



NAVY LEAGUE OF AUSTRALIA
WESTERN AUSTRALIA

December 2022
Volume 6, Issue 12

DOWN THE VOICEPIPE *do you hear there!*

COMING UP

NLWA Executive meeting 09th January
2023 at 1700

HMAS PERTH (I) Executive meeting
Saturday 21st. January at 1000

Facility open each Wednesday morning
0900-1200



ALL ARTICLES PUBLISHED IN THIS
NEWSLETTER ARE PRINTED IN GOOD
FAITH AND DON'T NECESSARY REFLECT
THE VIEWS OF THE
NAVY LEAGUE OF AUSTRALIA

NEW SHIP GLASGOW
ROYAL NAVY
TYPE 26 Frigate



Navy League of Australia Western Australia Division News update



Here we are at the end of another year and about to begin a new one. Hopefully as you reflect on the year that's past you've had more great times than no so great times. The Christmas/New Year period is a time to enjoy with family and friends and I hope you have managed to do that. This time of year should also be the time when you reach out to someone you haven't seen or spoken to in a while, who knows, the person at the other end may have the same idea, it just takes someone to take the first step.

December started much like every other month, that is until the 11th and the dreaded positive covid result, talk about going back to one of those not so great times. Still, the symptoms should only last a week or so I thought, and in light of that I'd been looking at it like a bad hangover, believing every day I'd be feeling a little bit better though several days post covid and despite seeing an improvement, it's certainly not as much as I had thought or hoped for. It turns out the symptoms do only last a few days or so but the recovery is another thing all together with what can only be described as chronic fatigue. Anyway, I've got no doubt that there are many who have had it far worse than me, possibly not if you ask my wife, but regardless, one day it will pass and the normal daily routine will be back in action.

Our travelling group got together for a few hours over lunch and drinks during the month and from the comments received, there wasn't a single person who didn't enjoy themselves. This was also a good opportunity for the group to reflect back over the year and the many different towns and experiences we shared. I'm already looking forward to our getaways throughout 2023. As has been mentioned prior, our group travel away every couple or months or so and you are most welcome to join us. The group has grown exponentially since inception and it's blatantly obvious that we are all basically the same people, like-minded with a true belief in mateship who are just out to have a good, safe and relaxing time. You don't need a four wheel drive, a caravan, camper or anything specific, all you need is a good sense of humour and an open mind.

Much like I do at our AGM, I'd like to acknowledge and thank the members for their support over the course of the last twelve months and make special mention of those on our Executive Committee who do everything humanly possible to not only ensure the future of the WA Division but to ensure its growth and stability as we take it into the future. It should be mentioned, like the other Divisions, everyone on the Committee are volunteers and in the true ethos of volunteering they do what they can, whenever they can and the very best of their ability, putting in many hours both at our headquarters and behind the scenes.

In closing and on behalf of myself and the entire Executive Committee of the WA Division I hope you had a safe and thoroughly enjoyable Festive Season, may you eat, drink and be merry though please don't overdo it, especially if you are heading out on the roads. Again, all the very best for Christmas and the New Year, I look forward to seeing as many of you as possible throughout 2023.

Until next year

Brad



HMAS PERTH (I) MEMORIAL UPDATE
Incorporating NLWA and the
HMAS PERTH (I) Memorial Foundation
Incorporated





HMAS PERTH (I) MEMORIAL UPDATE

Incorporating NLWA and the
HMAS PERTH (I) Memorial Foundation
Incorporated





HMAS PERTH (I) MEMORIAL UPDATE Incorporating NLWA and the HMAS PERTH (I) Memorial Foundation Incorporated



Wow another year has flown by

Arrangements are now in full swing to get the final stage of the memorial approved and installed. I am hoping that construction can start before mid year with the finished project pencilled in for end of May. Fingers crossed. The next stage of the engineering will be discussed at a business meeting to be held at BAE Henderson in the latter part of January 2023.

Members of the Foundation attended a presentation to CMDR Tony Nagle RAN and HMAS PERTH (III) earlier this month where the League and foundation presented a book, Memorial Flag and a framed print of the PERTH and Houston. The ships company looked after us extremely well with a ships tour and morning tea. In return CMDR Nagle presented us with two White Ensigns to be flown on special occasions at the memorial.

In doing some research I have been told that the wheel of HMAS PERTH (I) was retrieved early on in the seventies being in 70% condition and was hanging in a bar situated in the George and the Dragon in Jakarta Indonesia, however it later disappeared all efforts are underway to learn more about the whereabouts of the wheel, more info will be printed as more is known. If any members are aware of this and any history I would welcome them to inform me. The final granite carvings are now in transit from China and will be held in storage until the final structure is completed.

Jim O'Neill

CMDR ANC RTD Project Manager



CHINA LOOKING TO SUBMARINE OPERATIONS TO ACHIEVE DOMINANCE IN INDIAN OCEAN [NAVAL GAZING]

By **Trevor Hollingsbee** - December 20, 2022



Photo: People's Liberation Army

The Indian Ocean features numerous trade routes, is ringed by naval bases, and is the stage for many maritime operations and exercises involving assets from a range of nations. Unsurprisingly, therefore, this ocean is a focus for China, as it seeks to become the world's leading maritime power. The Chinese People's Liberation Army Navy (PLA-N) has had a significant presence in the Indian Ocean since 2009, with its warships carrying out anti-piracy and anti-terrorism operations, sometimes as units of multi-national task groups. PLA-N expanding overseas bases



A Yuan-class submarine (Photo: US Navy Office of Legislative Affairs)

A key node of the Chinese push to dominate the Indian Ocean is the PLA-N base at Djibouti. This facility has been upgraded with a 300-metre jetty, and according to recent reports, underground electronic warfare and cyber security facilities have also been installed. China also now has access to ports at Gwadar in Pakistan, Hambantota in Sri Lanka, and, furthermore, is eyeing the setting up of naval support facilities in Tanzania and Mozambique.

PLA-N submarines have been active in the Indian Ocean since at least 2013. Initial forays were by Yuan-class diesel-electric attack submarines. Shang-class nuclear-powered boats began deploying to the Ocean in 2015. Both classes of submarines operate from Sanya base on Hainan Island and are often accompanied by PLA-N support vessels. Support by auxiliary vessels Other types of Chinese auxiliary vessels have also established a presence in the Indian Ocean in order to help sustain the PLA-N's underwater operations. These include ocean survey vessels that have been using side scan sonar to chart a number of areas, including routes vital to submarine deployments into the Indian Ocean via the Malacca, Lombok and Sunda Straits. These vessels also operate uncrewed underwater vehicles, including wave gliders, to record measurements of the seabed.

The activities of these specialist vessels have attracted the attention of major regional maritime players, particularly India. Also being carefully watched by the Indian Navy are the PLA-N satellite and ballistic missile tracking ships *Yuan Wang 5* and *Yuan Wang 6*. These vessels likely operate with Chinese submarines in monitoring Indian and allied naval activity.

In October of this year, the presence of *Yuan Wang 6*, which has recently been operating out of Hambantota, caused the test firing of a K-15 ballistic missile from the Indian Navy's nuclear-powered submarine *Arihant* to be delayed.

Analysts believe Beijing is using the operations of its submarines and specialist surface vessels to help calculate strategies for possible future undersea warfare in the Indian Ocean. To this end, its submarines track US and allied submarines and surface warships to ascertain their operational pattern, sound signatures, and capabilities. Its survey vessels meanwhile provide the data to enable PLA analysts to calculate optimum areas for safe and effective navigation of submarines. Chinese submarines for regional customers



The Myanmar Navy's UMS Min Ye Kyaw Htin, a former Type 035 submarine of the PLA-N (Photo: Myanmar Commander-in-Chief of Defence Services)

Another aspect of China's efforts to influence the Ocean's prospective underwater warfare scenario is the provision of diesel-electric attack submarines to Pakistan, Bangladesh, Myanmar, and Thailand. Bangladesh and Myanmar have been provided with ageing former PLA boats with limited capabilities.

Thailand, however, is due to receive a new-build S26T boat, based on the PLA-N's Yuan-class submarines. Also based on the Yuan-class are eight new Hangor-class submarines featuring air-independent propulsion, to be supplied to Pakistan. Three are reportedly to be delivered in the near future, with production being split between yards in Wuhan in China and Karachi in Pakistan. According to some reports, the Thai and Pakistani projects have both been hampered by engine supply difficulties, as plans to use engines manufactured by UK-owned, Germany-based MTU have been scuppered by EU sanctions.

Allied response In response to Beijing's Indian Ocean moves, the "Quad" naval alliance (Australia, India, Japan, USA) has stepped up the frequency and intensity of its exercises. Also, of particular long-term significance is the AUKUS arrangement, under which the Royal Australian Navy (RAN) will eventually acquire and operate nuclear-powered attack submarines. The move has angered Beijing as it will dramatically increase the reach and potency of the RAN. The induction into the RAN of either US- or UK- built nuclear-powered boats is still many years off, though operational training of RAN officers in US and UK boats has already commenced.

What are the numbers on the side of Royal Navy ships and why are they there?

Harry Adams

23rd December 2022 at 11:46am

If you have ever seen a Royal Navy ship up close, you have probably noticed the series of numbers painted on the side of the vessel.

Called pennant numbers, they appear on all Navy vessels, from aircraft carriers to submarines. But what is the pennant number for, and how is it used today?

What is a pennant number?

Pennant numbers are used by the Navy to identify a ship and are made up of a flag superior, a letter to denote a ship's class, followed by numbers, known as a flag inferior. The flag superior denotes which type of ship it is, for example, F for frigate, D for destroyer and P for patrol boats, R for aircraft carrier and S for submarine.

The numbers are then assigned as, originally, a way of differentiating between the same type of vessel when in a group – such as a Carrier Strike Group. So following this pattern, HMS Queen Elizabeth's pennant number is R08, HMS Diamond's is D34, HMS Spey's is P234 and HMS Anson's is S234.

There is speculation that the R stands for Regina, Latin for 'reigning Queen', although aircraft carriers have had R as their flag superior during a King's reign.

It has also been speculated the R stands for 'recovery' as the earliest carriers would get planes to land on the ocean and then hoist them on board – however, there is also no proof of this. Ultimately, it is likely that as carriers came later, and A and C had already been taken, R was designated to the carriers as it was a spare letter.

What do they do?

Will Heppa, a curator at the Royal Navy Museum, told Forces News they were introduced to "abbreviate signalling and to make signals more secure". "All of the naval ships have used some kind of code flag identity for signalling for about a century now," he said. "But the identities have only been marked on the structure since about 1910." Mr Heppa also said pennant numbers "serve the purpose of clearing up confusion between ships with similar names".



HMS Prince of Wales' pennant number, displayed clearly alongside the Nato emblem, as it serves as a command ship for the alliance.

How have pennant numbers changed over time?

All ships have used a code flag as an identifier since the First World War, said Mr Heppa.

He added that there were "lots of alterations" to the allocation of pennant numbers "to accommodate increases in the number of ships before, during and after the First World War". "In the 1930s and 40s, the extent of building ships, part of rearmament for the Second World War, it did make it necessary to review the arrangements for pennant numbers.

"There were so many destroyers built in the 40s as well that they kept changing the flags for destroyers." He added that during the Falklands War "the display of pennant numbers was pretty much dispensed with" as both the British and Argentinian navies used Type 42 Destroyers. "Type 42 Destroyers, for instance, then would have a distinctive marking painted on their hulls to indicate they were British... so the Argentinians couldn't identify them."

The 'Doomsday wreck' packed with 1,400 tonnes of explosives that could create a tsunami in the Thames Estuary

Laura Skitt

14th December 2022 at 2:20pm



Visible masts of the wreck of SS Richard Montgomery protrude from the Thames Estuary (Picture: Jason Richardson / Alamy Stock Photo).

Since 1944, the people of Sheerness in Kent and Southend-on-Sea in Essex have been living near 1,400 tonnes of unexploded ordnance – enough, some say, to create a tsunami. The sunken wreckage of SS Richard Montgomery, nicknamed the 'Doomsday wreck' by Medway Council in 2012, has become an unlikely tourist attraction. Fascinated visitors to the Thames Estuary location see the masts of the submerged ship poking out from the choppy water, knowing that beneath the surface lies 1,400 tonnes of explosives. But, 78 years after SS Richard Montgomery sank, the question is – could it blow up and what damage would it cause?



An example of a US Liberty Ship (Picture: Chronicle / Alamy Stock Photo).

A publication on parliament.com from Medway Council said: "Government tests on the site as far back as 1970 suggested a blast would hurl a 1,000ft wide column of water, mud, metal and munitions almost 10,000ft into the air—risking the lives of wildlife and many people."

In January 2022, the weekly science and technology online and print publication 'New Scientist' asked researchers at Defence Research and Development Canada to assess just how much damage the SS Richard Montgomery wreck might cause if the munitions were somehow set off, and the findings were sobering.

It said: "A blast on this scale would be one of the world's biggest non-nuclear explosions, causing widespread destruction and death."

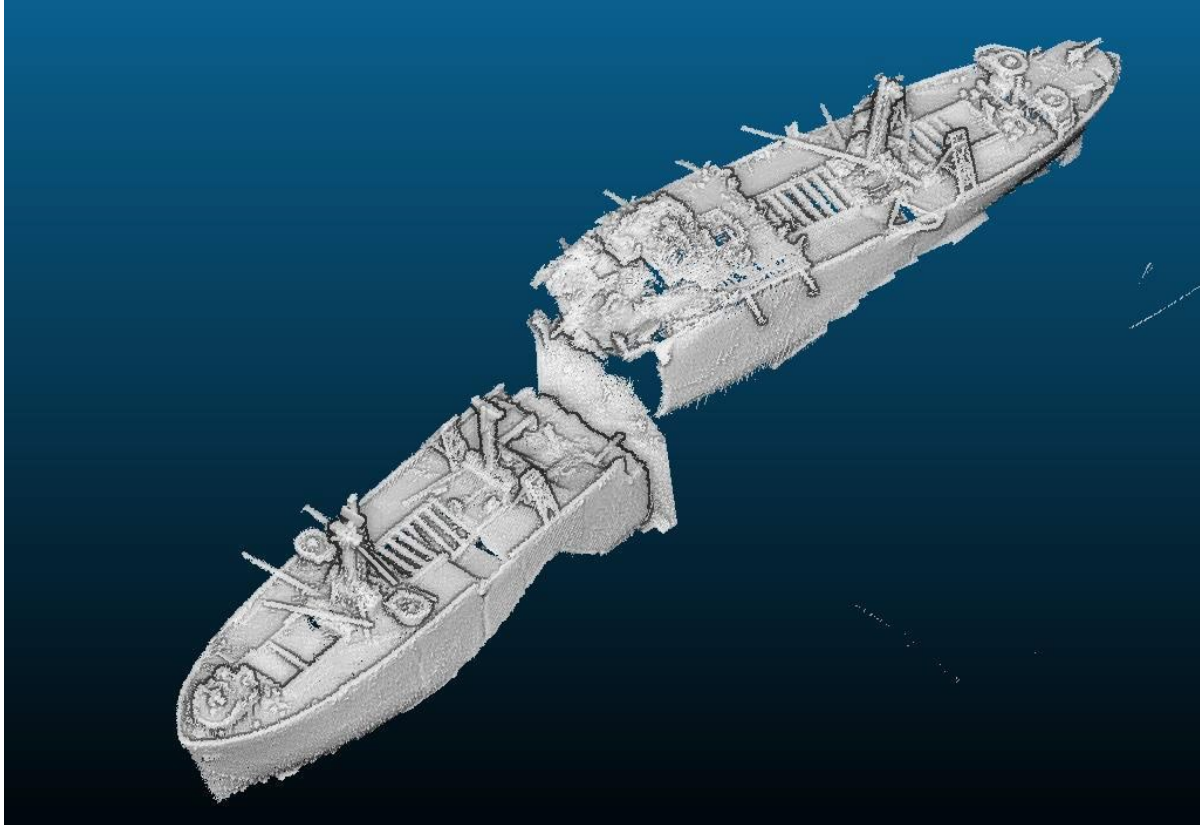
SS Richard Montgomery

US Liberty Ship SS Richard Montgomery was built just a year before she sank, in 1944, by the St John's River Shipbuilding Company of Jacksonville in Florida.

It was named after Irish-born Brigadier General Richard Montgomery, a hero of the American Revolution for his service to his country.

President Franklin D Roosevelt claimed the ships, built to carry vital supplies for the war effort, would help bring "liberty" back to Europe.

Other Liberty Ships were SS Harriet Tubman, named after the American abolitionist and human rights activist, SS Patrick Henry, named after the Founding Father, SS Robert E. Peary, named after the American explorer and US Navy officer and SS [Stage Door Canteen](#), named after the segregation-free, armed forces-focused, entertainment club in New York.



SS Richard Montgomery overview from the north west (Picture: Maritime Coastguard Agency).

What happened to SS Richard Montgomery?

During the summer of 1944, SS Richard Montgomery sailed from America to the UK as part of convoy HX-301 with a cargo of about 7,000 tonnes of munitions.

When she arrived in the Thames Estuary on 20 August 1944, the vessel was directed to anchor in the Great Nore Anchorage, off Sheerness. However, due to a force 8 gale, the ship's anchor dragged in shallow water causing the vessel to drift onto a bank. The ship grounded amidships on the crest of the bank causing it to break its back due to a weak spot in her design.

Over the next month, several thousand tonnes of ordnance were carefully removed from the ship.

The salvage effort only stopped when the vessel flooded completely – leaving 1,400 tonnes of explosives submerged in the Thames Estuary. The wreck now lies one-and-a-half miles from Sheerness and five miles from Southend-on-Sea in water about 15 metres deep, with its masts always protruding.

The wreck is designated under section 2 of the Protection of Wrecks Act 1973, meaning there is a no-entry exclusion zone around it.

Peel Ports London Medway – the historic ports of Sheerness and Chatham combined together – is contracted to provide and maintain a circle of buoys around the wreck to ensure that shipping avoids the area and to keep the wreck site under 24-hour radar surveillance.



A map showing the location of SS Richard Montgomery.

What is still on SS Richard Montgomery?

There are three types of bombs thought to be on board: un-fused TNT bombs, about 800 fused cluster bombs and some smoke bombs – quite a combination that might make even the hardiest of people raise an eyebrow. However, a March 2000 report on the wreck of the SS Richard Montgomery stated: "TNT does not react with water and is extremely stable, particularly if stored at a steady, low temperature. "As it has been contained in metal bomb cases there has probably been little change in its chemical or explosive properties as a result of the long period of immersion."

The report also investigates initial concerns after the vessel sank over "the possibility of the formation of very sensitive copper compounds from reaction between the lead azide in the detonators with the brass components of the fuses of the cluster bombs" and reveals why they were "no longer considered to be a significant hazard" by 2000.

Turns out the flooding of the wreck has proved helpful in reducing the threat of explosion from the cluster bombs. "As the fuses will probably all have been flooded for many years, and the sensitive compounds referred to are all soluble in water, this is no longer considered to be a significant hazard," the report added. However, while the white phosphorus filling of the smoke bombs is stable underwater, it is capable of spontaneous ignition if exposed to the air.

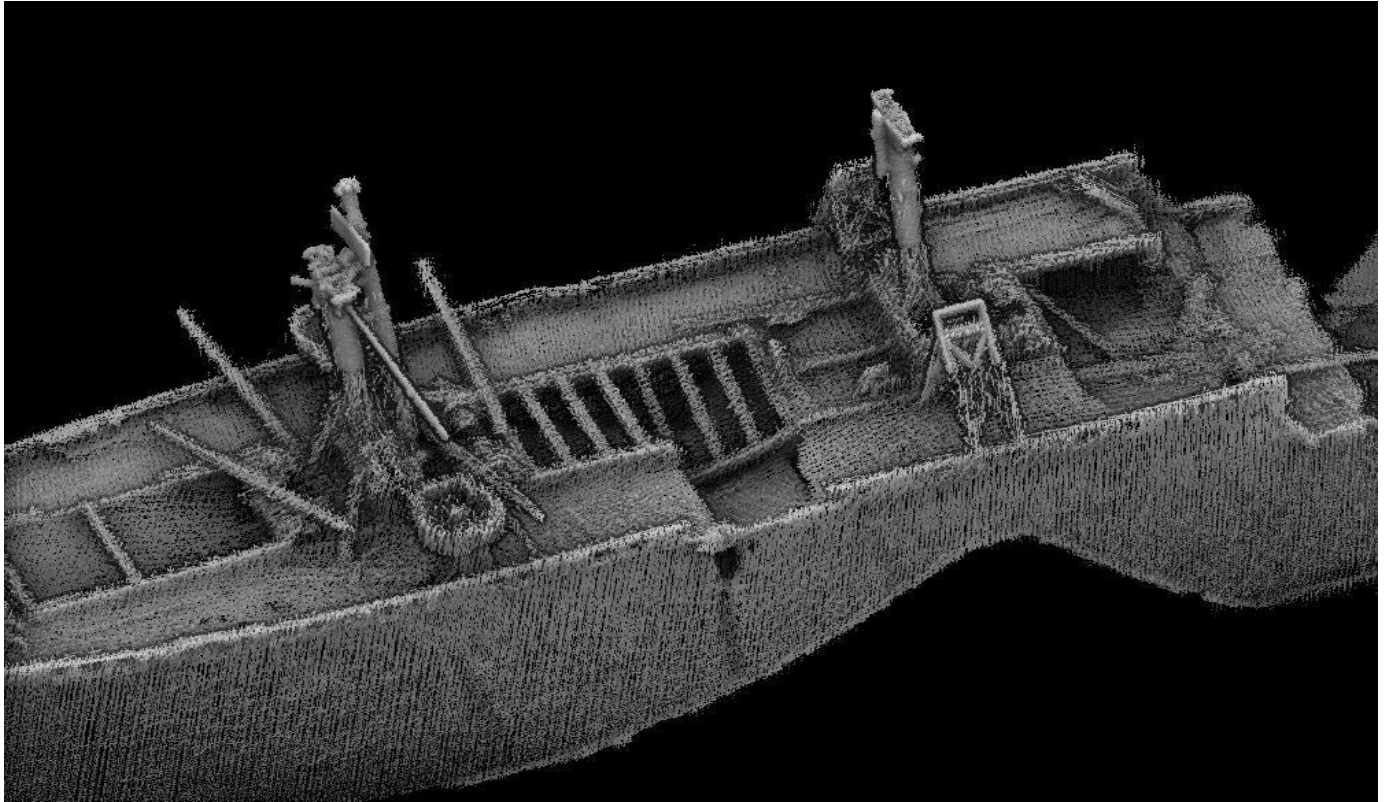
What is the risk of an explosion?

In a House of Lords debate in July 2019, to ask what action the Government is taking to mitigate the risks posed by the wreck, Lord Harris of Haringey explained that, in 1970, the Royal Military College of Science prepared an assessment of what would happen if the entire remaining cargo were to explode.

He said: "A 3,000 metre-high column of water and debris and a five metre-high tsunami.

"This would overwhelm Sheerness, and the water wave, possibly carrying burning phosphorus, would reach the petrochemical installation on the Isle of Grain." However, others at the debate questioned whether it would be worth the cost seeing as it has been reported that disturbing the wreck could be dangerous. Lord Greenway said: "Some people have proposed either moving the whole wreck, which would be well-nigh impossible, or just removing the munitions.

"The latter course has been estimated to cost tens of millions of pounds and would probably involve the evacuation of Sheerness. "On balance and in conclusion, I tend to follow the line... that we should leave well alone but continue to monitor closely the gradual degradation of the wreck."



A crack in SS Richard Montgomery's hull in September 2021 (Picture: Maritime Coastguard Agency).

The March 2000 report states that up until that point, and still the case 22 years later, the damage to SS Richard Montgomery and its precarious position in a major shipping route, hasn't caused any explosions.

The report also states that, if nature is allowed to take its course, the wreck will break up naturally and that during this process "the ordnance will get wet... and will become neutralised".

"Even if the water has not already rendered them inert, a small explosion at any distance from the wreck will not set off the bulk of the cargo." However, the report is clear to point out that the wreck should not "be disturbed by moving it or attempting to unload it" – doing so might increase the chance of explosions.

The report states that "the risk of a major explosion is believed to be remote and is probably becoming even less likely with the passage of time". However, what happened to the wreck of the Polish-operated cargo ship SS Kielce in 1967 has left people concerned.

A small boat speeds past the masts of SS Richard Montgomery at low tide (Picture: James Bell / Alamy Live News). It sank in the English Channel near the coastal town of Folkestone following a collision in 1946.

Even though no cargo manifest has ever been traced, it is reported that the ship had a full cargo of bombs and ammunition.

To clear the wreck, the Folkestone Salvage Company set off explosions on 22 July 1967, the third of which, according to the March 2020 report, "brought panic to Folkestone's town and chaos to the beaches".


The March 2000 report on the wreck of the SS Richard Montgomery also stated: "Chimneys were damaged, slates dislodged and ceilings were cracked, but no case of personal injury was reported."

'In the doldrums'

The doldrums is the band of ocean located 5° north and 5° south of the equator. Sailors today call this area the 'Intertropical Convergence Zone', and it's where the northeast and southeast tradewinds converge, effectively cancelling each other out. As a result, it's a low-pressure area where the prevailing winds are very calm (and at times nonexistent!), making it very difficult to sail through.

During the age of sail, the doldrums had a reputation as a deadly zone. Crews dreaded sailing the doldrums because their ships were often stranded here for weeks before winds picked back up. Being stuck in the doldrums could have serious consequences back then; supplies would run low and starvation and diseases caused by malnutrition could set in.

Today, the phrase 'in the doldrums' is used to describe being in low spirits or depressed.



It was reported that two members of staff from the Folkestone Salvage Company were in a small boat near the wreck when the explosion occurred and reported "a small ripple and some spray". However, other reports state that a "tidal wave" hit the Folkestone beaches, causing some to successfully claim for property damage on Folkestone beaches.

A sign at the wreck location warns people to "not approach or board this wreck" (Picture: Jason Richardson / Alamy Stock Photo). In cases like these, it's useful to check what data was recorded at the time.

The March 2020 reports states: "The seismic effects of the explosion had been recorded by at least 25 observatories, throughout Europe and America, out to a distance of nearly 5,000 miles from Folkestone and, from these records, using techniques which were developed for cataloguing the severity of earthquakes and other seismic disturbances, a magnitude of $4\frac{1}{2} \pm \frac{1}{2}$ was allocated to the explosion."

With all the information gathered since 1946, many believe it is considered more dangerous to attempt to remove the remaining explosives than leave the submerged wreck alone. However, SS Richard Montgomery has been deteriorating for 78 years, meaning that there is a possibility that structural failure might occur.

In 2000, the Defence Evaluation and Research Agency concluded that the likelihood of a major explosion is remote but that as time passes, the deterioration of the wreck could shift the risk towards a "let's deal with this now" level of urgency. The density plot of the surrounding seabed (Picture: Maritime Coastguard Agency).

The conclusions in 2000 were as follows:

- 1) Masts and derricks must remain where they are. They will be removed at the start of 2023, much to the despair of tourists who like to see them.
- 2) Continue to keep the wreck under close observation. The wreck is under 24-hour surveillance by Medway Vessel Traffic Monitoring Service.
- 3) Monitor the seabed around the wreck in an annual survey. High-resolution multibeam sonar surveys of the wreck have been undertaken on a regular basis since 2002. The SS Richard Montgomery survey report in 2021 stated that "no significant changes had occurred" since the preceding survey in 2020.
- 4) Complete risk assessments that "consider cost, environmental impact and risks to stakeholders in the event of





Top Photos TS KYBRA Participating in a street parade and end of year parade and presentation

Australian Defence Force Cadets from the three services at a presentation conducted by RSLWA





HMAS PERTH (III)

December 17th. 2022

HMAS PERTH's achievements in the 2022 Fleet Awards were:



GLOUCESTER CUP—Awarded to the fleet unit that has excelled in all aspects of their tasking; including mission effectiveness, Lethality, Safety, Reliability, Efficiency, Currency and Competency.

SPADA SHIELD—Awarded to the major fleet unit that has excelled in all aspects of tasking including Safety, Reliability, Efficiency, Currency, Competency, Mission effectiveness and Lethality.

SILVER PLATTER - (Major Fleet Unit) Awarded to the fleet unit with three or more catering staff that has achieved the highest standard in the provision of food services.

WORMALD SHIELD - Awarded to the fleet unit that has achieved the high standard in combat survivability.

And with great pride; PERTH was runner up in the:

MARITIME LOGISTICS EXCELLENCE AWARD—Awarded to the fleet unit that has achieved the highest standard in supply excellence.

COMBAT SYSTEMS PROFICIENCY SHIELD—Awarded to the fleet unit that has achieved the highest standard in Combat System and Weapons Engineering Efficiency and Serviceability.

ACTION INFORMATION ORGANISATION SHIELD—Awarded to the fleet unit that achieved the highest standard in Action Information Organisation.

This was an outstanding effort and as a result of every member of the PERTH Posse. These achievements are something that they will carry for the rest of their careers and be justifiably proud of..

CMDR Anthony Nagle CSC RAN
Commanding Officer
HMAS PERTH





Defence firm Plasan has signed a contract with BAE Systems to provide armour for the second batch of five Type 26 Frigates being built in Glasgow for the Royal Navy.

Plasan is currently delivering composite armour for [the first three of eight frigates as part of the earlier Batch 1 contract](#).

The new Batch 2 contract includes composite armour for five Type 26 frigates that will be placed in key locations.

According to a news release:

“The unique installation approach that was demonstrated as part of Batch 1 deliveries will allow simple and cost effective integration for the entire Type 26 fleet of eight. Plasan’s world leading armour technology, flexibility and innovation is well suited to the Type 26 approach and has helped to secure this important programme.

The quality and production processes within Plasan underpin the confidence that has been shown in selecting Plasan’s solution also for the follow on orders. Working together with Design Authority partners has strengthened the ethos of Plasan’s success.”

The new Type 26 Frigate designed and built by BAE Systems is the new class selected for the replacement of eight anti-submarine frigates of the Duke class currently in service with the Royal Navy. Type 26 will provide increased capability and flexibility through a design that includes a multi-role mission bay, large flight deck and hangar that can exploit a range of manned and unmanned systems. There will also be great scope for future development.

How the New Zealand Navy plans to fix its sailor and ship shortfalls

By [Nick Lee-Frampton](#)

Wednesday, Jan 4



The HMNZS Wellington, which New Zealand recently placed dockside, dispatches a hydrographic survey and dive team. (New Zealand Defence Force)

WELLINGTON, New Zealand — [A third of Royal New Zealand Navy ships are docked](#) due to a shortage of sailors, causing a loss of “significant flexibility,” the service’s top officer told Defense News.

Last month, the 279-foot offshore patrol vessel HMNZS Wellington became the third ship to enter a period of idleness, joining the Navy’s other offshore patrol vessel HMNZS Otago and one of the two remaining 180-foot inshore patrol vessels, HMNZS Hawea.

The other six ships are two Anzac-class frigates, HMNZS Te Kaha and HMNZS Te Mana; one inshore patrol vessel, HMNZS Taupo; one replenishment ship, HMNZS Aotearoa; one sealift ship, HMNZS Canterbury; and one hydrographic ship, HMNZS Manawanui.

“We have lost significant flexibility,” said Rear Adm. David Proctor, “and we have lost the ability to undertake a number of concurrent activities.”

But “I wouldn’t describe it as a catastrophe,” he added. “We are still able to deliver the expectation of government from an agreed-outputs point of view. Having a third of the fleet alongside is certainly less than ideal. I would love to be able to offer New Zealand and the government more options to respond.”

Chief of Defence Force Air Marshal Kevin Short said putting the Wellington dockside would free up engineering personnel amid workforce attrition. Placing a ship into care and custody will consolidate the workforce and allow better management of the effects of attrition, he argued.

The Navy currently has funding for 2,230 people, but Proctor said the service’s ideal end strength is about 2,340. As of Nov. 30, it had 2,117 in service, he said.

The service has “often struggled” to hit recruitment targets, Proctor noted, with the group coming in next year representing half of the service’s goal. Part of the problem is the highly competitive labor market.

“If the current attrition rate of 16.5% can be arrested, it is expected [that we] will have sufficient sailors to operate the rest of the fleet,” a Navy spokesperson told Defense News. “However, there remains a level of uncertainty until this attrition rate is reversed. This requires a number of initiatives to take effect, including addressing the widening gap between our sailor remuneration and what the highly competitive job market is offering.”

Still, the Navy’s two frigates are still operating — a ship type Proctor said can respond quicker than offshore patrol vessels and carry more personnel. But using frigates in place of OPVs means “I then don’t have a frigate to respond to whatever else may occur in the region,” he noted.

The Royal New Zealand Navy has funding for 2,230 people. (New Zealand Defence Force)

“From [the] ability to undertake surveillance and reconnaissance, we’re not perceiving any issues, but at this point there isn’t a ship able to undertake enforcement. With HMNZS Aotearoa, we can certainly be present ... but until we have a dedicated ship that can operate in ice, or very near to ice, we are unable to undertake that enforcement activity within the Southern Ocean and the Ross Sea. So there’s a policy gap at the moment; I am unable to meet the government’s direction,” Proctor added. Robert Patman, a professor of international relations at New Zealand’s Otago University, described the idle ships as a “worrying” development.

“We have one of the biggest exclusive economic zones in the world, quite a lot of marine resources to protect, and this is just not the time when we should be signaling or indicating that we are weakening our capabilities in maritime security,” he told Defense News.

Beyond New Zealand’s local waters, he added, the country has an obligation to neighboring Pacific islands, which absorb “about 60% of our overseas development aid and has been defined, particularly by this government, but by successive governments, as our major priority in foreign policy terms and security terms.”

Furthermore, the country should not assume its allies will fill the gap, and the government ought to consider raising its defense expenditure, Patman said.

“We’ve been spending about 1.5% of [gross domestic product]. ... If we were spending more ... then we could support the Navy to get it into a situation that it is operationally more capable than it is at the moment,” he added. “All governments have problems of conflicting financial demands. It’s just a question of whether we are going to bite the bullet — in a very troubled world — of committing ourselves more unambiguously to raising the level of defense expenditure to a point which matches our national and international interests more commensurately.”

Tackling the personnel gap

Salary is certainly part of the reason the Navy can’t reach its ideal end strength.

“Our sailors are being enticed out by remuneration levels significantly different to what we pay. These sailors are highly competent, highly disciplined, and they want to provide the best for their families,” Proctor said. “If they can see the competitive labor market outside is going to give them [up to] NZ\$50,000 extra per annum, they’re going to take it, notwithstanding they wish to serve the nation.”

But pay is not necessarily the major reason for attrition rates, according to independent defense consultant Gordon Crane.

“Many of the personnel ordered to manage quarantine facilities during the COVID epidemic subsequently resigned,” Crane told Defense News.

Police and Royal New Zealand Navy staff are seen at the northern Auckland border at Te Hana on Nov. 17, 2021, amid the global COVID-19 pandemic. (Fiona Goodall/Getty Images)

Indeed, sailors were tapped to manage hotels hosting those under quarantine during the COVID-19 pandemic. “They weren’t in ships, and they joined the Navy to go away in ships,” Proctor said. “So it’s a mixed bag. In some areas there is high morale, in other areas it’s tough.”

The shortfall is further exasperated by “severe restrictions in some of the critical technical trades,” Proctor added. “It’s a bit of a perennial problem for many of our technical trades, I don’t think we’ve ever had enough in 20 years; certainly it’s been a long time since we had an excess of technical sailors.”

Proctor said some of the crew members of idle ships are helping to fill readiness gaps on other ships, while others are taking leave or participating in training courses. Some personnel will sail with other navies.

“I want our sailors to retain their skills as mariners and sailors, so where we don’t have an ability to send our own ships, I am inviting partners [to see] if they have an ability to help us,” Proctor said. “That’s not unusual; we have exchanges going all the time. It’s just this time we will potentially send larger numbers of Kiwi sailors to our partners’ ships to deliver security outcomes.” The Navy has responded to its readiness gap with technical and financial measures, in particular the introduction of training simulators that make the process faster and more efficient, according to Proctor.

“We can get them to sea ... in less time. We had an engineering training reform project [in which we asked]: Were we training the right things with the sailors that we require at sea?” he said. “Our seaman combat specialist [trade] has undertaken a similar review; simulation has provided similar benefits with them.”

“We are specific in recruiting targets for particular trades. We’ve introduced a training scheme for enlisted sailors whereby they can go and undertake tertiary training — one or two each year — that satisfies their professional desire for development,” he added. “One of the key ones that I am keen on and we are still putting resources into is the School to Seas program. It’s woman-focused on the [science, technology, engineering and math] trades. We’ve run that program once, and we’re running it again next year.”

“Across the Defence Force we have introduced an international operational enabling allowance that’s encouraging people to remain in the service in some of the areas where [living] costs are high,” he added.

Furthermore, sailors that deploy for more than 210 days in a year are now granted two days of extra leave for each month they’re over that balance. “Obviously that doesn’t help them when they are at sea, but they get to do a degree of reconnection with [their] family when they do come home,” Proctor noted.

“We have introduced retention payments for critical trades,” he added. “That’s short term and buys us time to address those core issues that sit behind our attrition.”

Even though New Zealand was aware of its chronic sailor shortage, it still decided to acquire more ships, according to Paul Buchanan, a former defense policy analyst with the U.S. government who now leads the geopolitical consultancy 36th Parallel Assessments in Auckland.

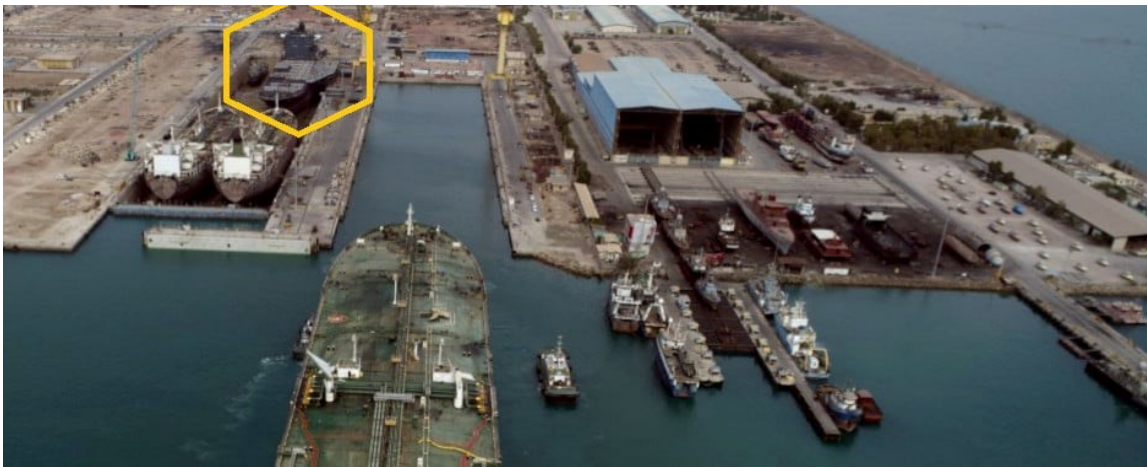
And that’s where it went wrong, Buchanan told Defense News.

The vessels Te Kaha and Te Mana entered service in the late 1990s, while the Canterbury joined in 2007, followed by the Hawea and the Taupo in 2009. The next year saw the Wellington and the Otago join the fleet. More recently, the Manawanui entered service in 2019, and the Aotearoa in 2020.

“I think the acquisition of these [ships] was more aspirational than practicable because they could see that they were having recruitment and retention problems,” Buchanan said. “But they felt the need to protect our [exclusive economic zone] and those of our neighbors, and went ahead anyway.”

Iran Building Drone Aircraft Carrier from Converted Merchant Ship, Photos Show

By: [Sam LaGrone](#)



November image circulating on Iranian social media showing Shahid Mahdavi in Bandar Abbas. H I Sutton Photo Illustration

In a dry dock near the entrance to the Persian Gulf, Iran's sectarian naval force is converting a former merchant container ship into a drone aircraft carrier, according to satellite and open source photos published last week by USNI News contributor H I Sutton.

Iranian Revolutionary Guard Corps Navy ship *Shahid Mahdavi* is a former Iranian-flagged container ship that is getting converted into a warship to carry both helicopter and fixed-wing unmanned aerial vehicles at the Iran Shipbuilding & Offshore Industries Complex Co (ISOICO) at Bandar Abbas near the Strait of Hormuz, according to November photos Sutton published on Monday.

Shahid Mahdavi has been in the dry dock since at least May undergoing the conversion from a merchant vessel to a warship, [reported The Maritime Executive](#).

The new photos show the deck of the merchant ship removed ahead of the installation of a surface to launch aircraft.

"The conversion adds a large cantilever flight deck on the port side. It is currently unclear whether an overhang will be added to the starboard side also," [wrote Sutton](#).

"The fact that the superstructure spans the original deck means that a traditional aircraft carrier layout is not possible. The angles on the added flight deck are also not traditional. Possibly this hints at a flight deck running across from port to starboard ahead of the superstructure."



Social media photos of *Shahid Mahdavi* suggesting the construction of an angled flight deck. H I Sutton Photo IllustrationIran has developed a variety of aerial drones, including the Shahed 136 explosive-tipped drone that has been responsible for a string of merchant ship attacks in the Middle East.

The photos line up with Iran's expressed use for the ship in the local press, Behnam Ben Taleblu, an Iran expert at the Foundation for the Defense of Democracies, told USNI News on Tuesday. "Iranian media had talked about it being used to store drones to grow the long-range strike capabilities of the country," he told USNI News.

“The world should be looking at how Iran plans to use merchant vessels and tankers to grow its long-range strike capabilities.” Taking a page from the U.S. expeditionary sea base model, the Iranian Navy and the IRGCN have converted merchant ships that the Iranians have been unable to use due to international sanctions.



May image circulating on Iranian social media showing *Shahid Mahdavi*.

Perhaps best known of the converted merchant ships is the IRINS *Makran*, a former petrochemical tanker Iran turned into warship. Last year, *Makran* and Iranian Navy frigate IRINS *Sahand* deployed to the Atlantic for four months, traveling as far north as the Baltic Sea to represent Tehran in a Russian Navy fleet review. *Shahid Mahdavi* could be launched as early as this year, Sutton wrote. A second drone carrier, *Shahid Bagheri*, is slated to join *Shahid Mahdavi*.

DEATH TOLL FROM THAI WARSHIP SINKING NOW AT 18

By **Baird Maritime** - December 27, 2022



The Royal Thai Navy corvette HTMS *Sukhothai* lists heavily to starboard before finally sinking in the Gulf of Thailand, December 18, 2022. (Photo: Royal Thai Navy) Officials of the Royal Thai Navy have confirmed the recovery of additional bodies following the [sinking of one of its ships](#) in bad weather earlier this month, raising the incident's death toll to 18.

On Sunday, December 25, officials said the ongoing search and recovery effort following the loss of the Ratanakosin-class corvette HTMS *Sukhothai* led to the discovery of the remains of 12 crewmen besides the [six initially found](#) within 72 hours of the incident. *Sukhothai* was underway in the Gulf of Thailand some 32 kilometres off Prachuap Khiri Khan province when it encountered rough sea conditions in the late evening (local time) of December 18. The ship listed heavily, capsized, and then sank to a depth of 40 metres. Another 11 personnel are still missing, officials added. At the time of the incident, *Sukhothai* had 105 people on board. This number included 30 additional personnel besides the vessel's normal crew complement. Rescue teams have so far safely evacuated 76 survivors including one sailor initially reported as missing. This last individual was found adrift in the water two days after the sinking.

Russia deploys one of its most modern frigates equipped with Zircon hypersonic missiles

Harry Adams



The frigate is the lead ship of the 22350 project, as stated on the Russian Defense Ministry's website - joining the Russian Navy in 2018 (Picture: Lilyana Vynogradova/Alamy Stock Photo).

Russia has deployed one of its most modern frigates, the Admiral of the Fleet of the Soviet Union Gorshkov. The frigate is embarking on a long-distance naval mission across both the Atlantic and Indian oceans, as well as the Mediterranean.

But what is the ship and what purpose does it serve? It is capable of carrying a crew of between 180 and 210, has a helipad and hangar for helicopters, and has a displacement of 4,550 tonnes. The length of the ship is 135m, and it can reach speeds of 29+ knots, has a range of 4,500 nautical miles and can last 30 days at sea.

Designed to resolve challenges in faraway oceans, the multi-purpose ship comes equipped with [Zircon hypersonic missiles](#). The missiles are capable of inflicting extremely accurate and powerful strikes against targets at sea and on land.

They can also overcome advanced air defence and missile defence systems, with flight speeds of more than Mach 5, five times the speed of sound – although some reports claim they can reach Mach 9 – and have a range of more than 1,000km. Russia tested the Zircon system in late 2021, firing from the Admiral Gorshkov in the White Sea and hitting a naval target more than 400kms (250 miles) away, according to reports at the time.

The ship departed for its recent deployment from an unnamed Russian port, with Russian President Vladimir Putin boasting about the ship's deployed hypersonic missiles. The Russian president said that the ship was carrying Zircon hypersonic missiles, that, he said, are harder to detect and intercept.

"I am sure that such powerful weapons will reliably protect Russia from potential external threats and will help ensure the national interests of our country," he told Russian news agency TASS.

The frigate is the lead ship of the 22350 project, as stated on the Russian Defense Ministry's website – and joined the Russian navy in 2018.

OPINION | OF SUBMARINES AND NUCLEAR UMBRELLAS

By **Rod Lyon**



The US Navy Ohio-class ballistic missile submarine USS Tennessee (foreground), a UK Royal Navy Vanguard-class nuclear submarine, an E-6B Mercury airborne command aircraft, and an MH-60R Sea Hawk helicopter conduct bilateral at-sea training in the Atlantic Ocean, November 22, 2022. (Photo: US Navy/Naval Aircrewman (Operator) 1st Class Aaron Abbott)

Late in 2022—a year of war, pandemic, climatic disaster, and attempted nuclear coercion—a number of news outlets published a photograph of a rare event. True, the photograph was of particular interest to only a small range of viewers: those with an unwholesome fixation on strategic nuclear arsenals. It showed a US Ohio-class ballistic missile submarine (SSBN), USS *Tennessee*, on the surface alongside a British Vanguard-class SSBN, somewhere in the Atlantic. Ballistic missile submarines (colloquially called “boomers”) from different nations surfacing alongside each other is extremely unusual. But the photo, taken on November 22 during joint training, also included a helicopter apparently conducting anti-submarine warfare (ASW) and a low-flying E-6B Mercury aircraft.

It’s a picture loaded with firepower. The American SSBN has 20 launch tubes, and while the individual warhead loading on each Trident missile may vary, the submarine is probably carrying around 90 warheads. The British SSBN is probably carrying another 40. And then there’s the aircraft. The E-6B has two missions: to act as a relay channel of communications to the US SSBNs, and to support US Strategic Command’s National Command Authority. In its latter mission, the aircraft embarks a small battle staff capable of launching intercontinental ballistic missiles (ICBMs).

The photo was publicly released on December 13. There’s a lot going on in it, so let’s disentangle the messages. I see five: of alliance solidarity, SSBN survivability, ASW superiority and a resilient line of command authority to deter any attempted decapitation strike against Washington or London. Moreover, it is a reminder to Russian President Vladimir Putin—and the world more generally—what classical nuclear deterrence looks like.

What’s interesting is that the SSBN leg of the triad has been selected to convey those messages. In recent history, ballistic missile submarines have been—for Western nuclear powers at least—the last guardrail of nuclear deterrence. Cruising silently and invisibly in the ocean’s depths, virtually invulnerable to surprise attack, they’re the heart of America’s assured second-strike capability.

“Washington seems to be signalling that, in a crisis, it is not dependent on port visits to stay on station.” But in this case, the boomers have moved from the invisible realm to the visible. Moreover, US SSBNs have been behaving unusually elsewhere too. USS *Rhode Island* made a port call in Gibraltar on November 1. That came hard on the heels of USS *West Virginia*’s port call at Diego Garcia from the 26th to the 31st of October. Since *West Virginia* operates out of King’s Bay in Georgia, making a port call in Diego Garcia shows the impressive reach of the boomer fleet. The same submarine had, a couple of weeks earlier, surfaced in the Arabian Sea (of all places) to embark the commander of US Central Command—an implicit message to those who think of US nuclear commitments solely in relation to Europe and the Indo-Pacific that CENTCOM is also linked to the US nuclear deterrent.

What makes the recent wave of port calls a little more puzzling is that US boomers have been going out of their way to prove that they are not dependent on pier-side operations. Granted, during the visit to Diego Garcia, *West Virginia* conducted a crew change. But in May 2022, sister boat USS *Alabama* demonstrated the ability to swap Blue and Gold crews at sea. And a couple of months later, two SSBNs exercised “vertical replenishment”—a fancy name for aerial resupply—while at sea. Washington seems to be signalling that, in a crisis, it is not dependent on port visits to stay on station. Such visits by US SSBNs have been comparatively rare in recent decades, although in earlier history they used to be more common. The first such visit occurred in April 1963 when USS *Sam Houston* visited Izmir in Turkey, part of Washington’s attempt to assure the Turks they were still covered by the US nuclear umbrella after the removal of the Jupiter missiles as a *tacit coda* to the resolution of the Cuban Missile Crisis.

As the big, ballistic missile-carrying submarines became increasingly defined as the most survivable leg of the US nuclear triad, as the ranges of submarine-launched ballistic missiles improved, and as the possibility of some form of terrorist attack on a submarine in a foreign port went up after the attack on USS *Cole*, and up again after the September 11, 2001 terror attacks, American SSBNs stayed at sea, on patrol. In 2003, the boats were specifically instructed not to conduct port visits, except to US naval facilities. That rule lasted for 12 years, until late 2015. But even after that, port visits remained unusual. Security is still an important consideration. During the visit to Gibraltar, USS *Rhode Island* was virtually bubble-wrapped. ‘Allies and partners, looking for clearer signals of a US nuclear commitment to their defence, became less enamoured of Washington’s non-nuclear navy.’

Of course, there’s a second part to this story. To fully appreciate what’s happening, readers need to remember the events of 1991. The Cold War was over. And on September 27, President George H.W. Bush outlined several presidential nuclear initiatives designed to reduce the number of forward-deployed nuclear weapons and to relocate those weapons back to the continental United States. The initiatives covered ship-borne warheads as well as land-based ones, and the effect was to “denuclearise” a large percentage of the US Navy. All surface ships and most submarines—SSBNs were the exception—no longer carried nuclear weapons. But the world of 1991 didn’t last. In particular, the rise of Asia and the return of great-power strategic competition began to bite. Allies and partners, looking for clearer signals of a US nuclear commitment to their defence, became less enamoured of the non-nuclear navy. That was especially true in the Indo-Pacific, largely a maritime theatre. If the US Navy wasn’t going to contribute to extended nuclear assurance in the region, who was? The air force could certainly deploy highly visible strategic bombers to the region during crises, but the effect was somewhat monopodal.

The recent US nuclear posture review shows that Washington is beginning to think more deeply about the future shape of US extended nuclear deterrence. In the Indo-Pacific, extended deterrence arrangements have traditionally played second fiddle to those in Europe. But the review foreshadows denser consultations, higher-level engagements and, where agreeable, boomer port visits and strategic bomber missions. Such visits would be intended to assure allies and partners of Washington’s continuing commitment to “extend” its strategic nuclear deterrent to the protection of their vital interests. South Korea looms as a possible starting point, not least because it hosted a steady procession of US SSBNs in earlier decades. Japan and Australia are likely seen as more sensitive cases: neither is accustomed to seeing a visiting SSBN as a form of assurance. Still, nuclear deterrence is already playing an increasingly large role in the Indo-Pacific, and that role is more likely to grow than shrink. Australian policymakers should be alert to the fact that the nuclear umbrella in the region is taking on a new and more visible form. And Australia has a special interest in the shelf life of US extended deterrence—putting it brutally, Australia is not as well placed as some other US allies to pursue what might euphemistically be called “alternative options”.

ROYAL AUSTRALIAN NAVY PATROL BOAT WOLLONGONG RETIRES FROM SERVICE

By **Baird Maritime** - December 14, 2022



HMAS Wollongong (Photo: Royal Australian Navy)

The Royal Australian Navy (RAN) decommissioned the Armidale-class patrol boat HMAS *Wollongong* in a ceremony at HMAS Cairns on Thursday, December 8.

The patrol boat, which served for 15 years, is being retired along with some of its Armidale-class sisters as the RAN transitions to the longer-ranged Arafura-class offshore patrol vessels (OPVs).

During its naval service, *Wollongong* operated alongside the Australian Border Force, Australian Fisheries, and the Australian Federal Police as part of border protection operations. The vessel also regularly conducted joint operations with the 51st Battalion, Far North Queensland Regiment of the Australian Army, conducted patrols of oil and gas installations in northern Australian waters, and was used as a training platform for Australian Defence Force personnel.

Development of hypersonic weapons discussed at first Aukus meeting 8th December 2022 at 6:57am



The meeting saw discussions on the development of advanced capabilities such as hypersonic weapons and undersea intelligence, surveillance and reconnaissance (ISR) capabilities (Picture: Alamy Stock Photo). The Defence Secretary has discussed the development of hypersonic weapons and undersea intelligence, surveillance and reconnaissance (ISR) capabilities with his US and Australian counterparts in the first meeting of Aukus Defence Ministers in Washington.

Aukus is a trilateral security partnership, comprising the three countries, and discussions are also looking into progress on how the Australian Navy can acquire its first conventionally armed, nuclear-powered submarine. Ben Wallace met with US Secretary of Defense Lloyd Austin and Deputy Prime Minister and Defence Minister of Australia Richard Marles at the Pentagon in Washington to reiterate their shared commitment to the partnership. US Secretary of Defense Lloyd Austin "the need for Aukus is even clearer today". "More than ever, our three countries share a similar outlook on the key challenges and opportunities confronting our world," he said.

Additionally, the pact also saw plans for joint military exercises in 2023 and 2024 alongside the discussions on the development of advanced capabilities such as hypersonic weapons and undersea intelligence, surveillance and reconnaissance (ISR) capabilities.

Mr Wallace said the meeting was a "landmark moment" in the partnership.

"Aukus reflects the unique level of trust and cooperation the UK shares with its US and Australian partners, and I look forward to enhancing our technologies and capabilities together," he said. The defence secretaries also committed to continued transparency with partners on the agreement and emphasised the pact would complement existing partnerships in the Indo-Pacific region.

Australia's Deputy Prime Minister Richard Marles said the partnership is "built on trust, commitment and determination in the service of a secure and stable Indo-Pacific". "Together we hope to be able to progress developments in advanced capabilities and discuss the optimal pathway for Australia to acquire nuclear-powered submarines," he said. Mr Wallace welcomed the publication of a new US National Defense Strategy which strongly aligns with the UK's Integrated Review and provides a narrative on Russia and China, according to the MOD. He also thanked Mr Marles for Australia's decision to deploy military personnel to the UK to support the training of Ukrainian troops - set to commence in January. The pair also discussed opportunities for more defence collaborations between the two countries.

'Leeway'

'Leeway' is an everyday word which means to cut a person some slack, giving them space, time or an extra margin within which they can operate.

The first recorded use of 'leeway' dates back to the 1660s.

In sailing terms, leeway refers to the amount or angle of sideways drift of a ship off-course, caused by the wind. It's still used in this context to this day and taken into account when charting a course.

It was around 1835 that it was came to describe giving a person extra space or freedom, and has been used this way since then.



RUSSIAN AIRCRAFT CARRIER ADMIRAL KUZNETSOV SUFFERS ONBOARD FIRE AGAIN

By **Baird Maritime** - December 26, 2022



Admiral Kuznetsov with the Royal Navy destroyer HMS Dragon in 2014 (Photo: Royal Navy)

Russian state-owned media outlet *RIA Novosti* has reported that a fire ignited on board the Russian Navy's sole aircraft carrier as it was undergoing repairs in Murmansk on Thursday, December 22.

The fire incident is the second to occur on *Admiral Kuznetsov* following an [earlier one](#) that left one person dead while the ship was undergoing repairs, also in Murmansk, on December 12, 2019.

The ongoing overhaul was being carried out to repair the damage caused by the earlier fire.

Aleksey Rakhmanov, the head of state-owned United Shipbuilding Corporation (USC), clarified that the blaze on *Kuznetsov* was quickly extinguished and there were no casualties or damage.

Around 20 people were working on the carrier when the incident occurred. All were evacuated safely.

The ship was originally scheduled to re-enter service in 2024 following completion of the current overhaul. However, recent estimates show this return to service will likely be further delayed.

HMS Prince of Wales in dock for repairs more often than at sea: Report

Since its commissioning in 2019, the largest ship in the British fleet has spent 267 days only at sea while Christmas Eve was its 268th day in repairs.



The UK aircraft carrier HMS Prince of Wales, the largest ship in the British fleet

The UK aircraft carrier HMS Prince of Wales, the largest ship in the British fleet, has been docked for repairs more often than operating at sea since being commissioned in 2019, *The Times* reported on Monday.

According to the newspaper, problems with the warship's functioning began as early as 2020. First, the carrier suffered a leak in the engine room, then the collapse of an accommodation block. The ship has been languishing lately in a Scottish dockyard after [breaking down off the Isle of Wight](#) due to a propeller shaft problem in August.

The Times highlighted, citing a UK Defense Department analysis, that the carrier has spent 267 days at sea, while Christmas Eve was its 268th day in repairs.

The UK's other aircraft carrier, HMS Queen Elizabeth, has replaced the Prince of Wales on overseas missions, despite the fact that the ships were to alternate every eight months, the report indicated.

The newspaper quoted a Royal navy spokesperson as saying that "repairs to HMS Prince of Wales's starboard shaft are expected to be completed by spring."

The £3.2 billion (\$3.9 billion) ship "will then return to Portsmouth for a pre-planned maintenance period," the spokesperson added.

Earlier this month, Admiral Sir Tony Radakin, chief of the Defense Staff, admitted in a lecture that the HMS Prince of Wales has been a source of "deeply frustrating" problems, adding that such megaships "are massive capital projects where sometimes things will go wrong."

It is noteworthy that the Royal Navy describes the HMS Prince of Wales as "one of the most powerful surface warships ever constructed in the UK." Divers who inspected the ship's hull said they discovered "significant damage" to the shaft and the propeller and "some superficial damage" to the rudder. The root cause of the problem was found to be a failure of the external coupling that connects the drive shaft to the outer propeller shaft.



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