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





# The Silent Sentinel *April* 2019





Our Creed and Purpose

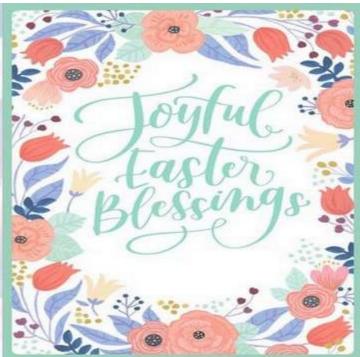
pave their lives in the pursuit of their daties while serving their country. That their dedication,
motivation toward greater accomplishments. Pledge loyalty and patriotism to the United

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 Foece,

The organization will engage in various projects and deeds that will being about the perpetual remembrance of those shipmates who have given the supreme searcifice. The organization will also endeaved to chazact 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.





# U.S. Submarine Veterans San Diego Base

### Base Commander

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Jack Kane 619-602-1801 jkane32@cox.net Chaplain David Martinez

Parade Chairman

Joel Eikam

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.

NAME:		_
ADDRESS:		
CITY/STATE/ZIP:		
EMAIL:		
TELEPHONE:		
Would like the SILENT SENTINEL emailed: VES	NO	

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

# **Our Next 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 *April 9th*. 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

Chris Sultana and Tony Dack

# Submarine Losses in April

Originally Compiled by C J Glassford



### USS Pickerel (SS-177)

Lost on April 3,1943 with the loss of 74 officers and men, while on her 7th war patrol. She was lost off Honshu. The exact cause of her loss has never been determined, but her OP area contained numerous minefields.

# USS Snook (SS-279)

Lost on April 8,1945 with the loss of 84 officers and men. Snook ranks 10th in total Japanese tonnage sunk and is tied for 9th in the number of ships sunk. She was lost near Hainan Island, possibly sunk by a Japanese submarine.

## USS Thresher (SSN-593)

Lost on April 10, 1963 with the loss of 112 crew members and 17 civilian technicians during deep-diving exercises. 15 minutes after reaching test depth, she communicated with USS Skylark that she was having problems. Skylark heard noises "like air rushing into an air tank" - then, silence. Rescue ship Recovery (ASR-43) subsequently recovered bits of debris, including gloves and bits of internal insulation. Photographs taken by Trieste proved that the submarine had broken up, taking all hands on board to their deaths in 1,400 fathoms of water, some 220 miles east of Boston.

# USS Gudgeon (SS-211)

Probably lost on April 18, 1944 with the loss of 79 men SE of Iwo Jima, but may have been sunk on May 12, 1944 in another attack on an unidentified submarine and heard by several other submarines in the area. Winner of 5 Presidential Unit Citations, Gudgeon was on her 12th war patrol and most likely due to a combined air and surface antisubmarine attack. Gudgeon was the first US submarine to go on patrol from Pearl Harbor after the Japanese attack. On her first patrol, she became the first US submarine to sink an enemy warship, picking off the submarine I-173.

USS Grenadier (SS-210)

Lost on April 22,1943 near Penang, with no immediate loss of life. She was on her 6th war patrol. While stalking a convoy, she was spotted by a plane and dove. While passing 130 feet, Grenadier was bombed, causing severe damage. She was lodged on the bottom 270 feet and the crew spent hours fighting fires and flooding. When she surfaced, she had no propulsion and was attacked by another plane. While she shot down the plane. When enemy ships arrived, the CO abandoned ship and scuttled the boat. Of the 76 crew members taken prisoner, 72 survived the war.



# San Diego Base, United States Submarine Veterans Inc. Minutes of Meeting - 12 March 2019 At VFW Hall, 4370 Twain Avenue, San Diego CA 92120

1910 - Base Commander Warren Branges called the meeting to order.

Conducted Opening Exercises - Pledge of Allegiance lead by Past Base Commander Fred Fomby

Chaplain David Martinez lead the opening prayer. A moment of silence was observed for James L. Nugent, MT1(SS) who went on Eternal Patrol on 11 March 2019. James qualified on and was a Plank Owner of USS James Madison SSBN 627.

Shipmate Mike Cosgrove conducted Tolling of the Boats for boats lost in the month of March.

Base Junior Vice Commander Manny Burciaga recognized Past Commanders, dignitaries and guests.

Base Secretary Jack Kane announced 29 members and 1 Guest present.

Base Treasurer Joe Peluso presented the Treasurer's report. A copy of the Report will be filed with these minutes. Minutes of the February 2018 meeting were published in the Sentinel. Minutes were adopted with one change. The National Convention will be held in Orlando in 2021 vice 2121.

Base Commander Warren Branges called for Committee Reports

Binnacle List - Chris Sultana and Tony Dack are on Binnacle.

Parade Committee - Chairman Jack Kane announced the next parade is Linda Vista on Saturday, 27 April 2019. We are scheduled to attend. Chairman will confirm our entry with the Parade Committee. Maps and further information will be sent via e-mail upon receipt from the Linda Vista Parade Coordinator. Membership Committee - Chairman Ray Febrache. We have 241 members. The National Database is still FUBAR. Ray is working on reconciling their list with ours.

Scholarship Committee - Committee Chairman Paul Hitchcock. Scholarship packages are due on 15 April 2019. He needs 3 volunteers to review scholarship packages. No packages have been received to date. We expect one or two before the deadline.

Storekeeper - Paul Hitchcock. Calendars are available for \$10 each.

Breakfast Committee - Chair Base Commander Warren Branges. Next Breakfast is 31 March 2019. The kitchen renovations should be finished by then. We need volunteers for the kitchen and to run coffee. The VFW Kitchen Supervisor will hold a certification/re-cert class for Food Handlers at 0700 that morning.

52 Boat Memorial - Chair Base Commander Warren Branges - The next All Flags Day will be Thursday, 11 April 2018 (U.S. Submarine Force Birthday). We will put up flags at 0700 and take them down at 1700.

Float Committee - Chairmanship open.

Eagle Scout Program - Co Chairs Nihil Smith and Glenn Gerbrand. Nihil reported that several Honor Courts will be coming up in the next few months. He also reported that he has arranged a camp-out and Submarine tours for Troop 959 the weekend of June 7th, 8th and 9th.

1925 - Base Commander called for a break. 50/50 Raffle held. The Raffle winner donated her winnings to the Scholarship Fund.

1940 - Unfinished Business

PAST BASE COMMANDER FRED FOMBY installed the following Base Officers who will serve a two year term -

Base Commander - Warren Branges

Senior Base Commander - Manny Burciaga

Junior Base Commander - Joe Peluso

Base Treasurer - Mike Cosgrove

Base Secretary - Jack Kane

FLOAT STORAGE STATUS - Naval Base San Diego will be opening a new RV storage lot adjacent to the Mini Mart at Rosecrans and Nimitz. We will be moving the float to that lot when it opens.

BASE ROSTER AND EMAIL VERIFICATIONS are continuing. If you a verification email please respond.

MEMBERSHIP DUES. Ray Febrache and Warren Branges will work with the National Office to verify all paid up members are properly documented at National.

1951 - New Business

WWII SUB VET SPONSORSHIP at Submarine Ball. It was moved and seconded to have San Diego Base Sponsor Charlie Tate (+1). Cost will be approximately \$140. Motion Passed. Charlie will not be staying at the hotel after the Submarine Ball.

Scamp Base will sponsor George Kinneson and Colley O'Gorman if either or both are able to attend.

CHARLIE MARIN NATIONAL SCHOLARSHIP - The National USSVI Charitable Foundation returned funds (\$500.00) we sent to them for the Charlie Marin National Scholarship. The Foundation is not able to apply the funds to the National Scholarship as these monies were collected and sent by our Base under our exempt IRS Status as defined IRS Section 501(c)(19). The Foundation is a Charitable Foundation as defined by IRS Section 501(c)(3). Monies from the two separate IRS designated should not be mingled. It was voted to put the monies back into our Treasury for local scholarships rather send all

Scholarship monies to National and let them administer our scholarships. A long discussion was held at to how we should proceed with local scholarships and where we stand with the IRS. Our new Treasurer Mike Cosgrove will look into the latest IRS Statutes and will present a briefing at a future meeting.

PEARL HARBOR DAY REMEMBRANCE and WREATH LAYING AT 52 BOAT MEMORIAL. The Point Loma Association has shown interest in expanding and formalizing the Wreath Laying Ceremony we did last December 7th. The Base Commander will work with The Point Loma Association and SUBRON ELEVEN as the feasibility of expanding the program. Permitting, logistics and fund raising are of immediate concern. We do have \$750 seed money from last year's Wreath Laying Fund Raising.

2023- Good of the Order

2019 National Convention is 14-20 August in Austin TX. Details are at: ttp://ussviconvention.org/2019/

OUTYEAR CONVENTIONS - 2020 will be in Tucson and 2021 will be in Orlando at Rosen Shingle Creek.

WESTERN REGION ROUNDUP will be held in Laughlin Nevada, March 25-29 in the Riverside Inn.

POINT LOMA ROTARY CLUB will hold a Comedy Night on 15 March. Point Loma Rotary Club is a contributor to 52 Boat Memorial.

SUBRON ELEVEN will host annual Old Timers Luncheon on 12 April

SUBRON ELEVEN will host the Annual San Diego Submarine Birthday Ball on Saturday April 13th, 2019 at the Grand Manchester Hyatt, 1 Market Place, San Diego. Ceremonies start at 1800. Cost is \$70 per person - The Hotel has special rates for \$269 plus tax. Let the Base Commander Warren Branges know if you would like tickets.

COMSUBPAC Sailor of the Year Luncheon was attended by four San Diego Base members.

NEW KLAXON is ready and will be brought to the next meeting.

THE ANNUAL SOCAO SUBVET PICNIC hosted by San Diego Base will be held on 13 July 2019 - Mark you calendar.

The Meeting was adjourned at 2030.

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/s/ Jack E. Kane Jack Kane, Secretary

# Sailing List for 12 March 2019 D - I- D - ---- 11

Members	Bob Farrell
Matt Baumann	Ray Febrache
Manny Burciaga	Russ Filbeck
Warren Branges	Fred Fomby
Kip Casper	Rick Hansvik
Mike Cosgrove	Jim Harer
Jay Crumbie	Paul Hitchcock
Nicholas Dirkx	Jack Kane
Bill Earl	David Martinez
Joel Eikam	Dennis Mortensen
Ed Farley	Joe Peluso

William Pickering Jim Pope Nihil D. Smith Chris Stafford Rus Stoddard Mert Weltzien Greg Vechinski John Zinich

Guests Jessie Chang Farley

# Silent Sentinel EXCLUSIVE!



Judith and Gary Murphy have graciously consented to allow the Silent Sentinel to republish their collection of USS Whale, SS-239, ship's newspaper, "THE RAG," from the WW-II era! Gary's father, Rex Murphy, served as Whale's Engineering Officer. The Silent Sentinel will now include a copy of The Rag in each issue. The Murphy's and I hope that you will find it an interesting reading experience.

On the evening of 19 March, Whale sighted two large freighters and one torpedo boat or destroyer as escort. Just after daylight the next morning, the submarine finally worked into a favorable attack position; she fired spreads of three torpedoes at each freighter, and hit both. The first target, tentatively identified as Mogamigawa Maru, sank rapidly by the stern. The second, a cargo ship resembling Arizona Maru, was plagued by several heavy internal explosions following a second torpedo hit. Whale, mistaking these secondary explosions for bombs, went deep. Upon discovering her mistake, she started to surface but was greeted by a barrage of depth charges from the escort. Whale dove again but again came under attack - this time from the air - when she attempted to return to examine the wreckage. The submarine suffered extensive damage during this attack. This was by far Whale's closest escape.. It is now 24 March. Whale is still sailing in the Marianas: "The Rag" No. 9

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SIXTRESPEN REPRESENTS

MARCH BL. 1943

Longuages are the podigrees of nations. Samuel Johnson .....

Triumphantly, the Mighty Thale stalked and sunk two more freightors of an estimated total of 15, COO teme. Six terpedees were fired in quick succession, four of which made direct bits. The first ship exploded viclently, blowing her guts out and at the sume time, turned ball up, gove up the ghost and same immediately. It is the general belief that all hands weat down with her. The assoud abip, was a stubburn ones and even after she had blown her lie off, she lingured. It is earnwed, that she made a vain attempt to get under way but, didn't mean to noof aler and broches. There sales rte dave it, that she was burning at 0600 but, that her decks were sweet and that she did eventually sink, Homever, before she sank, a seventh flah was sent on its nerry may but for some reason or other wered from its given track and coursed its way back in the direction from whence it had come. This, sepand the Mighty Whale to pound to the depth of about 250 feet.

Later in the day, another ship was aighted, causing all hunds to ence again lauve their so suctortable banks and man their verious buttle stations. It seems that this ship was use of those, so constructed to extine submarines into nortel combat. The is what is commenty known as a "" ship. name of the pubmerine. Thenk the good lord. The excitment ereston this mersing, sames all or mourly all the stout bearts and punter estings to quiver alighly. A decided increase in the usego of the preve head was also noted. And, Cameron and Jonesrd are no longer the only ones with hash marks in their activites .... dee bjoyum and Jones. ....

Those last two successes of the Highty thate brings the outimuted total of sunk and damaged to an approximate 92,000 tons.

The following is a posm submeitsed by that autoroma com about town, mene about than brother ... seeneeneeneeneeneeneeneenthoudel

Pleven ships in Salpan. four sums out and now only neven stant.

The four that came out met the mighty Whale, the most of mil to ment dues bothum and the explosions were hell.

The other seven con's know when to do. Whether to stey in or some out and get vented too.

Things lighted never told us. By "B"

Shy Murtini (the great lower) doaun't us yet know where the mir compressors are located. .......

Thousand youd last alebte ofition of the Bid to Tallanesia. sound his mental ability down to Leelude reading..... Look, T.T. page out sees of those sugarines and all will be forgiven......

"he laft that certain leve letter in the pump room?...... by Kany naver has any ameles.

metaline or pagy belt of his own. why Dierum alvays goes to Cor's bush house for a drink of water just before abow is piped down....

Thy Moune got those aldeburns. now he looks like that prize jook tail name agen ofth eloup tails aun In them there mountlinessesses ANADAS TOTAL & TEMPORY TAKE

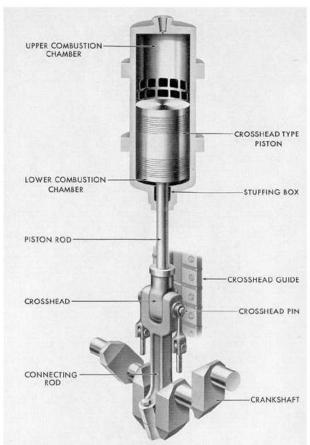
"In this a healthy place" asked a stronger of a native of a seriein region in the west. "It sure in," replied the native. "Thy, when I came bare I couldn't atter a word, I had servedly a hair on my hand. I hadn't the etrenhas , soor end accres time of day I had to be lifted from my bed." "That's readerfull" excluined the atranger. "New long have you been 我中于有个特 "I was born here?"

and 10 shine.

# Submarine H.O.R. Diesel Engines

# by David Kauppinen

The General Machinery Corporation manufactured the Hooven-Owens-Rentschler (H.O.R.) diesel engines that were used in hundreds of surface ships and 20 submarines during WWII. Unlike the more prevalent single acting Fairbanks Morse opposed piston and General



Motors V-16 engines, the H.O.R. diesels were 9 cylinder double acting engines. In a double acting engine both ends of the piston are combustion chambers. The piston rod extends through the lower cylinder head and is sealed with a stuffing box. The crosshead guide steadies the piston rod and piston to minimize wear. The advantage of a double acting engine is more power compared to a single acting engine. The disadvantages were high vibration, inability to maintain a tight seal at the stuffing box, lower head cracking, bolt failure, and catastrophic failure of the blower drive gears due to improper heat treatment during manufacture. In addition, they were noisier and used 40% more air than the FBM and GM diesels. Understandably, crews called the H.O.R. engines "whores."

In a submarine high reliability for propulsion and battery charging is a requirement. The H.O.R. engine failures prevented the proper setup of many attacks and impeded quickly exiting an area after an attack. As one can imagine, this also had a negative impact on crew morale. Some failure examples:

The USS Gunnel (SS-253) under Commander John S. McCain, Jr. suffered failure of all four of its HOR engines while crossing the Atlantic. Stranded 1,000 miles from base the Gunnel limped into port using her auxiliary diesel at two knots.

Commander Charles H. Andrews of the USS Gurnard (SS-254) recalled a war patrol in support of Operation Torch, "I only used three engines, saving the fourth for a spare. When two of them broke down in the Bay of Biscay, I cut the patrol short and limped back to Scotland."

USS Saury (SS-189), Report of 8<sup>th</sup> War Patrol Ending November 26, 1943:

# 5. Broken piston rod in #3 main engine. At 1130, November 21 a loud rumbling noise was heard in #3 main engine. The engine was stopped and inspection showed #7 unit piston rod had shoured at the top thread where the rod fits into the spherical nut. Since we were out of spares, the damaged #4 unit stuffing box to accomposate the bent rod. Engine was out of commission 28 hours. During the coming refit this unit will have to be replaced.

# (II) MAJOR DEFECTS AND DATAGE

MAIN ENGINES:

5 July

No. 4 main engine out of commission because of damaged gear train ocused by ball bearing retainer ring on after bearing of upper blower idler gear carrying away and falling into lower gears. Three partially broken teeth on lower blower idler gear. All gears removed, dressed down, and replaced; interchanging the idler gears. Engine back in commission on 14 July 1943. Engine hours since gear alteration 666.

# 11 July

No. 1 main engine out of commission because of broken piston rings and sheared scavenging air valve pin. Inspection revealed necessity for renewal of all piston rings. Engine hours 1080. Back in commission 21 July 1943.

# 16 August

No. 4 main ongine out of commission because of broken piston rings. Renewed rings in one unit. Engine hours 695.

U.S.S. JACK (SS259) - Report of Second War Subject: Patrol.

The second war patrol of JACK occupied a period of 36 days, six days of which were spent in area south of HONSHU and six days on special missions.

The lack of results may be laid directly to another H.O.R. engine failure. On the sixth day in the area the crankshaft of No. 2 main engine broke at the web between No. 4 main and crank bearings. The Commanding Officer decided to return to base as he folt grave concern for the state of fatigue of the other crankshafts.

Commander Tommy Dykers of the USS Jack (SS-259) said "The H.O.R. engines saved the Japanese thirty or forty ships."

USS Mingo (SS-261),

Report of 1st War Patrol

Ending August 21, 1943:

In February 1943, Commander in Chief of U.S. Naval Forces, Admiral Ernest J. King, ordered all H.O.R. submarine engines replaced, and the last was completed in 1944.

### References:

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Captain John F. O'Connell, Submarine Operational Effectiveness in the 20th Century, Part 2 (1939-1945), iUniverse. Inc.



Swearing in of 2019 Officers by Fred Fomby

# **Current News**

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

# Pentagon Developing Low-Yield Nuclear Cruise Missiles For Submarines Ben Werner, U.S. Naval Institute News, Apr. 3

The Pentagon is in the early stages of developing low-yield submarine-launched nuclear-tipped cruise missiles, a senior Department of Defense official told lawmakers Wednesday.

Both Russia and China are making substantial improvements to their nuclear forces, notably increases to low-yield nuclear weapons, John Rood, the Under Secretary of Defense for policy, said during a Senate Armed Services strategic forces subcommittee hearing.

Inside the Pentagon's Fiscal Year 2020 budget request, Rood said, the military is requesting money for a low-yield modification to an existing warhead for submarine-launched ballistic missiles and submarine-launched cruise missiles.

Military leaders and lawmakers have debated the need for creating submarine-launched low-yield ballistic missiles for some time, but the cruise missile plan is newer.

"The sub-launched cruise missile is further behind, and we're just doing an AoA or analysis of alternatives at this stage," Rood said.

Rood brought up the low-yield nuclear missile work when responding to a question from Sen. Josh Hawley (R-Mo.) about the importance of low-yield tactical nuclear weapons as an effective modern deterrent.

Based on Russia's recent development activities and statements, Rood said there's a growing concern in the Pentagon and other government agencies the Russian government is developing low-yield nuclear weapons because of a perceived advantage.

The Russian thinking, Rood said, is if the U.S. does not have similar weapons, the U.S. will not be able to respond to a Russian low-yield nuclear weapon strike. The Russians are counting on a U.S. desire to not escalate a low-yield nuclear strike by responding with the larger nuclear warheads currently in the U.S. arsenal.

However, the Pentagon's desire to continue the low-yield nuclear weapons plan is already facing resistance on the other side of Capitol Hill in the House Armed Services Committee.

A week ago, when Air Force Gen. John Hyten, commander of U.S. Strategic Command, made a similar argument about the need for low-yield nuclear weapons, he was met by skeptical lawmakers in a House Armed Services strategic forces subcommittee.

Rep. Susan Davis (D-Calif.) said she was unconvinced such weapons are needed, and Rep. Adam Smith (D-Wash.), the HASC chair, has been a frequent critic of the low-yield weapon plan, often stating the nation's current nuclear deterrent is more than adequate.

# NIST's Ron Ross on the state of cyber: 'We literally are hemorrhaging critical information' Jill Aitoro, Fifthdomain.com, Mar. 29

After Chinese hackers infiltrated a Navy subcontractor's computer network and stole a trove of highly sensitive data on submarine warfare, it spurred the government to revise the standards that contractors must follow to ensure government data is properly protected data.

What the hackers took was "the equivalent of the stealth technology for the Air Force," said Ron Ross, a fellow at the National Institute of Standards and Technology who focuses on computer security.

"We literally are hemorrhaging critical information about key programs," Ross said during a fireside chat I moderated at the RSA Federal Summit Tuesday. "They're coming after you every day. They're either going to bring down your capability, they're going to steal stuff from you, or they're going to plant malicious code in your systems and they're going to come back at some point under their timetable and bring you down."

As for the revision of those standards, it's currently parked in the Office of Management and Budget awaiting approval, Ross said. Ideally, the Defense Department would begin to use those standards within the next 18 months to help determine whether to award a business a contract.

But will those standards solve the problem? Here's how Ross described the challenge during our fireside chat. An excerpt of that conversation is below.

FIFTH DOMAIN: I know the Department of Defense is working with NIST to update standards used by contractors to secure data. Will that document establish requirements and responsibilities that extend to the supply chain, considering those smaller companies are often more vulnerable?

ROSS: It doesn't. The requirements are the requirements. But the problem you described is a real one. Information that's critical doesn't lose value because it goes from the federal government to a prime contractor and that value stays just as high when it goes to the sub. I think the ultimate solution is you have to protect the information no matter where it is, and somebody is going to have to pay for that. There's no free lunch. We are always talking about what's the [return on investment] for doing all the security stuff. We never look in the rearview mirror and say what was the cost of the cleanup? And if you remember the OPM breach not that long ago, in 2015, that cleanup I believe cost over a half a billion dollars. The cleanup is an order of magnitude more expensive than it would have taken to protect the system to start.

FIFTH DOMAIN: You talk about the need to devote money to this, and yet we've had programs that were awarded recently by DoD where the bids were particularly low. These were for massive platforms. It begs the question of whether those trickledown cyber protections are even being considered at the front end?

ROSS: I think that there's always a question about whether we have enough money or enough people to solve this problem. I'm going to come at this from a counter view. We developed a publication two and a half or three years ago. It's NIST 800-160. That's a system security engineering guideline. We took an international standard, a joint standard on systems engineering that had nothing to do with security [and used that as the basis to establish] everything you need to do in a life cycle process to make sure security is integrated into that system that you're building.

The first couple of the steps in the life cycle are called stakeholder requirements. That's where you sit around the boardroom, or with the war fighters, and they're saying, "what kind of a weapon system do we need to defeat the bad guy? Or what's our business model in a Fortune 500 company?" Then you have to say, "Okay, we are totally dependent on technology to accomplish that mission. Knowing that, I'm going to build a system with a certain set of functional requirements." Now we have a step that says you're required to put your security requirements right in with those functional requirements and there's something called a trade space discussion that takes place with every system. That's where the war fighters say, I want everything in the world, and then they say, well, you got cost, schedule and performance. You can't have that function requirement because it costs too much. You can't build the antigravity machine. Eventually you stabilize on a set of requirements that you build to.

That's where we're running off the rails now because largely those discussions don't take place in the life cycle development. It may turn out we have plenty of money.

FIFTH DOMAIN: For years, people have criticized FISMA as being a box checking exercise. Could the expanded focus on artificial intelligence help the state of cybersecurity?

ROSS: Good AI programs, they're just programs. They're algorithms and those programs run on your system stack – applications, middleware, operating systems, firmware, down to the integrated circuits. So, if you've got a whizzbang application and you tell me it's a trusted application, but it runs on an untrusted operating system, it's game over. Any AI program that you're running at the application level is totally going to be bogus information. You can't trust it if the adversary's already taken control of your system with a root kit.

Now, if you can build a trusted platform and take advantage of artificial intelligence, machine learning, you've got a great brave new world there. That's awesome and we should be doing all of that. But you can't hunt your way out of this problem because the attack surface is getting so large and complex and most of it's unmanaged and most of it's unprotected. And that's a formula for going down in the long term.

# North Korea 'Building New Ballistic Missile Submarine'

# Yang Seung-sik and Yu Yong-weon, Chosun Ilbo Online (South Korea), Apr. 5

North Korea is building a new 3,000-ton submarine capable of launching ballistic missiles, a senior military spokesman here said Thursday.

"A large quantity of components presumably needed to build a 3,000-ton sub, which the North has been developing, have turned up recently at a shipyard in Sinpo, South Hamgyong Province," the spokesman said. "We've also spotted a floating dock deployed off Sinpo, apparently for a missile test."

Google Earth satellite imagery from March 2 shows piles of cylindrical components and materials presumed to be submarine bulkheads at the shipyard. None of them can be seen in satellite imagery from August last year.

Pictures also show that the facilities are well-maintained there and the floating dock, which was previously moored at the pier, is now floating offshore. "This suggests that the North has kept building a new sub and testing a submarine-launched ballistic missile," he said.

Construction seems to have been going on even as North Korea was in denuclearization talks with the U.S.

The North's existing 2,000-ton sub is capable of carrying only one ballistic missile, but the new sub could deploy three or four. Russian models can carry up to 12. That would drastically increase the North's strategic strike capability, and any launch would be hard to detect.

The new sub could travel into the Pacific and strike U.S. bases in Guam or Hawaii armed with the latest Pukguksong-3 SLBMs with a range of more than 2,000 km. "In theory, the new sub could travel across the Pacific and turn up in waters off the U.S. west coast," he added.

Meanwhile, Gen. Terrence O'Shaughnessy, the commander of the U.S. Northern Command, said in a hearing at a U.S. Senate Armed Services Subcommittee on Wednesday that the North's deployment of intercontinental ballistic missiles is "imminent" and it is almost certain that they are designed for an attack on the U.S. mainland.

North Korean leader Kim Jong-un "declared the completion of his nuclear ICBM research and development program [in 2017], implying the production and deployment of these systems would soon follow," O'Shaughnessy said.

Kim "developed these strategic weapons to deter the U.S. from overthrowing his regime, and he almost certainly has plans to use them against our homeland should a conflict erupt on the peninsula," he added.

# Russian sub launched cruise missile without leaving port

# Thomas Nilsen, Independent Barents Observer Online (Norway), Apr. 3

The Russian Northern Fleet's newest and most advanced multi-purpose submarine, the "Severodvinsk", has fired a Kalibr cruise missile without leaving the pier, Izvestia reports.

It is said to be the first time a nuclear-powered submarine has launched a cruise missile directly from the base, a move drastically shortening the time it takes to make a submarine's weapons ready for combat. During Cold War times, Soviet ballistic missile submarines were ready to launch intercontinental nuclear weapons while moored, but according to Izvestia, this hasn't previously been the case with multi-purpose submarines.

The submarine-launched version of Kalibr cruise missile has a range of up to 660 km.

"Severodvinsk" is the first Yasen-class multi-purpose submarine. She started to sail for the Northern Fleet in 2014 and has Zapadnaya Litsa on the Kola Peninsula as home base. This is the westernmost base with the Northern Fleet, located a short 60 km from the border to Norway.

Within the next few years, six more Yasen class submarines will be added to the Russian Navy of which at least three is expected to sail for the Northern Fleet. The first one in line is "Kazan" – to be delivered to the Northern Fleet later this year.

Syrian war

The Kalibr cruise missile has proved to be highly effective and precise in strikes against both sea- and ground targets. During the Syrian war, the sea-based version of the missile was repeatedly launched from both submarines and surface warships in the Mediterranean against targets inside Syria.

Theoretically, the Kalibr missile launched from a Yasen class submarine moored at the base in Zapadnaya Litsa can reach targets in most areas north of the Arctic Circle in northern Norway, Sweden and Finland within minutes.

"The possibility of launching cruise missiles directly from the berth significantly increase the combat effectiveness of submarines," says Igor Kudrin to Izvestia. Kudrin is a well-known expert on Russian submarines and today head of the St. Petersburg Submarines' Club.

In a war scenario, Kudrin explains, "Does the fleet not always have time to deploy, necessary for the vessels to sail out from the pier and proceed to the pre-assigned area of attack. Submarines should be able, if necessary, to launch their main weapon right there, without departing from the pier."

Nuclear warhead

At a meeting in Kremlin with Defense Minister Sergey Shoigu in December 2015, President Vladimir Putin confirmed that cruise missiles, like the Kalbir and Kh-101, can be tipped with a nuclear warhead.

"Both the Kalibr missiles and the Kh-101 rockets are generally showing very good results. We now see that these are new, modern and highly effective high-precision weapons that can be equipped either with conventional or special nuclear warheads," the President said according to the transcripts from the meeting.

Putin and Shoigu were talking about the warfare in Syria.

Zircon cruise missile

Yasen-class submarines could in the future also be armed with Russia's new Zircon hypersonic scramjet powered cruise missile. With a speed of up to Mach 5 or 6, some 6,125 to 7,350 km/h, to a range of 500 km at low level and up to 740 km if flying semi-ballistic, according to Wikipedia.

In March, news agency TASS reported that the "Kazan" submarine will test-shoot a Zircon cruise missile next year. The same news article quotes Vladimir Putin of saying the missile can reach speeds of about 9 Mach and has a range of more than 1,000 km.

Showing military muscles

Senior Research Fellow Njord Wegge at the Norwegian Institute of International Affairs (NUPI) says to the Barents Observer the cruise missile launch from the submarine's base on the Kola Peninsula is a way for Russia to show military capabilities.

"One should be careful with interpreting the missile launch as an escalation of the current situation, but rather view the event as a way for Russia display its capabilities and posture as a military great power," Wegge says.

"At the same time, it seems reasonable to interpret the event as yet another signal of Russian dissatisfaction with recent western military practices, e.g. the US flying B-52 bomber planes closer to Russia."

In the current situation Wegge emphasize that it is important for all parts to operate within the framework of international law, and to be as transparent and predictable as possible when conducting military training, to avoid misunderstanding an unnecessary escalation.







