

American Submariners Inc.  
4370 Twain Ave.  
San Diego, CA 92120-3404



## *The Silent Sentinel*

### *March 2016*



#### *Our Creed and Purpose*

To perpetuate the memory of our shipmates who gave their lives in the pursuit of their duties while serving their country. That their dedication, deeds, and supreme sacrifice be a constant source of motivation toward greater accomplishments. Pledge loyalty and patriotism to the United States of America and its Constitution.

In addition to perpetuating the memory of departed shipmates, we shall provide a way for all Submariners to gather for the mutual benefit and enjoyment. Our common heritage as Submariners shall be Strengthened by camaraderie. We support a strong U.S. Submarine Force.

The organization will engage in various projects and deeds that will bring about the perpetual remembrance of those shipmates who have given the supreme sacrifice. The organization will also endeavor to educate all third parties it comes in contact with about the services our submarine brothers performed and how their sacrifices made possible the freedom and lifestyle we enjoy today.



USSVI San Diego, Base Commander, Bob Bissonnette, freezing his Tuchas off in sub zero weather at Navy ICEX 2016, Camp SARGO, 178 miles from base camp in Prudhoe Bay, Alaska

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*Position is Open*

### The Silent Sentinel via Email

To all of my Shipmates and families who currently receive our Great newsletter via the mail who would like it sent via email or continue to receive it via mail, please fill out the form and mail it to the base or myself. We are trying to cut the cost of the newsletter down from \$3700 to about \$1900 a year. By receiving the Silent Sentinel via email will cut down the printing and mailing cost. The other plus to receiving it via email is you can save it on your computer and not have the paper lying around the house.

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## *March 2016 MEETING*

**Our monthly meeting is held on the second Tuesday of the month at VFW Post 3787, 4370 Twain Ave., San Diego. Our next meeting will be on March 8th. The post is located one-half block West of Mission Gorge Road, just north of I-8. The meeting begins at 7 p.m. The E-Board meets one hour earlier at 6 p.m.**

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### **BINNACLE LIST**

*Benny Williams*

## *Submarine Losses in March*

Originally Compiled by C J Glassford



**USS Perch (SS-176):** Lost on March 3, 1942 near Java with no immediate loss of life, while on her 1st war patrol. She survived 2 severe depth chargings in less than 200 feet of water by 3 Japanese destroyers. The crew abandoned ship and scuttled her. Of the 59 officers and men taken prisoner, 53 survived the war and six died as POWs.

**USS Grampus (SS-207):** Lost on March 5, 1943 with the loss of 71 officers and men, on her 6th war patrol. She was lost in Vella Gulf, sunk after engaging 2 Japanese Destroyers.

**USS H-1 (SS-28):** Lost on March 12, 1920 with the loss of 4 men as they tried to swim to shore after grounding on a shoal off Santa Margarita Island, off the coast of Baja California, Mexico. Vestal (AR-4), pulled H-1 off the rocks in the morning of 24 March, only to have her sink 45 minutes later in some 50 feet of water. She was originally named the USS Seawolf before becoming H-1.

**USS Triton (SS-201):** Lost on March 15, 1943 with the loss of 74 men. She was sunk north of the Admiralty Islands during a fight with 3 Japanese Destroyers. Triton was the 1st boat to engage the enemy in December 1941 off Wake Island, sinking 9 ships, 1 submarine and a destroyer.

**USS Kete (SS-369):** Lost on March 20, 1945 with the loss of 87 officers and men at the end of her 2nd war patrol. Probably sunk near Okinawa, by a Japanese submarine that itself was subsequently lost.

**USS F-4 (SS-23):** Lost on March 25, 1915 with the loss of 21 men. She foundered 1.5 miles off of Honolulu when acid corrosion of the lead lining of the battery tank let seawater into the battery compartment, causing loss of control. She was raised in August 1915.

**USS Tullibee (SS-284):** Lost on March 26, 1944 with the loss of 79 officers and men, on her 4th war patrol. It's believed she was a victim of a circular run by one of her own torpedoes. The lookout was the only survivor and he survived the war as a Japanese prisoner.

**USS Trigger (SS-237):** Lost on March 26, 1945 with the loss of 89 officers and men, on her 12th war patrol. She was lost during a combined attack by Japanese antisubmarine vessels and aircraft. Trigger ranked 7th in total tonnage sunk and tied for 8th in number of ships sunk.



## Current News

"Plataginet, I will; and like thee, Nero,  
Play on the lute, beholding the towns burn" (*Henry VI*, Shakespeare)

### Russian Subs Are Reheating A Cold War Chokepoint (Russia)

#### Magnus Nordenman, Defense One, Mar 4

The recent U.S. promise to fund upgrades to Iceland's military airfield at Keflavik is no diplomatic bone thrown to a small ally. The improvements will allow the U.S. Navy's new P-8 Poseidon maritime patrol aircraft to keep an eye on Russia's increasingly active and capable submarine force in a region whose importance is rising with the tensions between Moscow and the West. In short, the Greenland-Iceland-UK gap is back.

During the Cold War, the maritime choke points between Greenland, Iceland, and the UK were key to the defense of Europe. This "GIUK gap" represented the line that Soviet naval forces had to cross in order to reach the Atlantic and stop U.S. forces heading across the sea to reinforce America's European allies. It was also the area that the Soviet Union's submarine-based nuclear forces would have to pass as they deployed for their nuclear strike missions. In response, the United States and its northern NATO allies spent considerable time, money, and effort on bolstering anti-submarine warfare capabilities and intelligence, surveillance, and reconnaissance in the region. Maritime patrol aircraft from the UK, Norway, and the U.S. (Navy P-3s, flying from Keflavik) covered the area from above, while nuclear and conventional submarines lurked below the surface. The choke points were also monitored by an advanced network of underwater sensors installed to detect and track Soviet submarines.

But after the Cold War ended, the GIUK gap disappeared from NATO's maritime mind. U.S. forces left Iceland in 2006, and the UK, facing budget pressures, retired its fleet of maritime patrol aircraft fleet in 2010. (The Netherlands did the same in 2003.) Anti-submarine warfare and the North Atlantic were hardly priorities for an Alliance embroiled in peacekeeping, counter-insurgency, and fighting pirates in far-flung Bosnia, Afghanistan, and the Horn of Africa.

But the term "GIUK gap" is now heard again in NATO circles (and sometimes as GIUK-N gap, to signify the inclusion of the maritime domain around Norway), as it becomes increasingly apparent that Russia is pouring money into its naval forces in general, and its submarine fleet in particular. Moscow is introducing new classes of conventional and nuclear attack submarines, among them the Yasen class and the Kalina class, the latter of which is thought to include air-independent propulsion. AIP, which considerably reduces the noise level of conventional submarines, was until recently seen only in Western navies' most capable conventional subs. Much of Russia's investment in its submarine force has been focused on its Northern Fleet, which is based in Murmansk and intended for operations in and around the Arctic, as well as the Atlantic. The Northern Fleet is also the home of Russia's submarine-based nuclear deterrent.

Russia is believed to be putting these new sub-surface capabilities to the test. The UK, Sweden, and Finland have all launched recent hunts for suspected Russian submarines deep in their territorial waters. Russia has also showed off its new ability to launch

land-attack cruise missiles from its submarines; late last year, a sub in the Mediterranean fired Kalibr missiles against targets in Syria.

Russia's growing sub-surface capabilities are coupled with an apparent political will to use them. Its recently revised maritime strategy emphasizes operations in the Arctic, along with the need for Russian maritime forces to have access to the broader Atlantic Ocean. And that access will have to be, just as during the Cold War, through the GIUK gap.

Now the United States is pivoting back to the region; witness the Obama administration's recent announcement that it intends to spend part of the proposed 2017 European Reassurance Initiative budget on upgrading facilities at Keflavik.

And the U.S. is not alone. Britain recently announced that it will seek to rebuild its maritime patrol aircraft fleet, probably by buying P-8s from Boeing. Norway is also considering its options for the future of its maritime patrol aircraft, and is also looking to buy a new class of submarines. Norway also recently upgraded its signal intelligence ship with new U.S. sensors, and the ship is primarily intended for operations in the vast maritime spaces of the High North.

The emerging challenge in the North Atlantic should also drive NATO and its members to look hard at regenerating the ability to conduct anti-submarine warfare against a potent adversary. European nations should also take a hard look at its aging maritime patrol aircraft fleet and think about its future. The UK and the Netherlands are not the only countries who let their MPA fleets slip after the end of the Cold War.

While current U.S. and NATO efforts at deterring further Russian aggression may be most visible through ground force deployments, exercises, and pre-positioned equipment in Europe's east, a mostly unseen contest is also emerging in the North Atlantic. The GIUK gap is back.

### **Underwater and Underhanded: Russian Submarines Come to the Mid East (Russia)**

**Micah Halpern, The Observer, Mar 3**

Once again, Russia is upping the ante in the power game they are playing in the Middle East.

Russians have deployed a fleet of submarines off the coast of Syria. And not just any subs. These are the quietest subs in the world. NATO has termed these Russian subs "Black Hole." They are diesel electric powered and fire Tomahawk-style rockets from the sea.

The subs are also known as Rostov -on- Don and the Russians have already used them against ISIS and al Qaeda. Russian Defense Minister Sergei Shoigu with Russia President Vladimir Putin recently held a televised meeting, and broadcast footage of the submarines striking at ISIS targets.

One of the secret weapons of great powers is their submarine fleet. Very little time is spent analyzing the power and strength of these underwater vessels, but conventional wisdom has it that the greater the submarines fleet the more powerful the navy. This explains why the actual size of almost every nation's submarine fleets is a top secret and the best analysts can do is speculate as to the numbers involved. An advanced sub fleet can and will be much more powerful than any aircraft carrier.

In other words—the greater the sub fleet, the more powerful the military. And if a set of subs can go undetected for weeks at a time the weapon becomes enormously effective both as a defensive and offensive weapon.

This Russian sub can remain submerged for forty-five days. Weighing in at 4,000 tons, it is very small and very fast and can cruise at an underwater speed of 20 knots. Because of its small size, it is able to get into shallow water. Because it is so quiet, it leaves no sound signature. It becomes invisible.

"Black Hole" is one of Russia's secret weapons and it is now taking up residence just off the coast of Syria, Lebanon, Turkey and Israel.

How many are there? Best intel guesses say that Russia has twenty "Black Holes." There are probably six or seven of these subs now submerged in the Mediterranean Sea.

They are not alone. Other subs in the area are there courtesy of the United States, England, Germany and France. Israel has submarines in the Mediterranean too. The others come and go at will. But for Israel this area is home.

Last year Iran brought one of its subs through the Suez Canal and up the Mediterranean Coastline to Syria. The sub was escorted by a naval vessel and they cruised right by Israel to Syria. Once it reached its destination, the ship spun around and returned to Iran.

To this day analysts have been searching for that Iranian sub. It is assumed that the Iranian sub returned to port, but no one knows for sure. We do know that it was the first time in decades that Iran had a naval presence in the Mediterranean Sea.

They are not as highly developed as the "Black Hole", but Israel does have five or six (again, it's top secret and classified and no one knows for sure) dolphin class, diesel powered, subs that have been specially redesigned and outfitted with the ability to fire Tomahawks as well as "other weapons."

Each of those subs, it is believed, is equipped with a 200 kilo nuclear missile containing six kilos of plutonium. This is known as a second strike weapon. In the event that Iran or some other country was to strike Israel, the nukes would be unleashed against the attacker.

It is safe to assume that, because of the threats facing Israel from her many enemies, all of her subs are not on her shore but, rather, they are moving in and around the waters of potential attackers. Given the new tensions in the region and the presence of Russian subs in the region, Israel has probably relocated several subs closer to home. The Israeli subs are likely tracking the Russian subs in a dangerous game of underwater cat and mouse.

The airspace above Syria is also very crowded. There are air forces from fourteen countries bumping shoulders in the sky. Russia has exercised control over the airspace with its anti-air missile program and it controls the sky patrols thru an AWACS type plane. At this point, any country that wants to fly above Syria—and they all do, must get clearance from Russia.

Russia wants to do in the sea what they are doing in the air. And they want to do it through intimidation.

With their submarine presence now powerfully established off the coast of Syria, Russia has created what has been termed an Arc of Steel. The arc goes from the Arctic Circle through the Baltic Sea to Crimea to the Mediterranean Sea. The game plan is to challenge and confront NATO and the West. In this game, the Middle East is just one connecting link in a chain of naval influence, power and intimidation.

### **Branch By Branch, A Look At N. Korea's Massive Military**

**Eric Talmadge, ASSOCIATED PRESS, Mar 1**

TOKYO – With tensions high and the United States and South Korea ready to hold their massive annual war games next week, which North Korea sees as a dress rehearsal for invasion, Pyongyang is warning it will respond to any violations of its territory with "merciless" retaliation, including strikes on Seoul and the U.S. mainland.

"Military First" is the national motto of North Korea, which is ever wary of threats to its ruling regime and still technically at war with Washington and Seoul. Nuclear-armed and boasting the world's fourth-largest military, it is persistently seen as the biggest challenge to the security status quo in East Asia, an image it loves to promote and showcased in an elaborate military parade last October.

The joint South Korea-U.S. military exercises are to begin March 7 and last more than a month. Tensions always go up when they do.

Pyongyang has poured huge resources into developing its nuclear and missile arsenals and maintaining its conventional forces. About 5 percent of its 24 million people are on active military duty, and another 25-30 percent are in paramilitary or reserve units, ready for mobilization.

But just how strong is Kim Jong Un's army?

Here's a look, based on what AP reporters and photographers have seen on the ground and the latest report to the U.S. Congress by the Office of the Secretary of Defense:

On The Ground:

By the numbers: 950,000 troops, 4,200 tanks, 2,200 armored vehicles, 8,600 pieces of field artillery, 5,500 multiple rocket launchers.

Behind the numbers: This is, and always has been, North Korea's real ace in the hole. While its threat to launch a nuclear attack on the U.S. mainland appears to be well beyond its current capabilities, turning the South Korean capital into a "sea of fire" is not.

The ground forces of the Korean People's Army form the largest segment of the military, by far. Seventy percent of them are forward-positioned around the Demilitarized Zone for quick mobilization in a contingency with South Korea; they are extremely well dug-in with several thousand fortified underground facilities.

Their arms are mostly "legacy equipment," produced or based on Chinese and Russian designs dating back as far as the 1950s. But they have in recent years unveiled new tanks, artillery and infantry weapons. In the October parade, the KPA displayed a new 240 mm multiple rocket launcher with eight tubes on a wheeled chassis. Kim Jong Un was recently shown by state media observing a new, longer-range anti-tank weapon.

"Despite resource shortages and aging equipment, North Korea's large, forward-positioned military can initiate an attack on the ROK (South Korea) with little or no warning," the U.S. report concluded. "The military retains the capability to inflict significant damage on the ROK, especially in the region from the DMZ to Seoul."

#### At Sea:

By the numbers: 60,000 sailors, 430 patrol combatant ships, 260 amphibious landing craft, 20 mine warfare vessels, about 70 submarines, 40 support ships.

Behind the numbers: Divided into east and west fleets with about a dozen main bases, the navy is the smallest branch of the North Korean military. But it has some significant strengths, including hovercraft for amphibious landings and one of the largest submarine forces in the world. An estimated 70 attack, coastal or midget-type subs provide stealth and strongly bolster coastal defenses and possible special operations. It has no "blue water" – or long-range – naval forces and relies heavily on a large but aging armada of small coastal patrol craft. But it, too, is upgrading some of its surface ships and has made a show of its efforts to domestically develop a submarine capable of launching a ballistic missile.

#### In The Air:

By the numbers: 110,000 troops, over 800 combat aircraft, 300 helicopters, more than 300 transport planes.

Behind the numbers: Here's where the "legacy" aspect of the North Korean military really kicks in. North Korea hasn't acquired any new fighter aircraft for decades. Its best fighters are 1980s-era MiG-29s bought from the Soviet Union, the MiG-23 and SU-25 ground attack aircraft. They all suffer chronic fuel shortages and pilots get little training time in the air. Its air-defense systems are aging and it continues to maintain lots of 1940s-era An-2 COLT aircraft, a single-engine, 10-passenger biplane, which would probably be most useful for the insertion of special forces troops behind enemy lines. Interestingly enough, it also has some U.S.-made MD-500 helicopters, which it is believed to have acquired by bypassing international sanctions. They were shown off during a parade in 2013.

#### Special Forces:

By the numbers: Not specified in report to Congress. Somewhere around 180,000 troops. Estimates vary.

Behind the numbers: North Korea is fully aware that it is outgunned, technologically inferior and logistically light years behind its adversaries. But it also knows how to shift the equation through asymmetric tactics that involve stealth, surprise and focusing on cheap and achievable measures with an outsized impact. Special forces operations are among them – and the North's special forces are the "most highly trained, well-equipped, best-fed and highly motivated" units in the KPA. Commandos can be inserted into the South by air or sea, and possibly on foot through tunnels across the DMZ. The North is working hard on its cyberwarfare capabilities, another key asymmetric military tactic. It is believed to have a growing number of drones.

#### Nukes And Missiles:

By the numbers: Number of nuclear weapons not specified in report to Congress. Possibly more than a dozen, outside sources estimate. 50 ballistic missiles with 800-mile range, 6 KN08 missiles with a range of 3,400-plus miles, unknown number of Taepodong-2 missiles with roughly same or longer range. Possibly one submarine-launched ballistic missile. Various shorter-range ballistic missiles.

Behind the numbers: North Korea claims to have tested its first hydrogen bomb on Jan. 6, the day after the Department of Defense report came out. That claim has been disputed, but there is no doubt it has nuclear weapons and its technicians are hard at work boosting their quantity and quality. Major caveat here: The operational readiness of its nuclear weapons and many of its ballistic missiles is debatable.

Pyongyang's main hurdles are making nuclear warheads small enough to fit on its missiles, testing re-entry vehicles required to deliver them to their targets on an intercontinental ballistic missile and improving and testing the arsenal for reliability and accuracy. Its Taepodong-2 ballistic missile is the militarized version of the rocket it launched on Feb. 8 with a satellite payload. North Korea has yet to demonstrate that it has a functioning ICBM, generally defined as having a range of over 3,418 miles.

Chemical, Biological:

This one is a question mark. The U.S. Defense Department claims Pyongyang is continuing research and development into both, and could use them, but offered no details on biologicals in its recent assessment. It said Pyongyang "likely" has a stockpile of "nerve, blister, blood and choking agents" that could be delivered by artillery shells or ballistic missiles. The North is not a signatory of the Chemical Weapons Convention and its troops train to fight in a contaminated environment.

Talmadge is the AP's Pyongyang bureau chief.

## **India Nears Completion of Nuclear Triad With Armed Submarine**

**Nc Bipindra, BLOOMBERG NEWS, Feb 26**

India is close to becoming the world's sixth country to put a nuclear-armed submarine into operation, a move that would give it a leg up on neighboring Pakistan and intensify a race for more underwater weapons in Asia.

The 6,000-ton Arihant, developed over the past three decades under a secret government program, is completing its final trials in the Bay of Bengal, according to a senior navy officer who declined to be identified because he's not authorized to speak about the program. The vessel will be operated by the navy yet remain under the direct control of India's Nuclear Command Authority headed by Prime Minister Narendra Modi.

The deployment would complete India's nuclear triad, allowing it to deliver atomic weapons from land, sea and air. Only the U.S. and Russia are considered full-fledged nuclear triad powers now, with China and India's capabilities still largely untested.

India's move may prod China to bolster its undersea arsenal and assist nuclear-armed allies Pakistan and North Korea in developing similar technologies. That risks potentially more dangerous altercations in Asia's waters, where territorial disputes have contributed to a region-wide naval buildup.

Tensions Rising

"You will probably see more friction in maritime sub-regions such as the South China Sea or the Bay of Bengal, which China and India increasingly view as their future bastions" for nuclear ballistic-missile submarines, said Iskander Rehman, a postdoctoral fellow at the Washington-based Brookings Institution's foreign policy program. "Tensions will no doubt arise from subsurface encounters in such areas, particularly as both conventional and nuclear submarines continue to proliferate throughout the Indo-Pacific region."

On Nov. 25, the Arihant reportedly test-fired a training missile, the Indo-Asian News Service reported, citing officials it didn't identify. Defense spokesman Nitin Wakankar didn't respond to questions seeking comment on the submarine's deployment or the test.

Both India and China espouse a no-first-use policy on nuclear arms. Their efforts to arm submarines with atomic weapons are theoretically aimed at preventing the outbreak of war by discouraging enemies from attacking. Ballistic-missile submarines are considered to have played such a deterrent role in the Cold War.

Second-Strike Capability

The U.S., UK, France, Russia and most recently China now have nuclear-armed submarines in operation. The 110-meter long Arihant would be harder to detect than India's nuclear weapons on land and air, giving it a "second-strike" capability to retaliate powerfully against an enemy who managed to destroy the rest of the arsenal.

China began combat patrols of an armed nuclear-powered submarine last year, the Washington Times reported in December, citing the U.S. Strategic Command and Defense Intelligence Agency. While China hasn't made a formal announcement, and U.S. officials haven't confirmed that nuclear-tipped JL-2 missiles were on board the submarines conducting patrols, they have no evidence that the vessels weren't armed.

### 'Prudent' Assumption

"Given China's known capabilities and their efforts to develop a sea-based deterrent, in absence of indicators to the contrary, it is prudent to assume that patrols are occurring," Navy Capt. Pamela Kunze, a spokeswoman for the Strategic Command, told the Washington Times.

Even so, neither India nor China has quite reached the technical prowess to give them a credible nuclear deterrent. Their submarines are loud and easily detected, making them an unlikely second-strike asset, the Lowy Institute for International Policy said in a September report.

Potentially more worrisome is that neither Pakistan nor North Korea subscribe to a no-first-use policy, and there are signs that both nations are pursuing cruder methods of deploying nukes at sea.

### Pakistan, North Korea

Last year, Pakistan finalized a deal to buy eight Chinese conventional submarines, raising concerns that they could be equipped with riskier nuclear-tipped cruise missiles. North Korea also claimed to have tested a submarine-launched missile and said that it had developed technology to mount a nuclear warhead on a missile.

"There will likely be a long phase of initial instability as China and India start deploying nuclear missiles on submarines," the Lowy report said. "Chinese and Indian nuclear-armed submarines – along with possible Pakistani and North Korean units – may remain detectable by adversaries, making their activities unpredictable in times of crisis. Moreover, these supposedly stabilizing new forces may worsen wider maritime tensions."

China boasts at least 62 submarines, including four capable of firing nuclear ballistic missiles, according to the Pentagon. China's construction of artificial islands, radar facilities and runways in the South China Sea may be aimed at using the territory as a base for its nuclear ballistic missile submarine fleet, the Lowy report said.

### Soviet Help

The Arihant will be India's first nuclear-powered and armed vessel that has been designed and built at home. The country is believed to have begun work on it in the 1980s with help from the Soviet Union, particularly on the vessel's miniaturized reactors. In 2012, India also leased a nuclear-powered submarine from Russia under a 10-year, \$1 billion contract. The two countries are negotiating a deal to lease another one, the Pioneer reported this month, citing Alexander M. Kadakin, Russia's ambassador in New Delhi.

Despite numerous setbacks, India is making progress on developing the weapons to arm the undersea vessels. In 2013, India test-fired an underwater ballistic missile with a range of 750 kilometers, the Hindu reported, citing an unidentified scientific adviser to the defense minister. Last September, India's Defense Research and Development Organization publicly acknowledged having readied a submarine-launched ballistic missile with a 3,500-kilometer range at an awards event for military scientists attended by Modi.

India needs to show the world it can capably and effectively operate the nuclear-armed submarine, said Jon Grevatt, Asia-Pacific defense-industry analyst for IHS Jane's. The "important milestone" is part of a bigger strategy to ensure its security, he said.

"The Arihant is a stepping stone for India," he said. "I don't think it will alter the balance of power in the region unless India has a fleet of four or five such submarines."

### **Australia Takes Steps To Counter China's Rising Military Power**

**Rob Taylor, WALL STREET JOURNAL, Feb 25**

**//Government deepens U.S. alliance and funds major military expansion\\**

CANBERRA – Australia's government is strengthening its U.S. alliance and plowing ahead with a 10-year, \$140 billion military expansion amid rising regional tensions over China's muscle-flexing on key trade routes in the South China Sea.

A defense blueprint released by Australia's conservative Prime Minister Malcolm Turnbull on Thursday urged Beijing to be more forthcoming about its security intentions in the South China Sea, where China is building artificial islands.

While stopping short of directly confronting China over their construction, Canberra warned it would have a “major impact” on the stability of the Pacific and Indian Ocean region over coming decades.

“As a major power, it will be important for regional stability that China provides reassurance to its neighbors by being more transparent about its defense policies,” the policy document said. “While it is natural for newly powerful countries to seek greater influence, they also have a responsibility to act in a way that constructively contributes to global stability, security and prosperity.”

The defense paper is Australia’s first since China began building artificial islands on disputed reefs in the South China Sea, upsetting regional neighbors and prompting Washington to challenge Beijing’s claims by mounting freedom of navigation patrols by air and sea. U.S. officials say Beijing is militarizing the region as a way to bolster its maritime claims, while China has defended its work as defensive and legitimate acts.

Fresh satellite imagery suggests that China has been building radar facilities on some of the artificial islands, in a move that would improve its military power in the region, a U.S.-based think tank said Tuesday. The report by the Center for Strategic and International Studies on the radar installations in the Spratly Islands came days after U.S. and Taiwanese officials said Beijing had placed surface-to-air missiles on the Paracels chain, north of the Spratlys.

Australia faces an awkward diplomatic act in balancing economic ties with China, its biggest trade partner, while trying to forge deeper strategic ties with the U.S. As much as 60% of Australia’s seaborne trade passes through the South China Sea area, much of it bound for China. A 2009 Australian defense blueprint angered Beijing by warning that the pace and scope of China’s military modernization could give its neighbors cause for concern and could lead to potential conflict.

“Australia’s security and prosperity is directly tied to the stability of our region and to the maintenance of a stable, rules-based global order,” Mr. Turnbull said Thursday.

So far, Australia has been reluctant to follow the U.S. with freedom of navigation patrols, although long-range maritime patrol aircraft have been challenged by China during regular reconnaissance flights through the region.

A senior Australian defense official said key allies and regional countries including China had been briefed ahead of the latest paper’s release.

“The Chinese won’t be surprised,” the official said.

Despite a sharp deterioration in its budget because of tumbling commodity prices and a slowing economy, Australia laid out plans for an ambitious military overhaul including a doubling of its undersea fleet, with 12 new submarines, missile drones, a larger navy and an increase in military numbers.

It also called for greater maritime power with ship-destroying missiles and more military exercises with the U.S. Both countries were working to boost rotations of thousands of U.S. Marines, aircraft and warships through Australia, while also working jointly to develop ballistic-missile shield defenses.

Canberra pledged to lift military spending to 2% of economic output, or around 58 billion Australian dollars (U.S. \$42 billion) a year. Spending this fiscal year is roughly A\$32 billion.

The rapid rise in Chinese military spending is fueling an arms race in the Asia-Pacific region. A recent report by the Stockholm Institute for Peace Research said Australia was the world’s fifth-largest arms buyer last year. Six of the top 10 global arms importers hailed from the region, including India in the top spot and third-ranked China. Russia has also re-emerged as a potential regional player, building up its submarine forces and recently supplying arms to the tiny Pacific nation of Fiji.

“Defense budgets in Asia are increasing in the wake of China’s rise, the spike in its military spending and its apparent attempts to rewrite the rules in the East and South China Seas,” said John Blaxland, a security expert at the Australian National University.

Japan’s Defense Minister Gen Nakatani said Wednesday that he has a similar view to U.S. military officials: that China is trying to transform the artificial islands into operational bases.

“China’s behavior is trying to change the status quo unilaterally and push it towards that direction further by accumulating actions,” the Japanese defense minister said.

Chieko Tsuneoka in Tokyo contributed to this article.

## **UK Navy's Third Astute Submarine Artful Conducts Final Contractor Sea Trials**

### **Staff, Naval Technology, Feb 23**

The UK Royal Navy's third Astute-class attack submarine Artful is undergoing final contractor sea trials ahead of its maiden deployment.

The submarine sailed from Barrow-in-Furness to HM Naval Base Clyde in August last year, and was officially handed over to the Royal Navy in December.

Artful is being tested for its performance and seaworthiness before it is commissioned in mid-March this year.

The trials included the firing of six training variants of the Royal Navy's heavyweight Spearfish torpedo on the British Underwater Testing and Evaluation Centre near the Isle of Skye.

These firings were the most complex of the trials conducted to date, as they required a large number of interconnected systems to function together, which ranged from loading the torpedoes into their tubes, through to the sonar detecting the target and the command system preparing a firing solution.

Artful commanding officer Stuart Armstrong said: "These trials are hugely important as they prove the submarine's primary capability as a weapon system and it gives us the confidence that should we need to fire in anger everything has been tried and tested."

Artful is a nuclear-powered submarine, whose nuclear reactor will not need to be refuelled during its 25-year service life. It can accommodate up to 38 weapons in six 21in torpedo tubes.

BAE Systems Marine Services (BAES (MS)) was contracted to build seven Astute-class submarines for the Royal Navy, which will progressively replace the Trafalgar-class submarines.

HMS Astute and HMS Ambush have already been accepted by Navy Command, while the next two submarines, Audacious and Anson, are currently being built in Barrow, with Agamemnon and an unnamed vessel to follow.

## **Reactor Incidents On New Nuclear Subs Double In One Year (UK)**

### **Rob Edwards, The Herald, Feb 20**

The Royal Navy's new nuclear-powered submarines have been plagued by 69 safety incidents and "near misses" over the last four years.

The Astute class of submarines based at Faslane on the Clyde has seen reported reactor incidents at sea or on shore almost double from 12 in 2014 to 21 in 2015. Though the MoD insists that the incidents are all minor, critics warn that they undermine the boats' reliability and safety.

The first submarine of the class, HMS Astute, has already been out on operations, and the second, HMS Ambush, was launched in 2011. The third, HMS Artful, was formally handed over to the Royal Navy in December 2015.

The four remaining Astute submarines are either still being built by the defence firm BAE Systems at its Barrow shipyard, or are due to be built there. The construction programme has been subject to a series of delays and cost overruns.

The Ministry of Defence revealed the number of safety events recorded with Astute submarine reactors between January 2012 and January 2016 in response to a request under freedom of information law. There were an average of more than 17 a year, or one every three weeks.

Reported events are not detailed. But they included "any occurrence that has, or could have, led to a reduction in nuclear or radiation safety or that provides an opportunity for operator experience feedback."

According to the independent nuclear engineer John Large, the submarines were suffering serious problems. "This continuing experience of the Astute class reactor problems not only imperils the boats when at sea but is likely to result in cutbacks to the number of patrols, voyage durations and the extent of roaming of the high seas," he said.

An MoD spokeswoman said: "In line with our high safety standards, we record all incidents regardless of how minor they are, to ensure lessons are learnt. There are no issues with the safety of the submarines and the MoD has safely operated over 80 nuclear reactor cores since 1963."

### **Beijing Urges Canberra Not To Buy Japanese Submarines (China/Japan)**

**Staff, Straight Times, Feb**

China yesterday explicitly urged Australia not to purchase a new fleet of submarines worth about A\$50 billion (S\$50 billion) from Japan, saying Canberra should remember World War II and consider "the feelings of Asian countries".

The public intervention by Chinese Foreign Minister Wang Yi into Australia's maritime security plans came as the United States has reportedly favoured Canberra buying the fleet of up to 12 submarines from Japan. The other main contenders are Germany and France.

Speaking to reporters during a visit to Beijing by Australia's Foreign Minister Julie Bishop, Mr Wang said Canberra should not encourage any moves by Tokyo to reinterpret its pacifist Constitution.

"We hope that in military cooperation with Japan, Australia will take into full account this historical context and take into consideration also the feelings of Asian countries because of that history," Mr Wang said. "We hope that Australia will take concrete actions to support the peaceful development of Japan and Japan's efforts to uphold its pacifist Constitution and not the opposite."

In response, Ms Bishop said Australia was conducting a "comprehensive evaluation process" driven by technological and capability requirements.

The highly anticipated submarine deal - set to be one of the world's biggest defence contracts - has increasingly embroiled Canberra in a regional contest for influence.

A final decision is expected later this year when the federal Government releases its long-term defence blueprint.

Japan and France are believed to be the front runners, but Tokyo is favoured by some because it would have strategic benefits, including bolstering defence ties between Australia and Japan.

During a visit to Tokyo this week, Ms Bishop said: "We want to ensure that our new submarine fleet is able to provide the most high-quality, capable fleet that we're able to purchase."

Mr Andrew Shearer, a national security adviser to former Australian prime minister Tony Abbott, said in an article co-written with Dr Michael Green, from the Centre for Strategic and International Studies, that Washington had "been careful not to take sides" in the decision.

But they suggested US officials would prefer that Australia opted for Japan's bid, which involves a version of its 4,000-ton Soryu-class submarines.

"Senior US officials and military officers are in no doubt both as to the superior capability of the Japanese Soryu class and to the long-term strategic benefits to the United States and the region of an interoperable fleet of Australian and Japanese conventional submarines equipped with US combat systems," they wrote in *The National Interest* last month. "Particularly in an increasingly contested maritime environment in which undersea warfare will be critical."

Australia and China have expanded military exchanges and cooperation in recent years, but Canberra has also criticised Beijing's territorial assertiveness in the South China Sea.

Asked whether the US wanted Australia to choose Japan, Ms Bishop said earlier this week: "The US has said publicly that it recognises Australia's sovereign right to determine the outcome of the competitive evaluation process."

Mr Wang was asked yesterday whether he saw any move by Australia to shore up military ties with Japan as an effort to contain China's rise.

"I actually don't think any country or force in the world can stop that rise," he responded.

