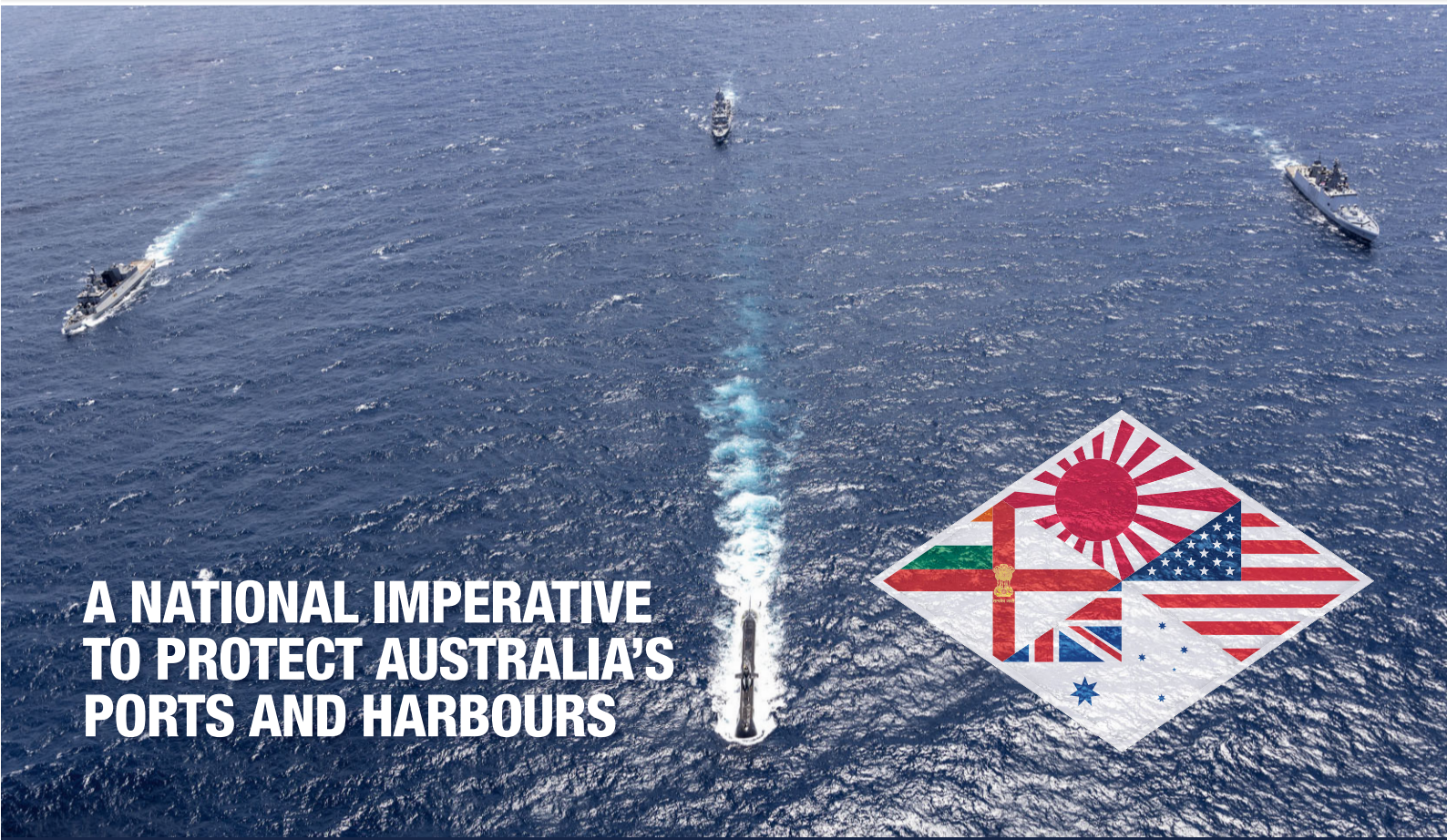


THE

NAVY

THE MAGAZINE OF THE NAVY LEAGUE OF AUSTRALIA



**A NATIONAL IMPERATIVE
TO PROTECT AUSTRALIA'S
PORTS AND HARBOURS**

**DEVELOPING STRATEGIC
RELATIONSHIPS A
MATTER OF HONOUR**

**BACK TO THE FUTURE: THE
RE-EMERGENCE OF THE
RUSSIAN SUBMARINE THREAT**

**SUBMARINES IN THE INDO-PACIFIC:
DOES EVERYONE NEED THEM?**

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Front cover: QUAD Navy Ships Royal Australian Navy submarine HMAS RANKIN (SSG78), Indian Navy Ships KADMAAT (P29) and SHIVALIK (F47) and HMAS WARRAMUNGA (FFH152), sail in-company during AUSINDEX.

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HEARTHLESS LEDS ARE GOING OUT ALL OVER EUROPE

There is a sombre backdrop to this edition of the *The NAVY*, heralded by the first state-on-state, declared war in Europe for almost eighty years. The global rules-based order (GRBO) has run its run and lies today in the killing fields of Ukraine and the PLA occupation of the South China Sea.

This edition commences with a detailed analysis of current practices within defence procurement and acquisition by Hugh Bagehot. Writing before the war in Ukraine, Hugh asks, “if elected, what will your government do to ensure that Defence employees are held to account for their conduct towards industry partners?”. He concludes:

[Australia’s] ability to equip and sustain our Defence forces is at stake – so clearly, the stakes have never been higher.

The second paper is by Robert McKeown on the use of submarines in the Indo-Pacific. In the 40th anniversary of the Falklands War he recognises that the challenge for Indo-Pacific submarine fleets with limited budgets and resources is “whether they can maintain a credible capability while waiting for their Falklands moment. A moment that may shortly be upon the region.” The third paper is by NLA Federal Vice President and senior Defence strategist, Mark Schweikert. Mark returns to the submarine theme in a highly topical article examining the threat posed by Russian submarines. He concludes, *inter alia*:

Russian’s re-emergence and prioritisation of underwater warfare ... marks the start of a dangerous period in maritime warfare. Given the recent example of UK and US willingness to share nuclear submarine propulsion technology with Australia may give them the idea of reciprocating. In any event, all of the free world’s navies will need to double their underwater warfare endeavours to counter the rise of the modern Russian submarine threat.

The fourth and final paper in this issue is by Captain George Galdorosi USN (Ret) and topically examines Australia’s need to protect its ports and harbours. This will be a critical element of the emerging joint domestic operations / homeland security doctrine being developed by the ADF. Something Australia has not considered

seriously for over sixty years. George suggests that “Australians deserve to know that their ports and harbours are secure and pulling away Royal Australian Navy assets from their important national, regional and global responsibilities to shore-up harbour protection efforts can open up vulnerabilities in other areas”.

The title to this editorial reflects an observation by British Foreign Secretary Edward Grey, 1st Viscount of Fallodon, on 3 August 1914, that “the lamps are going out all over Europe, we shall not see them lit again in our life-time”. Churchill, reflecting on Grey’s eulogy, commented (16 Oct 1938):

The stations of uncensored expression are closing down; the lights are going out; but there is still time for those to whom freedom and parliamentary government mean something, to consult together.

In October 1938, there were twelve months before the start of WW2. Britain had been seriously re-arming since 1933 (albeit 3 years late); Australia somewhat less so. In 1914, Australia was better able to defend itself and project combat power (and submarines) to the Mediterranean and France, than it was in 1939.

WA NLA Patron, His Excellency, The Governor of Western Australia, Kim Beazley, was the driving force behind the acquisition of the *Collins-class* in the 1990s, and the reinvigoration of RAN power projection. In the early 2000s, he was instrumental in laying out the requirement for fourteen submarines to replace *Collins*. The fourteen submarines Kim Beazley identified as being necessary, applied the full Dönitz (Doenitz) cycle – allowing 3 submarines to be on patrol at any one time, with a surge capacity. Today, Australia needs 18 submarines, to sustain four permanent patrols, including in the Great Southern Ocean towards Antarctica.

Following the tendentious ransacking of the Defence budget under the Rudd-Gillard-Rudd governments (to build a war chest for the 2013 election), Tony Abbott’s clear front runner, the Japanese *Soryu-class*, was ditched by Malcolm Turnbull for the non-existent Naval Group *Shortfin Barracuda*. Seemingly the most egregious act of petulant vandalism exhibited by any Australian PM since Federation. In 2021, the short-lived future submarine program was



Soryu-class submarine the clear front runner in 2015.



The Signing of the Atlantic Charter August 1941 by Prime Minister Winston S. Churchill and President Franklin D. Roosevelt on board HMS PRINCE OF WALES (BB53)



Eighteen KSS-III-Dosan-Ahn-Changho-class submarines are required by the RAN today.

replaced both by AUKUS and the decision to procure nuclear-powered submarines. Thirteen years after Kim Beazley's recommendation, and \$ Billions of wasted effort. With not a sheet of shaped steel to be shown. Like saying in 1933, "you can have your Spitfires in 1946". The unintended result of incompetently applied *English School Methodologism*: pacifism through *stasism* (managing not doing).

The hearth of a fireplace prevents sparks jumping out and keeps a home safe and warm. Unlike incandescent lamps, LEDs are heatless, heartless and hearthless. They will not form the heart of a home or provide a hearth for the huddled masses. No matter how efficient – its blue glow adding to the cold. As drivers in snowy climes have found, when their LED headlamps freeze and dim, rather than melting ice, like old-fashioned bulbs. The LED as metaphor represents a fixation on climate change and zero carbon. At the expense of keeping people and homes safe. A fiddling-light as Rome burns – when the wind blows and the sun shines.

The target of Putin's Russia and its allies in the Chinese Communist Party and Iran-Hezbollah is not Ukraine, *per se*, but the Global Rules Based Order formed in 1942 by the Atlantic Charter. Subsequently leading to the UN and Chapter VII, Article 51:

We the peoples of the United Nations to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and to reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and to promote social progress and better standards of life in larger freedom...

Deterrence and all the managerialists assembled in support of the UN and the UN itself failed to prevent war being declared on Ukraine by President Putin:

In this regard, in accordance with Article 51 of Part 7 of the UN Charter, with the approval of the Federation Council of Russia and in pursuance of the treaties of friendship and mutual assistance ratified by the Duma on February 22 with the Donetsk People's Republic and the Luhansk People's Republic, I decided to launch a special military operation.

The history books will not look kindly on the U.S. administration; its grossly incompetent withdrawal from Afghanistan, or Biden's spavined January 2022 statement:

It's one thing if it's a minor incursion and then we end up having a fight about what to do and not do.

That's fine then, a "minor incursion" all in accordance with Chapter VII, Article 51?

The Global West failed. That is the message from Russia's War on Ukraine. Deterrence relies on the intent & will to decide & act; observe & orient – competently exercised through sovereign capabilities; industrial/ economic capacity; readiness & preparation (research & education); and deployable power. It is more a part of a nation's economy, industrial capacity and political competency to think and govern, than its Armed Forces and intelligence services. We are out of time "to consult together".

Bureaucratic incompetence is shared across the West. Australia has ended up with a Defence Force, when it needs an Armed Force. Where for every Australian Public Servant (APS) and consultant, there are one and a half soldiers, sailors, or aviators; for every APS, two consultants. There are more APS and consultants than there are soldiers in the whole of the Australian Army.

% Force	RAN	ARMY	RAAF	APS	Consultants
Regular	13.12	27.8	13.33	15.64	30.13
Reserve	9.39	73.33	17.29		
Total	12.6	34.1	13.88	13.48	25.96

The immoral, *stasist*, accountancy driven performance-management regimes, applied since the 1980s, mean the APS is working for the consultancies. Outsourcing costs Australia \$3.5 Billion a year (or two Frigates) – more than full *insourcing* all of APS, suitably rewarded, respected and educated.

Incremental growth of the ADF by 18,500 has been allowed for by this Government. It is not enough. Keeping the tail the same size (approx. 50,000-53,000 APS and Consultants) about a realistic tooth to tail of three to one, and a country of 25 Million, the ADF needs to be at 160,000 by the late-twenties. 2035 is too late.

Force	RAN	ARMY	RAAF	Total ADF	Defence Service	Total Defence
Regular	26,500	58,000	24,000	108,500	53,000	161,500
Reserve	3,500	42,000	6,000	51,500		51,500
Total	30,000	100,000	30,000	160,000	53,000	213,000

As previously stated by *The NAVY*, the next Government, whatever its hue, needs to;

- A. Establish National Security Committee, QUAD, AUKUS, and Nuclear-Power secretariats.
- B. Appoint political Secretaries of Navy, Army and Air Force, alongside ministers of Space, Homeland and Cyber Security, and new Chiefs of Defence Force (including reinstating the Chief Defence Scientist in position, status and rank), and;
- C. Root out and removing the Department of the Prime Minister and Cabinet and like commissions, corporations, and quagos to restore political, ministerial and public service accountability;
- D. Create boards and secretariats staffed by APS, ADF, ASD, ASIO, sme, loyal to the Governor General and Commander in Chief. *Insourc* outsourced APS. ■

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.
- 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 replacement 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.

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.

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.

THE INTERNATIONAL ORDER AT RISK - AN IMPORTANT REMINDER OF THE WORK OF THE NAVY LEAGUE

It is not only those who follow international affairs, but the world at large, who have recently had thrust upon us the importance of the international rules-based order and the risk of it being unbalanced so easily. If Vietnam were the first televised war, then the invasion of Ukraine by Russia is an immediate war, transmitted to us blow by blow, graphically and almost immediately displayed to our screens and hand-held devices as they occur.

These events in the past month or so have been horrific and as I prepare this contribution to *The NAVY* a glimmer of the hope of a peace deal is emerging. While many hold hope for the prospect of some possible peace talks and the potential for a ceasefire, the stark reality is that there is a huge gap between what we know would satisfy Ukraine and its people, as compared to what might meet the Kremlin's ambitions.

These events are tragic on a personal and even national level in Ukraine, in the countries where families of Ukrainians are sheltering and even for those leading their normal lives who have an interest in a stable world order. We, as the Navy League, hope that a ceasefire and a rebuilding of the nation of Ukraine, in whatever palatable form it is able to take, commences without delay.

That said, as horrendous as these events are, they should serve as an important reminder to us all of the speed in which the strategic background can change and the manner in which (not only internationally, but in our region also) security is changing and has become less certain. We commend the government's initiative to increase our uniformed Defence personnel in the next 15 years or so by almost a third, and we encourage an ongoing bipartisan political approach to national defence with a steady long-term build-up in our capability.

These events should also remind each of you of the important work that The Navy League of Australia and *The NAVY* in particular does. Our task is to keep before the Australian people the importance, for Australia as a maritime nation, of defence self-reliance by actively supporting defence manufacturing, research, cyberspace, shipping, transport and other relevant industries. As readers, I know I am 'preaching to the converted' in this regard. You know that we have been examining the Russian threat for many years now. I would hope that this most recent and egregious example causes you to extend an invitation to those whose interest in the international order and affairs (and our security) has been recently piqued, to join us.

OUR FRIENDS IN NEW ZEALAND

A number of readers I have spoken to since the last edition (not only 'Kiwi' colleagues 'from across the ditch') have suggested that in recent editions of *The NAVY* we have been unfairly critical of New Zealand commitments to maritime security in the region. The editor has addressed one such retort in the letters section and we welcome such dialogue. It is important that these views are aired and we welcome such input into the discussion we are seeking to promote.

Our correspondent, a regular and valued contributor, notes also the more recent operations undertaken by the Royal New Zealand Navy in cooperation with the Royal Australian Navy, as well as RNZN commitments to regional disaster recovery operations.



Malaysian F-18 buzzing HMNZS AOTEAROA and HMAS CANBERRA.

Our Navy League relationship with New Zealand has always been strong, with consistent representation of the New Zealand League at our annual meetings. Further our two countries are natural allies, with freedom of travel arrangements creating a large population of Australians in New Zealand and *vice versa*. Like any healthy close relationship, there are a few areas we will always disagree on (think the natural tension of our keen sporting competition), but our Defence and trade relationship remains strong and a fundamentally important one for the region.

Beyond noting that, I will leave the Editor's response to address the substantive issue but reiterate our view that the Navy League of Australia greatly value our New Zealand friends and members as well as the strong cross-Tasman relationship we share and its contribution to maritime and regional security.

VALE MASON HAYMAN

Since our last edition one of our Navy League Life Members Mason Hayman sadly passed away at the end of December 2021. Mason was a fitter and turner by trade, and in later life a keen lawn-bowler. He was a longstanding Navy League member and former President of the WA Division. He had a long career as an engineer in the Merchant Marine and founded an international maritime travel company (in which he was very hands-on in relation to engine repairs and maintenance).

Those who met Mason knew of his keen sense of fun, his enthusiasm for 'red tea' and a determination to help others. He joined the Navy League in 1987 and was active until very recently, being WA President from 2005 to 2017, during which time he provided strong and visionary leadership. In addition, he was a tireless volunteer in other areas, including charity work supporting the needy and being on the build team for the HM [BARK] ENDEAVOUR replica.

Mason was 95 years old. Vale Mason Hayman, may you have fair winds and following seas.

NAVY LEAGUE PERPETUAL TROPHY – COMMUNITY AWARD

One of the great pleasures the Federal Council of the Navy League of Australia enjoys is the annual opportunity to review nominations for the Navy League Perpetual Trophy – Community Award. The award is presented annually to the Royal Australian Navy ship or establishment that has made the best contribution to the community. Nominations are reviewed by the Fleet Commander before a shortlist is considered by the Federal Council.



Sailors embarking on OP COVID-19 Assist - over 25% of Navy personnel have been deployed since March 2020. (ABSIS Bonny Gassner)

This year (for the 2020-21 award) the shortlist included some very impressive contributions and the Federal Council has agreed the most deserving recipient of the Community Award is HMAS WATSON for its outstanding contributions to the community.

To quote the Fleet Commander in part:

the winner, HMAS WATSON delivered extraordinary results despite a large training overhead, COVID imposed lockdowns and an unrelenting demand for support to a diverse array of demand[s]... [and] BZ to HMAS SUPPLY for a strong runner-up performance.

During the year HMAS WATSON participated in numerous community events and in a COVID-19 persistent environment found new ways of remaining connected to the community. This included contributions to Operation COVID-19 Assist and to flood assistance activities. In addition, WATSON provided much appreciated charitable support to *Legacy Australia*, helping to organise (and participating in) Legacy's fundraising efforts for ANZAC Day.

This has assisted in ensuring that Legacy can continue caring for 48,000 widows, children and disabled dependents across Australia.

HMAS WATSON also provided support to other charities and community wellbeing causes including *Keeping Watch*, *Dry July 2021*, and *RSL Defence Care*. Community support activities included participation by WATSON Ship's Company in Clean Up Australia Day, donations to Taronga Zoo and International Women's Day events as well as a host of local, children's and school community activities.

In all, a great credit to HMAS WATSON in a most trying of years for all.

BZ HMAS WATSON.

IN THIS EDITION

This edition is filled with great reading for you to enjoy, contemplate and ruminate upon.

This includes Hugh Bagehot's paper 'Developing Strategic Relationships – A Matter of Honour' dealing with CASG and procurement from a maritime perspective and building on previous papers presented in *The NAVY*. There is also a submarine focus, with papers by Robert McKeown entitled 'Submarines in the Indo-Pacific: does everyone need them?' and 'Back to the Future – The Re-emergence of the Russian Submarine Threat' an excellent contemporary paper by our Vice President Mark Schweikert. We also share with you an article from another regular contributor, our friend, retired USN Captain George Galdorisi who writes on 'A National Imperative to Protect Australia's Ports and Harbours'.

I commend all of these papers to you and wish you happy reading.

As always – let us know what you think. ■

LETTERS

Dear Editor, (compiled from various correspondence)

I was extremely disappointed to read this anti New Zealand column in the January-March 2022 issue. The comment that the RNZN Task Group was "Apparently unwilling, politically, to be seen working with the RAN and RAAF" is complete and utter [rubbish]. In the November 2021 issue of the RNZN magazine *Navy Today* there is a photo (p7) of AOTEAROA undertaking a RAS with CANBERRA. In the December 2021 issue of the magazine *Warships International Fleet Review* there is a photo (p23) of AOTEAROA undertaking a double RAS with ANZAC and TE KAHA.

New Zealand did send Police and Military personnel to Honiara following the Solomon Islands crisis. It is pertinent to note that the RNZN OPV WELLINGTON was despatched at very short notice to undertake patrol duties in Solomon Islands waters. It is perhaps telling that the very much larger RAN was unable to find a suitable vessel to undertake this task.

For your information the New Zealand Defence Force is already in the forefront of efforts to assist Tonga following the devastating volcanic eruption on Saturday. Yesterday an RNZAF P-3K2 Orion made a reconnaissance flight over Tonga. Tonga has been badly

damaged by a Tsunami and the country is covered in volcanic ash. It is expected the runway at the main airport will take days to clear of ash. The RNZN replenishment ship AOTEAROA has already sailed for Tonga with supplies and to provide freshwater from its reverse osmosis plant. While no request for assistance has yet been received, Rear Admiral James Gilmour, Commander Joint Forces New Zealand said, "It was better for the ship to be 300 nautical miles north when the request came in than still docked at Auckland."

New Zealand assistance will certainly reach Tonga long before the Chinese get there. Where is the RAN?

Tonga update. WELLINGTON with embarked hydrographic and diving teams arrived at Nukualofa this morning and AOTEAROA will arrive this afternoon. CANTERBURY has sailed with NH90 helicopters, heavy equipment and Army engineers. I understand that China is also sending aid to Tonga but hopefully the quick ANZAC response has shown the Tongans who their true friends are. I am sure we can agree on this.

The big issue for New Zealand today is China, which happens to be our largest trading partner. Unfortunately, China in



recent years has become an aggressive bully with an abysmal human rights record. The government is fully aware of this and there is certainly a delicate balancing act between foreign affairs and trade. Should there be a conflict with China then it is likely the New Zealand economy will completely implode. From my perspective, I fail to see how the USA and it's regional allies could defeat China in a full-scale war apart from nuclear Armageddon.

MD

New Zealand

By Editor

Dear M,

Thank you and also for being a longstanding member of the NLA and contributor.

The concerns expressed in *The NAVY* have previously been raised in academic papers and national press. Including that the Australian PM had contacted his New Zealand counterpart regarding support for the Solomon Islands. Noting concerns now realised about Chinese Basing.

Australia, like New Zealand, and the UK, has some form of All-Round / Comprehensive / Permanent Strategic Partnership with China. The fifth (of 10) levels of partnership, China's first being exclusively with Russia. All these partnerships come with "high expectations". In March 2017, New Zealand became the first 'Western country' (according to Xinhua reports) to sign up to the Belt and Road Initiative (BRI). Also, the only Five Eyes member to do so. In April 2021, the pro-Ardern *Guardian* raised concerns about New Zealand being the weak link in the intelligence chain (Five Eyes), following comments made by the NZ Foreign Minister Nanaia Mahuta that she did not want New Zealand's complex relationship with China to be defined by Five Eyes: "the Five Eyes arrangement is about a security and intelligence framework...but not the first port of call in terms of creating a coalition of support around particular issues in the human rights space: [New Zealand needed to] maintain and respect China's particular customs and traditions". As per Uighurs and Hong Kongers.

The Maori Party is arguing for "a tiriti-centric *Aotearoa* through constitutional transformation". This would mean overturning the Westminster system and creating an equal power-sharing arrangement between two separate parliaments. New Zealanders would no longer be equal but separated. Common Law and the basis of Commonwealth applying to all would be broken. The same would apply in Australia if the Uluru Voice is enacted. To an extent, this has already occurred with the establishment of a racially segregated (non-universal) Maori Health Authority. Similarly, there is a push from the same quarters to remove the head of state, Her Majesty The Queen of New Zealand. The proposal to replace the New Zealand flag (overwhelmingly supported by the media and political classes) was decisively rejected, 56-44.

Perhaps unkindly, it is said of Chinese businessmen that they have no friends – only clients and servants. New Zealand needs to ask itself what it wants to be. The concerns raised, stand.

Even more so given China's dissembling support for Russia over Ukraine.

Aeneas

Dear Editor, (as précised)

I have been a constant reader of the League's *NAVY* magazine for many years. I credit the work of its contributors for awakening me to the truly maritime nature of our nation and its position in the world. Perhaps unusually, I am a civilian and lifelong Labor voter who has been a long-term union member and sometime workplace delegate before retirement. While maybe inevitable that the League has a strongly conservative bias, it seems that to me that lately some articles have included stronger anti-ALP statements than I recall from earlier issues. To me, defence is an area that should transcend partisan politics, although there are bound to be differences between the parties on emphasis and ideas on how to best serve the nation. I don't think this is the preserve of one side of politics.

Another area of note are what seem to be the wistful thoughts of some contributors about a resurgence of Britain onto the world stage. There seems to be a nostalgic desire to resurrect the Britannia of the past, a powerful nation with an equally potent navy. This sentiment usually appears in articles bemoaning the winding down of the Royal Navy to a very average European navy. The vision seems to be that the UK, unbound from the shackles of the EU, will take its place again as a leading power.

So, why did I write this? Your magazine opened my eyes and mind to the overlooked importance of our nation's maritime dependence. It deserves to be as widely read as possible by interested laypeople of all political stripes. I can't help thinking that the concerns I outlined however preclude a wider audience, reducing your publication to a voice in the conservative echo chamber. And yes, I realise that the progressive/left side has its own versions.

Yours faithfully,

Mark Gilligan

By Editor

Dear Mark,

Thank you. We corresponded on the matter. I have written to senior Labor politicians and unionists asking for articles. Additionally, *The NAVY* has represented Labor specifically on the need for a Merchant Marine, in *Red Duster* (see also this issue). On the UK, *The Greenwich Station* section in *Flash Traffic* has provided a detailed critique of the UK, as have articles by Jonathan Foreman and Professor Julian Lindley-French. I concur. Britain has emasculated itself and what it has today breaks if it works (the Type 45), and is too few and too costly to be used. *The NAVY* has been calling for a re-design and expansion of the Royal Navy and Royal Marines for over a decade. The same applies to the USN and RAN.

Kind regards

Aeneas

DEVELOPING STRATEGIC RELATIONSHIPS A MATTER OF HONOUR

By Hugh Bagehot

“Mine honour is my life; both grow in one; Take honour from me, and my life is done.” [1]

In the Jan-Mar 2021 edition of *The NAVY* magazine, Dr Neil Baird published part 2 of his important article, “Australia – Defeat or Juncture”. [2] This article discussed inter alia the role and efficacy of CASG as a vital enabling element to Defence capabilities. Part of this discussion included commentary on the commercial acumen of Defence’s Capability Acquisition & Sustainment Group (CASG), and their impact on the Defence industry.

BACKGROUND

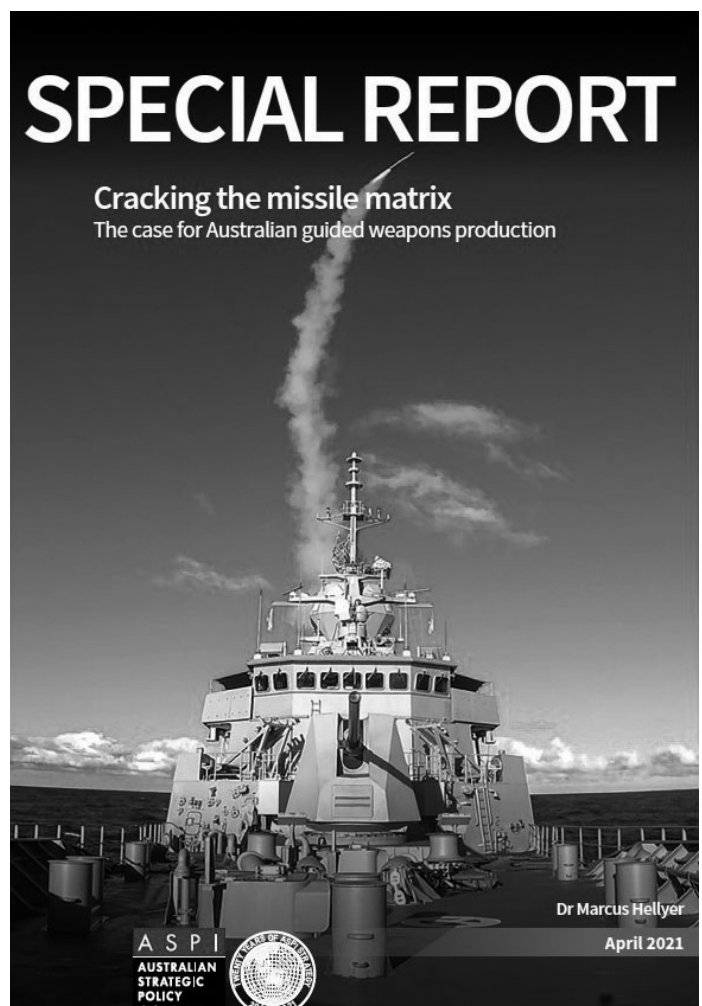
As an adjunct to Dr Baird’s article [2], and in view of the ongoing inquiry into the culture of bullying and intimidation within the Defence portfolio, it is timely to discuss some highly salient behavioural characteristics of senior CASG employees. Unfortunately, these characteristics are being observed throughout the Defence industry. In summary, there is seemingly an increasing propensity for senior CASG employees to conduct themselves in a mendacious manner, with what can be best described as a “coincidental” relationship with the truth. There are serious integrity questions that are apparently emerging over an increasing number of senior CASG personnel. This is resulting in the erosion of Industry’s confidence in the basic integrity of their primary (and often only) client. This will be illustrated through a number of recent and germane exemplars, followed by some recommendations as to how the organisation and individuals can (and ought to be) be held honourably accountable.

It must be noted at the outset that some care has been taken in drafting this article to ensure that specific identities are not disclosed. This is, in an ironic twist, discussed further under the section titled “accountability”, and is to protect various parties from further adverse or traducive conduct from potentially offending parties.

EXEMPLAR 1

An Exercise in Inductive Thinking

A team of professionals across the three services, along with several civilian experts, were commissioned to undertake a detailed study into the acquisition and sustainment of new weapon systems, with a significant focus on maritime weapons acquisition and sustainment. At the risk of overstating the matter, this study represented an extremely rare opportunity to enhance Australia’s sovereign capabilities in the manufacture and sustainment of maritime guided weapons. This would in turn provide significant improvements in Navy’s ability to fight and win battles in the maritime domain. As a bonus, it would be done with substantially improved value for money and simultaneously loosening our reliance on off-shore procurement (e.g., Foreign Military Sales – FMS). Headed by a senior ADF officer, the team invested significant time and effort to developing a comprehensive report that incorporated input from multiple industry partners. However, as the report evolved it became increasingly apparent that its findings and recommendations would be unpalatable to CASG’s senior executives – specifically challenging their power and vanity base. The report was fearless



Marcus Hellyer in his excellent ASPI Reports *Cracking the Missile Matrix* gets at only the half of it.

in its addressing of the extant situation and in presenting novel solutions. It was also apparent that of the CASG executives’ true intentions were to present a report which recommended maintaining the extant, failed (status quo) acquisition and sustainment model, albeit with a few cosmetic changes. Novel strategies were never within the contemplation of the CASG executives, and they were never intent on countenancing anything beyond minor changes to the existing model. In effect, the team was unwittingly part of an exercise in inductive thinking whereby the answer was pre-determined – only the question had to be written.



Mk 48 Mk 8 Torpedo undergoing Maintenance. The RAN is licensed to build and maintain Mk 48 torpedoes.



Defence Establishment Orchard Hills Specialists undertaking Missile Testing.

Unsatisfied with this duplicitous approach, the Team Leader continued along the deductive reasoning path, only to be ordered by CASG's senior executives to change the report such that it would reflect their pre-determined, CASG-aggrandising outcomes. This would entail stripping the report of its heart, and making recommendations which the team did not believe were in Australia's best sovereign interests. Industry partners were left to wonder what could have been, and CASG was made to look disingenuous in the pursuit of enhanced sovereign capability and value for public money. This is not to mention the millions of dollars spent in researching and drafting the paper.

The study team leader made it abundantly clear that he would not compromise the report, nor misrepresent the research and findings of his team. Undertaken in the interests of fully and best enabling Commonwealth sovereign capability. Consequently, senior CASG staff took it upon themselves to engage in what can only be described as highly vindictive behaviour in which they traduced academic and military reputations. This included, among other things, being summoned to "ambush" meetings in Canberra with Executive branch heads, being threatened with dismissal from position, receiving aggressive and abusive calls from various CASG officials (including, of course, by Human Resources), and having defamatory comments orally published by the same personnel. Ultimately, in retribution for maintaining core principles, the lead was stood aside from the team. Subordinates were released from further duties, and the report was re-drafted by others to reflect the pre-determined (inductive) outcomes. The whereabouts of the "real" reports remain unknown to this day.

EXEMPLAR 2

"I come to Bury Caesar, Not to Praise Him" [3]

A civilian contractor was engaged by CASG as a specialist commercial advisor on a major maritime capital acquisition project. Throughout the first 12 months of the engagement, this contractor received exceptionally high praise for his efforts and achievements. For all intents and purposes, this person had exceeded all measures of success and had established a solid record of achieving exceptional outcomes. However, a rapid and unexpected change in staffing seemed to adversely affect the dynamics of this environment. The

Contractor's new manager had made it abundantly clear that in his belief, contractors had no role to play in the project, and that he alone could undertake all of the contractor's work. The individual had a clear agenda and commenced prosecuting it in earnest.

Over the proceeding weeks, this CASG employee engaged in what can only be described as abjectly defamatory behaviour. This included numerous emails and conversations in which he routinely made comments about the contractor which were classic examples of tortious defamation. This occurred despite the fact that the comments were demonstrably untrue, personally very hurtful, and were clearly aimed at undermining the contractor's long-established reputation as a senior professional in his field of endeavour. The CASG employee further undermined the contractor by excluding him from vital communications and meetings with his two subordinates, and then claiming that this was (somehow) the contractor's fault.

A more prudent course of action would have been to communicate the truth in an open and honest matter (e.g., "Unfortunately, there's insufficient work to justify retaining a contractor on the project – but we thank you for your efforts".) Instead, the CASG employee adopted a position of subterfuge and mendacity. The CASG Project Director (PD) acknowledged to several others that communications within his team had devolved to a state of dysfunction, and that the particular employee's conduct failed to meet CASG's standards of integrity. However, he declined to take any further action with that employee or reduce his observations into a written form. Despite the contractor receiving the unwavering support of his employer and colleagues, his work on the project ended abruptly. He was further advised that pursuing the CASG employee on a legal basis was "not in anyone's best interests." He was effectively denied a right of reply. Tellingly, the CASG employee and his PD were never called to account for their behaviour.

EXEMPLAR 3

"But I Swear - I Never Said That"

A major Defence contractor was engaged as a prime systems integrator on a major naval aviation acquisition program. As part of the systems integration effort, the contractor had to meet various key entry criteria prior to commencing an engineering critical design review. The Commonwealth's Program Director (PD) stated on that in order to maintain the project's critical path schedule, he was prepared to waive those criteria. This was recorded in formal meeting minutes which were accepted in writing by the PD.



RAAF P-8A Poseidon Patrol Aircraft working with RAN LHD and FFG.

Upon commencement of the review, the PD stated that the Contractor had failed to meet the key entry criteria, and that they were not beneficially entitled to conduct the design review. This was despite his formal acknowledgement that he had waived the criteria, and that it would not be an impediment to the conduct of the review. When it was brought to his attention that he had incontrovertibly done so, he angrily responded that he had been misrepresented, and that the Contractor would not be permitted to commence the review nor receive any associated payments until such time as the entry criteria had been met to his satisfaction.

I know you blokes might think I said that, and I know I might've signed something, but that doesn't mean I actually did say that!

Despite the overwhelming strength of the Contractor's legal position, the PD refused to back down and threatened to take the matter to RAN and CASG executives. The Contractor, in their long-term commercial and reputational interests elected to adopt a "path of least resistance" and yielded to the unlawful requirement. [4]

SO WHAT?

Isn't that merely how business works?

One would be quite entitled to ask what happened next in the above exemplars. However, the more salient question might be what *didn't* happen next? Certainly, the standard of conduct exhibited in these examples is grossly inconsistent with commercial practise in private industry. It is reasonable to expect that individuals would be held accountable for their words and actions. We teach such lessons to our children from an early age. Indeed, accountability is a fundamental lesson taught in Command Leadership and Management instruction at the various ADF training institutions. Yet in the case of abjectly mendacious conduct by CASG officials, it appears that there are seldom any consequences.

In the case of the first exemplar, the Team Leader had little if any recourse because the CASG executives refused to reduce their comments in writing. Nor would they be honest by conceding that their intentions were to "doctor" the two reports that had been produced. The Defence hierarchy was never informed that the final options analysis paper they were presented was not representative of the true findings of the research team. [5] Indeed, the CASG executives went to some lengths to ensure that the "real" report never saw the light of day. Defence industry partners who had made significant contributions to the study were left with a very negative impression of CASG. Tellingly, nobody was ever held to account.

In exemplar 2, the affected contractor had a clear recourse under the Civil Law (Wrongs) Act of 2002 (ACT). However, had he sent the offending parties a Notice of Concern pursuant to S.124(b) of the Act, CASG would likely have conjoined itself to the defence of their employee, thereby making further legal action untenable for the plaintiff. Furthermore, at no point have the offending parties been called to a performance counselling meeting and asked to account for their unprofessional conduct.

Finally, in exemplar 3 the CASG Program Director's apparent abject lying cost the contractor a substantial amount of time and money to rectify. The PD was permitted to get away with a significant lie. Indeed, he was commended as a highly successful project director at the end of the project, despite the reputation among his CASG peers as a person who had a casual relationship with the truth.

The ultimate consequence of such consistently dishonest conduct by CASG is that it grossly undermines industry's confidence in the integrity of their client. This ultimately has a price tag in the areas of needless rework, dispute resolution, and staff retention.



Image of MRH 90 Taipan soon to be withdrawn from both RAN and Army inventories.

Such conduct has become so frequent and egregious that industry partners would seem quite justified in assuming dishonesty as the default standard of behaviour from CASG employees.

This unfairly affects those CASG employees who do conduct themselves with integrity and have done so throughout their careers in Defence. Similar conduct by managers in the private sector would be met with severe sanctions, up to and including dismissal or legal proceedings. Furthermore, the employer would never conjoin themselves to such incontrovertibly unconscionable (or quite probably illegal) conduct. The reality is that in private industry, people are held to account for their words and actions, often on pain of losing their jobs.

So why is there an emerging trend for such behaviour from CASG, and why are industry's standards for integrity not being applied in CASG?

In Dr Baird's article, it was noted that CASG is a "monopoly client". [6] They are arguably Australia's largest such client. They therefore possess all power over contractors and individuals including the execution of current work and, most importantly, their potential to win future work. This is reflected in the onerous and commercially biased contractual terms that CASG routinely relies upon. However, that dominance goes beyond the commercial domain, and enters the realm of moral authority. CASG's senior leaders do not appear to believe that they are morally compelled to conduct themselves with integrity and be ethically accountable towards industry partners. One could justifiably suggest that they are comfortable in the knowledge that their conduct towards industry partners is rarely subject to scrutiny.

"THE WEST POINT SOLUTION".

The solution to such unethical behaviour is perhaps as simple as it is complex: CASG's leaders need to be held to a similar standard of conduct as their counterparts in the private sector. The private sector has a significant liability for deceptive and misleading conduct under the Australian Consumer Law which prevents any of the conduct reportedly increasingly apparent from CASG employees. [7] Government agencies and their employees hold no such legal liability. Notably, there has been no evidence that the Commonwealth's immunity to this law has been eroded in any significant way. Nor is there any evidence to indicate that there will be such change in the foreseeable future. Absent any legal means of preventing such deceptive and misleading conduct, it falls to CASG's

most senior leaders to indoctrinate their executives on the required standards of integrity in business, and most importantly, apply those standards assiduously:

1. Project Directors and Systems Project Office (SPO) leaders will be held to account for their conduct, and that of their employees. Indeed, the West Point Cadet's Honour Creed calls to mind:

"A Cadet will not lie, cheat or steal, nor tolerate those who do".

That is, if one of your staff engages in unethical or immoral conduct, it is your responsibility as much as theirs. [8]

2. Despite Commonwealth immunity to Section 18 of the Australian Consumer Law, there is nothing preventing agencies from holding their employees to the spirit and standard of that law. Deceptive and misleading conduct must be eradicated from CASG's business dealings. For example, CASG's employee Code of Conduct could be amended to state

"Our Employees will not engage in conduct that is misleading or deceptive or likely to mislead or deceive."

Doing so will then afford the agency license to implement this as a matter of mandatory compliance with internal policy. Consistent with the theme of accountability, if an employee is found to have conducted themselves in such a manner, their Project Director is also subject to sanctions;

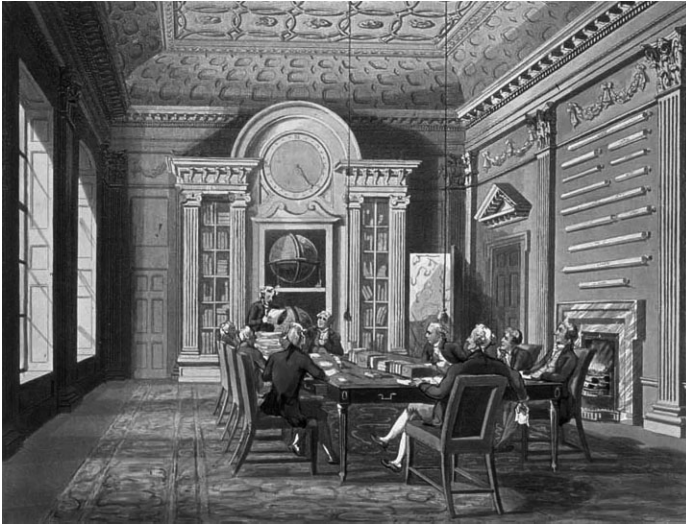
3. All CASG employees must be alerted to the law of defamation in their jurisdiction. Specifically, they need to be educated on the personal and business consequences of such conduct, and told in no uncertain terms that the Commonwealth will NOT assume or conjoin to their defence in the event that legal proceedings are brought against an individual employee; and
4. The current remit of the Commonwealth Ombudsman provides a right of review for ADF members and civilian employees with regards to inappropriate treatment such as bullying and harassment. However, the Commonwealth Ombudsman's remit does not extend to investigating instances of deceptive and misleading conduct of Defence officials towards external parties. Perhaps it is time that the Commonwealth established a dedicated Defence Industry Ombudsman to investigate such claims from industry partners. Whilst this would not grant industry the legal authority they would seek under the Australian Consumer Law, it would at least provide them with a solid basis to hold CASG's officials to account for their behaviour, thus invoking the matter of policy compliance raised at Point 2 (above).

RETHINKING CASG: INSTILLING A SENSE OF CORPORATE INTEGRITY

In 2004, Mr Steve Gumley assumed the role of CEO of the newly created Defence Materiel Organisation (DMO). As part of his remit, he sought to:

Make DMO more business-like, accountable, and outcome driven. [9]

This included establishing DMO as a "satellite" entity to the Defence portfolio. There was also an emphasis on hiring competent and highly experienced staff from the private sector to provide leadership and managerial skills that were plainly lacking from the former incarnations of DMO. This was largely lauded as a successful endeavour, with Defence major equipment projects consistently being delivered within time and budgetary constraints.



The Board Room of Admiralty - not all uniformed and representing Finance, Bank of England, Industry and Professional RN Officers.

Since then, the advent of CASG has seen a reversion to old habits, wherein the behaviors previously described have compromised relationships with industry, and projects are significantly over budget and over schedule.

It is therefore high-time that the Gumley reforms were re-instituted. This can also include the establishment of a Board of Directors, comprised of 3-5 senior directors retained on a stipendiary basis, from industries *other than* Defence (e.g., banking/finance, mining/natural resources, aviation and construction). There is significant precedent for success in this area, when a board of governance for was formed for the “old Admiralty” in the 17th Century; comprising City of London; Bank of England, and professional Naval Officers (who knew how to think, fight, build ships, and win).

Other key reforms should include:

- Establishing CASG as an entirely separate entity from Defence, perhaps even as a Government Owned Corporation (GOC) headed by a CEO, accountable to a discrete minister/shareholder;
- Hiring the right people. That is, establish a class of career-based professionals with the aim of generating workforce who are highly skilled and remunerated on par with their industry partners. A result of hiring these career-focused people at all levels may have the additional benefit of reducing the increasingly costly reliance on external MSP contractors;
- A newly “corporatized” CASG enterprise must also come to a clear understanding that the ASDEFCON terms are totally unacceptable, and represent an unconscionable exercise of bargaining power by a “monopoly client”. Indeed, it is almost impossible to find any other industry where industry partners tolerate such onerous terms.
- This must result in a “root & branch” reform of the ASDEFCON terms to ensure that they are more practical, and less onerous on suppliers. This was achieved in North Sea oil operations, where multiple industry partners and clients were able to achieve uniformity across contractual terms. It is not at all beyond the reach of the Defence industry: the templates are already in existence in the form of contracts such as FIDIC and the Australian Standard (AS) suite of terms.

“YOU JUST MADE MY LIST”

In his article, Dr Baird discusses the existence of so-called “list of projects of concern” – or in other language, “CASG’s hit list of blameworthy contractors”. [10] The existence of such a list is so remarkable that it bears re-visiting. CASG’s “list” routinely blames contactors for practically all failings of named projects, whilst accepting no liability at all on their own part.

Such a prospect is as unrealistic as it is utterly risible. It is entirely accurate to assert that no corporate entity in Australia has an extensive list of failed (or failing) major capital projects where it’s “always the contractor’s fault”. [11] Therein lies the rub: if CASG were properly corporatized with a legally accountable board of directors, a professional class of career-based employees, and more balanced contractual terms, there would be no need for such a list: employees and executives would be legally accountable in the same manner as their industry counterparts.

CONCLUSION

Sadly, the examples offered in this paper are far from isolated. Even the most basic survey of industry partners, including small and medium enterprises (SME’s) and major companies, will evince that such conduct from CASG is common.

There can be no denying the essential role that CASG plays in enabling capability in Defence. If this role is not performed with efficacy and to the highest levels of integrity, their reputation is materially compromised in the eyes of industry partners. It will never be acceptable to exercise their power unconscionably as a “monopoly client”, nor traduce or compromise the personal reputation of individuals without being accountable for their conduct.

CASG needs the equivalent of an ethical clean-out. In the election year of 2022, it would be most interesting to understand the policies of the respective major parties:

If elected, what will your government do to ensure that Defence employees are held to account for their conduct towards industry partners?

Our ability to equip and sustain our defence forces is at stake – so clearly, the stakes have never been higher. ■



NOTES/REFERENCES

- [1] Shakespeare, Richard II, Act 1 Sc 1
- [2] *The NAVY Magazine*, Vol 83 No 1 (Jan-Mar 2021) Pp 20-26
- [3] Shakespeare, Julius Caesar, Act 2 Scene 4
- [4] It is worth noting that like many contractors, CASG is a monopoly client. As such, the “golden rule” typically applies – viz, “*he who holds the gold makes the rules*”.
- [5] It is worth noting that the final “report” was accepted and released by the Prime Minister, such was the significance of the work undertaken by this team.
- [6] *The NAVY*, Ibid at 26
- [7] Australian Consumer Law (2010), Section 18: “*a person must not, in trade or commerce, engage in conduct that is misleading or deceptive or likely to mislead or deceive*”
- [8] See: <https://www.westpoint.edu/military/simon-center-for-the-professional-military-ethic/honor>
- [9] See: <https://www.linkedin.com/in/steve-gumley-aa774739/details/experience/>
- [10] *The NAVY*, Ibid at 26
- [11] The volume of failing Defence projects was addressed by Sen Rex Patrick in the Senate Estimates Committee of 17 Feb 22. Refer to Hansard: https://www.aph.gov.au/Parliamentary_Business/Senate/Estimates/fadt

SUBMARINES IN THE INDO-PACIFIC: DOES EVERYONE NEED THEM?

By Robert McKeown

The story of submarines in Indo-Pacific navies has unfolded in three phases. The first began in 1904, when Japan purchased five *Holland-Class* from the US in anticipation of using them in the war with Russia. [1] Australia followed in 1914 with two UK-built boats [2] and Thailand was next in 1938 when it received four coastal submarines from Japan. Why have submarines become the must-have weapons system of the Indo-Pacific? Are submarines the right solution for every nation's defence needs? A review of how submarines have evolved in five sub-regions may help answer these questions.

INTRODUCTION

With only minutes to live, breathing the poisonous atmosphere of his stricken *Submarine Number 6*, Lieutenant Tsutomu Sakuma wrote a message for his Emperor, hoping that despite 'this disaster ... nothing will stop your determination to study the submarine until it has become a perfect machine, absolutely trustworthy. If this be the case, we can die without regret'. [3]

Submarine Number 6, built in 1906 and lost in 1910, was Japan's first locally produced submarine. Over 100 years later, Lieutenant Sakuma would be pleased to know that he and his crew did not die in vain, because Japan did not give up on the submarine. But he might also be surprised to see how widely the submarine has been adopted within the region.

The Cold War ushered in the second phase, as the US helped its new ally Japan resume domestic submarine production, and the Soviet Union began supplying allies and non-aligned nations. That meant Soviet designs for China, India, Indonesia and North Korea, and Western boats for Australia, Pakistan and Taiwan.

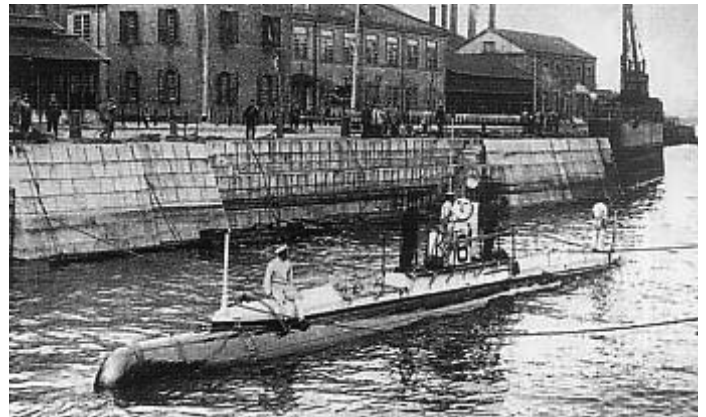
The third phase, primarily after the Cold War, has seen more export partners from outside and inside the region supplying more Indo-Pacific navies with submarines, along with an increase in domestic production.

Why have submarines become the must-have weapons system of the Indo-Pacific? Are submarines the right solution for every nation's defence needs?

CHINA AND TAIWAN

China considered the nuclear submarine as 'the ace in the modern arsenal'. In 1958, Mao Tse-tung told the Soviet Ambassador to China that he wanted '200 or 300' nuclear submarines! [4] While the Soviets never transferred any, they assisted with conventional submarine production, including the plans for a GOLF Class that China completed in 1964 and used for testing submarine-launched ballistic missiles (SLBMs). Mao would not realise his dream of owning a nuclear submarine until the first HAN Class nuclear-powered attack submarine (SSN) was completed in 1974.

China has never achieved Mao's goal of a large fleet of nuclear submarines. According to US Office of Naval Intelligence estimates from 2020, China is expected to have 10 SSNs and 55 conventional attack submarines by 2025, with three additional SSNs by 2030.



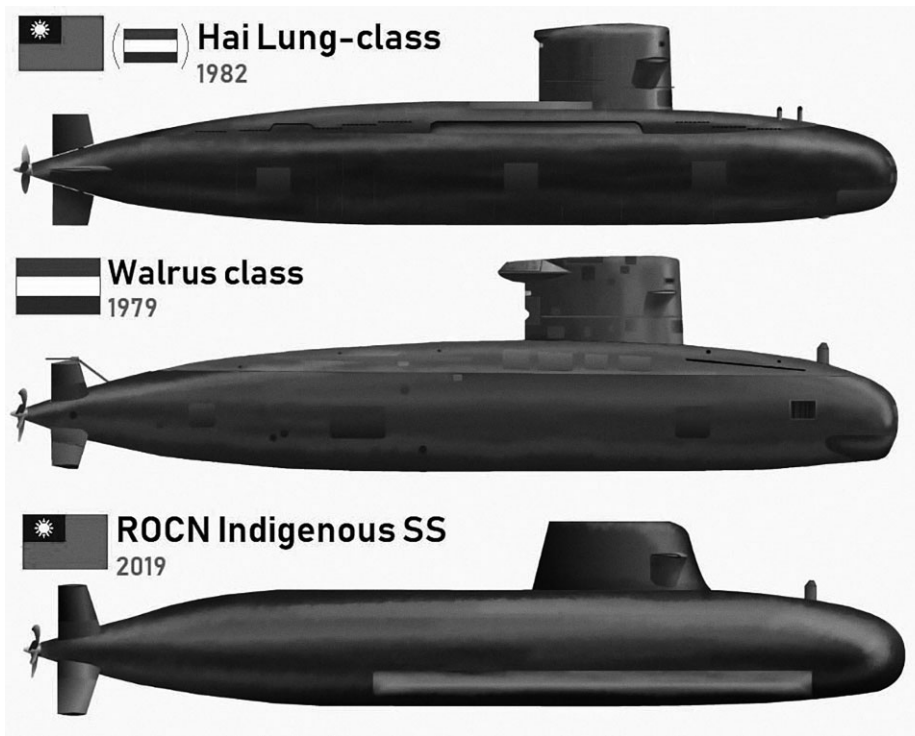
Japanese IJN *Holland-class* submarine Number 6.

[5] The preponderance of shorter endurance, non-nuclear boats suggests missions closer to home, such as defending China's 14,500 kilometres of coastline. China's attack submarines could also play a role in a 'bastion' type defence for its nuclear-powered ballistic missile submarines (SSBNs). Based on Soviet doctrine, a bastion is designed to enhance the survivability of a second-strike nuclear capability by deploying SSBNs close to home waters with a protective screen of surface, sub-surface and air assets.

Another mission close to home would be an attack on Taiwan. In 1949, following Joseph Stalin's refusal of Mao's request for Soviet-crewed submarines and aircraft, [6] Mao launched an amphibious assault on the Nationalist-held Island of Quemoy, with disastrous results. Undaunted, Mao then ordered preparations for an invasion of Taiwan itself, but his generals talked him out of it. [7] In 1954, Mao's military chiefs again told him there was little chance of successfully crossing the sea to attack Taiwan. [8]

One option for forcing Taiwan into submission is through a blockade. An exclusion zone, enforced by attack submarines, surface warships and aircraft, would probably be effective in keeping commercial shipping away from Taiwanese ports, especially if no third parties interceded on Taiwan's behalf. But to control Taiwan, China needs to occupy it, and occupying an island of 24 million people requires a lot of troops. The most efficient way of getting them there is by sea.

Taiwan has been desperate for decades to upgrade its fleet of two submarines received from the US in 1973 and two Dutch-built boats obtained in the late 1980s. Attempts to buy new submarines have usually run afoul of objections from Beijing. So Taiwan decided



ROC Navy Indigenous SS derivative designs.

in 2016 to build its own, and in 2021 the US agreed to assist with periscopes, sonar systems and integrated combat systems. [9] Construction of the eight planned attack submarines began in 2020, and the first one is expected to be delivered in 2024. [10]

Taiwan's new submarines, assisted by submarines from the US and possibly other allies, could form a formidable defensive screen in the Taiwan Strait. Although a lot has changed since the 1950s, the prospect of an onslaught of submarine-launched torpedoes and missiles wreaking havoc on their invasion fleet may continue to give China's military chiefs the same reservations about attacking Taiwan that they had during the time of Mao.

KOREAN PENINSULA

The Korean War of 1950-53 was not a submarine war. Neither the North or South had any. The North was resupplied by land, so there were no enemy merchant ships for US submarines to sink. One US submarine that did participate was the USS Perch (SS-313), which had been converted to a special operations boat before the war. However, it was withdrawn after one mission because the US Navy decided a submarine was too vulnerable in that role. [11]

North Korea now has one of the world's largest, and oldest, attack submarine fleets. Starting with the Whiskey-Class from the Soviets in the 1960s and the Romeo-Class from the Chinese in the 1970s, the North embarked on a building program that has produced dozens of ROMEOs and mini and midget submarines. North Korea has already demonstrated that the age of these submarines is no obstacle to performing the special operations and torpedo attack missions they are likely to have in war.

In September 1996, a *Sang-o-class* mini ran aground off the South Korean coast after landing a special forces team. Unable to get free, the crew abandoned the boat and also went ashore. Thousands of South Korean troops were tied up in a 49-day hunt for the intruders. By the time the crisis was over, the North Koreans had killed 14

South Korean soldiers and civilians. [12] In March 2010, a North Korean submarine, probably a midget, torpedoed and sank the South Korean corvette Cheonan. [13] While the outcome may have been different in wartime if the submarine was being hunted, the incident demonstrated a credible capability.

North Korea's most recent submarine developments have focussed on a land-attack capability. Just like China used a *Golf-class* ballistic missile submarine (SSBN) for developing SLBMs, North Korea apparently exploited 10 ex-Soviet Navy GOLF's obtained for scrapping in the mid-1990s [14] to create the GORAE Class (SINPO Class in some sources) SSB, which appeared in 2014. In July 2019, North Korean TV showed Kim Jong-un inspecting a second SSB, a modified ROMEO with multiple missile tubes. [15] The North tested SLBMs in October 2019 and October 2021.

South Korea only had midget submarines until the 1990s, when construction began on variants of German Types 209s and 214s, known as KSS-I and KSS-II. These 18 boats give the South a modern fleet that can hunt the North's SSBs. The South is also building a land-attack capability with the locally designed *KSS-III*. Equipped with vertical launch tubes for cruise and ballistic missiles, the first unit is expected in 2022. Such a capability will be valuable for a future war that, like the Korean War of the 1950s, will be decided on land.

Successful submerged missile launch technology could increase the survivability of the North's nuclear deterrent, and adds a new dimension to the threat posed by the North's submarine fleet. But this is not a threat that the South will have to face alone. During tensions with the North in April 2017, US attack submarines reportedly deployed with their Japanese and South Korean counterparts to stop any attempts at nefarious activities by the North's attack submarines. [16] This episode is a likely preview of what to expect in a future Korean conflict.

INDIA AND PAKISTAN

India had no submarines when it went to war with Pakistan in 1965; Pakistan had the ex-USS Diablo (*SS-479*), renamed Ghazi. Although



Sango-class North Korean submarine aground in 1996.



DSME Launches 2nd Dosah Ahn Changho-class KSS III Submarine for ROK Navy.

Ghazi failed to sink the frigate it had hunted and shot at, it was an unnerving lesson for India. [17] By the time of the next war in 1971, India had four ex-Soviet Navy *Foxtrot-class* and Pakistan had added three French-built *Daphne-class*. Ghazi went on the hunt again, this time for the Indian aircraft carrier Vikrant. But Ghazi sank, possibly from an internal explosion. [18] Meanwhile, the *Daphne-class* Hangor became the first submarine since World War II to claim a kill when it sank the Indian frigate Khukri. Ghazi also engaged the frigate *Kirpan* and reportedly damaged it. [19] India thus had another reminder that the Pakistani submarine threat could not be ignored.

India and Pakistan have not clashed at sea since, but their submarine arms race continues unabated. In addition to obtaining the Kilo-class from the Soviets/Russians, India has worked with Germany to build Type 209s and with France to build the *Scorpene-class*. India's lease of two nuclear-powered submarines from the Soviets/Russians assisted in the development of a locally built SSBN, the Arihant, which was commissioned in 2016. More Indian SSBNs and a class of SSNs are planned. Pakistan replaced its *Daphne-class* with French Agosta-70s and now also has three *Agosta-90Bs*, two built locally. Pakistan also has arranged with China for the joint production of an export version of the *Yuan-class* (*Hangor-class* in Pakistan), with eight to be delivered in the 2020s.

To match India's SSBN capability, Pakistan has developed the Babur, a nuclear-capable, submarine-launched cruise missile. A second-strike nuclear capability on both sides could contribute to lowering tensions below the

threshold of a general war in a future conflict over Kashmir, which continues to be the most contentious issue on the subcontinent.

The vulnerability of India's long coastline to covert entry was demonstrated in November 2008, when 10 terrorists from Pakistan-based Lashkar-e-Tayyiba went ashore at Mumbai. They held out for three days, killing over 170 people. Better trained and equipped operatives from the Special Services Group, inserted by Pakistan's midget submarines, could be even more lethal. The Mumbai attack reportedly inspired India to acquire midget submarines for its commandos. [20]

BAY OF BENGAL

In November 2008, Bangladesh deployed three warships, including a frigate, in response to an incursion by Myanmar naval ships and



PNS HANGOR a permanent historical artefact commemorating the 50th anniversary of its sinking of INS KUKHRI, December 2021.



RSS INVINCIBLE Type 218SG-class submarine on its launch in 2019.

survey vessels, and the following month sent warships to counter an incursion by India. [21] Disputed ownership of three small, uninhabited islands in the Andaman Sea (Thailand's connection to the Bay of Bengal) resulted in naval confrontations and clashes in 1998 and 2003 between Myanmar and Thailand, and in 2013 a Myanmar patrol boat fired on a Thai fishing vessel. [22]

International arbitration settled Bangladesh's disputes with Myanmar in 2012 and with India in 2014. Ownership of the disputed islands remains unsettled, but this is unlikely to cause a war between Myanmar and Thailand. Both are members of the Association of Southeast Asian Nations (ASEAN), a consensus-driven group where even public criticism of another member is frowned upon. Given this relatively benign security environment, Bangladesh, Myanmar and Thailand appear as unlikely candidates for submarines.

The Bangladesh Navy achieved its goal of becoming a three-dimensional force when it commissioned two ex-Chinese Navy *Ming-class* in March 2017. Prime Minister Sheikh Hasina defended the purchase at the time by saying it was non-threatening to other nations and that the submarines would play a 'special role in the blue economy'. [23]

Myanmar followed suit in October 2020 with the arrival of an ageing, ex-Indian Navy *Kilo-class*. [24] Plans for the acquisition had been underway for years, with personnel sent to India for training in 2007. Envy of the neighbours was apparently a key motivation, according to Myanmar's Deputy Defence Minister, who said 'Our neighbours have submarines and we want them as well...' in May 2017. [25] Some Myanmar citizens were not impressed, derisively predicting on social media that the submarine would sink on its first voyage. [26]

Thai citizens have not been impressed by their government's decision to resurrect its submarine fleet. [27] Thailand had agreed

with China to acquire three *Yuan-class* S26T in 2015, and the first one has already been paid for. In 2020, an outcry erupted from the public and the political opposition over the cost of buying two more submarines during an economic slump. As of July 2021, the Royal Thai Navy had withdrawn the request to purchase the other two submarines. [28]

Similar to Myanmar, Thailand wants submarines to keep up with the neighbours. Scepticism is justified because Thailand already has form for naval white elephants. Its aircraft carrier, the *Chakri Naruebet*, has spent most of its time in port, where it also serves as a tourist attraction!

SOUTH CHINA SEA

Vietnam (as South Vietnam) fought China in the Paracel Islands in 1974 and at Johnson South Reef in the Spratly Islands in 1988. In 2014, dozens of Vietnamese and Chinese ships faced off, and some collided, over a Chinese attempt to set up an oil rig near the Paracel Islands. Vietnam then had just started the process of commissioning (completed in 2017) its six *Kilo-class* bought from Russia. If Vietnam's submarines had been ready, would it have used them?

In 1996, Chinese and Philippine naval vessels exchanged fire at Mischief Reef in the Spratly Islands. In 2012, Chinese and Philippine ships confronted each other at Scarborough Shoal, but there was no exchange of fire during the two-month stand-off. In June 2021, Philippine media reported that the country would have signed a contract for the acquisition of submarines if funds had not been diverted to the Covid-19 response. [29] If the Philippines ever acquires a submarine, would it be used over a territorial dispute?

Chinese, Malaysian, and Vietnamese ships faced-off for six months in 2020 over a Malaysian exploration ship in disputed waters. At

the time, Vietnam had its full complement of Kilos, and Malaysia had its two French-built *Scorpenes*. But it is unlikely that any of the countries involved considered submarines as an option to resolve the issue.

ASEAN issued a joint statement with China in June 2021 that called for 'self-restraint' and 'peaceful resolution of disputes'. [30] This reiterated a November 2002 code of conduct agreed between ASEAN and China regarding the South China Sea. Diplomatic language aside, the military imbalance between individual ASEAN countries and China, as well as the growing trade relationship between the two, makes war an unlikely answer to territorial disputes.

Indonesia acquired 14 ex-Soviet Navy *Whiskey-class* by 1962 and is the longest continuous operator of submarines in Southeast Asia. Those submarines were used to land raiders on West Papua, which was under Dutch rule until 1963. [31] Indonesia's fleet has greatly reduced in size since, with only one German-built *Type 209* and three *Type 209* variants now in service. Two of the latter were built in South Korea and the third was assembled in Indonesia. However, when it comes to confronting China over fishing in Indonesia's exclusive economic zone near the Natuna Islands, Indonesia responds with surface ships and aircraft.

Singapore began its submarine relationship with Sweden in the late 1990s and took delivery of four ex-Swedish Navy SJOORMEN Class. These were followed by two ex-Swedish Navy *Västergötland-class*, and Singapore is now in the process of procuring four *Type 218SG* from Germany, to be known as the Invincible-class. Singapore is not a claimant in the South China Sea. But it is unique among ASEAN nations, with a small population on a tiny island, heavily dependent on maritime trade and surrounded by large and populous neighbours. Singapore knows that self-reliance is key to its defence.

SO WHO REALLY DOES NEED SUBMARINES IN THE INDO-PACIFIC?

Australia's 2020 *Defence Strategic Update* stated that while 'the prospect of high intensity military conflict' in the region is 'less remote than in the past', it is 'still remote'. [32] However, there is enough unpredictability in the region to require defence preparedness, and for some Indo-Pacific nations, that includes a modern submarine fleet.

Australia is not a direct party to any of the region's potential conflicts, but its extensive maritime interests and the expectations that come with regional defence partnerships make it imperative for Australia to avoid a submarine capability gap.

The argument for submarines is less persuasive for Bangladesh and some Southeast Asian countries. Submarines are excellent weapons of war, but maritime boundary disputes are better addressed by highly visible and menacing surface warships. Surface ships can also handle other aspects of maritime security that submarines cannot, such as catching poachers or stopping pirates.

The best argument for some Indo-Pacific navies wanting to operate submarines is the hope that even one submarine could create fear and uncertainty in an opponent during war. The captain of the *Hangor* believed that his actions deterred the Indians from making a third attack on Pakistan's naval base at Karachi in 1971. [33] The sinking of the Argentinian cruiser *General Belgrano* by a submarine in the 1982 Falklands War kept the Argentinian fleet, including, crucially, its aircraft carrier, in port for the rest of the war. And if the

torpedo firing system on Argentina's lone operational submarine, the *San Luis*, had worked properly, the course of that war may have been different. [34]

The challenge for Indo-Pacific submarine fleets with limited budgets and resources is whether they can maintain a credible capability while waiting for their Falklands moment. ■



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U.S. NAVAL POWER IN PERMANENT DECLINE?

Writing recently, James R. Holmes (J. C. Wylie Chair of Maritime Strategy at the Naval War College) commented:

If the impression that the U.S. Navy is in terminal decline takes hold among antagonists such as China and Russia, it could tempt them into adventurism from the Taiwan Strait to the Black Sea to the Arctic Ocean.

The Heritage Foundation in its 2021 Index of U.S. Military Strength, which rates the Navy's adequacy unto its missions as "marginal" trending toward "weak."

He went on to say, there's not a whole lot new in the report for navy-watchers apart from its startling verdict. Long story short, the Heritage researchers deem the USN:

too small, too old, and too ill-resourced for an age when ambitious great-power rivals prowl the seven seas.

They say the USN needs to bulk up by about a third, from just under 300 to 400 ships, to adequately cope with its duties. Otherwise, it will continue trying to do more and more with an aging fleet that's middling in size and stagnant in numbers. It will wear itself out.

Writing before the Russian invasion of Ukraine, Holmes commented: "observers could be forgiven for detecting a pattern. And if they do? They might infer that competence is on the wane in the Navy and

that, as a result, the United States is less and less able to keep its security commitments to allies and friends. After all, the finest weapon is no better than its wielder. Warships with incompetent or apathetic crews underperform.

If the impression that the U.S. Navy is in terminal decline takes hold among antagonists such as China and Russia, it could tempt them into adventurism from the Taiwan Strait to the Black Sea to the Arctic Ocean.

Deterrence would fail

...if Beijing or Moscow concluded it could pursue predatory aims with little fear of pushback from Washington.

If allies and partners came to doubt America could keep its solemn commitments to them, they would look elsewhere for security. Self-help is the most basic principle in international relations. Allies that saw the United States as untrustworthy might launch into an arms race with overbearing neighbours in hopes of restoring some semblance of military balance. Some might even contemplate building nuclear weapons to deter large-scale aggression.

He concluded:

The United States's strategic position in East and South Asia and Western Europe would grow ever more tenuous as allies distanced themselves from their superpower patron.

WASHINGTON-BASED NAVAL ATTACHÉS ASSOCIATION BANS TAIWAN JOINING THE ORGANISATION

China's efforts to isolate Taiwan internationally bore fruit in Washington after a Washington naval association kowtowed to Chinese pressure and banned Taiwanese naval officers joining the group (Jan 2022).

The Washington-based Naval Attachés Association (NAA) rescinded an invitation for Taiwan to join the organisation, which includes officers from US allies, after China rejected the application. Subsequently, the US Navy has banned officers from attending NAA events. Carlos Del Toro, Navy secretary, in December said:

it did not support China's "coercive tactics" and opposed efforts to "manipulate independent organisations".

As reported in *The NAVY*, China often leans on governments, NGOs, companies, and the media to deny Taiwan's sovereignty. The NAA case was an example of it forcing a group in the US to sever ties with the island.

The NAA in mid-2021 had agreed to a membership request from the Taipei Economic and Cultural Representative Office, Taiwan's de facto embassy in the US.

"We had tried for a long time to participate in the NAA, so we were really pleased when this came through, and we even got as far as paying our annual dues," a senior Taiwanese government official stated. The effort collapsed after the NAA invited three



USS BONHOMME RICHARD (LHD-6) Towed to Shipbreaker for scrapping (May 2021).



F-35B Lightning fighters operating from HMS QUEEN ELIZABETH (R08) Jul 22.

Taiwanese officers to attend an event on September 8. Captain Zhang Meng, China's naval attaché, replied to the invitation with a furious demand that the Taiwanese officers be disinvited, and Taiwan be removed from the membership list. Zhang wrote:

It is outrageous to note that three Taiwan military personnel are invited

Should the Taiwan personnel not be delisted off the NAA list and the invitation not be revoked, there is no doubt that your military personnel in Beijing will be adversely affected.

The USN moved to suspend participation in NAA events could render the club pointless because its main activities are networking with US officers. The NAA website recently ceased to function. Previously, it showed that three breakfasts scheduled after the September event that would have featured top US officials as speakers had all been cancelled.

END ISOLATION OF TAIWAN

The former Australian prime minister Tony Abbott told the president of Taiwan he hopes his visit to the democratically ruled island will help end its isolation from the international community.

Abbott met Tsai Ing-wen at the presidential office in Taipei, noting:

China's recent incursions into Taiwan's air defence zone made it even more important that "fellow democracies stand shoulder to shoulder with you".

It is in large measure to try to help to end this isolation from which Taiwan has been suffering for so many decades that I am here in this country and I do hope that this will be the first of many visits.

The Chinese embassy in Canberra responded:

Tony Abbott is a failed and pitiful politician. His recent despicable and

insane performance in Taiwan fully exposed his hideous anti-China features. This will only further discredit him.

THE NAVY

The NAVY has previously extended to Tony Abbott the opportunity to write an article for the journal. It does so again. Early last year, *The NAVY* offered the *Taipei Economic and Cultural Office in Canberra* (the erstwhile Taiwan Embassy) the opportunity to provide an article on the ROC Navy. As for papers on the Japanese and Israeli navies. It does so again. *The NAVY* will continue to cover and support Taiwan and provide detailed regional coverage, as it has since 1938.

BOEING P-8A FOR RNZAF

Boeing P-8A and Spirit AeroSystems employees laid the keel beam for the first of New Zealand's P-8A *Poseidons*. See back page. The process known as 'keeling,' was done at the Spirit AeroSystems facility where all Boeing 737 fuselages, nacelles and pylons are designed and built.

Rosemary Banks, New Zealand's ambassador to the United States, who was at the keeling said,

"Today's keeling ceremony is the beginning of a new era for New Zealand's maritime patrol and response capability. Our four P-8A *Poseidons* will better equip our defense forces to extend their reach into the Pacific and beyond, working with our partners and friends."

"The excitement of seeing this come together was contagious," said Brian Stuart, P-8 program manager for New Zealand:

"Not only are we kicking off the journey to the first New Zealand P-8A delivery, but we are strengthening our relationships with suppliers like Spirit as well as our U.S. Navy and Royal New Zealand Air Force customers."

In total, four Boeing P-8A Poseidon maritime patrol aircraft will eventually replace New Zealand's current fleet of six aging P-3K2 Orion aircraft providing advanced capabilities to maintain situational awareness in neighbouring waters on and below the surface of the ocean.

The New Zealand Defence Force is a P-8 foreign military sales (FMS) customer and is one of eight global customers. Current P-8 operators include the U.S. Navy, the Royal Australian Air Force, the Indian Navy, United Kingdom's Royal Air Force and Norway's Royal Norwegian Air Force.

The global operating P-8 fleet has amassed more than 400,000 flight hours. The P-8 is a long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance and reconnaissance aircraft capable of broad-area, maritime and littoral operations. In addition, the P-8 performs humanitarian and search and rescue missions around the globe.

CHINESE BASING SI

In a leaked draft it has become clear that the unpopular Solomon Island Government (against whom protests were mounted) has entered into treaty discussions with China for PLA Navy basing. Placing Brisbane in direct range of ballistic missiles (1400nm). Concerns were raised previously, noting New Zealand's position with respect to both China and the SI.

GREENWHICH STATION

We're going to need a bigger Navy

The House of Commons Defence Select Committee, Third Report of Session 2021–22, Dec 21, concluded that the UK was going to urgently need a larger navy.

Witnesses consistently identified Russia and China as the main adversaries in the maritime domain (as well as elsewhere).



Rear Admiral Burton and Dr Kaushal both agreed that:

“the foremost threat is clearly the pacing threat posed by Russia.”

However, Dr Kaushal, among others, warned that in a 10-year timeframe China could overtake Russia to become the primary challenge as it is economically more dynamic.

Geoffrey Till, Professor of Naval History and Strategy, US Naval War College, agreed, and noted the interaction between the two, saying:

Coping with the slightly longer term Chinese global challenge will position us well to deal with the immediate regional challenge posed by Russia.

Although the potential for high-end warfighting with these and other adversaries persists, former Chief of the General Staff, Lord Houghton told the committee:

“It is the grey-zone threats that are the up arrow.”

This is specifically true of the Indo-Pacific, where the Government intends to increase the UK’s presence in the coming decade.

Former Australian Defence Minister Christopher Pyne and Professor Tetsuo Kotani, Professor of Global Studies, Meikai University, described the region as being more dangerous than five years ago. They warned (before the Russian war on Ukraine) that:

China would use grey zone activity to expand its jurisdiction in neighbouring waters, even though the likelihood of China taking direct military action against a UK or allied vessel or using force against a neighbouring country was “extremely limited.”

The Committee was told that the offensive focus is shifting from individual vessels’ power to the fleet’s overall ability to deliver capabilities and execute a “kill chain” (the actions required to locate and destroy an adversary) through a variety of assets. Professor Jonathan Caverley, Professor of Strategy, US Naval War College, stated:

This might be obvious to the Committee, but it bears repeating. You can have every tube in a ship full, but if you can’t close the kill chain with sensing, computing and command and control, there is no point to it.

Every missile is very expensive, not just because the missile is expensive, but because the reconnaissance strike complex needed in order to get that missile where it needs to go needs to be invested in as well.

Professor Steven Haines, University of



Ukrainian sailor Roman Gribov tells invading Russian warship to go F[OXTROT] yourself – before the attack on Snake Island and his probable death.

Greenwich, (Commander RN, (Rtd.)) noted that:

Navies traditionally had four notable functions in war and peace that were well-defined in naval doctrine...

1. controlling the sea,
2. projecting power from sea to land,
3. interdicting or defending trade, and;
4. maritime constabulary duties like preventing piracy or illegal trade and fishing].

The first are essentially wartime roles while the fourth has been regarded as essentially a peacetime activity.

Here one must acknowledge that the clear traditional distinctions between ‘war’ and ‘peace’ seem no longer to be appropriate, with so-called ‘grey-zone’ and ‘hybrid’ forms of warfare presenting clear challenges at and around the ‘threshold’.

Professor Jonathan Caverley stated:

The point of a navy is to go to sea in war and in peace.

What makes navies unique from other services is the vast and massive peacetime role they play.

It is somewhat counterintuitive, but maritime territory has a terrain. There is really no substitute for being in the region.

The water looks the same everywhere, but the Pacific works differently to the Atlantic.

The inquiry identified a number of areas where there are existing gaps in capability or potential gaps in the very near future:

- Unclear plans for F-35s and the aircraft carriers;
- Limited lethality;
- Improving digital connectivity;
- The future of the Royal Marines;
- Submarine numbers; and
- Limited Resource Budget.

Professor Caverley stressed the importance of defining how the aircraft carriers will be used, as this would determine what other vessels would be required in the fleet.

It is unclear whether the Royal Navy will procure enough aircraft to effectively deliver the full planned capability. According to Lockheed Martin:

Once 48 aircraft are delivered, the MoD could routinely deploy 24 F-35B aircraft for CEPP, whilst continuing to provide a training squadron. However, this fleet size leaves little resilience, and would not allow the UK to meet the full capacity of a single carrier (36 jets) without impacting training throughput.

Lockheed Martin assesses that 70 to 80 F-35B aircraft are required to deliver a credible and resilient CEPP capability, throughout the life of the Queen Elizabeth Class carriers (to 2068). ... It would allow 48 F-35B aircraft routinely to be available for CEPP.

The Committee believe the actual number of F-35s required to be higher, as it must allow for a greater attrition rate than is probably expected.

Admiral Radakin told the committee that the Navy was considering how to provide a second carrier air wing, potentially composed of a hybrid force of jets and drones and modelled on the RAF’s Project Mosquito and Lightweight Affordable Novel Combat Aircraft (LANCA) concept.

It is the view of *The NAVY* that, as the RAN pivots towards becoming a similarly sized navy as the RN, many of the lessons identified by the Defence Select Committee apply equally to the ADF. ■





STRATEGIC MERCHANT MARINE

Anthony Albanese announced a plan to be guided by a taskforce that would determine the number and mix of vessels required strategically by Australia's Maritime Marine. It is expected to include tankers, cargo, container and roll-on roll-off (for transporting vehicles) and ships.

He indicated that Labor's revised plan would create a "strategic fleet" of ships that could be called on in times of national crisis or natural disaster.

Over 98 per cent of Australian exports and imports reliant on shipping trade, the opposition hopes its plan to have about a dozen Australian-flagged commercial vessels available if needed would strengthen the nation's economic sovereignty.

The policy closely parallels Bill Shorten's plan which Labor took to the 2019 Federal election, when he stated:

"it was a disgrace the number of Australian-flagged ships had shrunk to 14 over the past three decades".

Prime Minister Scott Morrison dismissed the proposal at the time "as being driven by union demands". Subsequently, National Party Leader Barnaby Joyce has given support to the strategy as reported by The NAVY and Anthony Albanese:

"I know that many people in the Coalition, including the National Party Leader, Barnaby Joyce, have spoken about the importance of having a domestic shipping industry here in Australia as well."

Federal Labor will take a policy to the election (expected now to be held in early May) to:

- establish an Australian "strategic fleet";
- in a bid to ensure vital imports are secure.

Mr Albanese went on to say:

"In times of conflict and crisis, our economic sovereignty and national security are dependent on Australian seafarers working on Australian ships,"

"Right now, less than one per cent of Australian seaborne trade is carried by Australian ships, forcing our nation to rely on foreign governments and companies for our essential imports."

Shipping Australia while continuing to back the idea of a "strategic fleet", maintains that the existing international commercial maritime fleet as fulfilling this role. This was before Ukraine and the potential separation of the world's trading blocks into two separate financial and supply / logistics chains. The more so if the war in Ukraine spills over into the Indo-Pacific region. Which appeared likely, if Russia had



P&O ferries suspends operations from Dove and other UK ports.

succeeded in conquering Ukraine in the first three days.

The position taken before Ukraine worked for so long as the logistics chain could be trusted from end to end. That is no longer the case. Hitherto simplistic equations (on the basis of 1:10 currency manipulated Chinese labour costs) used by accountants to justify outsourcing will need to be rethought. This should be an opportunity for the West to drive through automation, AI, and Quantum infotechnologies – based on retaining strategic skills and sovereign capabilities in the workforce. As allowed for within the WTO and the UN, for reasons of self-defence; industrial, food, energy and supply security.

Insourcing, as for the ADF and APS, will need to be re-conceptualised. In order to balance against the ravages of extreme-outsourcing (of knowledge and assets – including universities) practiced by the accounting consultancy companies over the past 30 years. Insourcing will be a critical policy for the restoration of Australia's Maritime Marine. It will need to include the unions – moving them to the thinking needed by the 4th Industrial Revolution (2016-) and out of the 1970s.

Anthony Albanese concluded:

"having domestic ships, the government knew it could rely on would ensure ongoing access to fuel supplies and other essential imports."

The taskforce is expected to include shipping industry, major charterers, unions, business and Defence representatives. The question is has Labor or the LNP got what it takes to lead such change across all political, military, industrial, economic complexes? There is considerable doubt that any of the current crop of elite professional politicians and their media-techs – from all sides – have what it takes.

P&O FERRIES SACK 800 STAFF BY ZOOM

UK Labour has condemned the decision by P&O Ferries to sack all of its sailing staff with immediate effect in favour of agency staff during a Zoom call on Thursday morning.

Labour's Shadow Transport Secretary Louise Haigh said:

This scandalous action is a betrayal of the workers that kept this country stocked throughout the pandemic. Unscrupulous employers cannot be given free rein to sack their workforce in secure jobs and replace with agency staff.

The Conservative government must not give the green light to this appalling practice and must act to secure the livelihoods of these workers.

Following the announcement, P&O said its services will not operate for the "next few days" and advised passengers to use other companies.

UNISON's Christina McAnea said P&O's "reputation will not recover from this" and expressed solidarity with the maritime professionals union Nautilus International, which urged its members "to stay onboard until further notice".

RMT reported that security guards with handcuffs have boarded ships at Dover to remove crew. "We are seeking urgent legal action and are again calling for the government to take action to stop what is fast turning into one of the most shameful acts in the history of British industrial relations."

Perhaps Australia should start recruiting British seafarers immediately? Not for the first time... ■

BACK TO THE FUTURE: THE RE-EMERGENCE OF THE RUSSIAN SUBMARINE THREAT

By Mark Schweikert

It has been spoken about in folklore reverence that during the late 70's a 'submarine' was chased out of Jervis Bay on the NSW South Coast, deep inside Australian territorial waters. The fact an unknown submarine could get this far and use speed to escape would indicate a nuclear-powered submarine, and, given the reconnaissance efforts of the Soviets during the Cold War – Jervis Bay's use by the RAN would have made it a prime target of reconnaissance – one could safely surmise it was Russian. So, while we haven't been that interested in Russia, Russia has been interested in us. And still is.

INTRODUCTION

Despite the fact that a permanent reminder to potential Russian aggression towards Australia sits in a most prominent position in Sydney Harbour (Fort Denison), and has so since 1857, the threat has really only been thought of once.

Many may recall the 'Whisky on the Rocks' incident in Sweden near one of their important naval bases in 1981 to get a sense of how vitally important the Russians felt undersea reconnaissance of adversary naval bases and activities was.

In fact, when the author boarded an ex-Soviet *Foxtrot-class* submarine on its arrival in Sydney Harbour in the 1990s to be converted into a museum ship for the National Maritime Museum, he discovered, stuffed behind a communications console, a catalogue detailing Soviet naval charts of the Australian coastline.

In November 2014, a Russian Naval surface action group centred on the battlecruiser VARYAG entered the Coral Sea to support President Vladimir Putin's presence at the G20 summit in Brisbane. Despite the vessels sailing past South Korea, Japan, Taiwan, the Philippines and Indonesia, it is reported that the ADF was unaware of the approaching group until it reached Papua New Guinea. Without any major naval assets in the northeast of Australia, Navy had to 'crash sail' two Anzac class frigates from Sydney north to shadow the Russians.

In January 2016, two Russian ships delivered arms and combat equipment to the Royal Fiji Military Forces in Suva as well as a team of 'trainers'.

In May 2018, a Russian naval vessel visited Port Moresby for the first time, with rumours that it also delivered arms.

In recent years, the Russian Miklouho-Maclay Foundation has been increasingly active in Papua New Guinea. Russia has also made diplomatic overtures to several other Pacific Island countries seeking recognition of the Georgian breakaway states of South Ossetia and Abkhazia.

In December 2017, two Russian Tu-95MS 'Bear' strategic bombers and two IL-76MD transport aircraft visited Biak Island in Indonesia's Papua province, which is only 540 nautical miles from the Northern Territory.

Just before the last APEC conference in Port Moresby the Russian Navy sent a 'training ship' to Moresby Harbour on a good will visit. Free internet access by locals in Port Moresby was said to be never better.



The new *Yasen-class* SSN SEVERODVINSK.

So, the Russians are interested in this area and have steadily been building knowledge and influence. Australia must take note.

NAVY ORIGINS

Prior to and during World War II, the Soviets used their army to support foreign policy. In Europe for example, the threat posed by Nazi Germany was land based, so Soviet defence measures were focused on land-warfare. The navy was little more than a coastal defence force, a supporting adjunct of the army at best.

It was incapable of projecting naval strength on the high seas and relied on its war time allies, principally the Royal Navy, for sea control and sea borne logistics. Although the Soviet Union emerged from World War II as a superpower, it remained preoccupied with the land-based issues.

Soviet occupation of Eastern Europe after the war transformed that region into a buffer zone. Its intent was to prevent the West using the area to apply strategic pressure to the Soviet Union and assist Soviet efforts to forestall consolidation of the European continent by opposing Germany's political and military integration into Western Europe.

However, Stalin's death in 1953 marked the beginning of a new strategic reorientation and reappraisal of Russia's security. In 1954, the Soviets were able to admit to themselves that their policy towards Germany and Western Europe had failed. So, in 1955 they



'Whiskey on the Rocks'. In 1981 a Russian *Whiskey* class SSK ran aground during a deep incursion into Swedish waters to conduct intelligence gathering on a Swedish Naval Base.

normalised relations with West Germany. This defusing of the German issue led to a further reorientation and reordering of Soviet priorities, which now favoured the development of naval power.

In 1956 Admiral Sergei Gorshkov was appointed head of navy. He was a strong proponent of submarines and small missile armed boats. Gorshkov viewed U.S. post-war foreign policy as anti-Soviet and maritime in nature. Knowing sea control was out of the question against the might of the U.S. and Royal Navies, he concentrated on a sea denial strategy, the submarine being the key weapon to achieve that aim.

SUBMARINES

During the Cold War the Soviets had the largest undersea fleet of any nation. It was also the most varied by type, mission and class. Diesel electric attack submarines (SSK), diesel electric ballistic missile submarines (SSB), nuclear-powered attack submarines (SSN), nuclear powered cruise missile submarines (SSGN) and nuclear-powered ballistic missile submarines (SSBN). Each type consisting of several classes and makes of boat. Most were deployed at sea in German U-boat fashion, being barrier patrols to interdict and destroy ships on supply lines or naval assets threatening the Rodina (Motherland).

Given the Russian Navy's heritage stems from their army, their submarine operations and tactics have adopted some land warfare hangovers, including boat design philosophies. For example, undersea terrain is as important to Russian submariners as terrain is to their land counterparts. This is why the Soviets spent a considerable amount of effort during the Cold War mapping the sea floor, particularly the Atlantic, in order to use terrain to tactical advantage.

Another land hangover is their undersea concept of cooperation and mutually supporting units. Much like land units supporting each other, Russian submarines tended to 'cooperate' with other submarines and surface ships more so than their western counterparts. Large *Echo*-class SSGNs would wait like artillery for 'fire orders' from another unit before surfacing and unleashing their deadly missile load.

Other tactics involved using noisy and quiet submarines together in order to attract western submarines to the noisy one while the quieter sub sniped/ambushed the attacker. Submarines would also operate with surface ships in combined/mutually supporting operations. The ships would provide air defence and situational awareness to nearby submarines while the submarines provided ASW (Anti-Submarine Warfare) and anti-surface support.

This heritage has given them a different outlook and thus different motivation to the West in innovation and technology advancements to submarine design and construction. For example, many Soviet submarines were double-hulled. This was to act as underwater armour against western torpedoes, like a tank's armour.

But since the collapse of the Berlin Wall, the once proud, mighty and much feared Russian submarine arm has declined, at least in numbers. Its technology and innovation prowess has however, continued, if not seen a resurgence.

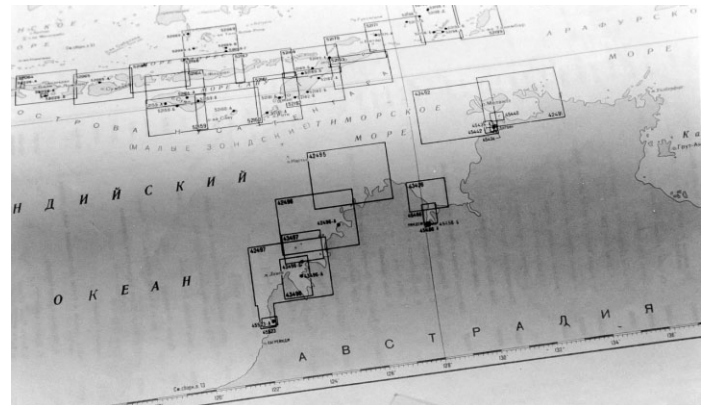
While the number and varied types of submarines have declined, the quality and utility has not, which is giving many in the West pause for thought again.

Gone are the *Foxtrot* and *Tango* SSKs; as has the *November*, *Alfa*, *Charlie* I-II and *Victor* I-II SSNs; the *Echo* I-II class SSGNs; the *Yankees* and *Delta* I-II SSBNs, with only one *Typhoon* class SSBN remaining out of six (although only used as a test platform).

The arrival of the *Sierra* and *Akula* class SSNs during the end of the Cold War signalled a step change in Russian quietening technology for their submarines. Which has only improved with the latest designs.

The submarine arm remains the main offensive arm of the Russian Navy (about 60 vessels) as the cost of new large warships is not only prohibitive but out of the current industrial capability of modern Russia, given most of these large vessels were built in the now independent state of Ukraine.

Thus, the modern Russian Navy has more of a frigate-based outlook for surface operations, but is still pressing ahead with advanced submarines. Much like Gorshkov's original plan for the navy.



An image of a page from a Soviet era catalogue detailing Soviet naval charts of the Australian coastline discovered behind a communications console on a decommissioned *Foxtrot*-class SSK.

THE YASEN AND YASEN-M

Given Australia's recent decision to acquire nuclear-powered submarines, and taking into account their speed, endurance and range, it is highly likely they will come into contact with Russian submarines. Most likely the new *Yasen*-class. Lead ship being named SEVERODVINSK.

In a 2019 U.S. 60 Minutes interview, then Commander of United States Naval Forces Europe-Africa and Commander of Allied Joint Force Command Naples Admiral James Gordon 'Jamie' Foggo III, an accomplished and experienced submariner in his own right, said he is 'particularly concerned with the SEVERODVINSK'.

Unnamed Pentagon sources have said, in a scene reminiscent of the Tom Clancy thriller *The Hunt for Red October*, that 'the SEVERODVINSK recently just vanished from view of the USN submarine sent to shadow her'. All NATO efforts to find her over the month she was out proved futile.

SEVERODVINSK (K 560) is the first of the *Yasen-class*. Three more boats, designated *Yasen-M* (Modified), are currently in the water, KAZAN (K 561), NOVOSIBIRSK (K 573) and KRASNOYARSK (K 571). The latter two deployed to the Pacific Fleet. The final number of boats is thought to be 10.

The 'M' version is smaller than the first (*Severodvinsk-class*) and able to be built in half the time, which could indicate Russia's ability to cut building costs and schedule without compromising on quality. The M is also nine metres shorter and requires less crew, 85 for *Yasen* vs. 64 for the M variant.

Despite being larger than an *Akula-class* SSN, the *Yasens* break Russian submarine design tradition by being single hulled. Which gives them considerably more internal space than previous Russian designs.

In addition to a reduction in berthing, the incorporation of a smaller fourth-generation KTP-6 monoblock nuclear reactor has

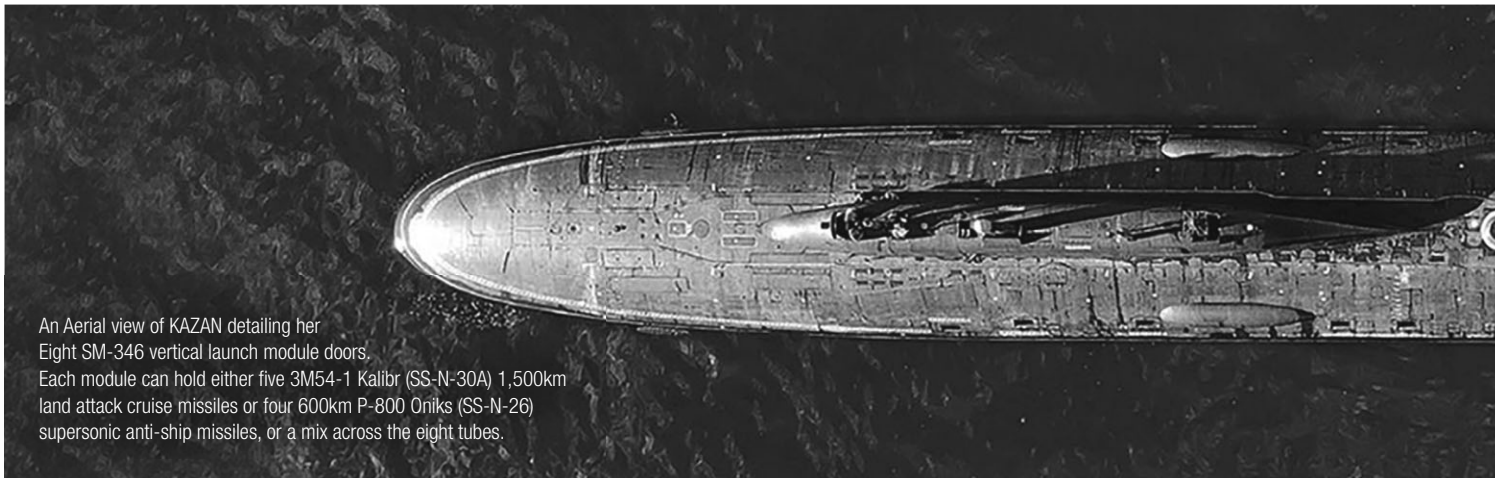
This shift of mission from previous SSNs like the *Akula*, which are primarily optimised for the ASW and anti-ship role, towards a concept closer to a multi-mission Western SSGN, is indicative of a shift in the way that Russian submarines will contribute to future campaigns.

Long-range strike missions appear to be superseding sea lines of communication (SLOC) interdiction and/or ASW as primary tasks. This may necessitate a change in how the West manages the challenge and the threat posed by this new multi-mission class.

Eight SM-346 vertical launch modules are fitted to the class aft of the sail. Each module can hold either five 3M54-1 Kalibr (SS-N-30A) 1,500km land attack cruise missiles or four 600km P-800 Oniks (SS-N-26) supersonic anti-ship missiles, or a mix across the eight tubes.

These missiles provide the class with significant land attack and anti-ship capabilities at long range.

Perhaps of most concern, is the new hypersonic 3M22 Zircon



An Aerial view of KAZAN detailing her Eight SM-346 vertical launch module doors. Each module can hold either five 3M54-1 Kalibr (SS-N-30A) 1,500km land attack cruise missiles or four 600km P-800 Oniks (SS-N-26) supersonic anti-ship missiles, or a mix across the eight tubes.



Two Russian Bears sunning themselves on Biak Island in Indonesia's Papua province, not far from Darwin.

also reduced the length. The *Severodvinsk-class* uses an older OK-650 series reactor as found in the Oscar-II SSGN and *Sierra* SSN submarines.

In addition to compactness, the new-generation reactor, with a 25-year core life, does not require constant running of coolant pumps (a major source of noise). This feature alone contributes greatly to the stealth of the class, meaning KAZAN and her sisters will surpass the SEVERODVINSK (already the quietest in their fleet) in terms of their ability to evade acoustic detection, even at 20 knots.

Apart from being extremely quiet hunter-killer submarines, the *Yasens* all have the capability to launch a range of anti-ship and land attack missiles.

anti-ship cruise missile which will be incorporated aboard the *Yasens*. With a reported speed of Mach 8+, the Zircon has the potential to overwhelm shipboard air defences by denying them the time to react.

The *Yasens* have ten canted out 533mm and six 324mm torpedo tubes. The later for torpedo countermeasures weapons. The number of torpedoes is unknown, but with more internal space this could be quite high.

The *Yasen-M* boats are fitted with a conformal array sonar, as opposed to a spherical sonar suite on the SEVERODVINSK.

This system represents a significant improvement on preceding Russian designs as it allows a larger surface area for hydrophone arrays, and thus greater array gains in passive mode compared to the older spherical array sonar configuration.

While the USN's *Virginia-class* SSNs are viewed as leading state of the art technology, the multi-mission *Yasens* represent such a change in Russian submarine technology that many naval commentators in the US are calling for a new class of SSN to counter it.

THE BOREI SSBN

Another major advance in Russian submarine technology and capability is the new 19,000 tonne *Borei-class* SSBNs. Fourteen of which will eventually replace the older Delta II- III SSBNs. Five are already in the water, with at least two belonging to the Pacific Fleet.

The *Borei* Project 955 class programme was first initiated in 1982, but suffered funding issues then technical difficulties in missile development. The first of class was laid down in November 1996 with a new submarine launched ballistic missile (SLBM) being developed

from the existing SS-27 *Topol-M*, now known as the RSM-56 Bulava. Bulava being the Russian word for mace.

The boats carry 16 SLBMs each with 10 multiple re-entry vehicle warheads of approx. 150 kilotonnes each, with a range of 8,400kms. Accuracy is said to be approximately 200m.

The missile has three stages. The first and second stages use solid fuel propellant, while the third stage uses liquid fuel to allow high manoeuvrability during warhead separation. The missile can be launched from an inclined position, allowing the launch submarine to fire while moving. It has a low flight trajectory and rumoured to possess advanced anti-ballistic missile defence evasion capabilities.

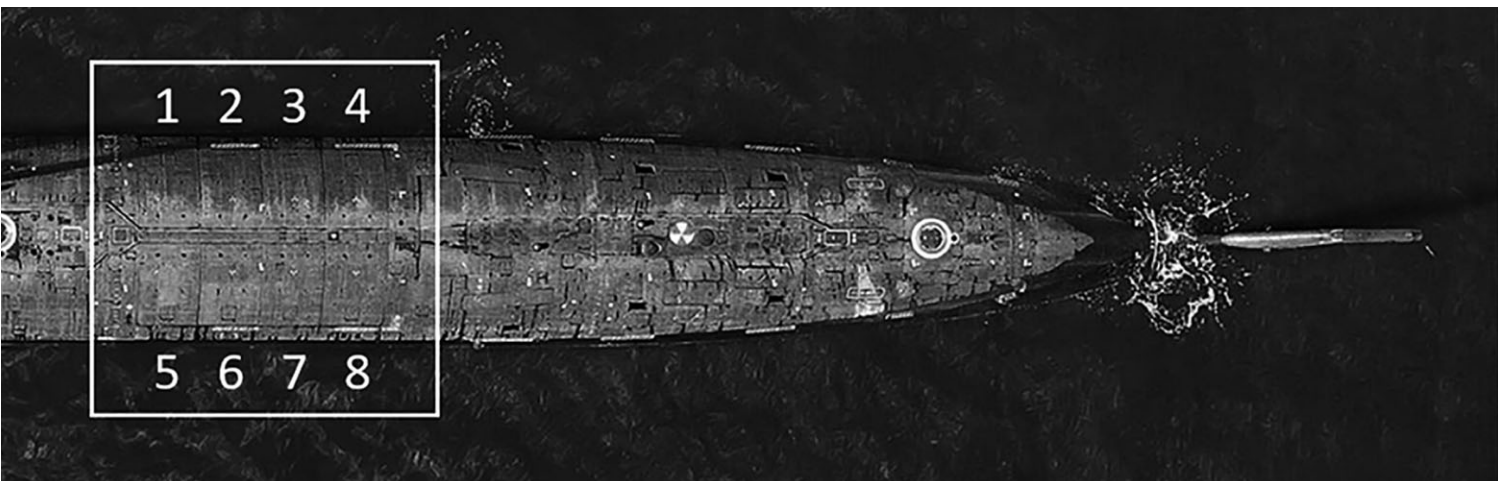
The submarine includes the bow and stern pressure sections and propulsion train of an *Akula II* class SSN. The *Boreis* are also the first Russian nuclear-powered submarines to be equipped with a pump-jet propulsor for a top speed of approx. 30+ knots and an even quieter movement through the water. The nuclear power plant

The BELGOROD is a new and somewhat frightening shift in the Russian underwater order of battle representing a strategic shock to the West. At nearly 30,000 tonnes she is the largest submarine built since the Typhoon SSBNs and currently longest submarine in service.

This single submarine (at the moment) was to be an *Oscar II* class SSGN, but had a redesign at the last minute to a 'special operations vessel'. Gone are the 24 launch tubes to make way for 'special payloads'.

The first consists of a small nuclear-powered mini-submarine for intelligence gathering and exploitation or destruction of deep undersea communications cables (nearly 99% of the world's communications – phone, internet etc - are conducted through cables, not space).

This mini-sub, known as a LOSHARIK, is reminiscent of a land based 'combat engineer' capability as its mission is classified as



consists of an OK-650B Pressurised Water Reactor producing 190 MW, as on the first *Yasen-class* SEVERODVINSK.

Diving depth is said to be approx. 450 m.

Like the *Yasen-M* class, the *Boeri-class* are fitted with a conformal bow and flank array sonar suite for even better passive sonar performance as well as under ice, mine avoidance sonars and a towed array.

The class has four 533mm torpedo tubes for self-defence with an unknown number of weapons embarked.

The most recent *Borei* has had some cosmetic changes to its outer casing which can be expected to continue in the follow-on boats to improve flow noise over the hull. KNYAZ VLADIMIR also features a different sail profile, faired into the hull at its root and not inclined forward as per the earlier boats, and the upper casing has been changed and now features a smooth profile. It also has a revised tail arrangement with fully-moving rudders and the towed array duct moved from the top of the fin to the horizontal stabilisers.

FURTHER ADVANCES

Three Russian submarines not covered in depth by this article but of concern are the upgraded *Oscar-II*, *Belgorod* and *Khabarovsk* classes.

The seven *Oscar II* class are massive 20,000 tonne SSGNs. Originally designed to carry 24 large SS-N-19 Shipwreck anti-ship cruise missiles (ASCM), the class has been recently modified to take up to 72 smaller 3M-54 Kalibr or P-800 Oniks supersonic anti-ship missiles with advanced seeker and counter jamming capabilities compared to the 'Shipwreck'.



The KAZAN, a modified *Yasen-class* SSN, leaving port.

seabed warfare. It's designed to tap or destroy undersea gas and oil pipelines, internet links, military communications links and undersea hydrophones listening for submarines, the later paving the way for follow-on naval forces.

Another payload is an unmanned underwater vehicle (UUV) for reconnaissance and mine laying. She also has the capability to host a special forces deck hangar for bulky equipment like swimmer delivery vehicles.

The last payload is a rather sinister new type of mega weapon with no known counter. Known in Russia as Poseidon (NATO codename Kanyon), this torpedo is up to 24m long and 2m wide. It is thought to displace about 100 tonnes and is nuclear-powered with a nuclear warhead of approximately 150 Mega-Tonnes. It is covered in

anechoic tiles and fitted with a pump jet propulsor, making it extremely hard to detect. It can approach its target at very slow speeds to evade detection and then accelerate to 60kts +. It can also transit at a depth of 1,000m.

Being nuclear-powered the torpedo has unlimited range and can be launched from anywhere in the world. It can autonomously loiter in an area for months waiting for a specific time or a go signal.

The torpedo is said to be a counter to Western anti-ballistic missile technology, as it will be near impossible to detect and stop. It can either destroy a harbour city or create a 50m high radioactive tsunami covering a coastal frontage of nearly 30kms. Its stealthy approach, terminal high speed and nuclear warhead mean carrier battle groups will have little chance of survival if caught off guard.

BELGOROD is thought to carry six Poseidon and will be based in the Pacific.

Another new class of submarine, the *Khabarovsk-class*, is currently under construction to specifically launch Poseidon torpedoes. Details are sketchy but it is thought to be a cut down *Borei-class* SSBN without the ballistic missile silos.

CONCLUSION

Russia's re-emergence and prioritisation of underwater warfare along the lines of its founder's sea denial intent marks the start of a dangerous period in maritime warfare. Dare we say 'back to the future'. Cold War anxieties about war at sea with Russia should be studied to understand the efforts required to stay ahead of the Russians and avoid any further strategic shocks, like the Yasen and Poseidon torpedo.

In fact, given Russia's perceived intent to destabilise the West, the recent example of UK and US willingness to share nuclear submarine propulsion technology with Australia may give them the idea of reciprocating. If Russia were to apply the same policy to countries such as China, North Korea and Iran, then the West would be challenged on many fronts.

In any event, all of the free world's navies will need to double their underwater warfare endeavours to counter the rise of the modern Russian submarine threat. ■

About the Author: Mark Schweikert is the Federal Vice-President of the Navy League, a former Editor of *The NAVY* and the former Director Joint Force Integration with Defence. He left the Department after 22 years to start his own consultancy business 'Remarkable Effects'.



The *Borei-class* SSBN ALEKSANDR NEVSKY (K-550).



The BELGOROD seen here embarking on sea trials. This new shift in the Russian underwater order of battle represents a strategic shock to the West. She is expected to be assigned to the Russian Pacific Fleet.

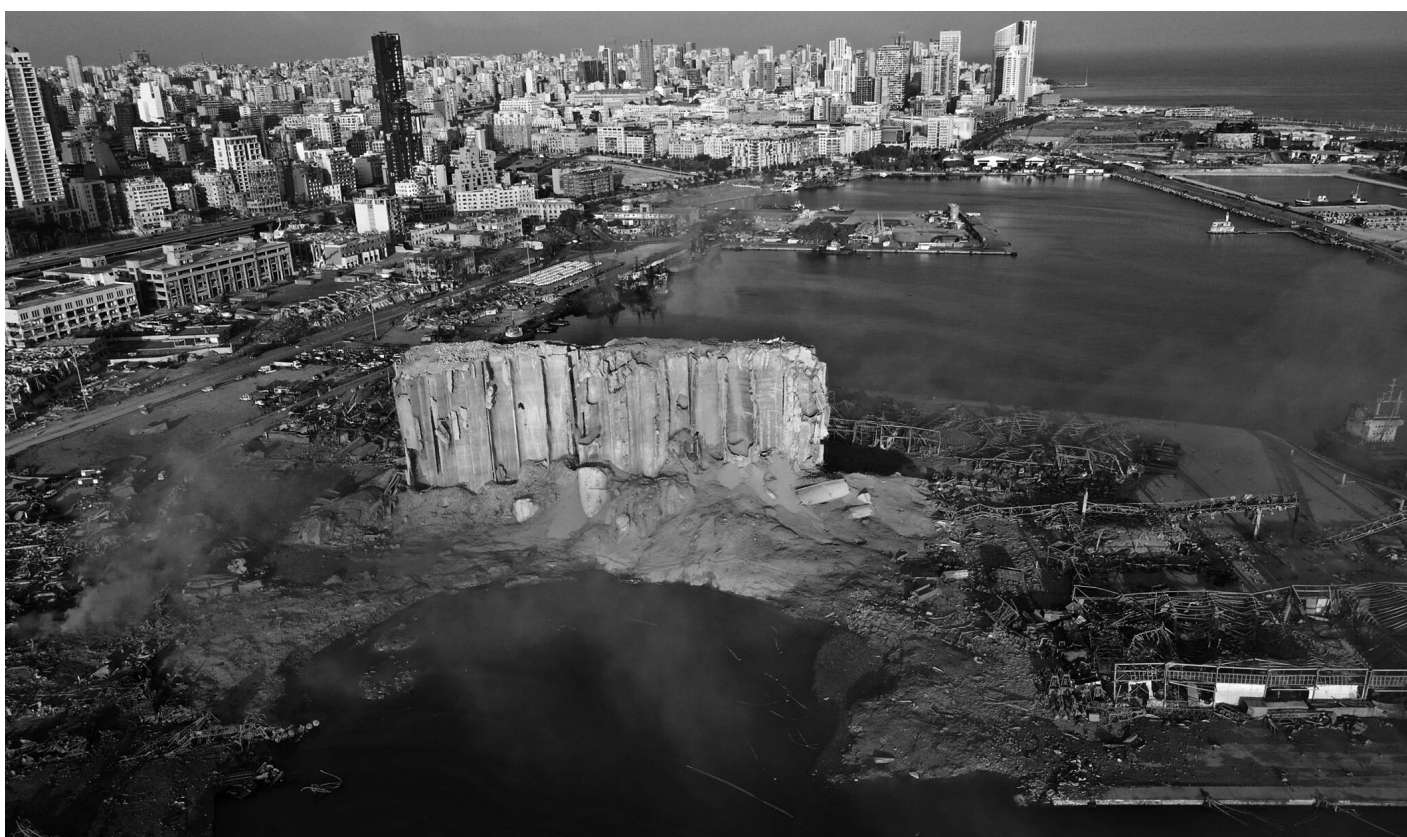


The most recent *Borei-class* SSBN, KNYAZ VLADIMIR. This is the lead boat for a 'Batch II' modification to its outer casing to improve flow noise over the hull.

A NATIONAL IMPERATIVE TO PROTECT AUSTRALIA'S PORTS AND HARBOURS

By George Galdorisi

Without Australia's ports, the overseas trade that is a strong engine for the nation's economy would come to a standstill. But for most, ports are taken for granted. They are simply functioning infrastructure, just like roadways, railways, energy delivery systems and the like. But unlike these other entities, these ports are uniquely vulnerable, as entry via sea is open to various threats. This causes me to ask: What is the state of the art of port and harbour security today, and how can Australia leverage some tentative steps the United States has made in harnessing emerging technology to provide more comprehensive security for ports and harbours?



Explosion in the Port of Beirut, Aug 5 2020.

BACKGROUND

As readers of *The NAVY* know, Australia is one of the world's leading economies, ranking 12th in the world overall, and 9th on a per capita basis in 2021. While these are "just numbers," what they translate into is the fact that Australians enjoy a high standard of living and that the nation has been on an upward trend in prosperity for several decades. Undergirding this prosperity is the security provided by the ADF and RAN.

While there are various ways of calculating the portion of Australia's economy encompassed by international trade, most estimates put this figure as between forty and fifty percent of the total economy. This trade is vital to the nation's prosperity. And it is Australia's ports – Brisbane, Sydney, Fremantle, Melbourne, Hedland,

Dampier, Wellington, Darwin and others – that are the nodes that enable this trade.

However, for many security professionals, as well as the general public, that attitude changed in August 2020, when deadly explosions rocked the harbour in Beirut, Lebanon. The international reporting of this tragic event brought back into focus the growing importance of ports and harbours to global commerce. Over a year after that event, the Beirut port is still not fully functioning. A similar shutdown of one of Australia's large ports would put a major dent in the nation's ability to maintain its robust international trade.

For most, there is an expectation that Australia's Home Affairs Department and Australian Defence Force (especially the Royal Australian Navy) will provide comprehensive protection for these ports. While both organisations – as well as their sub-organisations



Port of Brisbane.

and associated agencies – do their level-best in this effort, funding is always an issue, compounded by the fact that Australia's ports are large and spread out along the nation's twenty-five-thousand-kilometer coastline – the world's longest.

For the Royal Australian Navy, which has national, regional and global responsibilities, "staying home" to provide for substantial security for the nation's ports and harbours is simply not an option. Readers of *The NAVY* are well-aware of these responsibilities for the RAN, not the least of which is patrolling Australia's territorial sea and over eight-million-kilometer exclusive economic zone from threats ranging from illegal fishing, the trafficking in illegal substances or persons, to ship borne pollution.

As a former U.S. naval officer who lives in a major American port city (Perth's sister city, San Diego, California) port and harbour security is always on my mind. And having visited many of Australia's ports during my time in uniform, I am acutely aware of how important these ports are to not only trade, but to tourism, boating, other industries and the general enjoyment of Australia's population.

THE CURRENT STATE OF THE ART FOR PORT SECURITY

The magnitude of providing comprehensive security for any port – let alone large ports such as Brisbane, Sydney, Fremantle and others – can sometimes lure port authorities into wishing away the challenge. But in an increasingly dangerous world where not just terrorists, but others, may wish to make a statement or lash out at a particular nation, ports that can be attacked via land or sea present an all-too-inviting target.

The risk-reward curve – where a terrorist group or other disaffected person, or persons, are able to attack a port using something as simple as a RHIB and a small amount of explosives to blow a hole in a ship – is just too great. Ports are an inviting target, but ones that must be protected. This task includes threat detection and security response, continuous inspection of port assets, as well as on-demand inspections after storms or other disasters, ongoing surveys to ensure navigable waterways, hull inspections, and a wide range of other missions.

Current security measures in most ports involve monitoring the video provided by cameras throughout the port, as well as patrolling the ports' expanse of water with a fleet of manned vessels. This methodology stresses the ability of port authorities to provide around-the-clock security and typically leads to serious – and potentially fatal – gaps in coverage.

Cameras seem to offer a cheap and effective solution, but what people forget is that someone—often several people—must monitor the video for the cameras to have any purpose, let alone effectiveness. With some ports maintaining scores of cameras—or



Port Jackson-Sydney Garden Island Fleet Base East (image ABIS Sarah Ebsworth).



Port of Fremantle.

more—this entails having a command center and enough watch-standers to monitor all of the cameras in real-time, twenty-four hours a day. Depending on how the watch center is staffed, this often means that multiple crews must be available and paid to provide round-the-clock monitoring of these cameras. Further, if a camera malfunctions or otherwise goes out of service, this leaves a gap in coverage and a repair crew must be available to fix the device.

Similar issues accompany the use of manned craft to patrol a harbour of any size. Manned vessel operations are increasingly expensive, are often limited by weather and water conditions, and physically stress port professionals. For most ports, multiple manned vessels are needed to guarantee sufficient revisit time to ensure that a threat has not slipped through the security net.

Compounding the issue is the physical toll riding a small vessel – either a rigid hull inflatable boat (RHIB) or other small craft. Unlike watch-standers on land who might be able to work shifts as long as eight or even twelve hours, pounding through an often-choppy harbour in a RHIB or small craft means that a watch rotation of somewhere between three and four hours is about all most people can endure.

With such short watch rotations, it is easy to see how the need to provide round-the-clock security can quickly multiply costs, even in the most optimistic scenarios. Add rain, wind, waves, fog and other natural phenomena that often reduce visibility and slow patrol speeds, the need for more craft and more people can multiply significantly, often without warning, thereby further driving the need for standby crews. All-in-all this is an expensive undertaking.

Additionally, there are many shallow areas throughout ports that are beyond the reach of any manned vessels. Even limited draft craft like RHIBs draw some water when they are loaded with people, communications equipment, weapons and the like. A manned vessel pushing too close to shore also runs the risk of impaling itself – as well as its crew – against visible or invisible hazards.

Given the manifest challenges of providing adequate – let alone comprehensive – security for ports with current state-of-the-art systems and capabilities, it is little wonder that port officials are searching for technology solutions that will enable them to provide better security, at lower costs, but more importantly, without putting humans at risk.

Given Australia's longstanding defense treaty with the United States, as well as a plethora of common interests that bind the two nations, it is worth examining the recent journey that the United States has undertaken to harness emerging technologies to supplement the extant capabilities of the various agencies charged with safeguarding America's ports and harbours. These examples offer a compelling illustration of how this technology could be applied to provide a blanket of protection for the ports that support Australia's vibrant economy.

U.S. ASSESSMENTS USING UNMANNED SURFACE VESSELS TO PROVIDE PORT AND HARBOUR SECURITY

Over the past several years, I have become aware of a number of demonstrations where unmanned surface vessels were employed to determine if they could be used as assets to complement port and harbour security. The first was conducted in the Port of Concord, California, the second at the Mega-Port of Los Angeles, California and the third and most recent at the Port of Tampa Bay, Florida. Each of these demonstrations not only proved the efficacy of using unmanned surface vessels to enhance harbour security, but advanced the state-of-the-art of designing and fielding these increasingly capable platforms.

Military Ocean Terminal Concord (MOTCO)

The U.S. Army has the responsibility and mandate for ensuring the physical security of two major ocean terminals, one on each of the east and west coasts. At these two terminals, cargo and container ships are loaded with massive amounts of ammunition, which are then further deployed to various theaters of operations around the world. The west coast terminal facility, the Military Ocean Terminal Concord (MOTCO), is located in Concord, California. Recognising that their current ability to secure either of the Military Ocean Terminals was less than optimal, the Army invited one American company, Maritime Tactical Systems Inc. (MARTAC), to bring three unmanned surface vessels (USVs) to the port to determine if these craft could be used to enhance the port's security.

Three MANTAS T-series vessels were employed as a coordinated package as part of the concept demonstration at MOTCO, Concord. This demonstration was coordinated by the Army Physical Security Enterprise & Analysis Group. The primary objective of this demonstration was to assess MANTAS' ability to patrol and protect the harbour and ammunition loading container ships while working in concert with manned patrol boats.

For these missions, three MANTAS vessels, T6, T8 and T12, were used to perform different operations. The MANTAS T6 was utilised as an intercept vessel to quickly address potential threats at high speeds up to 55 knots. This T6 was equipped with a standard electro/optical camera focused on rapid interdiction and base threat identification. The second vessel was a MANTAS T8, with a medium performance envelope of 30 knots. Its role was as a forward-looking harbour vessel situational awareness asset. Mounted with a FLIR M232 thermal camera, the T8 operated forward of a harbour patrol vessel working in areas that were not accessible with manned patrol vessels.

The final vessel was a MANTAS T12 tasked with prosecuting above and below surveillance operations to detect and identify intruder vessels or other potential threats to harbour assets. The MANTAS

T12 sensor kits included a SeaFlir 230 gyro-stabilised camera for above surface ISR capabilities and a Teledyne M900 single beam echo-sounder for subsurface diver/swimmer detection. The T12 operated at slower speeds of five knots with the specific requirement to detect and provide the precise images to the onshore control station for watch-stander threat identification to determine appropriate response level.

In addition to the superior coverage area and quicker threat detection and identification, the MANTAS system was the first unmanned system to be successfully integrated into the U.S. Army's new Integrated System Architecture (ISA) Common Operating Picture (COP) system located at the MOTCO control center. This facilitated real-time video streams of diver detection and pier sweep missions that were transmitted to the command center in real time. This capability confirmed MANTAS ease of integration into any command center.

The Port of Los Angeles: A Mega-Port with a Challenge

The Port of Los Angeles (POLA) is the busiest port in the United States. This mega-port comprises 43 miles of waterfront, 42 square miles of water, 26 passenger and cargo terminals and 86 ship-to-shore container cranes. POLA handled over ten million twenty-foot equivalent units (TEUs) of cargo last year.

Current measures to secure the Port of Los Angeles involve monitoring the video provided by 500 cameras throughout the port, as well as patrolling the port's expanse of water with a fleet of manned vessels. This operation is increasingly expensive and does not provide comprehensive security. For these reasons, POLA officials were given a mandate to explore the possibility of using unmanned surface vehicles to enhance local port security.

In their search for a solution, port authorities invited MARTAC to stage an in-situ demonstration of their MANTAS unmanned surface vehicle. One of the primary reasons that the Port of Los Angeles requested the MANTAS system demonstration was the fact that MANTAS had performed well in the aforementioned port security evaluation for the U.S. Army at the Military Ocean Terminal in Concord, California.

The POLA demonstration was conducted with a 12-foot MANTAS. The T12 MANTAS USV can be equipped with a wide variety of above-surface sensors (EO/IR/thermal video) and below-surface sensors (sonars and echo-sounders), as well as other devices such as chem/bio/nuclear sensors, water quality monitors, and above/below surface environmental sensors. Real-time monitoring is provided by a MANTAS communications package that can support networked radio, 4GLTE, or satellite communications.

At the request of Port of Los Angeles officials, MARTAC representatives provided a comprehensive briefing on MANTAS capabilities, examined the span of POLA operations, and provided a remote demonstration that enabled POLA officials to control a MANTAS deployed off the eastern coast of Florida. The demonstration provided POLA stakeholders with a comprehensive understanding of how a USV could enhance port security.

In coordination with POLA officials, as well as the U.S. Coast Guard, MARTAC was asked to consider providing larger USVs for the port and harbour security role in order to extend the vessel's payload and endurance. MARTAC engineers did just that, and subsequently, a larger T38 (38-foot) Devil Ray USV was demonstrated the summer of 2020 during the U.S. Navy's Trident Warrior exercise in San Diego.



US Military Ocean Terminal Concord, California.

Not only can the T38 carry a number of additional cameras and related security sensors, it also has the ability to patrol the harbour at a 15-20 knot cruise speed for 8-10 days until refueling is needed. With a burst speed of up to 80 knots, it can be used by the port/harbour command center to immediately intercept and identify vessels or areas of interest. It was this vessel that was used in the most recent port and harbour security demonstration, at the Port of Tampa Bay, Florida.

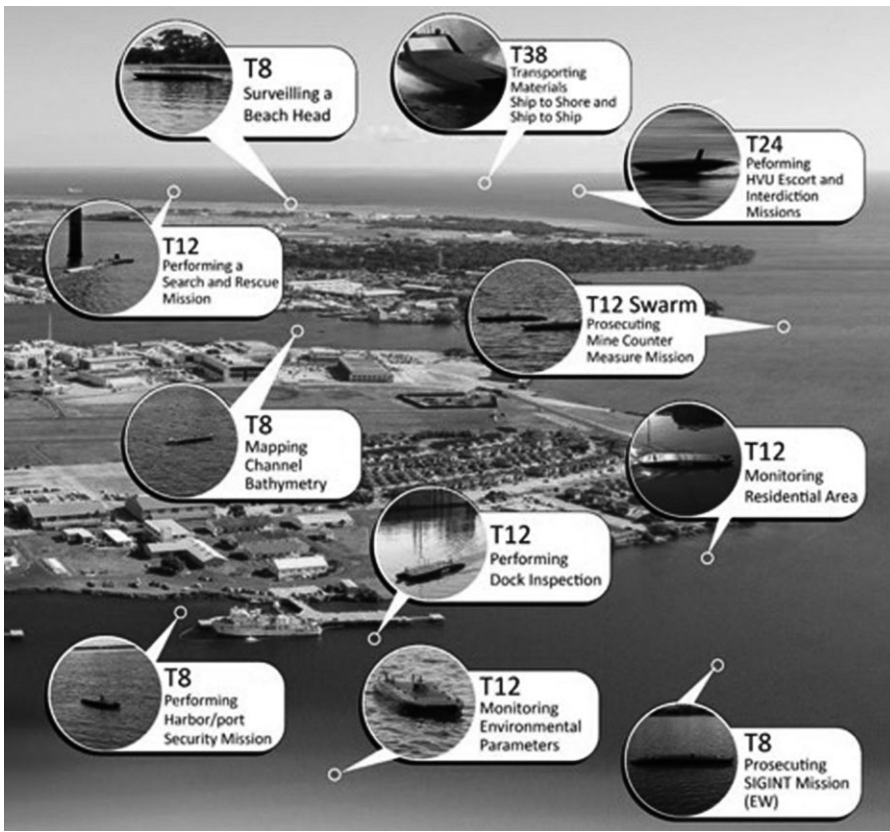
The Port of Tampa Bay, Florida

The Port of Tampa Bay had prior experience with MARTAC-provided unmanned surface vessels. In October 2019, a swarm of MANTAS T12 USVs was deployed to perform hydrographic surveys which were controlled and viewed from a remote location. In the ensuing year, after MARTAC had produced and employed their T38 Devil Ray in the U.S. Navy's Trident Warrior exercise, Port of Tampa Bay officials wanted to see how the T38 could contribute to enhanced security for the port.

This demonstration was conducted in October 2020. It was immediately apparent that this larger unmanned surface vehicle brought enhanced capabilities to protect the port. The T38 Devil Ray was employed in much the same fashion as its smaller cousins in previous demonstrations, slowly patrolling the expanse of the port, as well as providing escort services for ships entering and leaving the port.

However, that is where the similarities ended. The increased size and endurance of the T38 USV was a game changer in its capabilities relating to port security. The Port of Tampa Bay, while not classified as a mega-port, is huge, and has its own unique security challenges. The port is the largest, most diversified port in Florida, has an economic impact of more than \$15 billion, and supports over 80,000 jobs. Therefore, any interruption in the port's operations would have an enormous impact.

The port's expanse of water makes it difficult for a manned vessel such as a RHIB to respond to threats. Therefore, a major part of this demonstration involved employing the T38 Devil Ray as an intercept vessel to provide defense-in-depth as far out as possible before threat vessels could reach the port's container ship, tank ship or cruise ship facilities. The Devil Ray demonstrated interception runs in excess of 80 knots and proved the ability to hold threats at arm's length.



UK MoD Acquires MANTAS T-12 USVs for Integrated port Protection.

ADVANCING THE ART OF PORT AND HARBOUR SECURITY

Protecting Australia's ports and harbours is a national security imperative. Leaving this mission to an overstretched Home Affairs Department or Australian Defence Force courts disaster. Leveraging the initial strides that the United States has made in this area – efforts supported by the U.S. Department of Homeland Security and Department of Defense – can help Australia leverage a best-practices example of how to better protect increasingly vulnerable port facilities.

In an article in the January 2020 issue of *U.S. Naval Institute Proceedings*, Commander Rob Brodie noted: "When the Navy and Marine Corps consider innovation, they usually focus on technology they do not possess and not on how to make better use of the technology they already have." Extrapolating his assertion to the multiple entities responsible for port and harbour security, one must ask if we are too slow to leverage an innovative solution that can be grasped immediately.

DISASTER RELIEF AND MITIGATION FOR PORTS AND HARBOURS

While this article has focused on using commercial-off-the-shelf unmanned surface vehicles for day-to-day port and harbour security, a related mission for which COTS USVs are ideally suited is their use for disaster relief and mitigation. This capability is needed following a catastrophe at one of these ports, at a power plant, after an air crash or ship disaster, following flooding of low lying areas, or any other humanitarian assistance of disaster relief incident where areas are either inaccessible to humans or too dangerous for humans to deal with.

One need only look to events such as the Fukushima Daiichi nuclear disaster in March 2011 to understand the challenges of dealing with these sorts of catastrophes. In the wake of natural disasters such as Fukushima Daiichi, rapid location of injured personnel becomes a critical and time-sensitive mission that is ideally suited to unmanned surface vehicles, especially in shoreline areas not accessible by larger harbour boats or rigid-hulled inflatable boats, or not safely accessible due to potential personnel hazards such as biological, chemical or radiological agents.

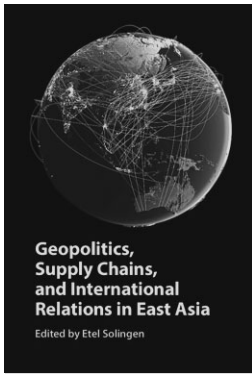
In performing these missions, unmanned surface vehicles can be fitted with a wide array of video, audio, sonar or other sensors to locate personnel and assess damage. In some cases, larger USVs can transport relief supplies to areas not otherwise accessible. While unmanned surface vessels may not completely replace manned assets in disaster relief and mitigation – nor are they intended to – they can provide an immediate response while authorities are assessing whether or not the scene of the disaster poses an unacceptable risk to human responders.

The enhanced security taxonomy described in this article has not been evaluated previously, and there is a reason. The technology to provide reliable, adaptable and affordable USV support to augment manned capabilities and expand the reach of port police simply did not exist just a few years ago. But that has now changed. This technology is available *today* with commercial off-the-shelf unmanned surface vessels, and these can be employed to increase the effectiveness of port protection if we do as Commander Brodie suggests and "make better use of the technology we already have."

To be clear, this is not a product-focused solution, but a *concept*. Given the rapid strides in the development of unmanned maritime vehicles in Australia, the United States and other nations, there will be increasing numbers of these USVs on the market and available to support port and harbour security. At the moment, innovating with COTS systems we have at hand would appear to provide a near-term, affordable and effective solution to the challenge of providing comprehensive port and harbour security.

Like any new technology, COTS USVs take a while to gain traction. But there is danger in waiting too long to put them to use. Australians deserve to know that their ports and harbours are secure and pulling away Royal Australian Navy assets from their important national, regional and global responsibilities to shore-up harbour protection efforts can open up vulnerabilities in other areas. The time to innovate with new technologies to protect Australia's ports and harbours is *now*. ■

About the Author: George Galdorisi is Director of Strategic Assessments and Technical Futures for the Naval Information Warfare Center Pacific. Prior to joining NIWC Pacific, he completed a 30-year career as a naval aviator, culminating in 14 years of consecutive experience as executive officer, commanding officer, commodore, and chief of staff. He writes speculative fiction about the future of warfare. He is the author of fourteen books, including four consecutive New York Times bestsellers.



GEOPOLITICS, SUPPLY CHAINS, AND INTERNATIONAL RELATIONS IN EAST ASIA

Etel Solingen
 Cambridge University Press:
 07 May 2021
 ISBN 10: 9781108833561
 Hardcover: \$60.50
 Softcover: \$25.50

Professor Solingen is the Thomas T. and Elizabeth C. Tierney Chair in Peace and Conflict Studies at the University of California, Irvine. Written before Russia’s declaration of War on Ukraine, Etel Solingen sketched the details of both the unravelling of Globalisation and the conjoined emergence of Political Economic Warfare, as part of Grey Warfare, underpinned by Chinese policies (first identified in *The NAVY* (in 2017)) of:

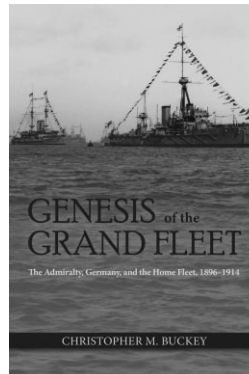
1. *The New Silk Road*, comprising an Economic Belt and Maritime Silk Road, also known as ‘the Belt & Road, or One Belt and One Road (一带一路), or OBOR Strategy’.
2. *The String of Pearls (珍珠串)* strategy, incorporating China’s First (essentially the Nine-Dashed Line) and Second Island Chains (the Second Dashed Lines) and;
3. *The Dragon’s Spear (龙的)* strategy, incorporating the Chinese Motte, Keep, Bailey, Mote (reclaimed islands), and Moat (the SCS and ECS).

Professor Solingen recognises that Global supply chains connect the world in unprecedented and intricate ways. Geopolitics, Supply Chains, and International Relations in East Asia dissects the sources and effects of disruptions of these networks. Despite their dramatic expansion as distinct, complex, and unique mechanisms of economic interdependence, the role of supply chains in broader patterns of interstate conflict and cooperation has been relatively neglected. The combustible mix, fuelled by rising hyper-nationalism [in Russia] and China, threatens to unleash sizable disruptions in the global geography of production and in the international relations of East Asia.

Etel began wrestling with the topic of Global Supply chains in 2013, while preparing an article warning of simple comparisons between the onset of World War 1 in 1914 – which ended the first wave of Globalisation – and 2014. Her views [in 2019] tended to equate U.S. with Russian and Chinese Nationalism. An equivalency perhaps in vogue in academic circles – attacking Trump; while continuing to accept Chinese largesse. Solingen attests that the Trump regime, through its “America First” theme, began dismantling the global supply chain. So it was the West’s fault – not:

- An undervalued Yuan, which China has used to de-industrialise significant swathes of western industry.
- The co-option and sometimes coercive suborning of international bodies, such as the UN (consider the WHO); the IMF, World Bank, and the WTO;
- Fully joined up, Whole-of-CCP, Political Economic Warfare (PEW) or *Wolfpolitik* strategies.

Notwithstanding, Professor Solingen makes an important and timely contribution. This is an essential read for understanding how a bifurcated supply chain may be rebuilt along, potentially with a new Pacific (as opposed to Atlantic) Global Rules Based Order capable of rebuilding and incorporating Russia and China by avoiding WWII.



GENESIS OF THE GRAND FLEET

The Admiralty, Germany, and the Home Fleet, 1896–1914
 By Christopher M. Buckley
 USNI Published: July 15, 2021
 ISBN-10: 1682475816
 ISBN-13: 9781682475812
 Hardcover: \$40.00

Christopher M. Buckley has spent the last fifteen years studying the pre-war Royal Navy. After graduating from U.C. Santa Cruz, he obtained a doctorate in contemporary history from the University of Salford (Manchester, UK) in 2014. He currently lives in Coronado, California.

Genesis of the Grand Fleet: The Admiralty, Germany, and the Home Fleet, 1896–1914 tells the story of the pre-war precursor of Royal Navy’s war-winning Grand Fleet: the Home Fleet. Established in 1907 by First Sea Admiral of the Fleet, Lord Sir John Fisher, the Home Fleet combined an active core of powerful armoured warships with a unification of reserve divisions of warships previously under the control of the three Royal Navy home port commands. Fisher boasted that the new Home Fleet would be able to counter the growing German Hochseeflotte.

The critical element that Buckley identifies is that the British Empire of the early 20th Century had a Royal Navy capable of thinking strategically and critically – to engage in fighting and winning the next war. An experimental capacity that sadly no longer exists in the RN, and is clearly patchy in the USN. Noting *Strategy Shelved*, by Steven T. Wills, reviewed in the previous issue.

Christopher Buckley observes that:

The Grand Fleet that Jellicoe took to war in August 1914 was without doubt the most powerful armada yet assembled, and it was a fleet ready for war “or, what was almost as valuable, believed itself to be ready.” Vice Admiral Cecil Osborne recalled, “When the Fleet sailed on the 4th we knew that our hour had come”.

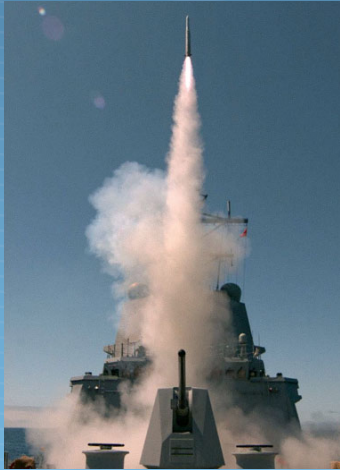
Naval Cadet Geoffrey Harper wrote, “When the end of the watch came and 8 bells struck, I thought ‘at last – we’ve begun War with Germany after all these years of talk – now we’ll see.’ There was a ripping kind of ‘air’ of perfect calm and efficiency about it. We knew the Navy had been preparing for a week and everyone was ready.”

A sad epitaph in a way as telling as the *Guns of August* by Barbara W. Tuchman. Dr Buckley makes an important contribution to our understanding. An essential read – highlighting the sad deficiencies in thinking in the modern age. That has left the Global West’s navies woefully ill prepared.





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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.

SUBMISSION DEADLINE:

Saturday 20 August 2022

Prize-winners announced in the January-March 2023 Issue of *The NAVY*.



MATCH: Italian Navy takes delivery of ITS PAOLO TAON di REVEL first of its 7 Multipurpose OPV Corvettes (Mar 22).



MATCH: RNZAF to build four Boeing P-8A Poseidon MPA and ASW Aircraft.



MATCH: Project-955A Borei-class Russian Submarine KNYAZ OLEG (SSBN) one of three new submarines including one Yasen-M class SSGN and an improved Kilo-class SSK.jpg.