MINUTES OF THE USSVI NORTHERN VIRGINIA BASE
MEETING HELD ON SATURDAY, February 10, 2018

The Base CDR, Chuck Martin, called the meeting to order at 1107 on February 10, 2018 at American Legion Post 162, Lorton, VA and welcomed all members and guests.

MEMBERS AND GUESTS IN ATTENDANCE
Steve Bishop, Cathy Chatham, Howard Chatham, Chuck Martin, Mike Naughton, Mary Lou Naughton, Paul Nelson, Terry Nelson, Michael Niblack, Tim Oliver, Ginger Haskell, Joe Phoenix, Marie Phoenix, Mark Riethmeier, Mike Varone, Anita Varone, and Woody Woodworth. (17 total)

Holland Club Member Associate Member Guest

The COB, Mike Varone, led all hands in the Pledge of Allegiance.

The Chaplain, Steve Jaeger, was absent today, as Darlene's mom has taken a turn for the worse. Mary Lou Naughton delivered the Invocation.

The Base CDR, Chuck Martin, read the list of boats lost in the month of February. These were:

USS Barbel (SS-316)	Feb 4, 1945
USS Shark (SS-174)	Feb 11, 1942
USS Amberjack (SS-219)	Feb 16, 1943
USS Grayback (SS-208)	Feb 26, 1944
USS Trout (SS-202)	Feb 29, 1944

The ship's bell was tolled twice in remembrance of the 24 USSVI NOVA Base members on Eternal Patrol.

IN MEMORIUM:
MNCS(SS) Thomas A. Sheridan, USN, Ret. – 1/8/18; CAPT Robert D. McWethy, USN, Ret. – 1/29/18; Mrs. Linda Will, wife of CAPT John Will, USN, Ret. – 1/31/18
.
SUBMARINE HISTORY:

Our newly appointed submarine historian, Woody Woodworth, presented a compilation of materials on the USS Trout (SS-202). He provided an eight-page hand out with many details on the Trout's WW II exploits during her eleven war patrols.

USS Trout (SS-202) was a Tambor-class submarine serving in the Pacific from 1941-1944. She received three Presidential Unit Citations for her second, third, and fifth war patrols. The first Commanding Officer was LCDR Frank Fenno for war patrols 1-4. He was relieved by LCDR Lawson (Red) Ramage (later of SSBN fleet creation fame) for war patrols 5-8. The final CO was LCDR Albert Clark for patrols 9-11. Her most famous patrol was number 2 when the Trout evacuated over 20 tons of gold bars, silver pesos, mail, securities, and state Dept dispatches from Corregidor to the Philippines while evading Japanese submarine chasers and mines.

BZ, Woody!!

SPECIAL PRESENTTION:
The Base Commander called Terry Nelson forward to accept a NOVA Base award. The COB read the award citation while the CDR presented Terry with her Dick Higman Award recognizing her many contributions to our base activities. Dick Higman was the very first USSVI Base CDR at Groton, CT. Terry was with her grandchildren when the Base's earlier Dick Higman awards for 2017 were awarded, so this presentation gets her caught up with our earlier award winners.
Thank you, Terry!


Photo by Mark Riethmeier

MEETING MINUTES

The minutes from the January 2018 meeting were disseminated to the membership. There was no discussion. Minutes are accepted.

TREASURER'S REPORT

In Steve Jaeger's absence, Steve Bishop presented Steve Jaeger's Treasurer's monthly report:
Starting balance: $ 8,010.40
Receipts: 267.37
Expenditures: 266.40
Ending balance: $ 8,011.37 with Walmart Grant restricted use funds of $1,302.60
Grand total discretionary: $6,708.77

MEMBERSHIP:
80 members

- 38 Holland Club members
    - 4 WW II members
- 33 Regular members
- 9 Associate members

COMMITTEE REPORTS
The Base Commander presented a summary of the most recent **Executive Board Meeting**, held on January 31st including: membership; plans for upcoming meetings and events; K4K program; updates to the website; Holland Club Luncheon; NJROTC program; Eagle Scout program; and the Sweet Heart Luncheon

COB: Nothing to report (NTR)

PAO: NTR

Veterans Affairs: the Base CDR presented:

- Beginning February 1, 2018, the TRICARE Pharmacy price structure has changed. Visit TRICARE.mil to learn about the changes (https://tricare.mil/About/Changes).
- **The current TRICARE Retiree Dental Program will end Dec. 31, 2018. It will be replaced with the Office of Personnel Management's Federal Dental and Vision Program (FEDVIP). Vision plans will also be available to eligible TRICARE beneficiaries through FEDVIP. If you are eligible, you can start enrolling in FEDVIP in November 2018. Coverage will start Jan. 1, 2019.**
- The Veterans Administration will issue Veteran ID Cards. You can request a copy of the new Veteran ID Card at https://www.vets.gov/veteran-id-card/. (These are for veterans who served their time, but who did not retire after 20 or more years of service.)
- There will be a Veteran's Forum for Virginia's 1st District vets but ALCON are welcome.
    - Who: Congressman Rob Wittman; Mike Carr, Deputy Director , VA Benefits Assistance Service; and Lawrence B. Connell, Acting Medical Center Director, Washington D.C. VA
    - When: February 17, 2018
    - Time: 0930-1130
    - Where: Dale City VFW in Hall B, 14631 Minnieville Rd, Dale City, VA 22193
    - RSVP to Karen Klotz by February 14, 2018 at Karen.klotz@mail.house.gov or by phone at 540-659-2734

Store Keeper: Howard Chatham showed his assorted submarine and Navy stickers and decals which he has for sale. He also has the 2018 USSVI calendars for sale. Those who pre-ordered need to pay for and pick up their calendars from Howard, more are available.

Kap(ss) 4 Kid(ss): Steve Bishop reported that our recent visits were:

- Fairfax INOVA in Falls Church, VA on Thursday October 26, 2017.
- Walter Reed Medical Center in Bethesda, MD on Thursday November 16, 2017 was cancelled by the staff due to low patient census (that's a good thing for a cancer ward).

- Our next visits are:
    - Walter Reed Medical Center in Bethesda, MD on Thursday February 22, 2018 at 10:15 AM, and
    - Fairfax INOVA in Falls Church, VA on March 29, 2018 at 2:00 PM

- Going forward, the older children we visit will be receiving the USSVI NOVA Base K4K Coloring Book which features art work by Tom Denton, USSVI's artist.
- Our intent is to provide to each child we visit a nice folder containing the "Honorary Submariner" certificate, a ball cap or beanie or do rag, a challenge coin, instructions on arranging a submarine tour in Norfolk, and a coloring book.
- Steve will be visiting the Walmart stores in the area to speak face to face to the store managers and/or the Community Grant Team Leaders before submitting a grant application to each of these stores. Walmart has contributed significantly to our program for the last two years, and to other USSVI K4K programs across this country.

Scouting Coordinator: Chuck Martin reported:

- Recent Eagle Scout Court of Honors:
  - Eagle Scout Nick Williams' Eagle Scout Court of Honor was held on January 29, 2018. We are sending a package to honor his achievement.
- Upcoming Eagle Scout Court of Honors:
  - Eagle Scout Will Davis' Eagle Scout Court of Honor will be held on March 3, 2018 in Midlothian, VA at 4 pm. The CDR and COB will be attending. If interested in attending contact either the CDR or COB for more details.

NJROTC/School Program Coordinator :

Potomac Senior High School NJROTC has contacted the Base about teaching the Introduction to Navigation class during the week of February 26, 2018. Steve Bishop is the Base's point of contact for this Community Outreach Program. He will be teaching the NJROTC curriculum on charts, plotting, electronic navigation, dead reckoning, aids to navigation, exact time (GMT), rules of the road, and maneuvering board. There are over 1800 students at this high school and 210 of them participate in NJROTC.

Naval Submarine League: The Base CDR and Tim Oliver announced:

1. The Sea-Air-Space EXPO will be held April 9-11, 2018 at the Gaylord Hotel, National Harbor (http://www.seaairspace.org). The NSL will have a booth at the Sea-Air-Space symposium and is in need of members to assist with manning it. This is a great opportunity to be part of an impactful event which draws a very large and engaged audience. If you are interested in helping out, please contact Tim Oliver at timoliver@navalsubleague.org.
2. The 2018 Submarine Technology Symposium will be held May 15-17, 2018 at JHU/APL.
3. At the local NSL chapter's recent meeting CDR George Wallace was given a few minutes to discuss USSVI and encouraged NSL members to join.
4. Take a look at the NSL website for links to submarine-related articles.

OLD BUSINESS

1. USS Scorpion (SSN 589) 50th Anniversary Memorial
   - Will be held on May 25 - 27, 2018 in Norfolk, Va.
   - CNO, Admiral John M. Richardson, is the keynote speaker for the memorial service.
   - The Base made a donation of $99 in memory of RMCS Robert Johnson.
2. Military & Veteran Legal Resource Guide By Virginia Office of the Attorney General was released in July 2017
   - Outstanding resource for Military & Veterans

3. USSVI Membership Policy for 2018 Calendar Year
    - Any Armed Services Active Duty member is eligible to join USSVI as a regular or associate member
    - Membership dues for first calendar year are waived.
    - Restrictions
        - An application must be sent into the National Office.
        - Membership card will not be issued until their first renewal in December of 2018.
        - Member will receive only the electronic version of the American Submariner during 2018.
4. Nominations for the 2018 National Officer Elections are being taken until March 1st 2018.
    - If you feel you would like to run for any of the positions please send Al Singleman, Jr., Nomination Chairman, an e-mail at al@ssbn657.com with your nomination letter stating your qualifications for the position and a statement that if elected you will accept the position.
5. U.S. Mint has commenced the sale of the World War I Centennial 2018 Uncirculated Silver Dollar. Funds from the sale will go for the WWI National Memorial.
6. The Base now has a USSVI Northern Virginia Base Officers plaque and an Eternal Patrol plaque.

NEW BUSINESS

1. USSVI Scholarship Fundraiser – Frank Hood, Vice CDR of USSVI Marblehead Base has published a book titled "Poopie Suits and Cowboy Boots" that is about the day-to-day life aboard a US Navy submarine. All proceeds go to the USSVI Scholarship Fund. (Our COB, Mike Varone, commented that he is reading the book and that he served with the author on the USS Seahorse. The author was a nuclear JO and Mike was a spook rider so they didn't interact, but this is the second book about a real submarine patrol where Mike was actually aboard. **Mike recommends the book to us, and it's a USSVI fundraiser!)**
2. The Awards Manual for 2018 was approved by the USSVI Board of Directors in January 2018. The nomination period for all Awards started on February 1, 2018.
    - The Manual is posted on the USSVI web site, under the Awards tab.
    - Submit your nominations to John Stanford at Jstan131@Comcast.net
3. USSVI National website and TOOLS Data Base will be shutdown for migration of data to the new USSVI website and system. You will receive a POC email when the transfer is complete and the new website is up and running.
4. The 2018 USSVI National Convention Caribbean Cruise Registration is now open! You may register and obtain more information by going to: http://www.ussviconvention.org/2018/
    - Convention/Caribbean Cruise is scheduled for October 21, 2018 through October 28, 2018.
    - The cruise will be departing from the Port of Ft. Lauderdale and making port calls to Half Moon Cay, Bahamas; Ocho Rios, Jamaica; Georgetown, Grand Cayman; and Cozumel, Mexico then returning to Ft. Lauderdale.
    - A deposit of $350 per person plus registration fee ($25 member/$15 guest) is needed to guarantee your reservation.
    - Final payment will be due no later than July 15, 2018. Payments may be made by check (payable to AAA Travel), or by major credit card.
    - Cabins starts at $669 for Double Occupancy and goes upwards to $9000 for a single suite.

- You must have a US passport in your possession that is valid until at least 6 months after the last day of the cruise to embark.

5. On 24 January 2018, the "USS Baya Base" was commissioned and joined our ranks within USSVI. The home port for the base is in Port St. Lucie, FL. Base Commander is Jordan Kahle, Vice Commanders are Rick Cohen and Chris Rainey, Base Secretary is Tony Reese, and Base Treasurer is Travis Koeper.
6. On Saturday, February 12, 2018 the American Legion Post 162 (our host) will be holding a cleanup starting 10 AM.

Steve Bishop reported that he visited base member and past Base CDR, Tom Perrault, this week. Tom is now living at Sunrise of Hunter Mill and that **Tom would very much appreciate visitors and e-mail from his friends at USSVI**. He can be reached at:
tjperrault@verizon.net He has a computer in his room.
Sunrise of Hunter Mill
2863 Hunter Mill Road
Room 110
Oakton, VA 22124
The front desk phone number is 703 255-1006

The Binnacle List currently includes: Al Anceravage, Barbara Harmody, Steve & Darlene Jaeger for Darlene's mom, Tony Poblete, Ray Stone, Tom Perrault, and Lorraine Sargent.

For the Good of the Order, the CDR read the list of birthdays in February: Ross Sargent and Gary Smith.

The 50/50 raffle was won by Marie Phoenix. Marie donated her winning share back to the base. Thank you!!

THE NEXT MEETING WILL BE ON MARCH 10^{1H} AT POST 162 IN LORTON, AND OUR GUEST SPEAKER WILL BE CAPT BRAD NEFF, OPNAV N97.

The Benediction was delivered by the Mary Lou Naughton.

The CDR requested a motion to adjourn. It was so moved and seconded. The meeting was adjourned at 1204.

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13 of the members and guests attended the annual Sweethearts luncheon at:
PARADISO ITALIAN RESTAURANT at 6124 FRANCONIA RD, ALEXANDRIA, VA 22310 The rogues gallery is shown below.

Photo taken by Paradiso's manager

Meeting Minutes Respectfully Submitted by
Stephen C Bishop
Secretary, USSVI Northern Virginia Base

UNDERSEA WARFARE NEWS (edited)

U.S. Undersea Warfare News

New Data Shows Detail About Final Phase of US New START Treaty Reductions

Hans M. Kristensen, Federation of American Scientists, January 12

The full unclassified New START treaty data set released by State Department yesterday shows that the US reduction of its nuclear forces to meet the treaty limit had been completed by September 1, 2017, more than four months early before the deadline next month on February 5, 2018.

The data set reveals details about how the final reduction was achieved (see below). Unfortunately, no official detailed data is released about the Russian force adjustments under New START. Our previous analysis of the overall September 1, 2017 New START data is available here.

Submarines

During that six-month period last year, 20 ballistic missile submarine launch tubes were deactivated, corresponding to four tubes on five Ohio-class submarines. Two of those submarines were in drydock for refueling and not part of the operational force.

In total, the United States has deactivated 56 strategic missile submarine launch tubes since the New START treaty went into effect in 2011, although the first reduction didn't begin until after September 2016 – more than five years into the treaty.

Of the 280 submarine launch tubes, only 212 were counted as deployed with as many Trident II missiles loaded. The treaty counts a missile as deployed if it is in a launch tube regardless of whether the submarine is deployed at sea. The United States has declared that it will not deploy more than 240 missiles at any time. Assuming each deployed submarine carries a full missile load, the 212 deployed missiles correspond to 10 submarines fully loaded with a total of 200 missiles. The remaining 12 deployed missiles were onboard one or two submarines loading or offloading missiles at the time the count was made.

The data shows that the 212 deployed missiles carried a total of 945 warheads, or an average of 4 to 5 warheads per missile, corresponding to 70 percent of the 1,344 deployed warheads as of September 1, 2017 (the New START count was 1,393 deployed warheads, but 49 bombers counted as 49 weapons don't actually carry warheads, leaving 1,344 actual warheads deployed). If fully loaded, the 240 deployable SLBMs could carry nearly 2,000 warheads.

The Navy has begun replacing the original Trident II D5 missile with an upgraded version known as Trident II D5LE (LE for life-extension). The upgraded version carries the new Mk6 guidance system and the enhanced W76-1/Mk4A warhead (or the high-yield W88-0/Mk5). In the near future, according to the Trump administration's Nuclear Posture Review (NPR), some of the missiles would be equipped with a low-yield version of the W76-1.

The Navy is developing a new fleet of 12 Columbia-class missile submarines to begin replacing the Ohio-class SSBNs in the late-2020s. The Trump NPR states that "at least" 12 will be built. Each Columbia-class SSBN, the first of which will deploy on deterrent patrol in 2031, will have 16 missile tubes for a total of 192, a reduction of one-third from the current number of SSBN tubes. Ten deployable boats will be able to carry 160 Trident II D5LE missiles with a maximum capacity of 1,280 warheads; normally they will likely carry about the same number of warheads as the current force, with an average of about 5 to 6 warheads per missile.

ICBMs

The New START data shows the United States now has just under 400 Minuteman III ICBMs in silos, down from 405 in March 2017. Normally the Air Force strides to have 400 deployed but one missile was undergoing maintenance.

Although the number of deployed ICBMs had declined from 450 to 400, the total numbers of missiles and silos have not. The data shows the Air Force has the same number of missiles and silos as in March 2017 because 50 empty silos are "kept warm" and ready to load 50 non-deployed missiles if necessary. Reduction of deployed ICBMs started in 2016, five years after the New START was signed. And the actual ICBM force is the same size as when the treaty was signed.

The 399 deployed ICBMs carried 399 W78/Mk12A or W87/Mk21 warheads. Although normally loaded with only one warhead each, the Trump NPR confirms that "a portion of the ICBM force can be uploaded" if necessary. We estimate the ICBM force has the capacity to carry a maximum of 800 warheads.

An ICBM replacement program is underway to build a new ICBM (programmatically called Ground Based Strategic Deterrent) to begin replacing the Minuteman III from 2029. The new ICBM will have enhanced penetration and warhead fuzing capabilities.

Heavy Bombers

The New START data shows the US Air Force has completed the denuclearization of excess nuclear bombers to 66 aircraft. This includes 20 B-2A stealth bombers for gravity bombs and 46 B-52H bombers for cruise missiles. Only 49 of the 66 bombers were counted as deployed as of September 1, 2017. Another 41 B-52Hs have been converted to non-nuclear armament such as the conventional long-range JASSM-ER cruise missile.

The New START treaty counts each of the 66 bombers as one weapon even though each B-2A can carry up to 16 bombs and each B-52H can carry up to 20 cruise missiles. We estimate there are nearly 1,000 bombs and cruise missiles available for the bombers, of which about 300 are deployed at two of the three bomber bases.

The bomber force was the first leg of the Triad to begin reductions under New START, starting with denuclearization of the (non-operational) B52-Gs and later excess B-52Hs. The first B-52H war denuclearized in September 2015 and the last of 41 in early 2017. Despite the denuclearization of excess aircraft, however, the actual number of bombers assigned nuclear strike missions under the strategic war plans is about the same today as in 2011.

A new heavy bomber known as the B-21 Raider is under development and planned to begin replacing nuclear and conventional bombers in the mid-2020s. The B-21 will be capable of carrying both the new B61-12 guided nuclear bomb and the new LRSO nuclear cruise missile. The Air Force wants at least 100 B-21s but can only make 66 nuclear-capable unless it plans to exceed the size of the current nuclear bomber force.

Looking Ahead

With the completion of the force reductions under New START in preparation for the treaty entering into effect on February 5, 2018, the attention now shifts to what Russia and the United States will do to extend the treaty or replace it with a follow-up treaty. With its on-site inspections and ceilings on deployed and non-deployed strategic forces, extending New START treaty for another five years ought to be a no-brainer for the two countries; anything else would increase risks to strategic stability and international security. If the treaty is allowed to expire in 2021, there will be no – none! – limits on the number of strategic nuclear forces. Unfortunately, right now neither side appears to be doing anything except to blame the other side for creating problems. It is time for Russia and the United States to get out of the sandbox and behave like responsible states by agreeing to extend the New START treaty. February 5 – when the treaty

enters into effect just 23 days from now – would be a great occasion for the two countries to announce their decision to extend the treaty.

U.S. Plans New Nuclear Weapons - Pentagon Weighs 'Low Yield' And Sea- Launched Cruise Missile, Igniting Strategy Debate

Michael R. Gordon, Wall Street Journal, January 16

WASHINGTON – The Pentagon is planning to develop two new sea-based nuclear weapons to respond to Russia and China's growing military capabilities, according to a sweeping Defense Department review of nuclear strategy.

The planned move has ignited a broad debate over future U.S. nuclear strategy at a time when the nation also faces the threat of proliferation, in particular from North Korea's efforts to expand its arsenal of nuclear weapons and develop long-range missiles capable of delivering them.

Supporters of the Pentagon's plan say it is time for the U.S. to update its nuclear forces to deal with changing threats some three decades after the end of the Cold War. Critics worry that the Pentagon's search for more flexible nuclear options could lower the threshold for their use.

One weapon, which experts say could be deployed in about two years, is a "low yield" warhead for the Trident missile, which currently is deployed with more powerful warheads on the Navy's submarines that carry ballistic missiles.

The U.S. also would pursue the development of a new nuclear-tipped sea-launched cruise missile, reintroducing a system that was retired from the American arsenal in 2010.

The development of the two weapons is among a broad range of recommendations in the Pentagon's Nuclear Posture Review, a major reassessment of the U.S. nuclear strategy and programs that was commissioned about a year ago by President Donald Trump.

That strategy, which is expected to be formally unveiled later this month, has yet to be approved by the president. The Pentagon has dismissed an unclassified draft of the strategy, which was published last week by HuffPost, as "pre-decisional," while more updated drafts are also circulating. But the plans to field the new nuclear systems have strong support in the Pentagon and are expected to go forward, according to people familiar with the review.

A major question at the heart of the Pentagon review is how to respond to military strategy and programs in Russia and China, which American officials say provide a more prominent role for nuclear weapons. In effect, the Pentagon argues that since adversaries have failed to follow the U.S. in de-emphasizing the role of nuclear weapons, Washington needs a greater range of nuclear options to counter its potential foes, especially for carrying out limited strikes.

"While the United States has continued to reduce the number and salience of nuclear weapons, others, including Russia and China, have moved in the opposite direction," said a draft of the plan. "The United States must be capable of developing and deploying new capabilities, if necessary, to deter, assure, achieve U.S. objectives if deterrence fails, and hedge against uncertainty."

A major concern for the Pentagon is a new Russian ground-launched cruise missile that American officials say violates the treaty banning intermediate-range missiles based on land, which was signed in 1987 by President Ronald Reagan and Mikhail S. Gorbachev, leader of the then-Soviet Union. Russia's decision to develop and deploy that system is described by the review as part of a Russian doctrine that calls for threatening the limited use of nuclear weapons, or perhaps even carrying out a limited nuclear strike, to end a conventional war on terms favorable to the Kremlin.

By developing a new American "low yield" system, the Pentagon review argues the U.S. will have more credible options to respond to Russian threats without using more powerful strategic nuclear weapons, which the Kremlin may calculate Washington would be reluctant to use for fear of unleashing an all-out nuclear war. Because the new weapons it is proposing would be based at sea, the U.S. wouldn't need the permission of other nations to deploy them and their deployment wouldn't violate existing arms-control agreements.

The draft doesn't precisely define what "low yield" nuclear weapons might be, but the new Trident system might have a warhead of one or two kilotons, compared with the current system which has an explosive yield that ranges from 100 kilotons to 455 kilotons, depending on the warhead it carries. By comparison, the U.S. nuclear bomb dropped on Hiroshima, Japan, at the end of World War II was about 15 kilotons.

Critics have assailed the Pentagon's review, arguing that it may bring about the very situation the Defense

Department says it wants to avoid: a world in which the threshold for employing nuclear weapons is lowered.

"We should be doing everything to reduce the risk that nuclear weapons are going to be used, not expanding the ambiguity of when we might use nuclear weapons," said Jon Wolfsthal, who served as a senior official for arms control on President Barack Obama's National Security Council.

Bruce G. Blair, a scholar at Princeton University who has argued for the abolition of nuclear weapons, said the Pentagon should be looking for ways to strengthen its cyber and conventional military capabilities instead of searching for new nuclear options, especially since the Russian may opt to use its new ground-launched cruise missile with a nonnuclear warhead.

The review has also drawn support, particularly from conservative quarters. "This is not about making weapons more usable; this is about strengthening deterrence so that nuclear weapons are not used in the first place," said Robert Joseph, a senior national security official in the George W. Bush administration. "We have to think what would be credible in Russian eyes."

While the review calls for "pursuing" a new sea-launched cruise missile, it notes there are some circumstances in which the Trump administration might shelve the program: a decision by Russia to fix its alleged violation of the 1987 treaty banning U.S. and Russian land-based intermediate-range missiles and also reduce its formidable arsenal of tactical nuclear weapons.

Russia and China aren't the only threats cited in the nuclear review. It also asserts that upgrading the U.S. nuclear arsenal will add to the country's ability to deter North Korean aggression.

"North Korea relies on hardened and deeply buried facilities to secure the Kim regime and its key military and command and control capabilities," the review says. "Consequently, the United States will continue to field a range of conventional and nuclear capabilities able to hold such targets at risk."

Despite the debate over the proposed "low yield" Trident missile and sea-launched cruise missile, many of the other weapons recommended by the review also were advocated by the Obama administration, including the development of a new strategic bomber and an air-launched cruise missile.

Paying for all of the missile and bomber programs may be a challenge. The review says carrying out the nuclear modernization and operating the systems will require, at most, 6.4% of the Defense Department budget, up from 2% to 3%. If the Pentagon doesn't secure the increases it anticipates, this could heighten the competition between nuclear and nonnuclear programs for resources. The development of nuclear warheads is funded by the Energy Department.

USS Pittsburgh (SSN 720) Holds Change of Command Ceremony

Chief Petty Officer Steve Owsley, DVIDS, January 12

The nuclear-powered, Los Angeles class, fast-attack submarine, USS Pittsburgh (SSN 720) held a change of command ceremony in the Dealey Theater at Naval Submarine Base, New London on Jan. 12, 2018.

Oklahoma City, Okla. native Cmdr. Neil Colston transferred command of Pittsburgh to Pittsburgh, Pa. native Cmdr. Jason Deichler.

Colston spoke of the highlights of Pittsburgh's battle history over the boat's 34 years of active service, including being one of the first U.S. fast-attack submarines to fire Tomahawk cruise missiles at enemy targets during Operation Desert Storm, followed by combat operations during Operation Iraqi Freedom. Colston said, "It has indeed been a high honor to be assigned as her commanding officer over the last few years. Through my time Pittsburgh has continued to build upon her great tradition.."

He went on to talk about the accomplishments of the boat and crew during his time in command. These accomplishments included steaming 40,000 nautical miles during a deployment to the European Theater of Operations, a dry dock period for heavy maintenance, followed by a four-month mini-deployment. Pittsburgh also did its part to train future submarine leaders by conducting Submarine Command Course operations.

Pittsburgh is one of the oldest boats in the Atlantic Fleet, yet the boat and its crew have never pulled back from any challenge. The competitive nature of Pittsburgh and Colston were evident when Colston spoke about one last milestone for Pittsburgh. "To cap it all, USS Pittsburgh became the latest in a short list of Los Angeles class submarines to complete her 1,000th dive, a rare occurrence for nuclear ships." Colston chided Deichler by saying, "Sorry Jason, we couldn't leave that one to you."

Colston spoke of the importance of the Pittsburgh team when he said, "The true heart and soul of the Pittsburgh, the iron men of her crew persevered and gave their all for us to execute all of these operations across every spectrum of missions for a submarine."

Colston shared one of his favorite sayings to impart the importance of the crew to Pittsburgh's success.

"There is no unnecessary equipment and there are no unnecessary Sailors on a machine as complicated as a submarine, a machine more complicated than the space shuttle."

Colston addressed his crew directly when he said, "Sailors and leaders of Pittsburgh, I know that you are in tremendous hands with Cmdr. Deichler, I know he will also be a great mentor and I know you will provide him mentorship just as you did with me."

Deichler, a self-described son of Pittsburgh said, "The USS Pittsburgh has proven for over 30 years that she is one of the finest submarines our world has and will ever know, and I thank our leadership for the trust and blessings to lead this amazing crew into harm's way once again."

In a message for Pittsburgh's Sailors Deichler said, "To the crew of Pittsburgh-from the day I stepped onboard during underway operations, you have shown me the definition of sustained, programmatic excellence. I am enthused to lead on with you through the next few years."

Pittsburgh's new commanding officer also spoke about his motivations. "As I grew up in the small Pittsburgh suburb of Carnegie, I saw hard working men and women pick up a piece of chalk and teach the next generation, or pick up a sledgehammer and conduct a training with professionalism and integrity, or wield a mother's love to teach children the values of family and humility. Those sons and daughters of Pittsburgh inspired me to breathlessly work hard and never give up. I carry with me each day this fact-I am a son of Pittsburgh and I am the son of James and Karen Deichler. I will never forget the faces of the men and women of Pittsburgh, nor the faces of my family."

Deichler closed his speech with a message for his crew. "Pittsburgh, I am humbled beyond words to be your CO, and I ask that you remember each day why we fight-I ask that you too never forget the faces of your family."

Y-12 To Build Replacement Parts For Nuclear Warheads On Submarine Missiles

Staff, Oak Ridge Today, January 18

The Y-12 National Security Complex in Oak Ridge has been approved to build parts for a system being replaced in the W88 nuclear warhead, which is deployed on submarine-launched missiles, according to the National Nuclear Security Administration.

The W88 has been a key part of the nation's nuclear deterrent since it became part of the weapons stockpile in 1988, the NNSA said on its website Tuesday. But it needs maintenance.

The W88 Alteration (Alt) 370 program will replace the warhead's Arming, Fuzing, and Firing, or AF&F, subsystem and address other aging issues to maintain its current state of readiness, the NNSA said.

The final design review of the AF&F subsystem was recently completed at Sandia National Laboratories in New Mexico. An independent panel reviewed the AF&F requirements as well as several other aspects of the electrical and mechanical design and manufacturing, according to the NNSA.

"The panel recommended a 'pass with no conditions'-the best possible outcome-and praised the team for conducting an outstanding review," the NNSA said. "Some panel members, including a U.S. Navy representative, said that it was the best design review they had ever seen."

Y-12 has been approved to build component parts for the W88 Alt 370 nearly two years ahead of schedule.

"This early engineering authorization will help ensure that the program stays on track when it reaches First Production Unit, currently scheduled for December 2019," the NNSA said. "The milestone was possible due to the qualification of several test specimens and the availability of pre-existing inventory."

The W88 is deployed on the U.S. Navy's Trident II D5 Submarine-Launched Ballistic Missile system on Ohio-class ballistic missile submarines. The W88 Alt 370 program is a joint effort by Los Alamos National Laboratory, Sandia National Laboratories, the Kansas City National Security Campus, the Pantex Plant, and the Savannah River Site.

Groton A Step Closer To Creating Sub Sail Memorial

Deborah Straszheim, The Day, January 18

The USS Groton Sail Foundation cleared one more hurdle this week toward creating a future memorial for the sail of the town's namesake nuclear attack submarine.

The Groton City Planning and Zoning Commission approved a change to zoning regulations to allow the future memorial on Bridge Street. Prior to the unanimous decision, the small park was not a permitted use in a

general commercial zone, Planning Commissioner David Rose said.

William Vogel, chairman of the USS Groton Sail Foundation board of directors, said the group also is negotiating with the owner of a property on Bridge Street near the World War II National Submarine Memorial.

The purchase was delayed because the land is one of three properties the owner had to clear of environmental contaminants before selling, Vogel said. The owner has since completed the physical work, he said.

Foundation member Rich Moravsik said the landowner owes about $70,000 in back taxes on the three properties. The current plan is that the owner would use a portion of the sale proceeds to pay the taxes, Moravsik said.

The "sail" of a submarine is the tower-like portion that protrudes from the hull at the center of the ship. The USS Groton sail is about 26 feet long, 18 feet tall and 5 feet, 6 inches wide. It's currently divided into two sections that together weigh 92,000 pounds, and are being stored at the Naval Submarine Base.

The sail is covered with lead paint, so the first task is scraping off the paint and properly disposing of it. The sail pieces then would be transported by truck to Electric Boat, where workers would clean the jagged seams, clear any rust, sandblast the surface and paint the sail. The foundation still is awaiting final approval from EB about donating the work, Moravsik said.

Once finished, the sail pieces would be welded together and bolted to a concrete foundation yet to be built.

The USS Groton (SSN-694), a Los Angeles-class attack sub, was the third Navy ship named for Groton. Built at Electric Boat, it was launched in October 1976, commissioned in July 1978, and decommissioned in November 1997.

USS Asheville Holds Change of Command

PO1 Jamica Johnson, DVIDS Hub, January 22

Cmdr. Jeremy A. Pelstring relieved Capt. Paul R. Pampuro, assuming command of the warship, who recently changed homeport from Pearl Harbor to Guam in December 2017.

Guest speaker Vice Adm. Phillip Sawyer, Commander, U.S. 7th Fleet, offered words of wisdom to the Pelstring and praised Pampuro for his leadership while in command of Asheville. He also thanked the crew and their families for their continued sacrifice and loyal devotion to duty.

“Only the most talented and capable are picked to take command of a submarine and the western pacific that Asheville will sail in requires just that caliber of officers and crew. Much of the U.S. and the world’s attention are focused on the Pacific, you will need to be at the top of your game each and every day, you’re out here, and I am extremely confident that you are up to that task,” said Sawyer.

Before turning over command, Pampuro reflected on his tour in command of Asheville and

highlighted several members of his crew, reflecting on the humble yet devote service of his Sailors, ranging from a Machinist Mate Weapons 3rd Class Shane Stewart, leading petty officer of torpedo division to Chief of the Boat, Culinary Specialist Master Chief, Simeon Yeboah.

“Whenever I can I advertise that most divisions on Asheville do not have Sailors from prior subs. I point to the torpedomen who are run by their leading petty officer, TM3 Stewart. EM2 Broussard, MM2 Buelin, MM2 Cepeda, and RM2 Davis all LPOs all expertly running their divisions.” said Pamuro.

He added “Master Chief’s vast Guam experience and his very calm demeanor were perfect. It got us through the end of our yard period and our flawless change of home port.”

Following his remarks, Capt. David Schappert, Commander, Submarine Squadron 15, presented Pampuro with the Meritorious Service Medal.

Pelstring officially assumed the title and responsibilities as Asheville's commanding officer, after orders were read and salutes rendered.

Pelstring served as future operations officer for Commander, Carrier Strike Group Two, from January 2015 to December 2016. Previous tours include USS Michigan (SSBN 727 Blue), USS Helena (SSN 725), USS Montpelier (SSN 765), Navy Nuclear Power Training Command, and Submarine Forces Atlantic.

Wartime Successes Of U.S. Submarines

Joseph A. Diblin, Daily Item, January 21

While researching history of World War II, I learned about the fantastic wartime successes of U.S.

submarines. Wartime security required secrecy about their operations and carried over after hostilities to some degree.

I was surprised to learn that a total of 288 American submarines were deployed in World War II. Submarine crews had a high casualty rate, losing nearly one man in four. Fifty-two submarines were lost, with 48 of them destroyed in the Pacific War with Japan.

History reveals that the submarine campaign against Japan had three major accomplishments. First, Japanese Merchant Marine losses crippled the ability of Japanese industry. Second, destruction of Japanese Merchant Marine and Naval forces significantly reduced the Japanese ability to project power throughout the vast Pacific. Third, use of the submarine enabled the U.S. Navy to take the offensive in Japanese controlled waters and inflict disproportionate losses relative to the U.S. investment in submarines.

History records that the Japanese attack on Pearl Harbor resulted in a significant loss for the U.S. Navy's fleet in the Pacific area. The only weapon immediately available to take the war to the enemy was the U.S. submarine force. As the war went on, Japan became a very vulnerable target for U.S. submarines. Because it was an island nation, Japan had to use the ocean to import a majority of its needs, both civilian and military.

But what about the men who lived dangerous lives operating the submarines in wartime?

This columnist had a younger brother who survived two tours of submarine duty in the Pacific War against Japan. Although deceased now, after the war I had an opportunity to ask him questions about submarine duty. "What was it like to be depth-charged by the enemy?" I asked. He replied, "It was veritable hell!"

However, with the experience, U.S. subs would surface and fight the smaller Japanese destroyers with the submarine's big deck gun and successfully sink some of them. But with little protection while on the sub open deck, they lost men to machine gun fire from the enemy.

In order to learn more personal information about serving in submarines, years ago I interviewed a U.S. submarine veteran, the now late Fred Schulter, of Lewisburg, a veteran of the Pacific War with Japan.

He explained that all submarine crews were volunteers. A typical wartime mission would have them at sea from 45 to 55 days. A key factor to return to base was when they were out of torpedoes. A serious problem early in the war were "dud" torpedoes. Instead of sinking an enemy ship, the "dud" provided a signal of the U.S. submarines' presence and made them vulnerable to an enemy attack. Schulter explained that their sub could fire torpedoes from either the front or rear of their boat.

We asked about food and water. They had limited water, but enough food, (very good too) for at least 60 days. There was enough oxygen for 36 hours submerged. Surface operation was by diesel engines and only on batteries when submerged. Maximum speed on the surface was 22 knots and 8 knots maximum under water. Their sub had one deck cannon and one machine gun. The typical crew consisted of 80 members, of which seven were officers.

Submarine crews were very brave volunteers. We honor their service and preserve their history before the passing of time might cause our nation to forget them.

Joseph A. Diblin, of Northumberland, was a four-engine pilot during World War II and has worked as a test pilot and civilian flight instructor. He is also seaplane rated. If you are a veteran — World War, Korea, Vietnam, Iraq, etc. — and would like to share your story, please contact him at 570-473-2594.

Russian Spy Ship Spotted 100 Miles Off North Carolina Coast

Ryan Browne, Zachary Cohen, CNN, January 22

WASHINGTON - The Russian spy ship, the Viktor Leonov, was spotted 100 miles south east of Wilmington, North Carolina, in international waters, according to a US military official, just days after the vessel was seen leaving the capital of Trinidad and Tobago, Port of Spain.

Two US military officials said the Russian ship is being tracked by the destroyer USS Cole and other naval assets.

Outfitted with a variety of high-tech spy equipment and designed to intercept communications signals, the Viktor Leonov was observed operating in the Caribbean last week, a US defense official told CNN.

It was unclear at the time where the vessel was heading, but the official said the spy ship has typically traveled up the eastern seaboard near Cape Canaveral, King's Bay, Norfolk and New London in the past.

All these locations are home to US naval installations.

A second official told CNN last week that based on historical patterns the ship is likely on a four-to-six month deployment off the East Coast where it will be conducting intelligence operations.

The Russian ship routinely performs this mission.

The ship sailed along the east coast of the United States in February and March of last year, lingering in international waters just off the coast of US naval installations.

Last March, the Viktor Leonov was spotted some 20 miles south of the US Naval Submarine Base Kings Bay near the Florida border, a US defense official told CNN.

In February, the US Navy spotted the same ship sailing 30 miles off the coast of Connecticut, the farthest north it had ever ventured, according to a US defense official. The Vishnya-class spy ship also conducted similar patrols in 2014 and 2015.

Pearl Harbor Will Soon Be Home To A New Attack Submarine

Staff, Hawaii News Now, 25 January

Pearl Harbor will soon get another USS Missouri, but this one is a 377-foot attack submarine.

The submarine, slightly larger than a football field in length, will arrive this Friday at Joint Base Pearl Harbor-Hickam.

It will become the sixth Virginia-class submarine to be home-ported in Hawaii.

The submarine is the fifth Navy vessel named in honor of the state of Missouri. The Navy says the sub is the most modern and sophisticated attack submarine in the world, and can operate in both littoral and deep ocean environment.

After arriving at Pearl Harbor, the submarine will pass the battleship Missouri Friday afternoon and render honors.

USS Wyoming Arrives at Norfolk for Mid-Life Refueling

Staff, Seapower Magazine, January 25

The Ohio-class ballistic-missile submarine USS Wyoming arrived at Norfolk Naval Shipyard (NNSY) Jan. 9 for its 27-month Engineered Refueling Overhaul (ERO), Naval Sea Systems Command said in a Jan. 25 release.

EROs are complex, major shipyard maintenance availabilities that extend a submarine's service life. The availability also marks the first time NNSY workers will modify the layout of berthing or sleeping areas onboard a submarine to include female enlisted service members.

The remainder of the planned work is similar to the shipyard's ERO currently being conducted on USS Rhode Island, allowing the Wyoming project to leverage off record-setting successes and valuable experience gained during that overhaul.

"Apples to apples, it's pretty much the same," said John Walker, project superintendent. "We're looking to get at least 70 percent of the employees who worked on the Rhode Island to roll over to the Wyoming."

The project team is already off to a strong start, completing the Resource Constrained Schedule (RCS) 14 days early. This schedule provides an overarching integrated plan on the number of personnel needed to conduct work throughout the overhaul.

"With the RCS, you're leveling the shipyard's resources across the whole 27-month availability," Walker said. "Now we don't have to focus on that as we move into the actual execution phase. It's a huge deal to get it done."

Walker said the team already has a new record in its sights for this ERO. In February 2017, Rhode Island finished refueling in 217 days, setting a new record at NNSY thanks to safety, effective planning and timely execution of quality of work. NNSY's former refueling record was on USS Alaska's ERO, which completed its availability on schedule in March 2009.

"We're scheduled to complete refueling in 213 days," Walker said. "It is both aggressive and achievable. We're taking the lessons learned from the Rhode Island, and we're utilizing much of the same team."

Rhode Island also raised the bar by undocking two days early in July. Walker points out that sharing lessons learned is essential when it comes to setting new standards for Ohio-class EROs at NNSY.

"I was there for most of that availability [as deputy project superintendent] before I transitioned over to [the ship] Wyoming," he said, "and I'm still in contact with that project team every single day."

NNSY, a field activity of Naval Sea Systems Command, is one of the oldest and largest industrial facilities belonging to the U.S. Navy, and specializes in repairing, overhauling and modernizing ships and submarines.

USS Pittsburgh (SSN 720) Wins Two Readiness Awards

MC1 Steven Hoskins, Navy.mil, January 24

GROTON – The nuclear-powered, Los Angeles class, fast-attack submarine, USS Pittsburgh (SSN 720), was presented with two readiness awards from Submarine Squadron Twelve on Jan 19.

Pittsburgh earned the Red and Green "N" and White "P".

Both awards are part of the Battle Efficiency Competition. The Red and Green "N" recognizes outstanding performance in Navigation/Operations Readiness and the White "P" recognizes outstanding performance in Personnel Readiness.

Commodore of Submarine Squadron Twelve, Capt. Ollie Lewis presented both awards to Pittsburgh and praised the crew for its hard work.

"I think a lot of this award and I spent a lot of time making sure we got it to the right crew" said Lewis. "It was clearly evident that in all categories that it comprises: taking care of your people, looking out for their well-being, advancements, retention, and unplanned loses, caring about the day-to-day work that your people do, and Pittsburgh does it right".

Lewis continued to highlight Pittsburgh's accomplishments while completing a demanding and challenging schedule over the past year.

The Battle Efficiency competition is an annual event that's conducted to strengthen and evaluate both command and overall force warfighting readiness and to recognize outstanding command performance. Submarine commands are evaluated on their year-long performance and readiness in the following fields: Engineering, Weapons, Strategic, Navigation/Operations, Communications/Cyber, Supply, Personnel, Medical and Repair.

USS Hartford (SSN 768) Wins CSS-12 Battle E Award

MCC Steve Owsley, Navy.mil, January 24

GROTON – The nuclear-powered, Los Angeles class, fast-attack submarine, USS Hartford's (SSN 768) leadership and crew were presented with the Commander, Submarine Squadron 12 (CSS-12) Battle E Award on Friday, Jan 19.

Hartford Commanding Officer, Cmdr. Matt Fanning accepted the award from Commander, Submarine Squadron 12 Commodore, Capt. Ollie Lewis.

Fanning credited Hartford's success to the power of positive thinking and a willingness to accept help from inside and outside of the ship.

"The crew is open to learning and actively seeks ways to improve their performance," said Fanning. "Primarily, my Sailors look to each other and to their chiefs, but what has been most impressive is their willingness to accept feedback from outside the command. This means that every inspection or visit is an opportunity to demonstrate their skills and ability, obtain guidance and get better."

Earning the CSS-12 Battle E means that Hartford demonstrated the most overall operational readiness of a crew to carry out its assigned warfighting tasks and best implemented and executed the Design of Undersea Warfare in day-to-day performance and battle readiness within the squadron.

Lewis said choosing a top boat in the squadron was a tough decision.

"With five boats in the squadron that deployed in 2017, it truly came down to a razor thin margin of distinguishing performance," said Lewis. "The strength of Hartford's performance across all facets of submarine operations was compelling-topped off by a near flawless Tactical Readiness Evaluation that was assessed as the best seen in several years based on individual graded areas."

The Battle Efficiency competition is an annual event that's conducted to strengthen and evaluate both command and overall force warfighting readiness and to recognize outstanding command performance. Submarine commands are evaluated on their year-long performance and readiness in the following fields: Engineering, Weapons, Strategic, Navigation/Operations, Communications/Cyber, Supply, Personnel, Medical and Repair.

Lewis credits Hartford's success to the training and team building within the crew, by stating, "The training and team building efforts onboard Hartford pulled them together to meet challenges that under other circumstances would have set commands back. The difference is in their attitude and recognition that each of them contribute something important; pulling them together toward a common goal of operational excellence and success."

Wolfe Tapped To Serve As SSP Director

Lee Hudson, Inside Defense, January 24

The president has selected Rear Adm. Johnny Wolfe to lead the Navy's strategic systems programs, which includes the manufacture and sustainment of submarine-launched ballistic missiles.

Wolfe, who serves as Aegis Ballistic Missile Defense program executive officer at the Missile Defense Agency, is set to be promoted to vice admiral.

Vice Adm. Terry Benedict, the current SSP director, is slated to retire this year. Typically, the SSP director role is a lengthier rotation than other Navy posts.

This WWII Sub Captain Went Down With His Ship To Save His Crew

Chuch Lyons, We Are The Mighty, January 30

The USS Growler was listing at 50-degrees, its bow bent sharply to the side. Japanese machine gun fire raked the bridge. Two men had already been killed and three more wounded — including the submarine's captain, Cmdr. Howard Gilmore. He was clinging to bridge rail to keep from collapsing. The Growler needed to submerge to survive; there was no time to waste. Gilmore cleared the bridge and, too badly injured to save himself, he gave the order.

He sacrificed himself and saved his boat. He had also earned a Medal of Honor, becoming only the second submariner to be so honored and the first of World War II.

His body was never found.

The Selma, Alabama native graduated from the United States Naval Academy in 1926. He served on the Battleship USS Mississippi before entering the submarine service in 1930 and served on several submarines there before taking command of the newly-built Growler the day after the Japanese attack on Pearl Harbor. After her shakedown cruise, the Growler played a minor role at the Battle of Midway in June 1942 and then began wartime patrols.

Gilmore commanded her on four of those patrols.

On his first patrol in July 1942, the Growler was near Kiska in the Aleutian Islands when she spotted three Japanese destroyers. Commander Gilmore attacked, sinking one of destroyers, the Arare, damaging the other two. The action earned him a Navy Cross.

But it's the fourth patrol that is remembered.

In early February 1943, the Growler was in the area of the Bismarck Islands off the northeastern coast of New Guinea and already sunk 12,000 tons of Japanese shipping and damaged at least one other ship. In the early morning hours of Feb. 7, she was on the surface charging her batteries when the Japanese convoy escort Hayasaki spotted her through the darkness and the overcast. The Japanese ship quickly turned to ram the submarine. Gilmore, who was on the bridge at the time, sounded the collision alarm and ordered "left full rudder," which brought the Growler on to its own ramming course.

The submarine struck the Japanese ship amidships at eleven knots, damaging Hayasaki's plating and her own bow. Eighteen feet of the submarine's bow was bent to port and the forward torpedo tubes were put out of action. She was listing. The Hayasaki immediately began raking the Growler's bridge with machine gun fire, killing the junior officer of the deck, Ensign W. Williams, and a lookout, Fireman W. F. Kelley. Two other crewmen on the bridge were also severely wounded, one with a serious leg injury and the other with an arm wound.

Hanging on as the Growler listed and knowing the Growler had to submerge or be lost, Gilmore ordered the bridge cleared. The Quartermaster and Executive Officer Lt. Cmdr. Arnold Schade, went through the hatch and pulled the wounded men through after them.

They waited in the control room for Cmdr. Gilmore to follow.

Instead, they heard the command: "Take her down!"

The Growler submerged and was able to avoid further damage. When she later surfaced, there was no sign of the Hayasaki — or of Gilmore, Williams, and Kelley.

Schade and the remaining crew of the Growler were able to hold the submarine together enough to get her back to Brisbane, Australia, arriving on Feb. 17. There, she was dry-docked and underwent extensive repairs before returning to the war under the command of Capt. Schade.

Growler continued wartime patrols for the next two years but was lost with her crew off the Philippine

Islands in November 1944. It was her 11th patrol on the war.

Gilmore was awarded a Medal of Honor and additionally honored in September 1943 when a new submarine tender was christened the USS Howard W. Gilmore and launched in California.

The command, “Take her down!” became a legend in the submarine service.

Greiner is Naval Submarine School Sailor of the Quarter

SLC Public Affairs, The Dolphin, February 1

GROTON – Navy Diver 1st Class (DSW/EXW/SW/AW) Matthew Greiner is Naval Submarine School's Sailor of the First Quarter 2018, selected Jan. 24, in award ceremonies at Naval Submarine Base New London.

Greiner is a High Risk Instructor assigned to Pressurized Submarine Escape Training (PSET) in the Engineering and High Risk Training Department.

Capt. Aaron M. Thieme, commanding officer, Naval Submarine School, cited Greiner's extended and extensive engagement as the "Groton area 'Caring and Sharing President' in organizing and leading 110 volunteers in over 1,000 hours of collections of food and monetary donations.

"His management and dedication ensured donations were distributed to over 415 local military family members with 2,500 pounds of food provided to the United Way of Southeastern Connecticut. His efforts reinforce the strong Navy and local community relations."

Greiner received the Navy and Marine Corps Achievement Medal (Gold Star in lieu of Eighth Award).

Fire Control Technician 2nd Class (SS) Steven Medrano, an instructor in the Advanced Training and Readiness Department was the Junior Sailor of the Quarter, selected by the Naval Submarine School First Class Petty Officer Association.

Electronics Technician 1st Class (SS) Christopher Reed was honored by the Naval Submarine School Master Training Specialist Board as Instructor of the First Quarter and ND2 (DSW) Ryan Johnson was selected as the Junior Instructor of the Quarter.

Montoursville Man Takes Command Of US Navy's Submarine Group 9

Staff, The Sun-Gazette, 6 February

Rear Adm. Blake Converse, of Montoursville, took command of Submarine Group 9 at a change of command ceremony at the Naval Undersea Museum on Dec. 15.

Rear Adm. John Tammen, from Washington Township, New Jersey, was properly relieved by Converse during the ceremony held in the Jack Murdock Auditorium.

"Our submarine community, and specifically Group Nine, represent the best our country and our Navy have to offer," said the event's guest speaker, Rear Adm. Daryl Caudle, commander, Submarine Force, U.S. Pacific Fleet. "A team dedicated and focused on mission success, either on patrol, forward deployed or at home, the professionals who work with and for Adm. Tammen are truly exceptional. I am very proud of this command. Thank you for your hard work, dedication, and support to accomplish a mission that is so critical to our nation."

"Adm. Converse, thank you for such a smooth transition and I wish you and your wife the best as you take the helm of the pacific ballistic and guided missile submarine force," said Tammen, who now is director of undersea warfare at the Office of the Chief of Naval Operations. "I know with your background here that you will take Submarine Group 9 to new heights."

Converse comes to Submarine Group 9 from Norfolk, Virginia, where he served as the joint and fleet operations officer at U.S. Fleet Forces Command.

His previous command tours include the Ohio-class ballistic missile submarine USS Louisiana and commander of Submarine Squadron 6.

"It's an honor and a profound privilege to stand before you today as the commander of Submarine Group Nine and it's especially moving to be able to take command here in the beautiful Pacific Northwest, where I first took command of USS Louisiana Blue over 11 years ago," said Converse. "A lot has changed in the last 1 years, but the mission of Submarine Group Nine and the critical importance of our strategic deterrence forces and our guided missile submarines remain a cornerstone of our defense strategy."

Submarine Group 9 exercises administrative command and control authority for assigned Trident fleet ballistic and cruise missile submarines and subordinate commands and units in the Pacific Northwest.

USS Annapolis Arrives At New Homeport Of San Diego

MC1 Ronald Gutridge, Navy Dispatch, February 5

The Los Angeles-class fast attack submarine USS Annapolis (SSN 760) arrived at her new homeport, Naval Base Point Loma, after completing an inner-fleet transfer from Groton, Connecticut, Feb. 2.

With a crew of 160 Sailors and officers, Annapolis is one of five Los Angeles-class submarines assigned to Commander, Submarine Squadron 11 (CSS-11). Families of the crew have been arriving to San Diego prior to the transfer.

Capt. Christopher Cavanaugh, CSS-11 commodore, welcomed the submarine to San Diego and his squadron.

"It's terrific to see Annapolis on the waterfront after her extended maintenance period, and to have the ship and crew join our Squadron 11 team," said Cavanaugh. "Annapolis is one of the most technologically advanced submarines in the world and will serve the nation for many more years. She has been an impressive performer during her career in the Atlantic, and I have the highest confidence that she will continue to do great things here in the Pacific."

During the transfer, Annapolis conducted a diverse series of exercises and test events to evaluate and certify the ship's warfighting capabilities across a range of submarine mission areas.

Cmdr. Kurt Balagna, commanding officer of Annapolis, praised his crew on their performance during the transit.

"This was the first time Annapolis has been in Pacific waters and our number one accomplishment was safe transit over the Pacific and arriving at our new homeport," said Balagna. "My crew has been in port for four months prior to this underway, went out to sea and was able to operate the submarine to its maximum and impressed me every single day. I could not be more proud of them."

While transiting to San Diego the crew completed theater security cooperation exercises with maritime patrol aircraft. Twenty-five Sailors qualified in submarines and are now entitled to wear the submarine warfare insignia, also referred to as "Dolphins", after completing a rigorous qualification process that included in-depth understanding of submarine construction and operations, and also practical assessments of the Sailor's ability to combat a wide range of casualties that could be encountered while on board the submarine. A majority of the crew also completed advanced qualifications, including engineering watch supervisor, diving officer of the watch and chief of the watch. These qualifications provide greater watch bill flexibility and help ensure that Annapolis' performance will remain strong.

In transit, the crew also conducted a time-honored Navy tradition of "crossing the line," a unique ceremony where the submarine crossed the equator, allowing the crew to qualify as "Trusty Shellbacks."

"I can't tell you how happy I am to be home in sunny San Diego" said Balagna, "I've been in command for three years and have been waiting to come out here to our new homeport in the Pacific. I couldn't be more proud of my crew."

USS Annapolis is the fourth ship to be named for Annapolis, Maryland, site of the U. S. Naval Academy. The boat was built by Electric Boat Division of General Dynamics Corporation in Groton, Connecticut, and the keel was laid down June 15, 1988. The submarine was christened and launched on May 18, 1991, and commissioned April 11, 1992. At 362-feet long, Annapolis is slightly longer than a football field.

International Undersea Warfare News

ROK Navy's Latest Diesel-Electric Attack Sub To Deploy In May

Franz-Stefan Gady, The Diplomat, January 22

The Republic of Korea (ROK) Navy's seventh Son Won Il-class (Type 214) diesel-electric air-independent propulsion (AIP) submarine, christened Hong Beom-do, will be operationally deployed beginning in May 2018, South Korea's Defense Acquisition Program Administration (DAPA) announced on January 19.

The sub's crew has been undergoing intensive training for the past four months, the statement notes, and will soon be ready for its first patrol. The new boat will enhance the ROK Navy's "underwater operational

capability," which is superior to North Korea's, the head of DAPA said, according to the press release.

The Hong Beom-do, named after a South Korean national hero, was built by Hyundai Heavy Industries (HHI). The submarine was launched in April 2016. It was the fifth Son Won II-class submarine, a variant of the Type 214 submarine of Germany's Howaldtswerke-Deutsche Werft, built by HHI under license.

In September 2017, HHI launched the ninth and final submarine of its class under the ROK Navy's Son Won II-class (also known as KSS-2) acquisition program. Overall, HHI built six KSS 2-class boats, with Daewoo Shipbuilding & Marine Engineering (DSME) assembling the remaining three.

Each Son Won II-class sub measures 65 meters (213 feet) in length and seven meters (22 feet) in width. The boat's top surface speed is around 12 knots and up to 20 knots when submerged powered by its electric motor.

"With its air-independent propulsion system, built around Siemens polymer electrolytic membrane fuel cells, the submarine can stay submerged for up to two weeks and can dive up to 400 meters (1,312 feet) deep," I reported elsewhere.

According to senior ROK Navy officers, the Son Won II-class, armed with long-range submarine-to-ground cruise missiles, boasts precision-strike capabilities and can attack ground targets deep inland. (DAPA is working on a new submarine-launched ballistic missile, or SLBM, for its sub force.) The Hong Beom-do is capable of detecting and tracking up to 300 targets simultaneously, according to DAPA.

As I noted elsewhere, South Korea is investing heavily into building up its submarine force:

The recent launch is part of a three-phased naval construction program to build up the ROKN attack submarine force. South Korea currently operates a fleet of nine 1,200-ton Chang Bogo-class diesel-electric attack submarines – a variant of the German Type 209 boat. Under the first phase, the ROKN is planning to upgrade all nine Chang Bogo-class submarines with air-independent propulsion and flank-array sonars over the next few years.

The nine Son Won II-class vessels are part of the second phase of the ROKN's so-called Korean Attack Submarine program. The third and final phase (and also the most ambitious part of the project) will be the construction of nine indigenously produced 3,000-ton diesel-electric attack submarines – designated KSS-III – equipped with air-independent propulsion and multiple vertical launch tubes from which Hyunmoo-3C cruise missiles with a range of up to 1,500 kilometers can be fired.

The ROK Navy is expected to operationally deploy a total of 18 diesel-electric attack subs by 2019.

Russian Navy "Exercise" Sure Looks Like a Submarine on Fire

Kyle Mizokami, Popular Mechanics, January 22

Video of what the Russian government claims is merely an "exercise" appears to show a submarine on fire.

The video, shot in the Russian fear eastern city of Vladivostok, shows a large fire and thick, black smoke close to several moored Russian Navy submarines. The Russian government says the fire was part of a planned exercise, but the fire and smoke look way too close to the submarines for comfort.

The video emerged yesterday on Twitter. According to Russia's Pacific Fleet, the incident was part of "damage control exercises." The video shows five submarines tied up at Vladivostok, with a raging fire close to the stern of one.

The submarine involved appears to be a Kilo-class diesel electric attack submarine. The Kilos dates back to the early 1980s, and has been the main Soviet/Russian non-nuclear submarine since then. Russia's Pacific Fleet operates six Kilos and Improved Kilos, although it is unclear which submarine this is. The Russian Navy has used Kilo submarines based in the Black Sea to launch cruise missiles against targets in Syria.

In addition to Russia the submarines are operated by a number of countries, including India, Iran, Vietnam, and China. In 2013, the Indian submarine INS Sindhurakshak caught fire and sank portside in Mumbai. A fire in the forward weapons bay triggered explosions of torpedoes and cruise missile warheads in the fully stocked bay. The accident killed eighteen sailors and rendered the ship unrecoverable, and it was finally stricken from Indian Navy rolls in 2017.

The incident has gone quiet on the Internet in the last eighteen hours and is still a mystery. The large, raging fire is clearly too close to the submarine for comfort, and while it may not be directly on the boat the submarine itself is clearly in danger. If the incident began as an "exercise," at some point it no longer was one and became a fire emergency.

Russia's Readiness Gives It An Edge On Modern Battlefield

Deborah Haynes, The Times (UK), 22 January

Russia has retained the ability to deploy tens of thousands of troops, jets, warships and tanks at speed – a capability that Nato has allowed to erode since the end of the Cold War.

It also has the ability – as demonstrated in the conflict in Syria – to launch multiple cruise missiles at range. The United States, the biggest member of the alliance, can more than match such fire power but what about other allies?

At the same time, Russia has enhanced its ability to protect its territory from incoming enemy missiles.

Britain's air defences, provided by Type 45 destroyers, the Rapier air defence system and – once they are operational at the end of this year – a new fleet of F35 warplanes, would be stretched to the limit and possibly overwhelmed if a barrage of missiles targeted the UK.

Add into the mix the fact that the character of war is changing.

Advances in technology have created the new domains of space and cyber, while progress with autonomous weapons and artificial intelligence means that military personnel in the future may not necessarily be in the firing chain when lethal force is deployed.

Russia's understanding on electronic warfare – such as jamming the GPS signals that modern weapons rely on to operate reliably – could render an opponent redundant on the battlefield. Layer that with the potentially devastating impact of a large scale cyberattack against a piece of critical national infrastructure such as nuclear power stations.

Another challenge is the increased capability of Russian submarines, which are faster and quieter than during the Cold War – critical characteristics to remain hidden.

This has eroded an advantage that Nato used to enjoy of fielding quieter boats.

It has also increased the challenge for the Royal Navy's four nuclear-armed submarines to avoid detection – something they successfully achieved throughout the Cold War.

Keeping the on-duty Trident submarine undetected is a founding principle of Britain's nuclear deterrent – guaranteeing the ability to fire back if the UK is ever under nuclear attack.

Admiral Sir Mark Stanhope, a former head of the Royal Navy and former submariner, said the "sonar gap" – the distance between which a British or another Nato submarine could hear a Russian boat but it could not hear them – is "significantly diminished".

"What used to be measured in hundreds of thousands of yards in the days of sonar advantage has shrunk to tens of yards," he said.

Another dilemma for Nato is a failure to keep up investment in anti-submarine warfare over the past 25 when land-campaigns in the Balkans, Iraq and Afghanistan have dominated.

This means the alliance has fewer submarines, fewer submarine-hunting frigates and fewer submarine tracking aircraft.

Russia too has seen the size of its navy, including its submarine fleet, shrink since the collapse of the Soviet Union. However, it kept partly-finished submarines on the production line and maintained its engineering and submariner competencies, analysts said.

When the Kremlin turned up investment in the military about a decade ago, the navy and in particular submarines benefitted, they said. This is because Russia sees it can use its underwater prowess to exploit Nato's weaknesses in an example of asymmetric warfare.

"They can't match Nato one for one on the surface but they can take the upper hand undersea," said Peter Roberts, director of military sciences at the Royal United Services Institute. "Where they can take the upper hand they will do so."

China Building Artificial Intelligence-Powered Nuclear Submarine That Could Have 'Its Own Thoughts,' Report Says

Christina Zhao, Newsweek, February 5

A senior scientist has confirmed that China is building artificial intelligence-powered nuclear submarines that can think for themselves, according to a report.

According to the researcher involved with the programme, who asked for anonymity due to the project's sensitivity, the AI-augmented submarines with "it's own thoughts" would reduce the commanding officers'

workload, eliminate human error, and give China's navy a competitive edge in underwater battles, reported the South China Morning Post.

"Though a submarine has enormous power of destruction, its brain is actually quite small," the researcher said.

In the past nuclear submarines have been almost exclusively controlled by naval personnel. But now AI-technology is catching up fast with the inner workings of a human brain, and through machine-learning the submarines will be able to gather knowledge, independently improve skills and develop new strategies without human intervention.

The researcher claims the AI-infused system must produce basic demands but also be "compact and compatible" with the submarine's existing computer systems.

"It is like putting an elephant into a shoebox," the researcher told South China Morning Post. "What the military cares most about is not fancy features. What they care most is the thing does not screw up amid the heat of a battle."

Zhu Min, lead scientist in China's deep water exploration programme and researcher at the Chinese Academy of Sciences' Institute of Acoustics, says AI weaponry is the next step for China's military but warns that the systems must be programmed carefully to safeguard from a "runaway submarine with enough nuclear arsenals to destroy a continent."

"This is definitely a risk the authorities should consider when introducing AI to a sub," he said.

However, Deng Zhidong, a computer science professor at Beijing's Tsinghua University, told the Post that there is zero chance of a machine uprising —at least with the technology currently available to us.

"An AI-powered machine is still a machine. It does not have a life," he said. "You can shut it down and shift to manual any time. It will be the same on a nuclear submarine."

The U.S. produced the world's first operational nuclear-powered submarine in the early 1950s. The idea for the USS Nautilus was first proposed by Ross Gunn, from the Naval Research Laboratory in 1939.

Widely known as one of the most sophisticated war machines, a nuclear submarine can take more than 20 years to develop from an idea into a finished product.