

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;

- Establish National Security Committee, QUAD, AUKUS, and Nuclear-Power secretariats.
- 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;
- 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;
- Create boards and secretariats staffed by APS, ADF, ASD, ASIO, sme, loyal to the Governor General and Commander in Chief. *Insoure* 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.

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.

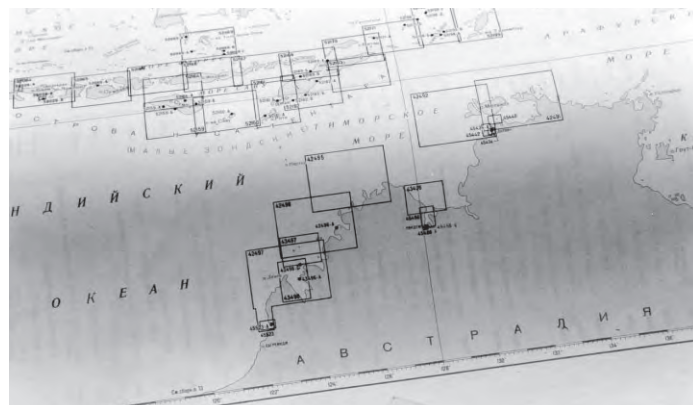
While the number and varied types of submarines have declined, the quality and utility has not, which is giving many in the West pause for thought again.

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

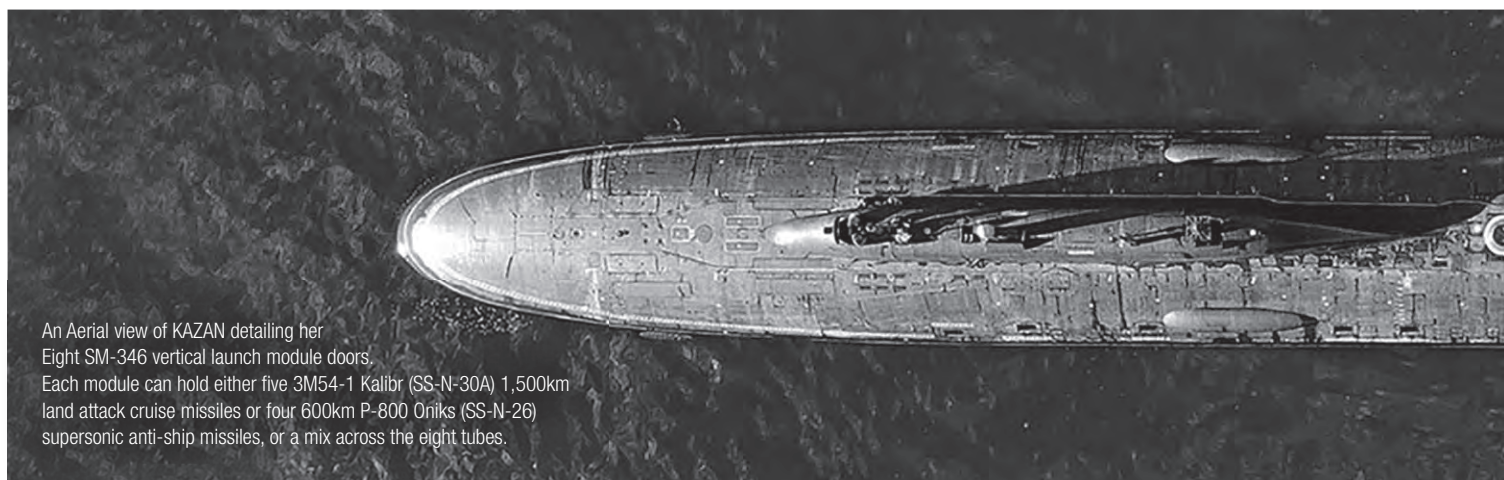
This shift of mission from previous SSNs like the *Akula*, which are primarily optimised for the ASW and anti-ship role, towards a concept closer to a multi-mission Western SSGN, is indicative of a shift in the way that Russian submarines will contribute to future campaigns.

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.

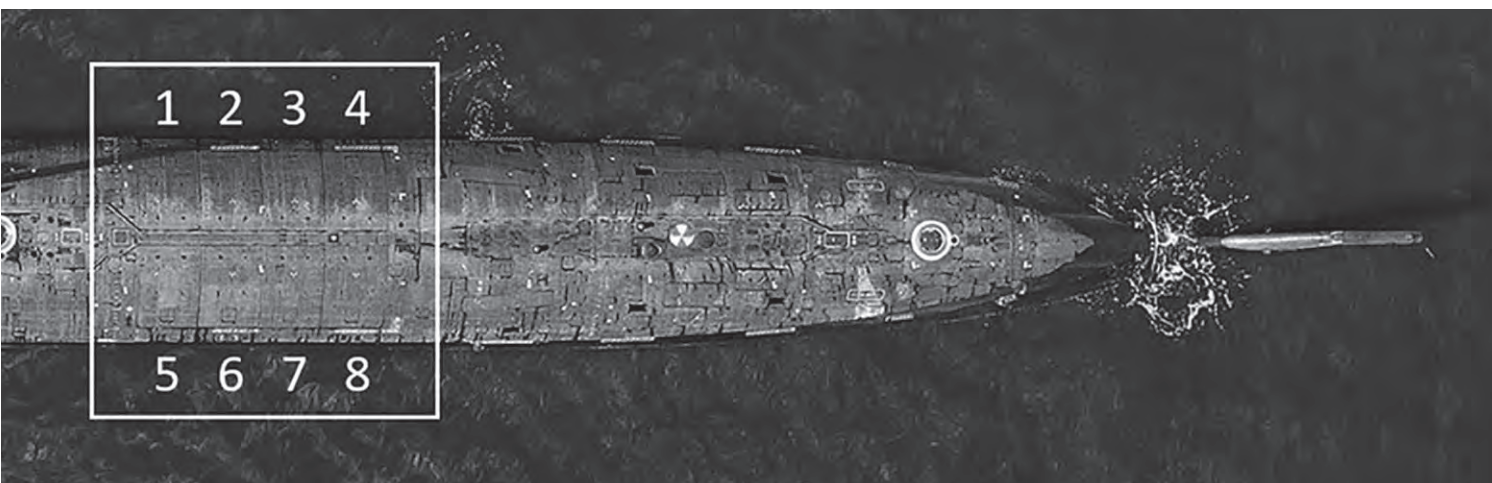
The submarine includes the bow and stern pressure sections and propulsion train of an *Akula II* class SSN. The *Boreis* are also the first Russian nuclear-powered submarines to be equipped with a pump-jet propulsor for a top speed of approx. 30+ knots and an even quieter movement through the water.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



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 Dover 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.

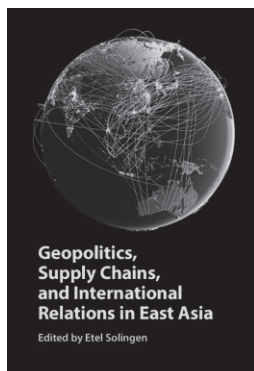
The Conservative government must not give the green light to this appalling practice and must act to secure the livelihoods of these workers.

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... ■



GEOPOLITICS, SUPPLY CHAINS, AND INTERNATIONAL RELATIONS IN EAST ASIA

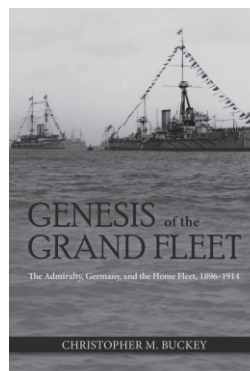
Etel Solingen

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GENESIS OF THE GRAND FLEET

The Admiralty, Germany, and the Home Fleet, 1896–1914

By Christopher M. Buckley

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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.

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 Usborne 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.





THE NAVY LEAGUE OF AUSTRALIA ANNUAL MARITIME AFFAIRS ESSAY COMPETITION



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Essays should be 2,500-3,000 words in length and will be judged on accuracy, content and structure.

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Essays should be submitted in Microsoft Word format on disk by;

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OR

Emailed to: editorthenavy@hotmail.com

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.

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Saturday 20 August 2022

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