunnery target.

The 14 inch gun again armed the next class, but instead were mounted in two triple and two twin turrets. This arrangement proved to be more satisfactory and allowed for additional armour protection. Oklahoma and Nevada were the first US ships to mount the triple 14 inch mount and the first to use oil fuel. The battleship continued to grow in size and progressively the main battery was standardised with four 14 inch triple turrets being mounted on the Pennsylvania, New Mexico and Tennessee classes (two, three and two ships respectively).

The American battleship, although highly regarded, had yet to prove itself in battle. Despite the outbreak of war in 1914, the US remained neutral, but following the loss of numerous neutral ships in the Atlantic, entered the war on the side of the Allies in 1917. Delaware, New York, Florida, Texas and

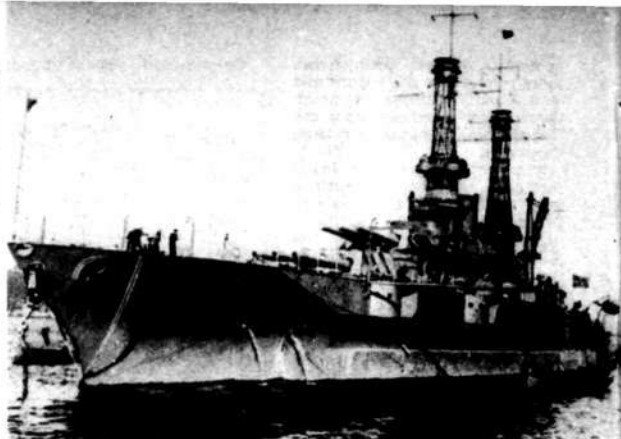


Wyoming sailed to join the British Grand Fleet in the North Sea and arrived at Scape Flow, the fleet's main base in the Orkney Islands, on 7 December, 1917, while Nevada, Oklahoma and Utah served on troop escort duties from Ireland. The fleet participated in no active engagements and spent the majority of North Sea service protecting convoys and searching for enemy submarines.

Pennsylvania and Arizona commissioned in October, 1918, but due to the lack of oil fuel in England, were retained in home waters. Both were regarded as excellent sea boats, and were very economical in their day to day operations. They were similar in design to the previous Nevada class except for their shorter funnel.

By 1918, sixteen dreadnoughts had joined the fleet, establishing the USN as second only to the mighty Royal Navy.

The next group to enter service was the three ship New Mexico class, approved by Congress in October and November, 1914. A clipper bow and rearranged gun positions distinguished these ships from the earlier classes. The **New Mexico** and **Mississippi** were ordered in 1914, while the **Idaho** was constructed from proceeds received from the sale of the pre-dreadnought battleships **Mississippi** and **Idaho** to the Royal Hellenic Navy on 30 July, 1914. Renamed **Kilkis** and **Lemnos** respectively, the two vessels served as coast defence ships for over a quarter of a century. Both were sunk on 10 April, 1941, by Italian warplanes. They were later



After many errors, US shipbuilders and designers began to turn out modern warships that were among the best in the world. Where earlier designs had been deficient in many areas — particularly ordnance — ships like the **MISSISSIPPI** (shown above in a 1918 photo, one year after commissioning) could stand up in comparison with any battleship afloat.

raised and scrapped. The two Tennessee class ordered in 1915, were in fact repeat New Mexico's. They differed only slightly in displacement, length overall, beam and draught. An

enlarged bridge was fitted, while two funnels in lieu of one were also distinguishing features.

The **Tennessee** commissioned on 3 January, 1920, and introduced with her a new gun arrangement

whereby all main secondary turrets were mounted on the upper decks and not in embrasures in the ships sides. Unlike her predecessors, **Tennessee** was not rebuilt during the wars and from 1920 served in the Atlantic and Pacific Oceans. In mid 1925, she proceeded to Australia and New Zealand on a goodwill visit.

During 1920 and 1921, four larger battleships were launched, while another six battleships and six battlecruisers were laid down. The first four, **Colorado**, **Maryland**, **Washington** and **West Virginia** were similar to the previous **Tennessee** and **California**, but mounted eight, 16 inch guns in four mounts. At high speed they could fire a broadside of eight tons over twenty miles. The **Colorado** class displaced 32,600 tons and were powered by turbo-electric engines, generating 28,900 hp. They were also armed with twelve, 5 inch and eight, 3 inch guns. The clipper bow, introduced in the **New Mexico** class, was retained. These ships were the American answer to the British **Queen Elizabeth** class.

Delegates from France, Great Britain, Italy, Japan and the United States assembled for the Washington Conference on naval limitations on 12 November, 1921. The resultant meetings brought agreement from all participating nations that future capital ship ratios were to be: Great Britain 5, United States 5, Japan 3, France 1.75 and Italy 1.75. As a result of the Treaty, many old battleships were either scrapped or demilitarised. **Washington**, the third ship of the **Colorado** class, then under construction, was cancelled on 8 February, 1922, although 75.9% complete. Also cancelled on 8 February were the six 43,200 ton South Dakota class battleships and four of the battlecruisers. The remaining two, **Lexington** and **Saratoga** were completed in 1927 as aircraft carriers.

At the end of 1922, United States naval power was based upon the eighteen active battleships. Another three (**New Hampshire**, **South Carolina** and **Michigan**) were in reserve and two (**Colorado** and **West Virginia**) under construction. Of the original twenty-four pre-dreadnoughts, only **Kearsage**, converted to a floating crane, remained in use. In reserve were a further fourteen, including ten from the Great White Fleet.

Comparison Table of USN and Foreign Battleships 1895-1922

	Tonnage	Main Armament	Armour Protection Max	Speed
1895 Indiana	10,288	4 x 13" 8 x 8" 12 x 3"	Belt 18" Turrets 15" Conning Tower 10"	15 knots
Revenge (England)	14,635	4 x 13.5" 10 x 6"	Belt 18" Barbettes 17"	13 knots
Jaureguiberry (France)	12,229	2 x 12" 2 x 10.8" 8 x 5.5"	Belt 17 1/4" Turrets 14 1/2" Conning Tower 9"	17 knots
1906 Connecticut	18,000	4 x 12" 8 x 8" 12 x 7" 20 x 3"	Belt 11" Turrets 12" Conning Tower 9"	18 knots
King Edward VII (England)	15,700	4 x 12" 4 x 9.2" 10" x 6"	Belt 9" Barbettes 12"	18 knots
Kashima (Japan)	16,400	4 x 12" 4 x 10" 12 x 6"	Belt 9" Turrets 9" Conning Tower 9"	18 knots
1911 Florida	23,400	10 x 12" 16 x 5"	Belt 11" Turrets 12" Conning Tower 12"	21 knots
Neptune (England)	19,680	10 x 12" 16 x 4"	Belt 10" Turrets 11" Conning Tower 11"	21 knots
Helgoland (Germany)	24,312	12 x 12" 14 x 5.9" 14 x 3.4"	Belt 11 1/4" Turrets 11" Conning Tower 12"	20 knots
1916 Pennsylvania	33,000	12 x 14" 22 x 5"	Belt 14" Turrets 18" Conning Tower 16"	21 knots
Baden (Germany)	28,000	8 x 15" 16 x 5.9" 8 x 3.4"	Belt 13 1/4" Turrets 13 1/4" Conning Tower 13 1/4"	22 knots
1920 Tennessee	34,000	12 x 14" 14 x 5" 4 x 3"	Belt 14" Turrets 18" Conning Tower 16"	21 knots
Hood (battlecruiser) (England)	41,200	8 x 15" 16 x 5.5" 4 x 4"	Belt 12" Turrets 15" Conning Tower 11"	32 knots
Negato (Japan)	33,800	8 x 16" 20 x 5.5"	Belt 12" Turrets 14" Conning Tower 14 1/4"	26 knots

Part II of the American Battleship Story, 1922-1977, will appear in the next issue.

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TO THE EDITOR:

3 Camira Street,
West Pymble, 2073,
NSW.
4 April, 1977.

The Editor,
"The Navy".
Dear Sir,

John Henry Forsythe's article in the February issue of the "Navy" about a mutiny in HMAS AUSTRALIA in 1919 reminds me of an experience during the Second World War.

In 1943 I was serving in the Destroyer NAPIER, attached to the Eastern Fleet. The Captain was the redoubtable Arnold Green — a great stickler for discipline. There was a certain amount of disaffection in the ship at the time regarding leave arrangements, and one day after dinner the seamen sat down in the Fore's mess decks, closed the screen doors leading to the flats outside and ignored the pipe. "Both watches for exercise fall in on the upper deck". As a watch keeper I was not involved myself. The Gunner's mate then burst in bellowing abuse, but the men sat fast.

Commander Green showed himself to be more of a diplomat than a disciplinarian on that occasion, and his tactics certainly paid off. Lower deck was promptly cleared and when the ship's Company had assembled on the upper deck, the Captain stood on the searchlight platform and made a short succinct speech about the discipline of the ship which was quite unequivocal. Then turning to the First Lieutenant he said: "No 1 Pipe Libertymen to clean." There was no more trouble in that ship.

Yours faithfully,
L. K. WOOD.

15 April, 1977.
The Honorary Editor,
"The Navy".

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LARRY HOINS,
Chairman,
Youth Sail
Training Committee,
1 Lake Street,
Cairns, Qld.

7 Joyce Street,
Elwood, 3184,
Victoria.
March 29, 1977.

The Honorary Editor,
"THE NAVY".

Dear Sir,
I read Mr Forsythe's article "MUTINY" in Feb-March-April issue of THE NAVY with great interest.

I was talking to Captain Claude Cumberlege, on HMAS AUSTRALIA'S quarter-deck when the first steps of the mutiny occurred. I was on the Staff of the District Naval Officer, West Australia, at the time.

Yours faithfully,
R. S. VEALE,
Commander
RANR Retd.

To "The Navy",
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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".

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THE NAVY LEAGUE OF AUSTRALIA Application for Membership

To: The Secretary,

The Navy League of Australia,

(..... Division).

Sir,

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

(Mr)

Name (Mrs)

(Miss)

(Rank)

Please Print Clearly.

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Signature Date

Enclosed is a remittance for \$6.00 being my first annual subscription.

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

OUR COVER

AUSTRALIA'S FIRST FEMALE MIDSHIPMAN

Midshipman E. J. Yates, aged 20, a third year dental student at the University of Western Australia, recently realised a long standing ambition by joining the Royal Australian Navy.

In the process, Midshipman Yates started a new page in the history of the RAN.

For E. J. Yates is Erica Jean Yates, the first female to be admitted to the Australian Navy without being a member of the Women's Royal Australian Naval Service or the Royal Australian Navy Nursing Service. Erica, who has been granted the rank of Probationary Midshipman, has been posted to HMAS (LEEDWIN) Fremantle, but for the next three years will remain at the University to complete her dental degree.

Our photograph shows Midshipman Yates with the Navy recruiting officer in Western Australia, Lieutenant T. J. Breukel, RAN.

UNITED STATES DEPARTMENT OF DEFENCE BUDGET

For Financial Year 1977-78 Announced

A record \$40.3 billion for Navy programmes in fiscal year 1978 was requested by the Ford Administration. This Navy budget represents an increase of \$3.9 billion over last year.

The total budget request for DOD of \$123.1 billion is a 5.4 per cent increase in real terms (discounting inflation, carry-over items and other factors). It provides for continuation of appropriated fund support for commissary stores and a 6.5 per cent pay raise for government employees and military personnel in October.

Among major personnel proposals, the budget calls for authorisation to extend eligibility for the \$30 monthly family separation allowance to all enlisted personnel with dependents, regardless of rate or time in service. Two major proposals from previous years, the Retirement Modernisation Act and the Defence Officer Personnel Management Act, also are in the FY78 budget.

The new budget calls for the development of small aircraft carriers with vertical and short take-off aircraft in lieu of a fifth nuclear-powered carrier.

The life of existing aircraft carriers will be extended under the service life extension programme (SLEP). SLEP will extend the useful

service life of present carriers by 10-15 years and will require a two-year overhaul period.

The proposed budget projects a \$48.4 billion five-year ship-building programme which calls for the construction of 157 new ships by 1982, bringing the number of Navy ships up from the present 476 to 600.

FIVE-YEAR SHIPBUILDING PROGRAMME

	FY78	FY79	FY80	FY81	FY82	TOTALS FY78-82
TRIDENT (SSBN)	2	1	2	1	2	8
SSN 688	2	1	1	2	2	8
CVV	—	1	—	1	—	2
CSGN	—	1	—	—	1	2
DDG-47	1	—	3	3	3	10
FFG-7	11	11	12	12	10	56
FFGX	—	—	—	1	1	2
LX (LSD-41)	—	1	—	2	3	6
MCM	—	1	6	6	6	19
AO	4	4	2	2	2	14
AOE	—	—	1	—	—	1
AD	—	1	1	—	—	2
AR	—	1	—	—	1	2
T-AGOS	—	3	5	4	—	12
T-ATF	5	2	—	—	—	7
T-ARC	—	1	1	—	—	2
T-ASR	—	—	2	2	—	4
Total New Ships	25	29	36	36	31	157

NOTICE TO ADVERTISERS

The Trade Practices Act 1974 came into force on October 1, 1974. Certain provisions of the Act relating to consumer protection place a heavy burden upon advertisers, advertising agents and publishers of advertisements.

Section 52 of the Act (read with Section 6 (3) (c)) imposes a general duty on everyone (individual and corporation alike) not to engage, in trade or commerce, in conduct that is "misleading or deceptive". In addition Section 53 (read with Section 6 (3) (c) and 76) makes it a criminal offence (punishable in the case of an individual by a fine of \$10,000 or 6 months' imprisonment and in the case of a corporation by a fine of \$50,000) for an individual or corporation to do any of the following in trade or commerce in connection with the supply or possible supply of goods or services or in connection with the promotion by any means (for example advertising) of the supply or use of goods or services, namely:

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

Apart from the criminal sanction for a breach of Section 53, an individual or corporation infringing Section 52 or 53 is liable to proceedings for injunction and for damages suffered by an injured party.

In view of the obvious impossibility of our ensuring that advertisements submitted for publication comply with the Act, advertisers and advertising agents will appreciate the absolute need themselves to ensure that the provisions of the Act, including the sections specified above, are complied with strictly.

It is suggested that in cases of doubt advertisers and advertising agents seek legal advice.

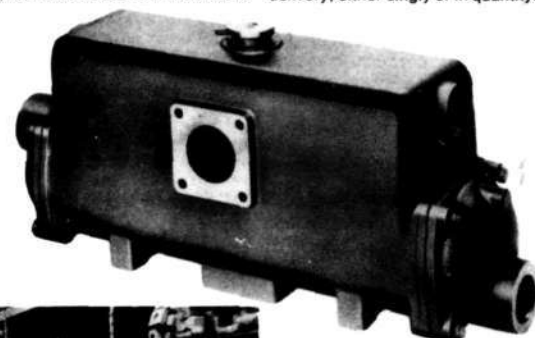
NEW MARINE HEAT EXCHANGERS FOR ENGINES UP TO 1000 kW

New marine heat exchangers, known as the PH and PK Series, for engines from 450 kW to 1000 kW, have been added to

their existing range by E. J. BOWMAN LTD of Birmingham, England.

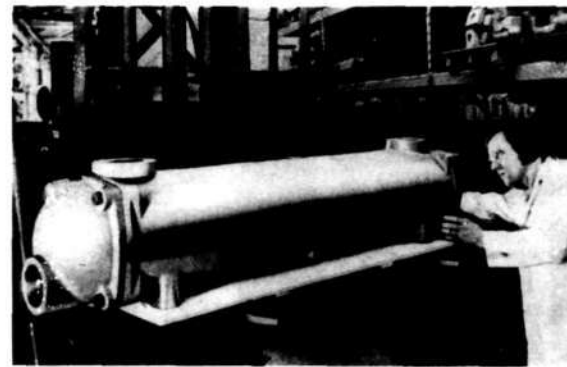
PH and PK series units have cupro-nickel tubes and bronze end-

covers as standard to resist corrosion and can handle flows up to 140 m³/hr; both are easy to install and maintain and are available on rapid delivery, either singly or in quantity.



PH SERIES

These have been developed from Bowman's existing range of header tank heat exchangers, with the header tank specially re-designed to handle high fresh-water flow rates without danger of aeration in the cooling circuit.



PK SERIES

These are standard heat exchangers, suitable for cooling either engine oil or cooling water and have readily removable end-covers for easy access to the tube bundle for cleaning.

Best Wishes to all RAN personnel from

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SPERRY SEA ARCHER

optical fire control system

Sperry Gyroscope announce a new simple, but effective, fire control system — SEA ARCHER.

SEA ARCHER controls servo operated guns with calibres from 30mm upwards against aircraft, missiles and surface vessels. Whilst designed as the prime gun controller for FPB's the system is equally suitable as a secondary weapon controller for larger warships. Already first orders have been received for SEA ARCHER and numerous negotiations are in hand with several navies for a variety of applications.

The system is comprised of two basic modules, an Optical Fire Director (OFD) incorporating tracking sensors including a Range-

only-Radar or Laser Range Finder, and a Gun Control Console containing a Digital Weapon Controller, Operator Control Panels and system communications.

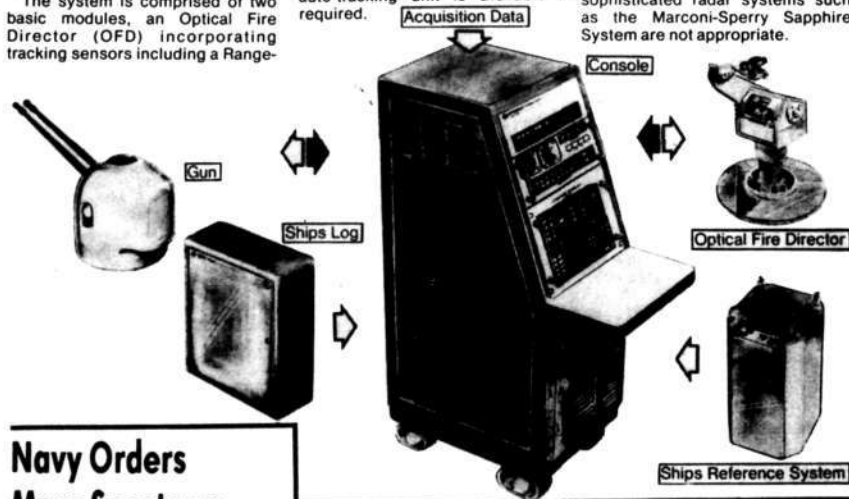
In the system's simplest configuration an aimer uses binoculars fitted to the Laurence Scott, line of sight, stabilised director to acquire and track the target. To assist in target acquisition the system can accept information derived from the vessel's surveillance radar to slew the OFD on to the target bearing. Optronic sensors such as a television tracking camera may be fitted to give below decks operation. A TV auto-tracking unit is available if required.

Information regarding the target range, training and elevation is automatically transmitted back to the Weapon Control Console.

The computer, utilising ballistic and meteorological data already entered into the system, then calculates gun aiming orders.

The gun is controlled from the Control Console. To reduce reaction time to a minimum, gun slew occurs as soon as the target is acquired and offset adjustments are then made when a valid prediction solution is computed. Typically this process takes two seconds. The gun is fired by means of the console foot push when a valid prediction is achieved and the future range display indicates that the target is within effective gun range.

SEA ARCHER is designed to be extremely small, light, easy to install and operate so that it can be fitted in small FPB's for which sophisticated radar systems such as the Marconi-Sperry Sapphire System are not appropriate.



Navy Orders More Spectrum Analysers

Marconi Instruments has recently received an order worth almost £200,000 from the Ministry of Defence (Navy) for the outstanding MI TF2370 Spectrum Analysers.

The TF2370 Spectrum Analyser uses an advanced digital storage

technique coupled with an ordinary television-type display tube, which gives it several advantages over the conventional storage and long-persistence display systems. It has many applications in communications equipment measurements, and its unique design readily lends itself to both production line and R & D use. The instrument was awarded a Gold Medal at the 1975 Brno Inter-

national Engineering Fair in Czechoslovakia.

Although the TF2370 is in use in some RN Experimental Establishments for research, trials and commissioning of new equipment, its principal role in the Royal Navy Radio Centres is for the routine service, maintenance and calibration of communications equipments.

THE HOVERLIGHTER

— a solution to port congestion

British Hovercraft Corporation announced a new concept in off-shore cargo handling at the Europort Exhibition in Amsterdam, during November, 1976.

The rapid increase in trade in many of the emergent nations' ports has led to serious congestion and expensive delays. Expansion of port facilities is costly, time consuming and in many cases difficult because of urban growth.

Hoverlighters offer a unique solution to this problem by providing a rapid ship to shore link. A simple base can be sited conveniently for off-loading onto road or rail but clear of port congestion.

The Hoverlighter is a flat-decked hovercraft based on the SR.N4 cross-Channel passenger and car ferry craft. Fitted with four machinery modules, each located in a corner of the cargo deck area, the craft would have a bow loading/unloading ramp and a control cabin adjacent to one of the forward modules. Powered by four Rolls Royce Proteus engines the craft will have an unloaded speed of 40-45 knots and loaded could reach speeds of 20 knots.

A typical operation using a fleet of five Hoverlighters each with a payload of approximately 200 tons, working a ten-hour day, could move up to 10,000 tonnes daily.

Unloading from the ships would be ship-operated cranes or large floating cranes, the containers and other loads would be lifted onto the Hoverlighter's deck and placed on wheeled trolleys; these would be positioned on the cargo deck using powerful motor tractors, these same tractors being used to unload the lighter onshore. A typical loading and unloading sequence would take approximately 30 minutes.

The Hoverlighter offers a versatile and low cost solution to port congestion. In the longer term the craft could form the backbone of river transport systems where the natural terrain of mudbanks, rapids and shifting sandbanks make the use of conventional freighters impossible.



NAVY LEAGUE NECK TIES

The Federal Council of the Navy League hold a stock of Navy League Ties for purchase by Fellows of the League — price \$8.70 each, including postage.

The pure silk ties are navy blue in colour and bear the badge of the League in gold thread.

To secure a tie(s) please forward your remittance made payable to THE NAVY LEAGUE OF AUSTRALIA, together with the form hereunder.

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The Navy League of Australia,
Box 227, PO,
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I enclose a cheque for \$..... payable to THE NAVY LEAGUE OF AUSTRALIA, to secure Navy League Neck Ties at \$6.70 each.

I hereby certify that I am a financial member of the Navy League of Australia (Division).

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SWEDEN AND SWITZERLAND THE MYTH by A. W. GRAZEBROOK

Once again, we are being told that there are advantages to the defensive strategy adopted by the Swedes and the Swiss. Do it the way the Swedes or the Swiss do it, and our defence problems will be solved. By implication our defence problems will be solved at markedly lower costs than incurred by Australia at present.

One senior Australian diplomat recently coupled this with an implication that we can avoid conflict altogether by minimising defence expenditure and concentrating upon negotiation.

In the midst of all this, it is worthwhile taking a look at the Swedes and the Swiss and comparing their situation with our own. The two European countries are in a similar situation to one another:

- In terms of material resources (minerals, industries, living space etc) neither of them have very much which their past and potential enemies lack.
- Their geo-strategic situation is such that, although they would ultimately lose a war with a major aggressor, they can fight hard enough and long enough to make sure that the price an enemy would have to pay for the conquest would be unacceptably high.

- They sell potential aggressors those few material items they are likely to want.
- They have no strategic raw materials — uranium for example — that potential aggressors are likely to try and acquire or prevent their own enemies from acquiring.
- In doing all this they put, and always have put, considerably more effort (both personal and monetary) into defence than does Australia.

As can be seen at a glance, there are very considerable differences between the position of the Swedes and the Swiss and that of ourselves.

Sweden and Switzerland have been described as "armed independent neutrals". Their militia based armed forces are numerically the strongest in Europe other than those of the USSR. These are supported by a very substantial degree of defence industrial independence.

DEFENCE INDUSTRIAL INDEPENDENCE (1)

Both countries manufacture considerably more defence equipment than does Australia. Sweden produces to her own design:

Supersonic fighters; Training aircraft; ATGW; Submarines; Escorts; Self propelled artillery; Medium and light tanks; Subsonic aircraft; Surface to surface missiles; Air to surface and air to air missiles; Fast attack craft; Towed artillery.

Switzerland produces to her own design:

Surface to air missiles; Surface to surface missiles; Medium tanks; ATGW; Towed artillery.

In addition, Switzerland produces or assembles to designs prepared in other countries:

Supersonic fighters; Subsonic fighters; Transport aircraft.

In summary, all the major weapon systems and vehicles used by either country are built or manufactured in that country. Up to the present time, for example, the Swedish Navy incorporates no warship, or auxiliary, built outside Sweden (although some fast attack craft are under construction in Norway).

No combat aircraft, first line warship, SAM or SSGW is currently manufactured or built in Australia. The country is substantially dependant on overseas suppliers for defence equipment and much of the more sophisticated ammunition (IKARA being the exception), whereas Sweden and Switzerland are not only sourcing locally but giving appropriate attention to developing the next generation of weapon systems.

SWITZERLAND

In geography and economy, Switzerland differs very substantially from Australia. The very rugged mountainous Swiss terrain, densely



A. W. GRAZEBROOK

A. W. (Tony) Grazebrook was born in Britain in 1935. Educated in the United States and Great Britain, he has made his career in the marketing of synthetic rubber. Activities in this field have included extensive travelling in the Middle East, Eastern Europe and North America, and a period of five years' residence in Switzerland.

He is now Marketing Manager, Australian Synthetic Rubber Co Ltd, and lives with his wife and two children in North Balwyn, Victoria.

Service in the Royal Navy, RNR and RNR preceded his transfer to the Royal Australian Naval Reserve as a Lieutenant Commander. In addition to being Federal Vice-President of the Navy League, he is Vice-President of the Victorian Division of the Navy League, and President, Victorian Chapter, Naval Historical Society of Australia.

populated and with short distances between major centres, favours fixed defences whereas the sparsely populated huge Australian tracts demand mobility.

These factors, coupled with the fact that except for those with a repetitive sense of humour, Switzerland has no need for a Navy, mean the Swiss choice of equipment has little relevance for Australia.

However, the militia principle upon which the Swiss provide manpower, and the general defence consciousness of the Swiss people, are of more than passing interest.

Every male Swiss citizen is required to serve in the reserve for all his years between the ages of 20 and 50. The first 12 years are spent in first line reserve, ten years in the

second line, and eight in the third line, with annual training commitments reducing in each line. Officers serve for longer periods than the annual three weeks first line commitment for the first line other rank men. Flying personnel also serve longer.

With this system, the Swiss operate their 550,000 man armed forces upon a basis of 3500 permanent service personnel. About 30,000 conscripts are in full time service at any one time.

A high standard of technical preparedness and expertise is maintained, as is shown by satisfactory operation of an air force that includes Mirage III fighters, and an army that includes some 650 tanks, 1000 armoured personnel carriers, some 1000 guns, and surface to air missiles.

Confidence in the ability to maintain this standard of technical expertise is shown by Swiss plans to acquire F5E Tiger II fighters, and the 1975 letting of a contract for the design (by the Federal Arsenal at Thun) of a new battle tank. Maintenance of the Swiss military aircraft is carried out by civilian employees.

Any person who, as this writer has, spends five years as a resident of Switzerland, cannot fail to be impressed by the extent of defence preparedness. Many bridges, tunnels and defiles are wired for destruction. Arms and ammunition are in the permanent possession (ie in the individual homes) of reservists. If rumours are to be believed, there are supplies secreted in remote areas sufficient to supply the entire population for up to two years. By law, every Swiss housewife can be required to maintain certain minimum stocks of certain provisions if and when the Federal Government so decrees. Key points are defended by substantial fixed emplacements whilst minor defensive facilities are in position in many parts of the country.

This independent neutral, with about half our population, maintains armed forces substantially in excess of those of Australia. As Switzerland has not been involved in armed conflict since 1815, it can be contended that her strategy has been successful. However, it is not cheap.

SWEDEN

With her dependance upon maritime trade — Denmark, the UK and West Germany are her biggest trading partners — the defence of Sweden has some similarities to that of Australia. However, the ability of at least one of her neighbours to mount a major armed invasion across the short distances of the Baltic has forced the Swedish Defence Staff to prepare primarily against this threat in implementing their official policy of keeping the country out of war by a defence "so strong that the cost of defeating Sweden is out of proportion to the strategic advantages which an aggressor might attain."

For her 1973-74 defence spending of \$A1669 million (2), Sweden's eight million people obtained an army of some 30 brigades, 50 independent battalions and a further 100 local defence battalions. Sweden's arms include over 500 DRAKEN fighters, some 132 Lansen attack aircraft (in course of being replaced by 150 VIGGEN attack aircraft) and some 350 other aircraft (3).

Whereas island continental Australia's defences lay emphasis on defence of maritime trade, Sweden is concerned primarily with defence against a substantially superior naval, air and land force. This is reflected in the composition of the Royal Swedish Navy, which includes:

- 12 escorts,
 - 20 submarines,
 - 46 fast attack craft,
 - 49 minelayers,
 - 38 MCM craft,
 - 120 landing craft.
- This force is designed to:
- Utilise SSGW armed and torpedo armed fast attack craft to deter surface warships and hostile amphibious forces.
 - Keep selected sea-lanes clear of mines and submarines for naval and indispensable emergency merchant traffic.
 - Provide an offensive deterrent submarine force.
 - Utilise extensively defensive minelaying.

Recognising that the majority of the Russian submarines in the Baltic are diesel-electric driven, the Swedish submarines are effective in the SSK (anti-submarine) role as well as the not inconsiderable deterrent effect twenty submarines

would have in the small Baltic Sea. The short distances and narrow confined shallow Baltic waters have led the Swedes to keep the size of their submarines down. The latest Swedish submarines are just under 1000 tons (as compared with 1600 tons for Australia's OBERONs).

Swedish submarine designs have all been developed in Sweden as especially suited to Baltic tactical and maritime circumstances. New types are developed and built in regular succession — the A14 Class are due for completion in the second half of the seventies, with the A17 Class now in the design stage for completion in the mid-eighties. This regular approach to submarine strength maintenance ensures continuity and evolution of both design and construction technology — something Australian naval shipbuilders cry out for repeatedly (4).

There are unconfirmed but persistent rumours that the new A17 Class submarines will be driven by the hydrogen peroxide propulsion system. Developed by the Germans towards the end of World War II, too late to have an impact on that war, the British (Vickers) did extensive work in the 1940s and 1950s going to the extent of building two trial submarines (Explorer and Excalibur). However, expenditure was discontinued in favour of the superior nuclear propulsion.

There are those experts who regard hydrogen peroxide propulsion as having been successful, but overtaken by nuclear power as more suitable for the oceanic strategic policies of the larger maritime powers. However, nuclear power is markedly less attractive in the smaller submarines necessary in the Baltic.

It is this that lends credibility to the rumours that the Swedes are planning hydrogen peroxide power for their new A17 Class submarines.

The short Baltic distances, and middle aged to elderly hulls and machinery, and obsolescent armament of the Swedish escorts makes them more of a liability than an asset in Baltic circumstances. Therefore, they are being phased out in favour of a new class of smaller craft which, at 700 tons and 35 knots, will be capable of both escort and leader duties for the fast attack craft squadrons. It is not clear

how the offensive minelaying capacity of the fast escorts is to be provided after these craft retire, although it may be that the submarines could be fitted for this role.

The Swedish mine force is substantial. A total of four large minelayers are in service or planned. Of these, one serves as headquarters ship, another as training ship and a third as depot ship during peace. Forty-five smaller minelayers are available for coastal defensive minelayers.

The suitability of Swedish waters for defensive minelaying makes Sweden equally open to offensive minelaying by an enemy. To provide protection against mines, Sweden maintains a substantial MCM force of some 38 craft. A new generation of small grp hulled MCM vessels is under development (refer "The Navy", Feb-Mar-April, 1977).

The Naval Air Arm is comprised of ten Alouette II, 10 Boeing-Vertol 107 and 10 Kiowa helicopters which fill service, ASW and AMCM roles.

Although not involved in war since the days of Napoleon I, the Royal Swedish Navy fought successfully at that time, not least in defeating the Russians soundly at Svenskund in 1790.

Although World War II necessitated the maintenance of a high degree of readiness for Sweden's defences, she has avoided war since 1815. Like Switzerland, Sweden's strategy of armed independent neutrality has worked. The crippling expense (in the very broadest sense of the term) of a war has been avoided. But it has been avoided by heavy investment in defence forces — markedly more expenditure (when allowing for personal effort and money) than Australia has undertaken for quite some years.

AUSTRALIA AN ARMED INDEPENDENT NEUTRAL?

Whether or not the "armed independent neutrality" strategy is appropriate or practicable in Australian circumstances is debatable. The Swedes and the Swiss have demonstrated successfully that it can be done, but in entirely different geo-strategic circumstances and with a very considerable outlay on defence forces — much greater than Australia has so far shown any willingness to provide.

SOURCES

- (1) ARMS AND STRATEGY, Laurence Martin, London, 1973, p254.
- (2) THE STATESMAN'S YEAR BOOK, 1975-76. In the year 1973-74, Australia's 13,000,000 people spent \$A1413 million on defence, as specified in THE DEFENCE REPORT 1974.
- (3) Figures from WORLD COMBAT AIRCRAFT DIRECTORY by Norman Polmar.
- (4) Commodore G. A. Bennett, RAN, General Manager, HMA Naval Dockyard, Williamstown, as reported in THE AGE, 4 April, 1977.

Silver Jubilee Fleet Review

One of the major events scheduled for the Silver Jubilee celebrations will take place when Her Majesty The Queen reviews the Fleet at Spithead on Tuesday, 28 June, 1977.

Some ninety ships of the Royal Navy will take part including ships of the Royal Fleet Auxiliary which support the Fleet at sea, and the Royal Maritime Auxiliary Service.

Navies of the Commonwealth, NATO, CENTO and the EEC have been invited to participate in the Fleet Review. Personal invitations have also been sent to the two honorary Admirals in the Royal Navy — HM King Olav V of Norway and HM King Carl XVI Gustaf of Sweden.

The Merchant Navy and Fishing Fleets will be represented, together with other organisations having a close association with the Royal Navy, including the Royal National

Lifeboat Institution, Trinity House and HM Coastguard.

In all, it is expected that some 150 ships will take part in the Fleet Review.

Her Majesty will review the Fleet from HM Britannia which, by tradition, will be preceded through the lines of ships by the Trinity House Vessel Patricia. The Royal Yacht will be followed by the destroyer HMS Sheffield, chosen as the Admiralty Board ship for the Review. The Review Fleet will be under the command of the Commander-in-Chief Fleet.

HM Britannia will sail from Portsmouth harbour at 11.00 am on 28 June and anchor at the head of the lines following the Royal Salute. The Review is planned to begin at 2.30 pm and will conclude approximately 2 1/2 hours later with a fly-past by aircraft of the Royal Navy. HM The Queen and HRH the Duke of Edinburgh will later dine on board the Fleet Flagship with the Commander-in-Chief, Flag Officers and officers of the Fleet.

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Modernisation of Garden Island Naval Complex

A design team comprising members of the Departments of Construction and Defence and private consultants has been established to prepare a development plan for the modernisation of the Naval complex at Garden Island, New South Wales.

When announcing the formation of the team, the Minister for Defence, the Honourable D. J. Killen, said that this was foreshadowed in the 1976 White Paper on Australian Defence which stated:

"The Government intends that the major Naval Base at Garden Island, NSW, should remain, but be modernised and developed in a way which pays careful attention to environmental considerations and improved aesthetics."

Mr Killen said the modernisation was long overdue. Existing wharf space was inadequate and detracted from the operational capacity of the Fleet and additionally the unsatisfactory condition of many other facilities created inefficiencies and resulted in poor working conditions.

A start would be made this year on urgently needed improvement to several berths at Garden Island. To this end tenders would be called during April-May for the extension of the East Dock Wharf to provide berthing space for ships of destroyer escort size.

In addition the NSW Premier, Mr Wran, had agreed to negotiate a lease of No 2 berth, Woolloomooloo, to Defence. This would alleviate congestion at Garden Island during the development programme.

Mr Killen said the design team,

during the planning stages, would consult with acknowledged experts in the areas of aesthetic and environmental planning and in the retention of historical sites and buildings. Such consultations would include the NSW State Planning and Environmental Authority, the Maritime Services Board, the Australian Heritage Commission and the National Trust of NSW. The team would also consult with the workforce, both in regard to functional and environmental aspects of the development.

One important objective of the modernisation plan would be to reduce noise and air pollution resulting from dockyard industrial activities. Some industrial activities had already been moved from Garden Island. The design team would investigate the possibility of transferring other activities away from the dockyard to recognised industrial areas in Sydney.

Mr Killen said the background to the decision to establish the design team stemmed from a call by the previous Government for a study to examine the possibility of relocating the dockyard and its associated facilities away from Sydney Harbour.

This study revealed that relocation costs, including the costs of establishing an adequate support infrastructure required for the Naval dockyard and Fleet Base, would be many times the cost of rebuilding or rehabilitating existing facilities.

That Government, he said, had concluded it was not desirable to divert money and resources from other areas of national development and consequently Garden Island should be modernised. The present Government had endorsed this policy.

Mr Killen said it was expected the design team would submit initial proposals for Government consideration about December of this year, and the final report by June 1978.

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THE NAVY LEAGUE OF AUSTRALIA

Federal President's Notes

INTERNATIONAL CONFERENCE OF NAVY LEAGUES

DEFENCE CUTS?

Media reports indicate that the Defence Department will not escape attention as the Federal Government pursues its objective of reducing government spending.

Few people would doubt that ways to economise could be found within the Department but it will require a resolute Minister with all the support he can muster to ensure that the equipment programme and forward planning are not interrupted.

So far as the Navy is concerned, there is a minimum number of ships and facilities it must have if Australia is to retain a credible defence capacity. Sooner or later every item of equipment has to be paid for, and if we procrastinate now the taxpayer is likely to pay dearly for it in the future.

Hopefully, with a government committed to a realistic security force — and now faced with a real test — a proper sense of priorities will obtain.

CADETS

There has been little discernible change in the cadet scene. Overall, one wonders whether the Government's objective of an effective, community-supported cadet organisation has been achieved, or is ever likely to be achieved.

The Navy League has undertaken admirable but hardly vital responsibilities towards the Naval Reserve Cadets, but even these are proving difficult to implement in the present circumstances.

If we are to have the kind of cadet organisation the Government wants I believe the Defence Department will have to provide a lead, and demonstrate that there

is a real need for community participation. Unless this is forthcoming, and citizens accept the challenge, the cadet movement will be no better off than it was when the decision was made to abolish cadet training — and just as vulnerable.

MEET THE NAVY AND MEET THE NAVY LEAGUE

Two State Divisions recently organised functions to extend the League's relations with the Navy, and to make the League better known in the community.

In Melbourne, executive members met with a number of officers from the Victorian Naval Command at an informal gathering in the home of League member Martin Clemens. The naval and League "teams" were led by NOIC Victoria, Commodore Dacre Smyth, and Victorian President John Bird, respectively.

In Adelaide, Division President Bruce Grey and a small committee arranged what turned out to be a very lively "reception" in the home of NOIC South Australia, Commander Phillip Mulcare, to which they invited a number of leading citizens. A very successful party had an equally successful outcome, as the Division acquired thirty or so new members!

It was a pleasure for me to attend both these functions, and most encouraging to observe the result of these exercises in communication.

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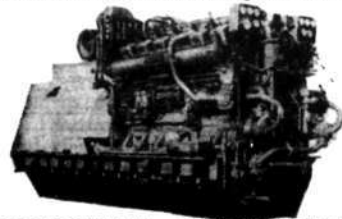
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Naval Reserve Cadet News

TASMANIA AROUND THE TASMANIAN DIVISION Compiled by A. J. LEE

During late 1976 Tamar received a rebuilt whaler and Leven their repaired RNSA from HMAS Huon. Leven were also donated a surfboat and are constructing a Mirror class dinghy. Mersey launched the 25ft motor cutter (see photograph) after overhaul and placed this welcome addition to it's fleet in service. Tamar has also received the damaged lifeboat from the Straitsman. This boat will require extensive repairs before it is in service. Leven have taken their whaler into the HQ for repairs and painting.

Burnie Unit (TS Emu) has commenced pouring the floor for the new headquarters and boatshed. The work is being done by unit officers and helpers. They are also manufacturing moulds to make their own concrete bricks.

Ulverstone Unit, TS Leven, has been forced to abandon plans to build a headquarters on a new site and instead is raising money to renovate (and in some cases completely rebuild) their existing complex. The original building is believed to have been built early this century.



A view of the old Amenities Building being rebuilt into a two storey HQ by TS EMU at Burnie.

On 25 March a twenty-fifth Anniversary Dinner was held at TS Tamar's headquarters. A large gathering of present and past supporters gathered along with representatives of the Navy, Army, Air Force and the City Council. Tamar, which has just rounded off a good year by winning the State Colours and the Andrews Trophy, celebrated the occasion by presenting the Commanding Officer with a sword as a token of thanks for his twenty-four years' service. To follow this it was announced that Lieutenant Cleaver had been promoted to Lieutenant

Commander (Cadets) and was presented with a pair of shoulder straps.

Cadets from Derwent visited a submarine and also stayed on board the HMAS Duchess whilst she was flagship for the Royal Hobart Regatta. Derwent cadets also visited the HMZS Taranaki and provided six cadets under the charge of First Lieutenant HMAS Huon as a slipping party when this vessel left port.

Cadets from Derwent and Tamar participated in Anzac Day ceremonies at New Norfolk (Derwent's band playing for the third year running), Hobart, Glenorchy and Beaconsfield.

Tamar has provided the guard and colour parties at Beaconsfield continuously since 1963.

TS York have been given the use of a house to convert into a temporary headquarters, by Comalco, for a year's trial at a nominal rental. This house will be used until enough funds are raised to build a permanent headquarters (approx \$150,000 is needed).

York also provided a Guard of Honour for the State Conference of the RSL during May, 1977.

TS Mersey has had several week-end camps as have Emu and Leven. TS Leven's camp was a reward camp for those cadets who sold programmes at the Christmas carnivals



TS MERSEY's 25ft Motor Cutter being launched on the unit slipway. A week later the cradle was removed and the boat placed on its moorings.

as a unit fund-raising drive. The cadets particularly enjoyed pulling the unit's surf boat, finding it easier on the muscles in the tidal rip, than a whaler.

TS Mersey's power boats are now on call for duty with the State Emergency Service.

Emu's instructors are becoming quite proficient bricklayers as they continue working with bees on their new headquarters site.

News from TS Canberra

Compiled by
Lieutenant
F. J. Whetton

The ACT Unit of Naval Reserve Cadets (TS Canberra) was very much to the fore when the re-enactment of the landing of Captain Phillip and his party took place as part of the Canberra Australia Day Celebrations held on 31 December, 1976, on the shores of Lake Burley Griffin.

When I was first approached by the Australia Day Committee to take part I immediately accepted the invitation.

The unit is the proud owner of a 27' Montague Whaler and all people concerned thought that this boat



Whaler and crew from TS CANBERRA during the re-enactment.

would be ideal for the work which had to be done.

On the day, Captain Phillip and his party arrived by "ship" which anchored approximately 40 yards from the beach, our whaler, manned by cadets from TS Canberra then began the arduous task of ferrying the party ashore.

Six trips in all were made, each time the boat was loaded with passengers, Phillip and his soldiers of course were landed first, thereafter the people then brought ashore included convicts, troopers, nurses, settlers, squatters, and even as far as three Merino sheep, sheep dog, and handler and MacArthur Onslow.

Needless to say the cadets worked very hard under the efficient control of Chief Instructor Lawler (coxswain) and Honorary Instructor Ian Nicholson (bowman).

When ferrying of passengers was completed the whaler's crew was invited on board Captain Phillip's "ship" for some well earned refreshments.

The job they had to do was difficult, but with cheerfulness it was carried out in a smart seaman-like manner and as Commanding Officer of the unit I am very proud of them all.

VICTORIA Presentation of Navy League Colour



The parade is assembled for transfer of the Colour. To the right is the Colour Party of TS LATROBE. To the left is Guard and Colour Party of TS BARWON, Best Unit in Victorian Division for 1976. In centre is the combined unarmed party of cadets from TS BARWON and TS LATROBE.

On Sunday, 14 November, 1976, the Navy League Colour was transferred to the Unit judged the best in Victoria for 1976 — TS Barwon — at a short and impressive ceremony at their headquarters on Eastern Beach, Geelong.

The Reviewing Officer was Commander K. H. MacGowan, RAN, the Commanding Officer of HMAS Lonsdale. He was accompanied by the Senior Officer Victorian Division NRC Commander (Cadets) Alan

Burrows, VRD, and the Deputy Senior Officer Lieutenant Commander (Cadets) John Hamilton-Smith.

A small contingent from TS Latrobe, the holders of the Colour in 1975, in the charge of their Commanding Officer, Lieutenant (Cadets) E. Clegg, travelled a long distance from their homes in the Latrobe Valley in Gippsland, Victoria, to take part in this significant and important annual event in this Division.

The ceremony was watched by a large number of people including leading citizens of Geelong, among whom was that city's Mayor, parents, families and friends of the Cadets.

At the conclusion of the transfer of the Colour all visitors were made very welcome by the Commanding Officer of TS Barwon, Lieutenant (Cadets) R. J. Whittington, and the President (Mr D. J. McGrath) and members of the Barwon Unit Committee to their fine headquarters building on the foreshore of Eastern Beach for a most enjoyable and extremely well catered barbecue.



Colour Party of TS BARWON, Colour Officer Lieutenant (Cadets) W. T. G. Thompson, have just been presented with the Colour by the Reviewing Officer, Commander K. H. MacGowan, RAN. With him is the Senior Officer NRC Victorian Division, Commander (Cadets) Alan Burrows, and the Commanding Officer of TS BARWON, Lieutenant (Cadets) R. J. Whittington.



The Colour being paraded in ceremonial procedures.

First Trident Missile Launch Successful

The first flight model of the Trident missile successfully completed its planned flight of more than 4000 miles after being launched from Cape Canaveral January 18. This was the first in a series of test firings of the new long range missile.

The new missile will be capable of submerged firing from both the Poseidon and the new Trident Fleet Ballistic Missile (FBM) nuclear-powered submarines.

Improved solid propellant, electronics and materials give the Trident missile much greater range than the currently deployed Poseidon missile. The Trident missile will carry a multiple,

independently targeted re-entry vehicle (MIRV) warhead to a range of 4000 miles.

The missile is guided by a self-contained inertial guidance system, independent of external command and controls once it is launched. It is approximately 34 feet long and six feet in diameter and weighs in excess of 65,000 pounds.

The first submerged launch from a Trident submarine is planned for the summer of 1979.

Backfit of the Trident missile into Poseidon submarines will begin by financial year 1979. Modifications of Poseidon submarines to accommodate the change to Trident missiles can be accomplished alongside a tender.

Our representative snapped this meaningful photograph during the presentation of the Best Guard Trophy to TS MELBOURNE.

Join the NAVAL RESERVE CADETS

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

The Naval Reserve Cadets are administered by the Australian Naval Board.

The Naval Reserve Cadets provide for the spiritual, social and educational welfare of boys and to develop in them character, a sense of patriotism, self-reliance, citizenship and discipline.

Uniforms are supplied free of charge.

Cadets are required to produce a certificate from their doctor to confirm they are capable of carrying out

the normal duties and activities of the Cadet Corps. If injured while on duty, Cadets are considered for payment of compensation.

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

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

general sporting activities and other varied subjects.

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

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

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

SENIOR OFFICERS, NAVAL RESERVE CADETS:
NEW SOUTH WALES: Staff Office Cadets, HMAS Watson, Watsons Bay, NSW, 2030.

QUEENSLAND: Staff Office Cadets, HMAS Morton, Box 1416T, GPO Brisbane, 4001.

WESTERN AUSTRALIA: Staff Office Cadets, HMAS Leeuwin, PO Box 58, Fremantle, 6160.

SOUTH AUSTRALIA: Staff Office Cadets, HMAS Encounter, PO Box 117, Port Adelaide, 5015.

VICTORIA: Staff Office Cadets, HMAS Lonsdale, Rouse Street, Port Melbourne, 3207.

TASMANIA: Staff Office Cadets, HMAS Huon, Hobart, 7000.

AUSTRALIAN CAPITAL TERRITORY: Staff Office Cadets, HMAS Watson, Watsons Bay, NSW, 2030.

TO: The Senior Officer,
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Please address your envelope to the Senior Officer, Naval Reserve Cadets, in your State or Territory — see list of addresses above.

ANNUAL GENERAL MEETING 1977

Notice is hereby given that the Annual Meeting of the Navy League of Australia, New South Wales Division, will be held on Monday, 29 August, 1977, at 5.30 pm, in the Conference Room, Second Floor, P & O Building, 55 Hunter Street, Sydney (access by way of Castlereagh Street entrance).

A warm invitation is extended to you to be present, and to bring a guest if you so desire.

BUSINESS

1. Apologies.
2. Confirmation of Minutes of Annual General Meeting, 1976.
3. To receive the Committee's Annual Report — presented by the President, Lieutenant Commander E. Bryden-Brown, VRD, RANR.
4. To receive the Balance Sheet and Accounts —

presented by Mr R. I. Rae, FCA, Honorary Treasurer.

5. A. Election of Executive Committee:

The following gentlemen offer themselves for re-election: Lt Comdr E. Bryden-Brown, Mr D. P. Trickett, Rear Admiral G. J. B. Crabb, Mr M. McCullagh, Commander R. A. Denovan, Commander R. O. Albert, Commander K. M. Adams, Mr A. R. Webber, Mr Malcom Longstaff (further nominations will be received).

B. Election of Honorary Treasurer: Mr Ian Rae, FCA, offers himself for re-election.

C. Election of an Honorary Auditor.

6. Question time.

7. General Business.

At the conclusion of Formal Business, refreshments will be served.

Box 1719, GPO, Sydney, New South Wales, 2001. Honorary Secretary, 24 JUNE, 1977

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Under the terms of recent contracts placed by the Ministry of Defence Procurement Executive with GEB-Marconi Electronics companies, ten systems are to be supplied to the Royal Navy. Marconi Communication Systems will be supplying the transmitting and receiving sub-systems and MSDS the distribution and supervisory sub-system. This follows Marconi's announcement in 1973 of the initial £7 million development and manufacturing order for ICS3. This latter marked the first occasion upon which industry had been given overall responsibility for both the design and production elements of a complete naval communication system.

ICS3 is an extremely versatile system for equipping newly built ships, and its manufacturing programme has been carefully synchronized with the naval ship-building programme. At the same time, it has been designed to be compatible with those earlier generations of ship's communication systems (ICS1 and ICS2) of which Marconi is a major supplier, and to provide a basis for the modernisation of existing systems.

Its superiority over previous generations of ship's communication systems lies in its versatility and its improved operational capabilities. Complete systems suitable for any class of major

warship can be constructed from four sub-systems, each being scaled to meet individual operational requirements. Each sub-system is, in the main, made up of identical units thus providing standardisation of operation, maintenance and training for all.

The four basic sub-systems of ICS3 are hf/mf transmission, hf/vlf reception, distribution and supervision, and automated message processing. Each sub-system is designed to minimise the numbers and skills of the staff required for operation and support. Operator controls have been reduced to a minimum and simple operational test and checking facilities are provided. Onboard repair is by means of plug-in interchangeable sub-assemblies and periodical maintenance routines are virtually abolished. Thus ICS3 provides a high level of "circuit availability" and a low "meantime to repair".

Marconi Communication Systems' hf transmitting sub-system can transmit voice, data, automatic telegraph and more signals between units in a tactical situation over ranges varying from 20 to 300 miles. Simultaneously, for strategic communications with a central command unit, it can transmit over distances of several thousand miles by the use of a higher power range.

The company's receiver sub-system accepts signals over a

number of circuits from both the units of a task force and from a central command unit. It passes them via the control and supervisory system to the telegraph sub-system and other users.

The MSDS distribution and supervisory sub-system has been designed to provide a unique digital transmission system for the centralised control of all radio communications circuits. Throughout the ship, remote users are provided with all the local control facilities and equipment status information needed to operate a radio channel, whether by voice, radio teletype or hand morse. The heart of the sub-system is the control console in the main communications office which offers fingertip control of all facilities.

The telegraph sub-system, which is supplied by the MEL Equipment Company Limited is an automated message processing and handling package which caters for all types of naval telegraph traffic and can be tailored, by virtue of its modular construction, to suit shipborne communication systems of varying size and complexity. It enables a significant reduction in the manning levels of the ship's communications office to be achieved even when operating under peak combat conditions.

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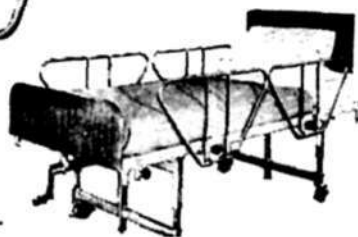
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