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





The Silent Sentinel May 2017





Our Creed and Purpose

hipmates who gave their lives in the pursuit of their duties while serving their country. That their dedication, tant source of motivation toward greater accomplishments. Pledge loyalty and patriotism to the United

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 camaraderic. We support a strong U.S. Submariner 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 searcifice. The organization will also endeavor to olducate all third parties it comes in contact with about the services our submarine benthers performed and how their sacrifices made possible the freedom and lifestyle we enjoy today.



U.S. Submarine Veterans San Diego Base

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Scholarship Chairman

Paul Hitchcock

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.

A subscription to the Silent Sentinel newsletter will be available to surviving family members via internet email, at no charge, upon notification of the Membership Chairman. If a printed hard-copy is preferred, via US Post Office delivery, an annual donation of \$5.00 will be requested to cover costs.

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USSVI Base Commander c/o VFW Post 3787 4370 Twain Ave. San Diego, CA 92120-3404 DUE TO LOGISTICS CONSTRAINTS, ALL INPUTS FOR THE SILENT SENTINEL MUST BE IN MY HAND NO LATER THAN **ONE WEEK** AFTER THE MONTHLY MEETING. IF I DO NOT RECEIVE IT BY THIS TIME, THE ITEM WILL NOT GET IN. NO EXCEPTIONS! MIKE

May 2017 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 May Ninth. 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.

Check us out on the World Wide Web www.ussvisandiego.org

Binnacle List

Frank Walker, Harry Humphreyville, Phil Richeson

Submarine Losses in May

Originally Compiled by C J Glassford



USS Lagarto (SS-371)

Lost on May 3, 1945 with the loss of 86 men near the Gulf of Siam. On her 2nd war patrol, she is believed to have been lost to a radar equipped minelayer. This minelayer was sunk by the USS Hawkbill (SS-366) 2 weeks later.

USS Scorpion (SSN-589)

USS Scorpion (SSN-589) was returning to Norfolk, VA. from a Mediterranean deployment. On May 22,1968 she reported her position to be about 50 miles south of the Azores. Scorpion was never heard from again. The exact cause of her loss has never been determined. 99 officers and men were lost.

USS Squalus (SS-192)

On May 23, 1939 USS Squalus suffered a catastrophic valve failure during a test dive off the Isle of Shoals. Partially flooded, the submarine sank to the bottom and came to rest keel down in 240 feet of water. Commander Charles Momsen and Navy divers on the USS Falcon (ASR-2) rescued 33 survivors use the diving bell he invented. 26 men drowned in the after compartments. Later Squalus was raised and recommissioned as the USS Sailfish. In an ironic turn of fate, Sailfish sank the Japanese aircraft carrier carrying surviving crew members from Sculpin, which had located Squalus in 1939. Only one of survived after spending the rest of the war as slave laborers in Japan.

USS Stickleback (SS-415)

Lost on May 28, 1958 when it sank off Hawaii while under tow after collision with USS Silverstein (DE-534). The entire crew was taken off prior to sinking.



San Diego Base, United States Submarine Veterans Inc., Minutes of Meeting - 11 April 2017

1900 - Base Commander Warren Branges called the meeting to order.

Conducted Opening Exercises - Pledge of Allegiance lead by Acting Chief of the Boat Fred Fomby.

Acting Chaplain David Ball lead the prayer.

Acting Chaplain David Ball conducted Tolling of the Boats for boats lost in the month of April. A moment of silence was observed for several shipmates who embarked on their Final Patrol.

Acting Chief of the Boat Fred Fomby recognized Past Commanders, dignitaries and guests.

Base Secretary Jack Kane announced 24 members and 3 guests present.

Base Treasurer Joe Peluso gave his report. A copy of the Treasurer's Report will be filed with these minutes.

The minutes of the 14 March 2017 meeting were approved as published in the Sentinel.

Base Commander Warren Branges Called For Committee Reports

Acting Chaplain David Ball reported the following on the Binnacle List: Harry Humpreville, Frank Walker, Glen Gerbrand and Phill Richeson. Base Commander Warren Branges reported donations to assist our Shipmate Glen Gerbrand, who has had major surgery and has been unable to work, now exceed \$2000. Matching Funds of \$750 were received from National. Volunteer Base in Tennessee donated over \$500. Our Base sent them a thank you for their generous donation.

Parade Chairman Joel Eikam noted that the next parade is 22 April at Linda Vista.

Membership Chairman Ray Febrache reported our membership is now 255 to 257 depending on how fast national is in posting our new members. The current dues charts for both National and Base are now posted on the Base Website.

Scholarship Chairman Paul Hitchcock has received two Scholarship Packages. Scholarship applications are due by 15 April 2017. The Scholarship Chairman asked for volunteers to read and evaluate applications and award scholarships. See Paul at the break if you are willing to help the Committee with these tasks.

Storekeeper Phill Richeson is on Binnacle List. No Report.

Base Commander Warren Branges reported the next Breakfast is 30 April 2017. Warren will circulate a signup sheet for wait staff for the event. Food Handling Training was held on Saturday, 11 March 2017. Warren will get a new list from the VFW Kitchen Coordinator. Another training will be setup soon.

Base Commander Warren Branges noted that several SUBRON Eleven sailors helped with today's ALL FLAGS Day evolution. Next All Flags Day is 20 May (Armed Forces Day) and then 29 May (Memorial Day). SUBRON Eleven was invited to participate on both days. SUBRON ELEVEN was also invited to participate with us in this year's parades.

Float Committee Chair David Kauppinen was not in attendance.

Boy Scout Committee Chair Nihil Smith reported that 1 Eagle Scout Presentation was made since last meeting. Another Eagle Scout Honor Court will be held on 7 May. Eagle Scouts are presented USSVI Certificates and a set of miniature dolphins.

1925 - Base Commander Warren Branges called for a break.

1935- Base Commander Warren Branges called the meeting back to order. 50/50 drawing was held. 50/50 Winner donated part of his winnings to the Charlie Marin Scholarship Fund. Juanita Williams donated a rose bouquet to the raffle. Juanita also brought cupcakes for everyone.

Base Commander Warren Branges inducted James "DOC" Wade into the Holland Club. Doc qualified on USS Pickerel (SS-524) in 1966.

Base Commander Warren Branges announced the newly formed Hackers Club. Those members with perfect or near perfect attendance in the last few years were presented membership cards. The Club will now elect a President and is encouraged to determine how they can further the Base Agenda.

Base Commander Warren Branges reminded everyone that at the Western Region Roundup will be held at Sam's Town in Las Vegas 23-26 April.

Base Commander Warren Branges encouraged anyone going to the National Convention in Orlando 1 through 6 September to register on the Convention Website.

Base Commander Warren Branges reported that San Diego Base will sponsor two WWII Vets at the Submarine Birthday Ball. Our honorees this year are George Kinnison and Charlie Tate. Both George and Charlie will be accompanied by their sons. We will provide tickets for all four attendees and a hotel room for George.

Base Commander Warren Branges announced that the Annual SUBVETS Picnic will be at Smugglers Cove on 8 July 2017 aboard Naval Base Point Loma. We are setting up for two submarine tours of 25 persons each. Warren will contact Base Public Affairs closer to the date to determine if a submarine will be available that day.

2003 - New Business

Base Commander Warren Branges presented the following topics:

Scamp Base is holding a Raffle Fund Raiser. They are raffling a Glock 17. Tickets are \$10 each. The Raffle will be held 25 May. See Warren for tickets. No need to be present to win. The prize will be awarded as Certificate redeemable through a North County gun shop. The winner will be instructed on how to redeem their prize.

As part of the Base Officer Turnover a review was conducted of Appointed Officers and Committee's. New lineup is as follows:

David Ball will continue as Acting Chaplain until a volunteer is found.

Joel Eikam will continue as Parade Chair. Jack Kane will assist with Parade Registrations.

Ray Febrache will continue as Membership Chair

Paul Hitchcock will continue as Scholarship and Nominations Chair. Senior Vice Commander, Junior Vice Commanders and volunteers will assist on Scholarship Committee. The new COB will assist on Nominations Committee.

Phil Richeson will continue as Storekeeper.

Base Commander will continue as 52 Boat and Breakfast Committee Chairs.

David Kauppinen will continue as Float Committee Chair.

Nihil Smith and Glenn Gerbrand will continue administering the Eagle Scout Program.

Base Audit Committee will be reconstituted upon receipt of new guidance from National as to the makeup and responsibilities of the Committee.

A new "Social Committee" is established. Senior Vice Chair and Base Secretary are appointed as members of the Committee. Volunteers will be recruited for each Social Function (Base Picnic, Christmas Party, etc).

A new Appointed Position of Assistant Treasurer is established. David Ball is appointed to that position.

Mike Hyman is appointed as Base Historian.

2015 - Good of the Order

Several Officers and Members spoke on the following subjects:

The Old Timers Luncheon will be held at Roncador Memorial on 5 May.

Submarine Birthday Ball is 6 May. See Base Commander for tickets.

An Eagle Scout Court of Honor will be held on 7 May at the San Carlos Methodist Church. Nihil Smith and Glenn Gerbrand will attend. See Nihil for details if you plan to attend.

Memorial Day Services will be held at Roncador Memorial, Naval Base San Diego on 29 May.

Former SUBRON ELEVEN Command Master Chief Metcalf will be retiring on 12 May. Everyone is invited.

We bid a fond farewell to Dennis McCreight. Dennis will remain a member of the base, but will not be attending regularly as he is moving to Prescott AZ.

If you are need assistance with a Veterans Affairs Claim the Marine Corps VA office at MCRD is a good resource. If interested see Senior Vice Commander "Gobi" Golembieski for details.

Scamp Base will have a guest speaker from the VA at their next meeting. See Scamp Base web page for details.

The Meeting was adjourned at 2020..

/s/ Jack E. Kane Jack Kane, Secretary Sailing List for 11 April 2017

Members

Fred Fomby Jack Kane Joe Peluso David Ball **Bob Farrell** Joseph Dubois Warren Branges Bill Earl Nihil Smith Jim Harer Peter Lary Paul Hitchcock Matt Baumann Dennis Mortensen Joel Eikam Ron Gorence Dennis McCreight James Pope Rus Stoddard Robert Golembieski (Gobi)

Mert Weltzien Roy Febrache James "Doc" Wade Jim Potts

Guests

Juanita Williams LeRoy Schroeder Silva Sanchez



A new malware called Crusader has been installed on PCs as an add-on to free bundled software programs that are downloaded by the computer user. By granting Crusader the permission they request, users authorize contact information found within ads to be manipulated. Consequently, a legitimate ad could be altered to include fake contact information. So instead of contacting who you want, you are actually contacting hackers. There is no limit to the contact information Crusader can manipulate. Steps you can take to prevent this include: 1) Install an Ad Blocker program, 2) Read the End User License Agreement for all programs associated with the download bundle, and 3) Do a Custom installation rather than an Automatic installation so you can chose what is installed. (Reference https://techtalk.pcpitstop.com/2017/03/28) David Kauppinen, USSVI San Diego Base Webmaster 4/24/17

Current News

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

Navy Sub's Overheating Motor First Glitch in \$126 Billion System Tony Capaccio, Bloomberg Government, May 4

The first known glitch in a \$126 billion nuclear-armed submarine program -- overheating of a prototype motor -- was disclosed by a key U.S. lawmaker this week and confirmed by the Navy, which said it has fixed the problem.

The flaw in the main propulsion motor was discovered earlier this year, the Navy said in a statement Thursday. Still, it was a milestone, of sorts: an early setback for the submarine being built by General Dynamics Corp. and top subcontractor Huntington Ingalls Industries Inc.

"It's a technical hiccup in the performance of a motor," Representative Rob Wittman https://www.bgov.com/us_legislators/BB23810, the Republican chairman of the House Armed Services seapower panel, told reporters Wednesday. "There's a motor that didn't perform properly. It overheated."

The Navy said in its statement that the issue with the motor designed by a General Dynamics subcontractor isn't expected to delay planned delivery -- anticipated for around 2028 -- of the first of 12 submarines that the service needs to have on patrol by 2031. Construction of the vessel is set to begin in fiscal 2021.

"Recovery from this manufacturing problem will result in late delivery of the prototype motor to the test facility" but "sufficient margin exists in the test program to accommodate" recovering from the issue "without impacting delivery of the shipboard motor" to the first ship, Captain Thurraya Kent, a Navy spokeswoman, said in an emailed statement.

Lucy Ryan, a General Dynamics spokeswoman, referred inquiries about the overheating motor to the Navy.

Wittman said he planned to meet with the head of the Navy's Nuclear Propulsion division Admiral James Caldwell and some of the contractors to ask "why did this happen?"

Trillion-Dollar Modernization

The Columbia-class submarine will replace the aging Ohio class. It's part of a trillion-dollar program to modernize the U.S.'s sea-air-land nuclear arsenal over the next 30 years, including maintenance and support. President-elect Donald Trump has said "the United States must greatly strengthen and expand its nuclear capability until such time as the world comes to its senses regarding nukes."

The new submarine class ranks among the Pentagon's most expensive programs. The projected \$126 billion acquisition cost, an estimate that includes expected inflation, is third behind the \$379 billion F-35 aircraft and the \$153 billion ballistic-missile defense network.

The Congressional Research Service said in a report on the submarine that its schedule "currently includes little or no slack between now and 2031 for absorbing delays" due to funding shortfalls, or "problems in developing and testing new technologies intended for the Columbia class, such as its electric-drive propulsion system."

Navy & UK Manufactures 17 Tactical Nuclear-Missile Tubes for ''Columbia-Class'' Submarines Kris Osborn, Scout Warrior, May 4

The Navy has recently advanced development of a new class of nuclear-armed ballistic missile submarines to be used as undersea strategic deterrents -- by signing a deal to being the manufacture of 17 new tactical missile tubes able to fire nuclear-armed Trident II D5 missiles.

A 95-million modification to a Naval Sea Systems Command deal with Electric Boat, a subsidiary of General Dynamics, is a key part of the Navy's broader deterrence strategy to ensure a second-strike nuclear ability from beneath the ocean around the world in the event of a catastrophic first-strike on the continental US.

The effort, which has been preceded by "tube and hull" forging work underway for several years, is part of a collaborative US-UK Common Missile Compartment program.

The US and UK are together immersed in a common missile compartment effort. In fact, the US and UK have been buying parts together for the common missile compartment and working on a \$770 million contract with General Dynamics' Electric Boat. This recent contract modification includes foreign military sales to the United Kingdom. Work will be performed in Quonset Point, Rhode Island, and is expected to be completed by December 2023. United Kingdom foreign military sales funding in the amount of \$22,957,933 will be obligated at the time of award, a Pentagon statement said.

The US plans to build 12 new Columbia-Class Submarines, each with 16 missile tubes, and the UK plans to build four nuclear-armed ballistic submarines, each with 12 missile tubes.

Earlier this year, ship specifications for the new Columbia-Class submarines were completed and the program is now in detailed design phase and initial production contract, service officials said.

In acquisition terms, development of the new submarines have passed what's termed "Milestone B," clearing the way beyond early development toward ultimate production. Production decisions are known as "Milestone C."

"The program was approved to proceed to Milestone B Jan. 4, authorizing it to enter into the engineering and manufacturing development phase and permitting the transition from preliminary design to detail design," William Couch, spokesman for Naval Sea Systems Command, told Scout Warrior earlier this year.

Ultimately, the Navy hopes to build and operate as many as 12 new nuclear-armed submarines, to be in service by the early 2040s and serve well into the 2080s.

The Navy has begun early construction and prototyping on a new class of nuclear-armed ballistic missile submarines designed to help ensure global peace by deploying massive destructive power under the sea.

The Ohio Replacement Program, a so-called SSBN, is scheduled to begin construction by 2021. Requirements work, technical specifications and early prototyping have already been underway at General Dynamics Electric Boat.

Designed to be 560-feet—long and house 16 Trident II D5 missiles fired from 44-foot-long missile tubes, ORP will be engineered as a stealthy, high-tech nuclear deterrent able to quietly patrol the global undersea domain.

The new submarines are being designed for 42 years of service life.

Construction on the first submarine in this new class is slated to be finished up by 2028, with initial combat patrols beginning in 2031, service officials said.

Strategic Nuclear Deterrence

Detailed design for the first Columbia-Class submarine is happening now. The new submarines are being engineered to quietly patrol the undersea domain and function as a crucial strategic deterrent, assuring a second strike or retaliatory nuclear capability in the event of nuclear attack.

The Navy is only building 12 Columbia-Class submarines to replace 14 existing Ohio-class nuclear-armed boats because the new submarines are being built with an improved nuclear core reactor that will better sustain the submarines, Navy officials have said.

As a result, the Columbia-Class submarines will be able to serve a greater number of deployments than the ships they are replacing and not need a mid-life refueling in order to complete 42 years of service.

With the life of ship reactor core, there is not a need for mid-life refueling, Navy developers explained.

By engineering a "life-of-ship" reactor core, the service is able to build 12 SSBNs able to have the same at sea presence as the current fleet of 14 ballistic missile submarines. The plan is intended to save the program 40 billion savings in acquisition and life-cycle cost, Navy developers said.

Electric Boat and the Navy are already progressing on early prototype work connecting missile tubes to portions of the hull, officials said. Called integrated tube and hull forging, the effort is designed to weld parts of the boat together and assess the ability to manufacture key parts of the submarine before final integration.

In 2012, General Dynamics Electric Boat was awarded a five-year research and development deal for the Ohio Replacement submarines with a value up to \$1.85 billion. The contract contains specific incentives for lowering cost and increasing manufacturing efficiency, Navy and Electric Boat officials said.

Next-Generation Technology

Columbia-Class submarines are being designed with a series of next-generation technologies, many of them from the Virginia-Class attack submarine. Leveraging existing systems from current attack submarines allows the Columbia-Class program to integrate the most current technologies and systems while, at the same time, saving the developmental costs of beginning a new effort, officials said.

The Columbia-Class will utilize Virginia-class's fly-by-wire joystick control system and large-aperture bow array sonar.

Sonar technology work by sending out an acoustic ping and then analyzing the return signal in order to discern shape, location or dimensions of an undersea threat.

Navy experts explained that the large aperture bow array is water backed with no dome and very small hydrophones able to last for the life of the ship; the new submarines do not have an air-backed array, preventing the need to replace transducers every 10-years.

The submarines combat systems from Virginia-class attack submarines, consisting of electronic surveillance measures, periscopes, radios and computer systems, are also being integrated into the new submarines. The new Columbia-class subs will also utilize an automated control fly-by-wire navigation system, a technology that is also on the Virginia-Class attack submarines. A computer built-into the ship's control system uses algorithms to maintain course and depth by sending a signal to the rudder and the stern.

The shafts of the new submarines are being built to last up to 10 or 12 years in order to synchronize with the ships maintenance schedule. Existing shafts only last six to eight years, developers said.

The Columbia-Class will also use Virginia-class's next-generation communications system, antennas and mast. For instance, what used to be a periscope is now a camera mast connected to fiber-optic cable, enabling crew members in the submarine to see images without needing to stand beneath the periscope. This allows designers to move command and control areas to larger parts of the ship and still have access to images from the camera mast, Electric Boat and Navy officials said.

The Columbia-Class submarine are also engineering a new electric motor for the submarine which will turn the shaft and the rotor for the propulsion system. The new motor will make propulsion more efficient and potentially bring tactical advantages as well.

In total, the Navy hopes to buy 12 of the new submarines to serve into 2085 and beyond.

Production for the lead ship in a planned fleet of 12 Ohio Replacement submarines is expected to cost \$12.4 billion — \$4.8 billion in non-recurring engineering or development costs and \$7.6 billion in ship construction, Navy officials have said.

The Navy hopes to build Ohio Replacement submarine numbers two through 12 for \$4.9 billion each in 2010 dollars.

Iran Attempted Missile Launch From Submarine, US Officials Say Lucas Tomlinson, Fox News, May 3

Iran attempted to launch a cruise missile from a submarine in the Strait of Hormuz on Tuesday but the test failed, two U.S. officials told Fox News.

An Iranian Yono-class "midget" submarine conducted the missile launch. North Korea and Iran are the only two countries in the world that operate this type of submarine.

In February, Iran claimed to have successfully tested a submarine-launched missile. It was not immediately clear if Tuesday's test was the first time Iran had attempted to launch a missile underwater from a submarine.

This incident comes on the heels of other recent provocations from Iran.

In April, the U.S. Navy's guided-missile destoryer fired a warning flare after an Iranian Revolutionary Guard vessel came within 1,000 meters of the USS Mahan.

The USS Mahan "made several attempts to contact the Iranian vessel by bridge-to-bridge radio, issuing warning messages and twice sounding the internationally recognized danger signal of five short blasts with the ship's whistle, as well as deploying a flare to determine the Iranian vessel's intentions."

Iranian officials announced late last month that the country's defense budget had increased by 145 percent under President Hassan Rouhani and that its military is moving forward with a massive restructuring effort aimed at making it a "forward moving force," according to reports in the BBC.

Iran's official IRNA news agency also announced recently that the country has become self-sufficient in producing the amount of gas that it requires on a daily basis.

North Korea in 2015 conducted a successful ballistic missile test from a submarine for the first time.

Navy Installs Submarine Rescue System In Merchant Vessel Richard Tomkins, UPI, May 3

A recompression system for sailors rescued from disabled submarines has been installed on a Military Sealift Command-chartered merchant vessel.

A submarine rescue diving and recompression system has been installed on a Military Sealift Command-chartered merchant vessel by the U.S. Navy.

The SRDRS was installed aboard the HOS Dominator by the Navy's Undersea Rescue Command and contractor Phoenix Holdings International.

The HOS Dominator is normally used for training by the Navy. Its new rescue system features a transfer under pressure capability, which will enable sailors on a disabled submarine to move safely from a pressurized compartment aboard the submarine to a recompression chamber aboard the rescue ship.

"It's one of only a handful of mobile rescue systems in the world," Cmdr. Mark Hazenberg, URC's commanding officer, said in a press release. "It's able to be rapidly deployed and can assist in rescues of numerous foreign submarines in addition to our own."

The SRDRS is the only deep submarine rescue system of the U.S. Navy for recovering crew from a disabled submarine too deep for submarine escape.

The Navy said the SRDRS replaces two rescue submarines as the main deep-sea rescue asset.

Now, Russia Is Building A Submarine Even Larger Than The Typhoon Thomas Nilsen, Barents Observer, May 3

Russia's new military research submarine for Arctic waters will be 11 meters longer than the giant Cold War Typhoon class.

The hull is based on an incomplete Oscar-II submarine originally laid down at the Sevmash yard in Severodvinsk back in 1992. Oscar-II class is similar to the «Kursk» submarine that sank in the Barents Sea in August 2000.

«Belgorod» will be equipped to carry special deep-sea diving equipment, including another submarine, and can be used both for military and civilian purposes on the Arctic shelf.

Originally, the hull of an Oscar-II class sub is much wider than most submarines since the cruise missiles are attached alongside. With the missiles removed, it is believed that larger objects for underwater operations can be carried.

Now, sources in the Navy confirms to Izvestia that the submarine has been embedded in size with almost 30 meters. The extra length is added to include special equipment including pressure chambers for divers to exit the vessel at deep sea. Also, unmanned autonomous vehicles, or subsea drones, can be carried.

The submarine's hull is extended from the 154 meter normal length of an Oscar-II class to 184 meters. That is 11 meters longer than the Typhoon submarines built in the 1980s for the Soviet navy.

Seabed detection network

Izvestia reports that the submarine «will study the bottom of the Russian Arctic shelf, look for minerals, as well as placing out submarine communication systems.» The last could be a new detection network to be located on the seabed under the Arctic icecap with similar functions as NATO's SOSUS submarine detection network in the North Atlantic.

With a network of subsea sonars and other detection devices, foreign submarine activities can better be monitored.

«The submarine will provide a global deployment of underwater monitoring system, which the military is building at the seafloor of the Arctic Oceans,» Professor at the Academy of Military Science, Vadim Kozyulin, says to Izvestia. He says «Belgorod» will not only be the world's largest nuclear powered submarine, it will «The most unique submarine of the Russian Navy.»

Russia's new sensor system was first mentioned in an article in Izvestia last summer.

Spy operations

«Belgorod" is powered by two nuclear reactors. Also, the mini submarine to be attached to «Belgorod» could be nuclear powered, likely one of the mini-submarines developed for special purpose operations, like the «Losharik.»

Over the last decade, the Russian navy has seriously modernized its fleet of special purpose submarine, including both mini-subs for spy- and research operations, and larger carriers.

Last November, Sevmash shipyard revealed a unique video of the «Podmoskovye» sailing out to the White Sea. «Podmoskovye» is a rebuilt Delta-IV class submarine aimed to carry mini-submarines also to work on underwater intelligence cables in the Barents and Norwegian Seas, as reported by the Barents Observer.

China's Nuclear Interest In The South China Sea – Analysis Felix K. Chang, EurasiaReview, May 1

Economic and sovereignty interests are commonly cited as the reasons for China's assertiveness in the South China Sea. The security of China's sea-based nuclear deterrent could be added to that list of reasons.

Since the founding of the People's Republic, China has worried about external threats—and justifiably so. During the Cold War, it faced down both the world's superpowers, first the United States and then the Soviet Union. Both were armed with nuclear weapons at a time when China was still developing its own arsenal.

But even after it successfully produced nuclear-armed ballistic missiles, China could not rest easy. It still had to ensure their survivability to create a credible nuclear deterrent.

China's Sea-Based Nuclear Deterrent

Early on, China understood that ballistic missiles based on land would be more vulnerable to preemptive attack than those based under the sea. And the longer they could stay under the sea, the safer they would be. Thus, in the late 1950s, China began to acquire the technology needed for nuclear-powered ballistic missile submarines (SSBN), which can operate underwater for long periods, and for their associated submarine-launched ballistic missiles (SLBM).

By the 1980s, China built its first SSBN, the Type 092 (or Xia-class), along with its first SLBM, the JL-1. Though only one Xia-class submarine ever became fully operational, China went to great lengths to protect it. Chinese engineers tunneled under a rocky promontory at Jianggezhuang, adjacent to the Yellow Sea, to provide the submarine with a hardened shelter. As it turned out, the Xia rarely went to sea during its service life. But if it sailed into the Yellow Sea today, China might have some cause for concern, given the proximity of capable naval forces from Japan, South Korea, and the United States on the sea's eastern edge.

China's Southern Strategy

After the Cold War, China continued to improve its sea-based nuclear deterrent. About a decade ago, China began serial production of its second SSBN, the Type 094 (or Jin-class). So far, the Chinese navy has commissioned four Jin-class submarines; the completion of the JL-2 SLBM followed. But years before the submarines entered service, China had already started construction on a new naval base for them that runs along Yalong Bay, near the South China Sea. With satellite imagery, one can see the grand scale of the new base. It even features a submarine tunnel, like the one at Jianggezhuang, but with enough room for loading facilities and multiple submarines.

China's Jin-class SSBNs are now regularly seen at the base. South of it is the South China Sea—a region increasingly dotted with Chinese military outposts and airfields. It is also a region with no navies capable of directly challenging China's. Indeed, Chinese strategists may have envisioned the South China Sea to be a naval bastion, a partially enclosed area where China's SSBNs could safely operate under the protection of friendly air and naval forces. The Soviet navy operated in the Barents Sea and the Sea of Okhotsk in much the same way during the Cold War.

To be sure, the South China Sea carries drawbacks as a naval bastion. The biggest is probably the fact that operating there would put China's SSBNs further from potential targets in the Western Hemisphere, though future SLBMs may have longer ranges. Still, the South China Sea does enable China to disperse more widely its undersea nuclear forces, and thereby improve their survivability. If China has come to see the South China Sea as important to the security of its sea-based nuclear deterrent, then those who hope that patient economic and diplomatic engagement will persuade China to change its behavior in the region are very likely to be disappointed, as they have been to date.





Quinlin R. Holmes Owner / Notary Public

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