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RAN SHIP PROPULSION: FROM SAIL TO TURBINE

A HISTORY OF AUSTRALIAN NAVAL SHIPBUILDING, 1949-2023



AUSTRALIA'S LEADING NAVAL MAGAZINE SINCE 1938

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Volume 85 No.4

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Front cover: USS CANBERAA (LCS 30) Commissioning Fleet Base East Garden Island 22 Jul 23 alongside HMAS CANBERRA (LO1) Image SRA. Also shown NLA designed AUKUS and QUAD Navy Marques and NLA Designed Blue Ensign for Australian Defence Vessels (ADV) and RAFA, and Army Colours for its Littoral Manouevre Force, as a Blue Ensign.

All letters and contributions to:

The Office of The Editor *THE NAVY* Navy League of Australia GPO Box 1719 Sydney, NSW 2001 E-mail to: editorthenavy@hotmail.com All Subscriptions, Membership and Advertising enquiries to: The Hon Secretary Navy League of Australia, NSW Division GPO Box 1719, Sydney NSW 2001

Deadline for next edition 5 November 2023

THE MAGAZINE OF THE NAVY LEAGUE OF AUSTRALIA

REGULAR FEATURES

- 02 From the Crow's Nest
- 04 League Policy Statement
- 05 The President's Page
- 06 Letters
- 08 Flash Traffic
- 13 Red Duster
- 14 Book Review

AUKUS on a 2013 Defence Budget

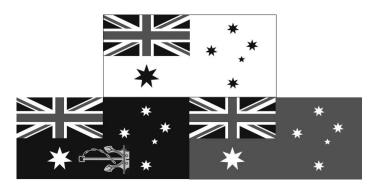
The final issue of a long 2023, commences with a paper by Dr Simon Reay Atkinson entitled *Because We're Worth It?* which addresses ADF crewing. Simon raises several issues regarding "the promotion of identity – potentially above that to Country, Crown, and Commonwealth?" He considers actuarial and gender-based crewing – with potential implications for thinking, fighting, and winning "on war". The paper examines the transition from third wave feminism ("taking the toys from the boys") to fifth wave feminism, which he suggests may be more akin to "taking the boys from the toys?" Perhaps, previously un-controversially, he posits:

Equality is based equably on successful male participation. Potentially more so in conflict or crisis.

Prima facie, successful female recruitment – and retention – is based on male participation, and productivity.

Over a career, considering there to be no differences between choices, aspirations, and outcomes, helps neither women; nor men.

The second paper by Dr Neil Baird and Robert Blake takes forward previous suggestions for a Royal Australian Fleet Auxiliary (RAFA), see Greg Swinden, Back to the Future - the need to recreate the RAFA (The NAVY (Vol 85, Iss 3, pp. 23-25)) with those looking at crewing and sustaining an emerging "Big RAN". Neil and Robert identify that, what they call "the People's Liberation Army Maritime Militia (PLAMM), is what really should be frightening Western naval planners. Its size is difficult to gauge and its effectiveness, preparedness, and readiness, impossible to measure. However, rough estimates are that it comprises well over 100,000 vessels and many more than a million personnel". In addition to proposing a RAFA and supporting industries, they submit the Three Flags ANSON Model, [1] which enables "the healthy flow of crews and platforms between grey-funnel ships (the White Ensign), with Red and Blue Flagged vessels. It is underpinned by the application of modern commercial platforms and crews in their military and auxiliary capacities - and vice versa."



Three Flags Model Incorporating NLA – The NAVY designed Blue Ensign – maintaining the essential capital, personnel, and capability flows. [1]

Baird and Blake conclude, inter alia:

There is much that can and ought to be done quickly and relatively cheaply to improve our naval defence readiness. The problem, as always, is developing or inspiring the political will and the imaginative, adaptable naval leadership to make the necessary practical decisions no matter how distasteful they may be. To be better prepared for war, Australia must ensure that Canberra's blinkers be removed. Its defence, particularly its maritime defence can be achieved by rejecting or reforming much of its wasteful and tediously slow conventional 'wisdom'.

Paper 3 marks a welcome technical paper by returning author Dr Dario Delgado, examining "RAN Ship Propulsion – from sail to turbine". Something of a romp through propulsion history, Dario notes AUKUS as being a trilateral agreement that will assist Australia in acquiring nuclear propulsion which brings several advantages, such as high range and stealth. He notes that "the RAN is diversifying and enhancing its capability which is aligned with the excellence of ADF values. The RAN has learned to close the gap between state-of-the-art technology and the currently employed RAN technology." He concludes:

Since the RAN's foundation, the propulsion technology employed in RAN ships has mostly been decades behind and highly dependent on allied support. The AUKUS agreement will assist in closing the propulsion technology gap, making the RAN more independent and bringing far superior war capability.

The final paper, also by Dr Neil Baird, is the second of his papers, this time covering the period 1949-2023. The papers were taken from his forthcoming book *Australia and the Sea: An Encyclopaedic Maritime History*, expected to be published in 2025. An erratum was kindly pointed out by a reader – see letters. Dr Baird welcomed this correction and recognises that the list is not exhaustive. For example, HMA Ships BOONAROO and JEPARIT are not included. Notwithstanding, Neil maintains his critique of the RAN (including in paper 2), noting:

Another odd Christopher Pyne acquisition is ADV *Reliant*... embarrassingly in action in Cairns. Despite paying five times its market value for this ship, it is incapable of getting out of its own way when operated by Navy personnel. Even though, with its twin *Aquamaster AZDs* and three side thrusters, it could be parked sideways by a 10-year-old, it required tug assistance to berth on a calm day in Cairns.

Neil recalls the advice by General Sir John Monash in the 1920s – increasingly pertinent today regarding the *Hunter-class* and *AUKUS-class* submarines – that "building in Britain [or U.S.] would represent an estimated 50% cost and time saving over local construction". Given timelines, slippages, and costs – the iron triangle of budget, schedule, and scope – Australia may be wise to buy and build its major capital capabilities from the U.S. and UK – and concentrate on what it can and should be doing today, i.e., for delivery in the 2025-2027 timeframe.

CUT TO THE BONE

As has become increasingly obvious to all but the most benevolent commentators, the Defence Strategic Review represented an annual compound cut of between 8.5 and 10 %, until 2028. When future Governments are expected to increase Defence spending by between five and six percent, per annum. The Deputy Prime Minister and Minister of Defence, Richard Marles, failed to secure the additional funds necessary to deliver the DSR.



HMAS AUKUS (S235) – AUKUS on a 2013 Budget? (image BAE Systems)

It may be possible, up to a point, to forgive the authors of the DSR (namely Smith, Houston, and Dean) for recommending the budget to go with their DSR – but failing to fight for it. Notwithstanding, knowing how the ALP, PM&C, DFAT, and Treasury work, Smith and Houston should have known better. Peter Dean, the lone academic, may be able to claim ignorance – although that is no defence. What no author can claim, is that they fought for the DSR to be properly funded. Politically, they may now have been conveniently positioned in "grace and favour" jobs – such as at The British High Commission (Smith), and the Governments funded *United States Study Centre*, at the University of Sydney (Dean).

The combined effects of cuts, freezing, and defence inflation is to reduce the Defence Budget in real terms to about 1.6% GDP, by 2028 - to where the budget was in 2013. See DSR and Surface Fleet Review (SFR) critiques undertaken by *The NAVY* Defence Analysts (*Flash Traffic*, Vol 85, Issues 2 and 3). It is akin to attempting to build AUKUS on a 2013 Defence Budget – as exemplified by the decision to put off an East Coast Submarine Base until 2032.

A LEADERSHIP LOST?

Readers may recall the long line of USSR President's, from Khruschev through to Chernenko – each seemingly older, and more wooden than their predecessor. Their average age in office was almost seventy, with three of them (Brezhnev, Andropov, and Chernenko) dying in post, at 76, 70, and 74 respectively. By the time of his death in 1982, Brezhnev had been in power for seventeen years.

The leadership looked old and past it – waxen figures, annually wheeled out to appear at the Red Square, May Day and Victory parades. None of them seemingly able to grip or understand the momentous changes occurring, at least in their later years. Particularly when confronted with a vibrant 70-year-old President Reagan (in his first term) and Mrs Thatcher, aged 54 on coming to power.

Fast forward to 2023, and it is the United States that looks increasingly shaky – represented, potentially from 2024, by a fragile octogenarian, or an 80-year-old to be. With ages, on coming to office in 2025, ten years older than latter-day Soviet Presidents. How has the U.S. come to this – how can it be healthy for any Government, or democracy? Leaving the reader to decide, the leadership choice of the Western world appears to be between the "demented, the delusional, and the delinquent," or combinations thereof. In other words, no choice at all. Xi Jinping and Vladmir Putin, by contrast, are

sprightly 70-year-olds. No matter what we might think of them, both on top of their game – when compared to the two likely prospective 2024 Presidential candidates.



The No Limits Axis along the 120°E Meridian, GMT + 8hrs – connecting China's Antarctic Belt, through Australia, the South China Sea, China, and Russia-Siberia, with the Arctic (image NLA©2023).

HOW DOES THE BEGINNING END?

Bob Carr's arm of the ALP appears to accommodate a more Sinocentric view of the world, which may be what the DSR ends up delivering: "appeasement without benefits?" Noting agreements between the Solomon Islands and East Timor, the West is being outpaced. In the South China Sea, in Antarctica, in space, in cyber, and in the region – potentially creating a *No Limits Axis* (NOLA) across strategic and contested WW2 spaces.

Wars in Europe never stay in Europe

In Europe, the Ukrainian war continues. The longer it goes on, the more likely it will spill over into the Middle and Far East. As in Hamas genocidal attack on Israel. As did the seven-year war (1756-1763); the Napoleonic wars, and the first and second world wars. There appear to be no western statesman able to elucidate a peace process – no matter how imperfect it may be. At the same time, the West is struggling to rearm itself and Ukraine – the U.S. more so, given its seemingly systemic societal divisions, debt, exposure of the dollar, and relative decline (see Flash Traffic). Exacerbated by moribund defense industry designs, builds, and shipyards The U.S. might be unable to be the arsenal it once was. For example, providing *Virginia-class* submarines to the RAN, as envisaged under AUKUS.

The West may yet recover, as might the U.S. – although it is by no means certain, and unlikely in the near term. We are out of time. The Defence Strategic Review and Surface Fleet Review may do more harm than good. Stripping away what few remaining years Australia had to prepare for and deter China. The die is cast. As Jim Molan and Mark Schweikert concluded four years ago:

"We will have to fight with what we have got" – and what we have got, is not a lot! \blacksquare

REFERENCES

 ^[1] ANSON, Surface Flexible Re-Scaling. The NAVY - Journal of the Navy League of Australia, 2020. Vol 82, Iss. 1, Jan-Mar.

STATEMENT OF POLICY For the maintenance of the Maritime wellbeing of the nation.

The Navy League is intent upon keeping before the Australian people the fact that we are a maritime nation and that a strong Navy and capable maritime industry are elements of our national wellbeing and vital to the freedom of Australia. The League seeks to promote Defence self-reliance by actively supporting defence manufacturing, research, cyberspace, shipping, transport and other relevant industries.

Through geographical necessity Australia's prosperity, strength, and safety depend to a great extent upon the security of the surrounding seas and island areas, and on unrestricted seaborne trade.

The strategic background to Australia's security is changing and in many respects has become much less certain following increasing tensions, particularly in East Asia involving major powers, and in Europe and the Middle East. The League believes that Australia should rapidly increase the capability to defend itself, paying particular attention to maritime defence.

The Navy League:

- Believes Australia can be defended against attack by other than a major maritime power and that the prime requirement of our defence is an evident ability to control the sea and air space around us and to contribute to defending essential lines of sea and air communication with our allies.
- Supports a continuing strong alliance with the US.
- Supports close relationships with all nations in our general area particularly New Zealand, PNG and the South Pacific island States.
- Advocates the acquisition of the most capable modern armaments, surveillance systems and sensors to ensure technological advantage over forces in our general area.
- Advocates a strong deterrent element in the ADF enabling powerful retaliation at significant distances from our shores.
- Believes the ADF must be capable of protecting commercial shipping both within Australian waters and beyond, in conjunction with allies.
- Endorses the development of the capability for the patrol and surveillance of all of Australia's ocean areas, its island territories and the Southern Ocean.
- Advocates Government initiatives for rebuilding an Australian commercial fleet capable of supporting the ADF and the carriage of essential cargoes to and from Australia in times of conflict.
- Notes the Government intention to increase maritime preparedness and gradually increase defence expenditure to 2% of GDP, while recommending that this target should be increased to 3%.
- Urges the strength and capabilities of the Army (including particularly the Army Reserve) and Air Force be enhanced, and the weaponry, intelligence, surveillance, reconnaissance, cyberspace and electronic capabilities of the ADF be increased, including an expansion in its UAV capability.

As to the RAN, the League, while noting vital national peacetime tasks conducted by Navy, including border protection, flag showing/ diplomacy, disaster relief, maritime rescue, hydrography and aid to the civil power:

• Supports the maintenance of a Navy capable of effective action in hostilities and advocates a build-up of the fleet and its afloat support elements to ensure that, in conjunction with the RAAF, this can be sustained against any force which could be deployed in our area of strategic interest.

- Considers that the level of both the offensive and defensive capabilities of the RAN should be strengthened, in particular with a further increase in the number of new proposed replacement frigates and offshore patrol vessels, noting the need to ensure essential fuel and other supplies, and the many other essential maritime tasks.
- Recommends bringing forward the start date of the replac ement frigate program to both strengthen the RAN and mitigate the local industry capability gap.
- Recommends the timely replacement and increase in numbers of the current mine-countermeasure force.
- Strongly supports the early acquisition of large, long range and endurance, fast submarines and notes the deterrent value, reliability and huge operational advantages of nuclear powered submarines and their value in training anti-submarine forces.
- The League is concerned at the very long time before the projected 12 new conventional submarines can enter operational service, noting very serious tensions in the NW Pacific involving major maritime powers.
- Recommends very early action to provide a submarine base on the Eastern seaboard.
- Notes the potential combat effectiveness and flexibility of the STOVL version of the Joint Strike Fighter (F35 *Lightning II*) and supports further examination of its application within the ADF.
- Supports the development of Australia's defence industry, including strong research and design organisations capable of the construction and maintenance of all warships, submarines and support vessels in the Navy's order of battle, and welcomes the Government decision to provide a stable and continuous shipbuilding program.
- Advocates the retention in maintained reserve of operationally capable ships that are required to be paid off for resource or other economic reasons.
- Supports a strong and identifiable Naval Reserve and Australian Navy Cadets organisation.
- Advocates urgent Government research and action to remedy the reported serious naval recruiting and retention problem.

The League:

- Calls for a bipartisan political approach to national defence with a commitment to a steady long-term build-up in Australia's defence capability including the required industrial infrastructure.
- Believes that, given leadership by successive governments, Australia can defend itself in the longer term, within acceptable financial, economic and manpower parameters.

FEDERAL COUNCIL & AGM

Our Federal Council and Annual General Meetings are fast approaching and this year our members have spoken and we have listened. We are back to meeting in person and due to popular interest, the meetings will this year be held in Sydney on Saturday, 21 October 2023. As most of you will know that will be Trafalgar Day, with the opportunity to get together to discuss maritime issues as well as to make the most of the Sydney maritime scene for those delegates who have not been to Port Jackson for some time.

The Annual General Meeting and Federal Council meetings of the Navy League provide the opportunity for dialogue between Federal Council and the Navy and the opportunity for briefings on current issues, future plans and issues that the League sees important to address. At the meetings representatives from each Division of the League, and representatives from our New Zealand counterparts come together to address matters of import, and also to meet socially, discuss issues affecting the League and its direction and enjoy each other's company.

There is a notice in this edition detailing how members can participate in this year's Annual General Meeting. We hope you can join us in person, though if not please get in touch. We will be conducting a hybrid version of the meeting again this year, so those in Sydney can join in person while others who wish to join 'on line' will be able to enjoy the meeting via videoconferencing.

Many of you will be used to this format of meeting, so we hope you will join us.

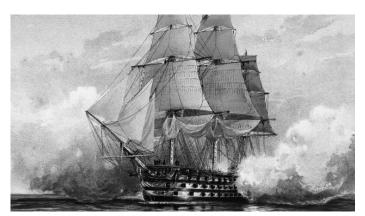
The AGM is also a great opportunity to further explore, in more detail, the important issues which are canvassed in this *The NAVY: The Journal of the Navy League of Australia*, to address emerging naval matters and mix with like-minded members. I encourage all members to participate in the AGM, and hope many of you are able to join us.

THE NAVY LEAGUE OF AUSTRALIA ANNUAL MARITIME AFFAIRS ESSAY COMPETITION

Entries in the Navy League of Australia Annual Maritime Affairs Essay Competition have been received and the competition has closed for another year. Once again we are very pleased with the quality of the contributions and we thank all of you who have participated. One of the tasks of the AGM is to review, assess and make the difficult decision as to prize winners for the competition entrants. That process has begun and in due course the decisions will be made and announcements will follow.

For those of you who missed the deadline this year, details will be out soon also about the competition for the year ahead, so if you are interested in participating, you can get a head-start preparing your paper now. Topics can range across 21st Century Naval Warfare, Australian Naval History, Australian Industrial and Merchant Navy Maritime Strategy, and around all of the subjects which you read about in editions of *The NAVY*.

The annual competition offers prizes in the professional and nonprofessional categories and the opportunity to have the papers published in a future edition of *The NAVY*, as well as the lure of the substantial prizes on offer.



HMS VICTORY at Trafalgar 21 October 1805 - The Immortal Memory (Image Royal Museums, Greenwich).

For those of you who have contributed entries, we thank you. We will announce the winners in the edition of *The NAVY* following the AGM.

THE YEAR AHEAD AND THE FUTURE OF THE NAVY LEAGUE

Another topic that we canvass at the Federal Council meeting is the League's Statement of Policy for the maintenance of the Maritime wellbeing of the nation, which you will find in the front of *The NAVY* magazine. Please review the Statement of Policy and if you have suggested changes, additions or amendments let us know. Everyone's contribution is welcome in this most important task of keeping before the Australian people the fact that we are a maritime nation and that a strong Navy and capable maritime industry are elements of our national wellbeing and vital to the freedom of Australia.

We will also be reviewing the way ahead for the Navy League, so if you have a view on that let us know ahead of the meeting, or even better, come along and join in on the day.

ISRAEL

As we go to print, Hamas has launched a surprise attack on Israel. We think of our Israeli friends, who have previously contributed papers to *The NAVY* on the IDF Navy. Stay strong.

IN THIS EDITION

This edition is once again stacked with great reading for you. Remember to make a note of your views as you read and put pen to paper and let us know what you think. We welcome your contribution to the debate.

Happy reading.



Hi [Aeneas]

I wish to complain about an article in the current *The Navy* – *A History of Australian Naval Shipbuilding, 1911-1948*, contains many errors.

The major ones are:

- 1. HMAS SWAN I (page 27) Not a sloop was a torpedo boat destroyer. Swan II was the sloop on page 30.
- 2. HMAS BATHURST I (page 28) Sixty built not 50.
- 3. HMAS BEACONSFIELD I (page 28) Not a *Bathurst-class* minesweeper. Was there ever a RAN vessel named BEACONSFIELD?
- 4. HMAS LABUAN (page 29) LABUAN I was not US Navy. It was a Royal Navy LST3.

Dr Neil Baird writes:

Aeneas,

Mr Williams is partly correct, as are most nit-pickers, but we should thank him for his help in improving the accuracy of the book.

- 1. SWAN I was indeed a torpedo boat destroyer.
- 2. There were 60, not 50, Bathurst-class ships.

3. There was no BEACONSFIELD, I suspect I confused it with the nearby Tasmanian town of Deloraine.

4. LABUAN was actually built in Canada for the RN as an LST but all other comments about the ship are correct.

[Mr Williams] hasn't read the intro para properly. The list nowhere excludes imported ships. In fact they are specifically referred to - noting that imported ships have generally been better than locally built, except where modified by the RAN. I would have thought, also, that it makes it plain that the list is a selection and does not claim to be comprehensive. That would take a book.

"Out of context" is a fair comment and is a result of the alphabetical to chronological order conversion [that the edited versions of the single book chapter created]. As discussed.

Anyway, the case propounded in the article remains unchanged.

Mare Liberum

.....

By Editor,

In order to accommodate a long book chapter at almost 9000 words, I took the decision to create the alphabetical to chronological order presented in the two papers. This created an element of incoherence, for which I take responsibility. Notwithstanding, may I thank both Mr Williams and Dr Baird for entering into the spirit of *The NAVY* and ensuring we are suitably critiqued and maintain our normal high standards.

I expect a paper from Mr Williams in the near future.

Kind regards

Aeneas

Editor

The NAVY - Journal of the Navy League of Australia

The Author states "Those ships that performed notably in action or whose construction successes or, more commonly, failures, deserve praise or caused controversy are described below." This article has a list of RAN vessels that does not match the shipbuilding criteria as it includes imported vessels. In terms of Australian build or war service of major warships, the list is not comprehensive.

Some entries seem out of context, especially the likes of modern vessels when the article's sub-heading finishes at 1948. For example, HMAS MANOORA II (page 29) commissioned in 1994. Others such as HMAS KARANGI (page 29) were included as its claim to fame was "Was a sister ship to HMAS KANGAROO".

This article fails to match your normal standards.

Regards

Hayden Williams

Dear Sir,

Thank you for the Jul/Sep edition of The NAVY, p. 27, mentions the sinking of the EMDEN – many other [papers] say the SYDNEY sunk the German Light Cruiser.

We know that the German cruiser was run aground; continued to be shelled by the Australian ship, until the enemy surrendered. Thank you.

I have a question – "why does the famous sinking of the Titanic get a lot of media coverage, when there was much heavier loss of life in ships such as the BISMARK, HOOD, and 10,000 lost when the *Wilhem Gustav*, a German passenger liner, was sunk by a Russian submarine in WW2

Would readers like to comment?

Thanking you

Pat Rafferty (79)

Dear Editor,

I am writing reference to The NAVY Vol 85, Iss. 2.

As an ex-military man, 83 years of age (British Royal Armoured Corps), I still take an interest in developments, especially here in Australia and New Zealand – I have citizenship in both countries.

I share your feelings of frustration, anguish, and can I say despair? At the antics of those trusted with the job of acquiring suitable military equipment for the nation. I know that for 20 years and more successive ministers and advisors have failed time and time again to buy or build what is needed to deter a potential enemy from attacking us. It even crossed my mind to ask every politician to swear they have no connection to the CCP or hope to see a communist government in Australia, one day. But of course, our modern Australia that has rejected God and teaches humanism in our schools and universities (the education of, amongst others, [leading Nazis]), no one can be expected to tell the truth anymore. Even if asked to swear on the Bible.

I do like the idea of uprated *Arafura-class* corvettes. I have done some designs for a corvette myself. I called it an Assault corvette – able to carry a few marines [Army Commandoes?] to be landed in a *Cayman-class* tracked landing craft, with a crew of 3 + 12 Commandoes. I sent drawing to a politician to give a rough idea of what they would look like. But got no reply!





Also my idea of extending the rail line from Cloncurry to Tennant Creek - to allow fast transportation of troops (and logistics) from Townsville to Darwin, in the event of war. The idea went down like a lead balloon.

Questions. What is *Sea Ram* for the corvettes and a *Nulka*? My design was to have a planar radar and a hull that could carry two Phalanx defence systems and a 76MM *Otto Malara* gun, and homing torpedoes.

Wishing you well and hoping I don't have to learn Chinese!

I am, yours faithfully,

A. Simpson

By Editor,

Dear Mr Simpson,

Thank you for you letter – we must at all costs avoid cynicism and hubris if we are to lead our country through the current dark seas to the sunny shores..

Kind regards

Aeneas





Sea Ram (Rolling Airframe Missile) on a Phallanx CIWS Mounting.



Nulka Decoy Missile Mystem with Phalanx CIWS.



NOTICE IS HEREBY GIVEN THAT THE NNUAL GENERAL MEETIN OF THE NAVY LEAGUE OF AUSTRALI



The AGM will be held in Sydney on Saturday 21 October, 2023, at 10:30 am AEDT, NSW State Library. Please register your attendance (and your email address) by email to <u>editorthenavy@hotmail.com</u> by COB Tuesday 17 October additional details will be emailed to you prior to the meeting.

BUSINESS (0930 SATURDAY 21 OCTOBER)

- 1 To confirm the Minutes of the Annual General Meeting held by video conferencing on Saturday 22 October 2022
- 2 To receive the report of the Federal Council
- 3 To receive the financial statements of the year ended 30 June 2023
- 4 To elect Office Bearers for the 2023-2024 years as follows:
 - Federal President
 - Federal Senior Vice-President
 - Additional Federal Vice-Presidents (3)
 - Honorary Federal Secretary

Nominations for these positions are to be lodged with the Honorary Secretary, Queensland Division prior to the commencement of the meeting.

5 GENERAL BUSINESS:

 To deal with any matter notified in writing to the Honorary Secretary Queensland Division, PO Box 620 Morningside QLD 4170 by 15 October 2023 ALL MEMBERS ARE WELCOME TO ATTEND

By order of the Federal Council Matthew Rowe President FLASH TRAFFIC

UK, NETHERLANDS PLANNING ON Amphibious ship replacements

The UK and the Netherlands are planning to commence designing their replacement amphibious ship programmes at the start of 2024. This follows successful previous cooperative build programs – such as for the *Bay-class*, operated by the Royal Fleet Auxiliary and the RAN.

The plan is to replace existing vessels in the Royal Navy (RN) and the Royal Netherlands Navy (RNLN) from the early 2030s. Both navies have been developing requirements for new amphibious/littoral support shipping. The RN has stated a requirement for up to six Multi Role Support Ships (MRSSs) to replace the two *Albion-class* landing platform dock (LPD) vessels, three *Bay-class* landing ship dock (auxiliary) vessels, and the primary casualty receiving ship RFA *Argus*.

At the same time, the RNLN's LPX programme is looking at a multirole capability that would replace the LPDs HNLMS ROTTERDAM and HNLMS JOHAN DE WITT in the amphibious role while also assuming the patrol and surveillance tasks currently performed by the navy's four *Holland-class* patrol vessels.

The Australian Army Littoral Manoeuvre Force and the need to replace HMAS CHOULES (L100) in a similar timeframe, would suggest that the ADF might also consider joining the program at an early stage. The order, while not as large as the RN, might include three landing ship dock (auxiliary) vessels - two to be operated by Army, and one to replace CHOULES. The crewing requirements for these more modular ships mean that the Army vessels could have a complement as little as 20 for peace time cruising. Distinguishing also between Navy and Army crewed vessels where HMAS CHOULES has a complement of One Hundred and Fifty sailors. This is also one of the strong arguments for creating a Royal Australian Fleet Auxiliary (RAFA, see paper 2), which would also have the impact of strengthening the Australian Merchant marine.

REPLACEMENT LHDS

Australia also needs to commence designing for the replacement of the LHDs HMAS CANBERRA and ADELAIDE – neither of which have been utilised to their full effect. Notably in the way that they have been *strategically vandalised* to prevent the operation of F-35B, and left underarmed – for their potential wartime roles. In this respect, their replacements may better be an Amphibious Force of LPDs and LSD (like CHOULES), than potentially Landing Helicopter Docks. It may make sense for Army and Navy to align their future programs with the RN and RNLN, at the soonest opportunity.

ENSIGN FOR ARMY

Unlike the British Army, the Australian Army does not yet have its own ensign to fly on Australian Army Vessels (AAV). To act in a way similar to the Colours of a regiment. But also, with legal and maritime implications – signifying a man of war and, or, a government operated vessel.



NLA Proposed Blue Ensign for wearing on Australian Defence (or RAFA) Vessels, such as ADV *Reliant*.

Just as the NLA has proposed a Blue Ensign to be flown on Australian Defence Vessels, a Blue Ensign derivative – as per His Majesty's [British] Army Vessel's maritime ensign – might fly on Australian Army Vessels.

The proposed design is similar to the Chief of Army Flag, without the crossed swords, and incorporates the rising sun emblem of the Australian Army, with the Royal crown.



NLA Proposed Blue Ensign for wearing on Australian Army Vessels.

Prior to the disastrous Defence Strategic Review, Army was planning on building a littoral manoeuvre force of 60 significant vessels, including major amphibious ships. [1] Although delayed, the emphasis shape, and form for this significant force will create a littoral maritime force in size not dissimilar to the RAN. This places even more emphasis on distinguishing between RAN White Ensign vessels, AD and RAFA vessels, and Australian Army Vessels.

AUSTAL USA TO BUILD THREE LCU 1700 CLASS LANDING CRAFT

Austal USA was awarded a \$140M fixedprice incentive and firm-fixed-price type modification to refine a previously awarded contract for the detail design and construction of three *Landing Craft Utility* (LCU) 1700 class craft. The contract also includes options for nine additional craft and associated support efforts.



Swiftships Image of AUSTAL LCU

The 45 metre LCU 1700 class would provide an ideal match for the Australian Army, for which a class of up to nine such vessels were previously being considered. Dave Growden, vice president of AUSTAL new construction projects stated:

Austal USA is honoured to be able to build this important connector for the U.S. Navy. We recognize the critical role this platform plays in supporting expeditionary operations for the Navy and Marine Corps and are looking forward to continuing to deliver ships and boats to our customers on time and on budget.

LCU can operate independently and can be carried aboard amphibious assault ships to the objective area (STOM) and used across a range of military operations to deliver vehicles, personnel, and cargo from sea-toshore and back. These connectors provide a heavy-lift capability and can carry about the same payload capacity as seven C-17 aircraft.

These versatile vessels are in high demand in littoral and island seas – such as exist in the western Pacific. As such they have a high re-use and commercial re-sale value. Making commercial operation of these Fleets through applying the capitalised Versatile Modular Fleet (VMF) model, particularly attractive. [2]

JMSDF ENHANCES LITTORAL MANOEUVRE Capability

The Japan Self-Defense Force (JSDF) has taken another step towards improving its army-navy interoperability with the completion of flight trials of an MV-22B *Osprey* tiltrotor aircraft on its *Hyuga-class* helicopter carrier, JS ISE (DDH 182)

These trials were completed during an operation in the area of the Izu Islands, the Japan Maritime Self-Defense Force (JMSDF) disclosed in a statement to mark the occasion.

The MV-22B aircraft is operated by the Japan Ground Self-Defense Force (JGSDF) – Army – while the ISE is the second of the JMSDF's *Hyuga-class* helicopter carrier. The tiltrotor aircraft that the JGSDF operates is a Osprey Block C variant, which features improved avionics and navigation systems – fitted in / by Japan.



Japan became the first country outside the US to operate the MV-22B when the airframe was received by the JGSDF in 2020. The ISE had previously carried out landings of similar aircraft operated by the US Marine Corps.

JAPAN MARINE UNITS

In 2018, Japan activated its first marine units since World War Two trained to counter invaders occupying Japanese islands along the edge of the East China Sea that Tokyo fears are vulnerable to attack by China.

The formation of the Japanese marine brigade within the JGDSF was controversial because amphibious units can project military force and could, critics warn, be used to threaten Japan's neighbours. In its post-World War Two constitution Japan renounced the right to wage war.

The brigade is the latest component of a growing marine force that includes helicopter carriers, amphibious ships, Osprey tiltrotor troop carriers and amphibious assault vehicles, meant to deter China as it pushes for easier access to the Western Pacific.

The activation of the 2,100 strong Amphibious Rapid Deployment Brigade (ARDB) takes Japan a step closer to creating a force similar to a U.S. Marine Expeditionary Unit (MEU) able to plan and execute operations at sea far from its home base.

Japanese military planners have augmented their maritime amphibious capability through the deployment of F-35Bs to operate from its *Izumo* and *Ise* class helicopter carriers, or from islands along the East China Sea.

The JGSDF is also seeking to acquire small amphibious ships up to 100 meters (328.08 ft) long to transport troops and equipment between islands and from ship to shore. The strategic intent is to bring forces and gear on large ships to the main Okinawa Island and then disperse them to other islands on smaller vessels. These vessels may also be suitable for Army Littoral Manoeuvre Force and Navy?

JMSDF LARGE FRIGATE DESIGN

Japan has down-selected a large frigate design for its follow-on program to the country's *Mogami-class* frigate.

Designs for the larger warship were submitted by Mitsubishi Heavy Industries (MHI), which has been selected as the main contractor for the program. Its class name has not yet been announced – and it may be considered as a *Mogami-class* Batch 2?

The report notes that MHI was awarded a 15.4-million-yen (\$170 million) contract while Japan Marine United Corporation (JMUC) won a 14.96-million-yen contract to conduct studies on the future frigate, with August 2023 given as the deadline for proposed designs.

The Japan Maritime Self-Defence Force (JMSDF) originally planned to buy 22 *Mogami-class* frigates, with a production rate of two ships per year.

The *Mogami-class* is built to improve the JMSDF's capability to patrol its extensive Exclusive Economic Zone (EEZ), strengthen its deterrent posture and respond to various situations, as well as provide multi-mission capabilities. The report noted that the *Mogami-class* is set to replace the JMSDF's aging *Asagiri-class* and *Abukuma-class* destroyers.

The Japan Times noted (March 2023) that the Mogami-class is difficult to detect by radar due to its stealth hull shaping and can perform various missions such as warning and surveillance, anti-air, anti-surface, antisubmarine and minesweeping operations. The report also mentions that it was designed to be cheaper to build than large destroyers while having less than half the manpower required to operate.

The company's proposal was selected following a multistage evaluation process, according to a release by the Japanese Acquisition, Technology & Logistics Agency (ATLA).

The new warship class will feature a heavier standard displacement of about 4,880 tonnes, a greater overall length of about 142 m, and a wider overall beam of about 17 m, according to details released by ATLA in August.

MSC CHARTERS THREE TANKERS FOR SEALIFT

The US Navy's Military Sealift Command (MSC) has chartered three US-flagged OPA90 compliant tankers for a 90-day period, for operations in the Middle and Far East:

- MV Stena Bulk
- MV Stena Imperative;
- MV Torm Timothy

The charter is expected to be completed by January 2024 – however ageing sea-lift command vessels, and slow replacement rates means that Military Sealift Command is likely to extend operations well into 2024.

Pressure is mounting on replacing ageing support and logistic ships across allied fleets. At the same time, the charter rate continues to weaken, having collapsed in 2022 – meaning there is spare capacity in the market. With inflation bighting, most western governments are also seeking to cut back on military expenditure – creating a perfect storm. Whereby the demand signal for replacement auxiliary fleets is increasing, just as budgets are being cut as costs reduce and capacity increases.

Capitalisation of western navies remains critical; fundamentally underpinning the model derived by ANSON for enabling the modularisation of commercial hulls for application in military and auxiliary navies. Given the scale of the current inflationary crisis – with no additional capital likely to be available to Defence Forces – the ANSON model may be the only viable way to reinvigorate moribund shipbuilding, and urgently upscale navy, auxiliary, and merchant fleets. Applying equally to the building of Army's Littoral Manoeuvre Fleet[3]

USS RAFAEL PERALTA HAS FIRST US MISSILE LOAD AT EDEN, AUSTRALIA



USS RAFAEL PERALTA (DDG 115) Ammunitioning at Navy Armament Depot, Eden.

USS Rafael Peralta (DDG 115) completed the first-ever live ordnance reload for a U.S. warship in Eden, Australia, when it rearmed its Vertical Launch System (VLS) in August.

The ammunitioning took place following exercise *Talisman Sabre 23*, where RAFAEL PERALTA had conducted a live-fire exercise with the Standard Missile (SM) 2.

Commander Charles Cooper USN, CO USS RAFAEL PERALTA, commented:

There is tremendous value in expanding the range of locations throughout the Indo-Pacific where U.S. Navy ships can rearm missiles while deployed," said. "Increasing our options for reload sites provides increased flexibility across our mission sets and operating areas. Working closely with our Australian allies, we were able to successfully demonstrate this capability at Eden.

RAFAEL PERALTA participated in exercise *Talisman Sabre 23* starting in late July, continuing through a scheduled port visit to Sydney and then operating in support of exercise *Malabar 2023*.

U.S. Navy logistics specialists coordinated with RAN ammunition experts for the transportation of ordnance to Eden to coincide with the ship's arrival. Cooper noted:

We've worked hand-in-hand with the Australians through multiple exercises and engagements over the past month. It is inspiring to see how our teams have improved interoperability and operated as a unified force. Completing this rearm, we added another layer to that already strong FLASH TRAFFIC

cooperation. This gives us new operational agility, benefiting both nations and our ongoing work to support a free and open Indo-Pacific.

RAFAEL PERALTA is assigned to Task Force 71/Destroyer Squadron (DESRON) 15, the USN's largest forward-deployed DESRON and the U.S. 7th Fleet's principal surface force.

This is a significant additional strategic capability provided by Australia - not dissimilar to the RAN ability to reload Torpedoes to US Submarines. On the other hand, the facilities at Eden (and at HMAS STIRLING, on the west coast) are not connected by rail, or suitable for large scale ammunitioning of major combatants, and Amphibious shipping. This is one of the major logistic constraints facing Australia if it is to achieve both strategic dispersal, and the rapid re-armament of maritime, air, and land forces operating from northern bases, and the Pacific Islands rim. Much of this was considered under the DSR - but funding has simply not been made available. Including for the East Coast submarine base, which was to have a dedicated rail-head link. So as to act as a strategic military port.

NAVY PURCHASE SMART SEA MINES FROM RWM ITALIA

The Navy will purchase new, smart sea mines, which will reinvigorate maritime mining capability. The mines are deployable from submarines, ships and aircraft. Delivery is expected to commence in 2023.

Following evaluation of market options last year, the Navy selected *RWM Italia* to provide the capability under a multi-million-dollar contract. The company was assessed as the market leading solution, demonstrating the ability to produce the quantities of sea mines needed, and the technical capability to meet ADF strategic objectives.

Rapidly deployable and technologically sophisticated, the smart sea mines will provide a new level of deterrence to potential adversaries.

The contract includes provision for the transfer of technology and expertise to Australia to enable local manufacturing and maintenance of the sea mines. This extends to providing electronics services and recurring maintenance; and potentially filling the sea mines with Australian-made explosives and assembling them in Australia.

JANGBOGO-III SUBMARINE OFFERED TO PHILIPPINE NAVY

South Korea's Hanwha Ocean has unveiled its latest proposal submitted for the Philippine Navy's (PN's) two-boat submarine requirement.

The submarine is based upon the The KSS-

III (Korean Submarine-III) or *Dosan Ahn Changho-class*, which was considered as a viable alternative to the *Attack-class* submarine, if Australia had not decided upon the "nuclear option." [4, 5]

The *Jangbogo-III class* PN submarine, is derived from the Republic of Korea Navy's (RoKN's) KSS-III submarine, which has been designed and constructed by Hanwha Ocean. The proposed vessel has a surface displacement of about 2,800 tonnes, with an overall length of 77 m, and an overall beam of 9.7 m.

Hanwha Ocean states that Building upon the success of the Korean navy's (RoKN's) *Jangbogo-III* submarines, the *Jangbogo-III PN class* equipped with the latest propulsion system and lithium-ion battery technology ensuring the Philippines' enhanced defence capability to safeguard sovereign and strategic maritime interests.

RSS IMPECCABLE COMMENCES TRIALS

The second of four of the Republic of Singapore Navy *Invincible-class* (Type 218SG) diesel-electric submarines (RSS IMPECCABLE) procured by Singapore Navy arrived in the country in July, and the vessel will be undergoing local sea trials.

Trials are being conducted ahead of the boat's commissioning and are done as part of efforts to operationalise the vessel for regional application – according to the Singapore Ministry of Defence (MINDEF). The first of class, RSS INVINCIBLE, is understood to remain in Germany, where it is the training platform for Singapore crews, prior to its return to Singapore in 2024. At which time, training facilities are due to be established in Singapore.

RSS ILLUSTRIOUS is scheduled to be commissioned in late 2023, and RSS INIMITABLE is due to be launched in 2024.

Except for RSS IMPECCABLE, all the boats have illustrious predecessors in the Royal Navy.

SINGAPORE & INDONESIA BILATERAL EXERCISE EAGLE INDOPURA

The Republic of Singapore Navy (RSN) and the Indonesian Navy (TNI AL) conducted the 27th Exercise EAGLE INDOPURA, 22 to 27 August 2023 in waters off Batam. The RSN deployed a *Formidable-class* frigate RSS INTREPID, a *Victory-class* missile corvette RSS VIGOUR and a *Fokker-50* Maritime Patrol Aircraft. The TNI AL deployed a *Diponegoro-class* frigate KRI SULTAN ISKANDAR MUDA, with an embarked AS565 *Panther* helicopter, a *Sampari-class* fast attack craft KRI HALASAN and a CN-235 Maritime Patrol Aircraft.

At sea, both navies conducted a series of serials including gunnery firing, as well as air

defence, communication and manoeuvring exercises. In addition, both navies exercised responses to maritime security threats, leveraging information provided by their respective operations centres and the RSN's Information Fusion Centre to track simulated vessels of interest.

The Commanding Officer of RSS INTREPID, Lieutenant Colonel Chua Sheng Hao RSN highlighted the significance of the exercise in enhancing professionalism and understanding between the two navies:

Exercise EAGLE INDOPURA serves as a valuable platform for both navies to enhance our mutual cooperation and understanding. The exercise has also allowed sailors from both navies to collaborate, learn from one another, and strengthen warm ties of friendship and partnership.

Held since 1974, Exercise EAGLE INDOPURA is the Singapore Armed Forces' longestrunning bilateral exercise with a foreign military.

JAPAN-FRENCH EXERCISE OGURI-VERNY

The Overseas Patrol Boat (POM) FS AUGUSTE BÉNÉBIG (P779) participated in the Franco-Japanese exercise OGURI-VERNY off the coast off New Caledonia with the JS SHIMOKITA (LST-4002), the second ship of the *Osumi-class* tank landing ships of the Japan Maritime Self-Defense Force (JMSDF).

The two ships conducted a sea training (PASSEX), combining different tactical manoeuvres to test the cooperation between the two ships, with the participation of the reconnaissance aircraft of the 25F Flotilla.

The Japanese vessel JS SHIMOKITA made a stopover in the port of Noumea where they were welcomed by Rear Admiral Kanezashi and Major General Nashinoki.

The exercise developed interoperability between the two navies through the implementation of standardised procedures.

The main tasks of the 1,450 personnel of the armed forces in New Caledonia is to ensure French sovereignty and to facilitate regional cooperation and to maintain privileged relations with all Pacific countries.

* The name OGURI-VERNY comes from François Léonce Verny (1837-1908) a French marine engineer who supervised, with Oguri Tadamasa Kosukenosuke, the senior official of the Imperial Navy, the construction of the Yokosuka naval arsenal.

USN/JMSDF/ROK BMD EXERCISE

USS BENFOLD (DDG 65) conducted a trilateral ballistic missile defence (BMD) exercise with Japan Maritime Self-Defence Force *Maya-class* destroyer JS HAGURO (DDG 180), and Republic of Korea (ROK)

Navy Sejong *Daewang-class* destroyer ROKS YULGOK YI I (DDG 992)

The exercise is a response to DPRK ballistic missile launches – representing a flagrant violation of unanimous UN Security Council resolutions; yet enabled by China.

The trilateral exercise followed the historic summit at Camp David, which brought together the leaders of the United States, Japan, and the ROK. At the firstever standalone summit, the leaders jointly inaugurated a new era of trilateral partnership and reaffirmed cooperation between the United States, Japan, and the ROK.

USN AND RCN, EXERCISE NOBLE WOLVERINE

Arleigh Burke-class destroyer USS RALPH JOHNSON (DDG 114) is operating alongside the Royal Canadian Navy's HMCS OTTAWA (FFH 341) as part of Exercise NOBLE WOLVERINE in the South China Sea.

A wide-ranging northern hemisphere autumn exercise, NOBLE WOLVERINE involves sustained Surface Action Group (SAG) operations intended to improve interoperability between the allied navies and support a free and open Indo-Pacific (FONOPS). The exercise, takes place over multiple phases, involves manoeuvring drills, small boat operations and helicopter flight deck training, as well as routine bilateral surface operations.

The U.S. and Canadian ships also executed a combined at-sea replenishment with the *Henry J. Kaiser-class* underway replenishment oiler USNS YUKON (T-AO 202).

Commander Sam Patchell, commanding officer of HMCS OTTAWA, commented:

By continuing to operate in the Indo-Pacific, the Royal Canadian Navy is building relationships with partner nations and reinforcing partnerships with our allies like the U.S. Navy. Joint exercises such as Noble Wolverine build a level of trust and interoperability that can only be forged at sea.

USS Ralph Johnson is forward-deployed to Yokosuka, Japan, and operates under Commander, Task Force (CTF) 71 and Destroyer Squadron (DESRON) 15.

Commander Isaia Infante, commanding officer of USS RALPH JOHNSON, noted:

NOBLE WOLVERINE allows our allied sailors to work closely together at sea and grow that crucial interoperability as a fighting team. We know that people across the region share our dedication to a free and open Indo-Pacific, and we're excited to work with all of those partners and allies in pursuit of our shared goals. Commander, Task Force 71 is U.S. 7th Fleet's principal surface force. CTF 71, responsible for the readiness, tactical and administrative responsibilities for forward-deployed *Arleigh Burke-class* guided-missile destroyers as well as any surface unit conducting independent operations in the region.

PLAN WESTPAC CSG

A large naval task force of the Chinese People's Liberation Army Navy (PLAN) entered the West Pacific (WESTPAC) in September to join forces with the aircraft carrier SHANDONG (CV 17) and form China's first large carrier strike group (CSG).

The JMSDF identified a total of eight PLA Navy warships in two flotillas that sailed from the East China Sea through the Miyako Strait into WESTPAC.

The PLA naval task force consisted of two *Type 052D* destroyers, two *Type 054A* frigates and a *Sovremenyy-class* destroyer in a first flotilla, and a *Type 052C* destroyer, another *Type 052D* destroyer and another *Sovremenyy-class* destroyer in a second flotilla, according to Japanese reporting.

According to the Taiwan defence authorities, the PLAN SHANDONG carrier strike group sailed 60 nautical miles southeast of Cape Eluanbi, the southernmost point of Taiwan, east toward the West Pacific for an exercise.

Taiwan Ministry of Defence later confirmed that it detected 20 PLA warships around the island of Taiwan from Monday morning to Tuesday morning in addition to 22 PLA aircraft.

KRI ALUGORO HOSTS HMAS WALLER

KRI ALUGORO (S405) - a *Nagapasa-class* submarine of the Indonesian Navy built by PT PAL in Indonesia and launched in April 2019 – CO, Marine Lieutenant Colonel Typhoon Agung Yuwono, welcomed the arrival of HMAS WALLER (S75), then docked at East Madura Pier Koarmada II. Colonel Yuwono expressed his gratitude and hoped that this meeting could foster brotherhood and good cooperation in the future.

FIRE ONBOARD HMAS FARNCOMB

The twenty-five-year-old HMAS FARNCOMB (S74) suffered an onboard electrical fire in August – which the crew was able to bring under control. Details of the incident, including where the submarine was located at the time, have been withheld but the events have been described as the experience as "concerning". It is unknown what repairs will be required and whether or not the submarine was able to complete its program. The *Collins-class* submarines had been due to start decommissioning this year, with FARNCOMB being one of the first to retire.

The long legacy of Defence and Canberra – including the Abbott replacement program, the Turnbull *Attack-class* debacle, and now AUKUS – means that the *Collins-class* will be run on until the early 30s. Raising significant concerns as to their continued safe and effective operations. FARNCOMB is due to commence her Life of Type Extension (LOTE) in 2026.

A spokesperson reported "there were no injuries and the vessel continued its operations." Navy scuttlebutt suggests that submariners are calling the FARNCOMB the "Farn-kursk", a grim reference to the Russian submarine KURSK which sank with all hands in 2000. We will remember.

In September 2022, the Navy denied reports that HMAS FARNCOMB had been "stranded' in Hawaii while technicians were flown out from Australia to conduct repairs".

In December 2022, Indonesian military observers noted that HMAS FARNCOMB had remained moored in Surabaya for several days longer than planned, with a Royal Australian Air Force transport plane picking up "spare materials" belonging to the submarine in January 2023.

FROM BAD TO WORSE

The warning signs of the U.S. Economy could not be writ larger – indicated by the recent delayed shutdown of the Government, to November 2023 and removal of the Speaker. The withdrawal of funding for Ukraine should send warning signals to all U.S. Allies - even more so, if the Republicans win the 2024 Presidency. Republicans have already indicated that they have grave concerns about AUKUS and the transfer of technology and Virginia-class submarines to the RAN, in the early 2030s. A deeply transactional President is likely to have no sympathy for an Ally, in this case Australia - who has patently failed to maintain Defence expenditure under the DSR (and FSR), and invest appropriately in AUKUS and nuclearpowered submarines.

U.S. Economic Meltdown

The U.S. Economy is threatened with economic meltdown. The US Dollar is under increased threat by the *No Limits Axis*, the BRICS and the Shanghai Cooperation Organisation (SCO) – including potentially Saudi Arabia. All of which are seeking to replace the Dollar as the global reserve currency.

The U.S. is not prepared to fight a global conflict:

- As a share of economic output, US government debt is around 100 per cent of US GDP in 2023
- The U.S. budget deficit in the financial year ending September 30 was \$US2 trillion, or around 6 per cent of GDP.
- If the U.S. is no longer the Global Reserve

FLASH TRAFFIC

Currency – or displaced as such – the U.S. would no longer benefit from reduced borrowing costs.

- Increasing interest rates and a long-term assault on the US Dollar by the BRICS nations, will mean debt being transferred to U.S. taxpayers householders already saddled with debt and declining wages.
- The 10-year US government bond rate is at 4.7 per cent, the highest level in 16 years. Servicing government debt is going to take up a much greater share of the budget. By 2029, the ratio of interest to GDP will be 3.2 per cent, the highest since 1940. The U.S. already has wartime debt without having fought a war.
- To balance the budget by 2032 without touching Defense spending requires the budget to be cut by a third, or taxes increased by 33%.
- China and Russia are in better fiscal shape than the U.S., – meaning they could raise more, more quickly in the event of what US economist Harald Malmgren calls a " brutally expensive Global War."

U.S. Submarine Force?

As reported in *The NAVY* and confirmed by Mr. Seth Cropsey (President of the Yorktown Institute, writing in the *Australian*, 2 Oct 23) "the U.S. Submarine Fleet is in dire straits.":

- The US Navy's submarine fleet of about fifty boats, is in lamentable shape. Of the total U.S. fleet, about 40 per cent of vessels are in maintenance and repair at any given time. This puts the fleet at roughly 30 deployable boats at best, rather than the 40 to 45 expected at operating level.
- The US Navy is retiring two submarines a year on average, and building only three every two years, leading to a net annual decline. US production looks unable to reverse this. The issue is not just shipyards but parts.
- The problem requires not only more spending but also greater creativity, since the fleet will shrink until the 2030s.
- A short-term solution is procuring conventionally powered submarines. Conventionally powered boats are easier to build and quieter.
- The U.S. lacks the domestic infrastructure to build conventionally powered boats.
- The recent (Aug 2023) U.S. Japan / South Korea summit makes possible military industrial co-operation – including the purchase and transfer of submarine technologies.
- Japan and South Korea are world leaders in submarine technology and have capacity:
 - Japan's Soryu-class submarine, a Mitsubishi-Kawasaki co-project, has

a range of more than 6,000 miles.

- Korea's KSS-III, a Hanwha-Hyundai product, slightly larger than the Japanese Soryu, can even launch ballistic missiles, broadening its mission profile.
- A non-nuclear fleet of up to 25 boats, while not providing the same combat capacity of *Virginia-class* nuclearpowered attack submarines, would provide an interoperable gap filler at much reduced costs. Able to sustain the U.S. maritime force into the 2040s, when U.S. Shipyards are projected to be able to build up to 4 nuclear-powered submarines a year. Necessary to sustain 100 USN submarines.

Better choice for RAN?

Dr Neil Baird concluded: [5]

- Each class (of submarine) has a Design Life which for the *Collins-class* was declared at 30 years.
- From first of class commissioning, to last of class decommissioning (due in 2032), the *Collins-class* Submarine Force generates almost 100 years of [Design] Life. The nominal half-life is 3 years. The average Force Life is 2.69 years. See figure 1.

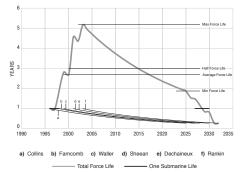


Figure 1: Collins-class Design Life versus Decay Rate

• Considering taking the *Collins-class*, and extending its Total Life from 2024, when COLLINS is due to achieve Design Life, and assuming it is realistic to restore back to Half-Life (by almost doubling individual hull life remaining) it may be possible to extend force life from 2024 to 2039, see figure 2.

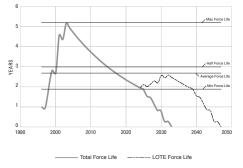


Figure 2: Collins-class Theoretical Life of Type Extension (LOTE)

- Any LOTE is taking already *lifed* materiel and seeking to extend lifeof-class beyond Design Life, or that of its component steel. In the case of the *Collins-class*, extending Force Design Life by almost a third (31 years).
- The two alternatives under Baird's analysis equally weighted are the Korean *Jangbogo (III)-class* extension (produced under licence with TKMS) and the Japanese *Tagei-class*.

Table 1: Submarine Replacement Weighted Options

Class	Allied Partner / Relationship	Regional Ally / Proximity	Trade & Defence Liaison	Logistics Chain	Extension Characteristic Modifications	Total Weighting
KSS-III (Jangbogo III) Extension	2	1	2	2	1	8
Navantia SA80 Extension	3	3	3	4	2	15
Type 212 CD Extension	3	3	3	3	2	14
Taigei-class Extension	1	1	1	1	4	8
Other European	3	3	5	5	5	21

- The only conventional (non-nuclear powered) SSG submarine that competes across all three sub-categories is the Korean *Jangbogo (III)-class*, built under licence to the German company TKMS itself derived from the highly successful Type 212 class.
- The second choice, competing in two of the three sub-categories, is the Japanese-built *Taigei-class* (derived from the *Soryu-class*).

In sum, and as expediently and cheaply as possible Australia needs urgently to:

• Buy not just twelve, but at least 25 such (Korean or Japanese) boats, remembering always that we should be aiming to have more eggs in more baskets. They will be a fraction of the cost of the AUKUS SSN.

GREENWICH STATION

HMS TAMAR (P233) and SPEY's (P234) IndoPac program, now into its third year, continues to expand the effectiveness and utility of the Royal Navy's Offshore Patrol Ships, deployed East of Suez.

HMS TAMAR is spending the autumn – spring in the Southern Hemisphere – in and around Australia and Oceania, while SPEY will be concentrating her efforts around Central and East Asia. ■

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WRONG SIDE OF RENEWABLES?

The Maritime Workers Union has continued its hand-in-glove relationship with the Government and ALP, through its wholesale and unequivocal support for Chris Bowen and the development of vast new offshore energy windmills off the coastline near the Victorian and South Australian borders, and off the coast of the Newcastle and Hunter Region. This despite growing opposition from local populations and seagoers, arguing that the windmills will do significant damage to the environment, flora and fauna. maritime industries, and add considerably to the costs of energy. While doing nothing to support reliable energy production (70% plus currently generated by coal) – necessary to minimise the environmental impact of renewables and vast grids of poles and cables taking power from remote hills and oceans to the cities. The unreliable nature of the power will never make it suitable for industry - now being priced out by the cost of energy.

The announcement comes after many years of advocacy by the Maritime Union of Australia calling for new clean energy jobs, a just transition for workers employed in hydrocarbon industries, and for a comprehensive plan to decommission and clean up disused offshore oil and gas infrastructure from the sea floor.

Claims – historical parallels

The Union claims that the offshore windfarms will add hundreds more new seafaring and port services jobs from Warrnambool in Victoria to Port MacDonnell in South Australia, and the NSW Hunter valley. There is little or no proof of this – in fact quite the reverse. There will be job creation largely in China – adding yet more to the reliance of Australia on China for its renewable energy. A position recognised to by the UKPM (Rishi Sunak) when seeking to address Chinese spying on the UK Parliament. The PM admitted that the reliance on Chinese industry - including on renewables - was limiting the ability of the UK to respond appropriately. Put simply, renewable energy is making Australia more reliant on imports - from dirty energy producers, like China not less. So further sacrificing energy sovereignty to a non-allied power. Given the MWU opposition to nuclear energy, and AUKUS, this seems to be placing the union movement not only to the left of the ALP, but with historical parallels to WW2. When, up and until the German invasion of the Soviet Union, some Australian unionists sided with the National Socialists, then in alliance with Russia.

The MWU claims that its workers continue to benefit from the fast pace of investment and expansion of offshore renewable energy projects around our coastline. The Union's Assistant National Secretary, Adrian Evans went as far as to say:



NSW Hunter Valley Offshore Windfarm Zone

These new jobs are a direct result of the growing investment in sustainable, reliable and clean renewable energy being unlocked by regulatory and legislative reforms which the MUA has been campaigning for over many years.

Not green, economic, or productive

The 1,800 square kilometre area off NSW will reach across the Hunter coastline, from Swansea to Port Stephens. An area which is home to one of Australia's largest ports along with several electricity grid assets and ageing coal fired power stations – that were due to be decommissioned in coming years. Until the NSW Government recently began to backtrack and extend coal power generation, as they woke up to the political and environmental damage being done by renewables – and to base load production. Let alone the impact on inflation, energy costs, productivity, and reliable (coal, oil, gas and nuclear) energy production.

According to Federal Government analysis, the offshore wind projects in this region will generate up to 3000 jobs during construction and 1560 jobs ongoing, many of which will be new jobs in the maritime sector.

Minister for Climate Change and Energy Chris Bowen said the declaration was another big step for Australia to reap the huge benefits of offshore wind.

The Hunter is undergoing significant economic change, and the prospect of creating new job opportunities for decades to come through a new offshore wind industry is a game changer.

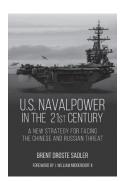
There is growing opposition to the expansion of renewable energy windfarms and the desecration of pristine oceans / areas of outstanding beauty. Including by Green and "old / Blue collar Labor" constituents, often living in adjacent communities. Increasingly, there is recognition (even amongst Greens) that nuclear power and SMR generation (see paper 4) – including by barges connected to existing / replacing coal powered reliable energy stations – has significant advantage. While also increasing Australia's sovereign capability – at reduced risk of foreign supplies / logistic lines.

A Path to 2025?

The union movement with encroachment into the RBA; influence on the Treasurer and his third wave economics; its setting of unemployment and interest rates; support from SUPA - additionally nobbled by this Government; along with championing renewable expansion and the Voice, may now be impacting Government standing. Taken together with devaluation of the dollar by 20% (since interest rates are not keeping up with inflation); a cost-of-living crisis; reductions in productivity; energy costs (up to 5 million Australians are now considered to be in energy poverty); inflation, and persistently high interest rates, the Government's popularity and competence is being questioned.

The British Government, in seeking reelection in 2024, has significantly reduced its withering Carbon Neutral policies. Policies that added significantly to inflation; did little (in global terms) to address carbon production; reduced productivity; increased reliance on China; and impacted mostly the lower socio-economic classes. Who, unlike the inner-city elites (ICE), might not be able to afford to "heat and eat," or purchase EVs. EVs that get power from somewhere (hi-power poles and cables) – and pose significant environmental hazard, not only on disposal.

It has been estimated that placing renewables back into the energy market, along with the reduction of subsidies, green tape, and green laundering, could increase productivity by 4-5%. So, reducing inflation and restoring national wealth. At the same time, reducing sovereign risk. Such popular policies may well make the UK Conservatives electable in 2024, or the LNP in 2025?



U.S. NAVAL POWER IN The 21st century

A New Strategy for Facing the Chinese and Russian Threat

By Brent Droste Sadler USNI Published: May 15, 2023 ISBN-10: 1682477770 ISBN-13: 9781682477779 Hardcover: \$62.50

Brent Droste Sadler is a USN submariner with 26-years' service He has been a member of personal staffs of senior defence department (DoD) leaders and a military diplomat in Asia. Sadler writes:

Strategies, by design, involve long-term time horizons that too often lead to admiration but not action.

To overcome this bureaucratic inertia and execute through to 2035 the recommendations Sadler makes for a fundamental redesign and rebuild of the USN, a plan for action is needed – Sadler calls "Sailing Directions". Recalling also the 17th Century, we might consider also the "Fighting Instructions", as devised by Cromwell's General at Sea, Robert Blake. Sadler argues that "to participate effectively in great power competition, the Navy must accomplish two corporate objectives as it moves ahead:

- 1. Retain public confidence while better competing in the peacetime day-to-day contest with China and Russia.
- 2. Develop and build a fleet that can win wars and be reconstituted quickly during and between wars".

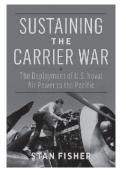
Therein lies a problem – the emphasis on what the Navy should be doing, and what the bureaucrats and indeed Presidents, "imperatively" should provide: "clear commitment... as well as the naming of a leader charged with overseeing and ensuring coherent policy execution, the mission being to drive robust local community engagement and congressional, industry, and U.S. government action." From what we have seen recently of the U.S. Government, none of this is likely, probable, or even possible.

Sadler does not sufficiently address the economic and budgetary constraints:

In the 1980s, the Navy consumed an average of 34.3 percent of a defense budget that averaged 5.8 percent of the nation's GDP. Today, despite efforts to grow to 355 ships since 2016, the Navy averages only 29 percent of a defense budget that accounts for only 3.2 percent of GDP. Had the Navy maintained a flat budget and not been squeezed for a peace dividend, its budget would have been \$75 billion (AUD) larger in 2021. Moreover, representing a decades-long divestment of naval power, from 1989 to 2020 the Navy has contributed over \$1.8 trillion toward the socalled peace dividend.

Put simply, the economics, the budgets, the designs, the builds, and the ships no longer work or are affordable in the modern clime. Fundamentally, the USN (and U.S. Defence) needs to be recapitalised – which is not going to come from Government. Until the designs, match the builds and ships, there will be no corporate investment. The critical question is getting the markets involved in capitalising the designs, builds, and ships – and holding Defence and Governments to account. There is no more public money. U.S. debt is growing and likely to get larger. As per the USSR in 1985, the U.S. is bankrupt and potentially about to lose the Hot Peace, as the USSR lost the Cold War, without firing a shot. This, fundamentally, returns to the designs proposed by ANSON – underwritten by City of London Venture Capital, and effective commercial versatile modularisation of fleets... [1, 2]

In sum a significant contribution, great summer read, and an important one as we contemplate Xi's Taiwan clock to 2025-7. Sadler gets "two out of three" of his arguments right – "which is not bad."



SUSTAINING THE CARRIER WAR

The Deployment of U.S. Naval Air Power to the Pacific

By Dr Stan Fisher USNI Published: March 15, 2023 ISBN-10: 1682478475 ISBN-13: 9781682478479 Hardcover: \$52.50

Dr Stan Fisher, is a Commander in the U.S. Navy, an assistant professor of naval and American history at the United States Naval Academy. Before transitioning to the classroom, he accumulated over 2,500 flight hours as a Navy pilot. He completed tours of duty in engineering and acquisitions at the Naval Air Systems Command and is a past recipient of the *Samuel Eliot Morison Naval History Scholarship*; earning his PhD from the University of Maryland.

Commander Fisher writes:

The defeat of the Japanese Navy in the Pacific came largely from the decks of the U.S. Navy's Fast Carrier Task Force. Advances in technology no doubt played a pivotal role, however, without concomitant achievements in technical education, labour methodology, and logistical innovation, victory would have been delayed, at the very least. The ability of the Navy to provide the requisite number of trained aircraft technicians and supply the U.S. Fleet with enough matériel to achieve its strategic objective was integral to its success.

Correctly, Fisher identifies that "the narrative behind the U.S. Navy's development of a large technical workforce in order to support a new era of carrier warfare is a complex history of institutional change." It was the impressive ability to change at the institutional level that became the driving force behind the U.S. War Effort – connecting, as Fisher does, institutional learning with the culture necessary to develop a Sovereign Fleet carrier knowledge base, and its supporting infotechnologies. A knowledge base and culture, based on both education and training (as the author attests) that was able to sustain U.S. carrier thinking into the 1990s – at the cutting edge of the science, and technology.

This is the quantum element contained at institutional levels; connecting the past, with the present, with the future. Something understood by actuaries but not the bloody red pens of accounts and their avaricious consultancies.

Dr Fisher leaves us with three critical questions:

- 1. What will the next Great Power conflict look like, and what role will naval aviation play?
- 2. Were America to enter into a war where aircraft attrition and combat losses were even a tenth of the World War II numbers, could it support protracted operations?
- 3. Have the Navy's training commands prepared, or at least considered a plan to ramp up technical education and training for a wave of airplane and helicopter technicians that would be necessary to sustain another protracted air war?



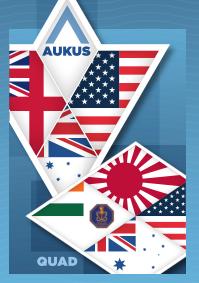
ANSON, Surface Fleets Flexible Re-Scaling. The NAVY - Journal of the Navy League of Australia, 2020. Vol 82, Iss. 1, Jan-Mar.

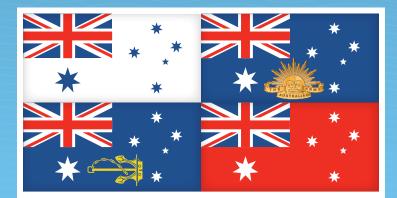
^[2] Reay Atkinson, S., C.J., Skinner, K.F. Joiner, N.H.M., Caldwell, & A. Swidan, *Important trends and junctures in warship design - Redux*. The Naval Review - Journal of the UK Royal Navy and Royal Marines, 2020. Vol 108, No. 3, Aug: pp. 400-409.



THE NAVY LEAGUE OF AUSTRALIA ANNUAL MARITIME AFFAIRS ESSAY COMPETITION









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Submissions should include the writer's name, address, telephone and email contacts, and the nominated entry category.

The NAVY reserves the right to reprint all essays in the magazine, together with the right to edit them as considered appropriate for publication.

Saturday 17 August 2024

Prize-winners announced in the January-March 2025 Issue of The NAVY.

