

**MINUTES OF THE USSVI NORTHERN VIRGINIA BASE  
MEETING HELD ON SATURDAY, June 11, 2016**

The Base CDR, Chuck Martin, called the meeting to order at 1100 on June 11, 2016, at the American Legion Post 162, Lorton, VA and welcomed all members and guests.

**MEMBERS AND GUESTS IN ATTENDANCE**

Steve Bishop, **Debbie Bishop**, **Cathy Chatham**, Howard Chatham, Bill Clement, guest speaker and new member Jeffrey Curren, **Mickey Garverick**, Steve Jaeger, Richard Lowry, **Vicky Lowry**, Chuck Martin, Mike Naughton, **Mary Lou Naughton**, Paul Nelson, **Terry Nelson**, **Willie Petruy**, Mike Varone, George Wallace, **Penny Wallace**, and Lawrence Woodworth. (20 total)

■ Holland Club Member

■ Associate Member

■ Guest

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

The Chaplain, Steve Jaeger, delivered the Invocation.

After a moment of silence, The CDR read the list of boats lost in the month of June and July. These were:

USS Herring (SS-233)	Jun 01, 1944
USS R-12 (SS-89)	Jun 12, 1943
USS Golet (SS-361)	Jun 14, 1944
USS Bonefish (SS-223)	Jun 19, 1945
USS S-27 (SS-132)	Jun 19, 1942
USS O-9 (SS-70)	Jun 20, 1941
USS Runner (SS-275)	Jun 26, 1943
USS S-28 (SS-133)	Jul 04, 1944
USS Robalo (SS-273)	Jul 26, 1944
USS Grunion (SS-216)	Jul 30, 1942

The COB then tolled the bell twice in Remembrance of the 20 USSVI NOVA Base members on Eternal Patrol.

**IN MEMORIAM:** CDR Robert Bridges, USN,Ret; CDR Charles “Chuck” Perry Miller, USN, Ret; RADM Jeffrey C Metzel, Jr, USN, Ret.

**HISTORIAN**

Richard Lowry presented a historical remembrance of the USS Snook (SS-279).



A Gato-class submarine, she was launched on 15 August 1942 and commissioned on 24 October 1942 with Lieutenant Commander C.O. Triebel in command. *Snook* made nine war patrols from 11 April 1943 to April 1945, sinking enemy ships in all but two of her patrols. Tragedy struck on *Snook's* seventh patrol when she sank the Japanese cargo ship *Arisan Maru*, killing 1,773 American prisoners of war.

*Snook* set sail from Guam for her last patrol on 25 March 1945. The fate of *Snook* and her crew is unknown. As with many submariners, they simply failed to answer radio transmissions and they never returned to port. There is some evidence that *Snook* fell victim to a submarine's worst adversary – a Japanese submarine.

*Snook* and her crew of 84 officers and men were lost during April of 1945. She ranked 10th in total Japanese tonnage

sunk in World War II, sinking a total of 17 enemy ships and earning seven battle stars.

## **MEETING MINUTES**

The minutes of the May meeting were distributed by e-mail and snail mail. Minutes were accepted as written by the membership.

## **TREASURER'S REPORT**

The Treasurer, Steve Jaeger, presented the following:

Starting balance: \$ 6,492.28

Ending balance: \$ 8,709.50 as of June 11, 2015.

Minus the Wal Mart grant restricted use funds for K4K of \$2,750.00

Grand total discretionary: \$5,959.50

Treasurer's report was accepted as written by the membership.

## **COMMITTEE REPORTS**

The Base Commander summarized the discussion at the June 1<sup>st</sup> Executive Board meeting, including: Membership , Holland Club initiation results, Base finances, K4K program, Website, Scouting Recognition program, Youth Outreach programs, and PAO items.

**VCDR:** Nothing to report (NTR)

**COB:** NTR

**Membership Report** by Steve Jaeger: 83 members consisting of: 37 Holland Club; 37 Regular; and 9 Associate members. This includes our guest speaker and newest member Jeffrey Currer.

**Public Relations:** NTR

**Veterans Affairs** by Bill Clement: The plan to privatize the military commissaries has been defeated this year. Space Available travel is available to Europe. It is now flown on commercial aircraft from BWI, not military aircraft from Dover AFB, but the waiting is still the same. Bill and his wife recommend the use of MWR accommodations.

**Base SK** by Howard Chatham: Base Challenge coins are still available for sale. The SK will be taking orders for the 2017 USSVI calendar when information is available.

## **Kap(ss) 4 Kid(ss)**

1. The date for our next visit to Fairfax Inova Hospital's pediatric oncology ward will be Thursday, July 14th at 1:45 PM. Anyone wishing to participate should contact Steve Bishop at (703) 293- 6344 or [dsbishop1@verizon.net](mailto:dsbishop1@verizon.net).
2. Wal Mart has come through with another gift card donation, bringing our total to \$175 in gift cards and \$2,750 in cash.
3. Mike Naughton and Steve Bishop have met with the Child Life Coordinator for Walter Reed National Military Medical Center in Bethesda, MD (WRB) and she welcomed us and our K4K program with open arms. WRB is trying to become more family friendly and our K4K effort is exactly what they need and want for their young patients. Cathy Chatham is setting up our first visit to WRB for this month. We intend to visit three WRB wards of children in medical distress: A. in-patient pediatric oncology / hematology (like INOVA); B.

neo-natal intensive care (NIC) together with active duty military- yes there are 17- and 18-year old active duty men and women at WRB who are treated in a pediatric ward; and C. out-patient infusion center where young patients come daily for their infusions and then go home to sleep and rest, only to come back the next day WRB is a great new opportunity for our NOVA base K4K program.

**Scouting Coordinator** by Chuck Martin: We honored Eagle Scout Phil Claubough on May 14<sup>th</sup> by providing his Scout Master the certificate and patch that were presented to him.

**District Commander and Regional Director:** Mike Naughton reported that:

1. The USSVI National Convention will be in Reno, NV Aug 15-20.
2. The Policy & Procedures Manual (PPM) and the minutes from the 2016 Mid-Term meeting are on the USSVI.org national website
3. The East Northern District Commander Meeting will be held Oct 7-8 at the Hyatt Place in Malta, NY
4. He is working on creating a North East Region patch .

**Submarine League:** The Annual Fall Symposium will be held Oct 26<sup>th</sup> and 27<sup>th</sup>, 2016 at a new location in Crystal City. The next Capitol Chapter Luncheon will be on Aug 11<sup>th</sup> at the Army Navy Country Club with guest speaker VADM Robert Thomas, Director of the Navy Staff.

**American Legion Post 162:** The Base CDR reported that:

1. Annual Spring Cleaning was held today
2. Flag Retirement Ceremony will be held June 12th at 5:00 pm.
3. General Meeting is scheduled for June 18<sup>th</sup> at 11 am
4. The Officers for Post 162 for the 2016-2017 membership year: Officers:
  - o Commander - Dave Wallace
  - o 1st Vice - Rod Sansone
  - o 2nd Vice - James Mitchell
  - o 3rd Vice - Brian Michelli
  - o Chaplain - Elaina Halford
  - o Finance Officer - Lloyd Loy
  - o Service Officer - Tony Husen
  - o Historian - Brenda Moy
  - o Sergeant-at-Arms - George Frank

## **OLD / NEW BUSINESS**

2016 Holland Club Induction luncheon was a huge success. Bravo Zula to George Wallace, Penny Wallace, Cathy Chatham, and Brian Haller

Howard Chatham, Brian Haller, and Chuck Martin participated in the American Legion Post's placement of U. S. flags on the gravesites of veterans on May 28<sup>th</sup>

Howard Chatham participated in the Falls Church Memorial Day ceremony by posting the POW/MIA flag.

The July NOVA Base meeting will be an informal dining out at Neighbors Restaurant at 1800 on Saturday, July 9, 2016. The restaurant is located at the intersection of Cedar Lane and Park Street in Vienna VA.

George Wallace and Rick Campbell will be participating in a joint book signing at the WNY on June 28<sup>th</sup> as a fund raiser for the Navy and Marine Corps Relief Society.

**NEW BUSINESS:**

**FLEET NEWS: Headlines here with details provided for each in an attached file.**

1. SP205 Family Reunion in Florida 16 July 2016
2. USS Charlotte (SSN 766) Change of Command - Cmdr. Andrew T. Miller relieved by Cmdr. Timothy J. Yanik
3. Welding Problems Fixed for Virginia Subs
4. USS Olympia (SSN 717) Change of Command - Cmdr. Thomas H. Shugart III relieved by Cmdr. Benjamin J. Selph.
5. USS City of Corpus Christi (SSN 705) Decommissioning Ceremony held May 30, at Joint Base Pearl Harbor-Hickam.
6. Contractors Start Development of Virginia Submarine's Acoustic Superiority Upgrades
7. Admiral Warns: Russian Subs Waging Cold War-Style 'Battle of the Atlantic'
8. USS Albany Awarded CNO Afloat Safety Award
9. USS Houston bids farewell to Hawaii; Decommissioning Ceremony to be held August 26 in Bremerton, WA

July 4<sup>th</sup> parade in Lorton will not be held this year.

**BINNACLE LIST**

Please keep the following in your prayers: Richard Lowry, Delbert Ennis, Richard Laulor, David Cooper, and Tony Poblete.

**For the Good of the Order**, the CDR read the list of birthdays for June: Reb Wooten, Debbie Bishop, Dave Cooper, Marcy Bivens, Lee Turner, Dan Burke, Art Rosen, Mike Niblack, Tony Poblete, and Brian Haller.

We won't have a regular meeting in July so the July birthdays are: Robert Gilmore, Frank Pasquinelli, Bill Decker, and Cathy Chatham.

**50/50 Raffle** The raffle was won by Penny Wallace who donated her winnings back to the base. Thank you, Penny!! The raffle for Rick Campbell's *Empire Rising* was won by Woody Woodworth.

**OUR NEXT MEETING WILL BE AN INFORMAL DINING OUT AT NEIGHBOR'S RESTAURANT, VIENNA VA ON JULY 9<sup>TH</sup> AT 1800**

**THE NEXT REGULARLY SCHEDULED MEETING WILL BE ON AUGUST 13<sup>TH</sup>. WE WILL BE CELEBRATING THE 20<sup>TH</sup> ANNIVERSARY OF USSVI NORTHERN VIRGINIA BASE. WE ARE LOOKING FOR A VENUE THAT IS HANDICAP ACCESSIBLE, MORE INFORMATION TO COME.**

The Chaplain delivered the benediction and the meeting was adjourned at 1148.

After a short break, the base VCDR George Wallace introduced our guest speaker, Jeffrey Currer. (Jeff served as a JO under George, the XO on Spadefish).



Mr. Jeff Curren is currently the Assistant Program Area Manager for the Unconventional Undersea Warfare Program Area at The Johns Hopkins University Applied Physics Laboratory (JHU/APL). Additionally he serves as a Program Manager for Mine Warfare (MIW) and Critical Undersea Infrastructure (CUI).

Mr. Curren graduated from the U.S. Naval Academy in 1983 with a B.S. in Systems Engineering. After completing nuclear engineering training and basic submarine school in May 1985, Mr. Curren was assigned to numerous operational posts and commands. His first operational assignment was USS SPADEFISH (SSN 668). In August of 1988 he was assigned as Flag Lieutenant to Commander, Submarine Force Atlantic Fleet, where he served for two years. In April 1991 he reported as Engineer Officer, USS ALABAMA (SSBN 731) (GOLD), making 6 strategic deterrent patrols. Then, in April 1994 Captain Curren transferred to Commander in Chief, U.S. Atlantic Fleet, serving as a junior member of the Nuclear Propulsion Examination Board. After conducting 65 examinations on submarines, aircraft carriers, cruisers and shore facilities, he reported to USS JACKSONVILLE (SSN 699) as Executive Officer. Aboard USS JACKSONVILLE, he completed a Mediterranean deployment where the ship was recognized as a Battle Group Top Performer and was awarded the Commander, U.S. Sixth Fleet "Hook'em Award" for Undersea Warfare excellence. In July 1998 Captain Curren was assigned to U.S. Strategic Command, Offutt Air Force Base, Omaha, Nebraska. There he served as Executive Assistant to the Director, Plans and Policy (J5) and the Commander in Chief, U.S. Strategic Command. While in Omaha, he earned a Master's Degree in Economics from the University of Oklahoma. In March of 2001, Captain Curren relieved as Commanding Officer USS PITTSBURGH (SSN 720). During his tour on board, PITTSBURGH deployed to U.S. Central Command to support Operation Enduring Freedom, Operation Southern Watch and conducted combat strike operations in support of Operation Iraqi Freedom.

In September of 2003 Captain Curren completed his Command tour and reported to the staff of the Director of Naval Education and Training representing Submarine Force and Naval Reactor's interests at the resource sponsor level. Captain Curren was subsequently assigned to the OPNAV N3N5 Staff as OPNAV N3ON, where he supported Global Force Management of our submarine force, Nuclear Berths and Anchorages, Submarine Rescue and Navy Salvage. While on the N3N5 staff, he provided direct support to the Secretary of the Navy regarding mid-frequency sonar litigation and impacts on Navy operations. Following assignments included Head, Undersea Surveillance Branch where he supported Integrated Undersea Surveillance Systems (IUSS) resourcing and requirements, and his final active duty position as Head, Undersea Capabilities Branch (OPNAV N2N6) where he supported IUSS as well as Unmanned Underwater Vehicles, Distributed Netted Systems and environmental compliance support for low frequency active sonar.

Mr. Curren retired from the Navy and arrived at JHU/APL in July 2012 after 29 years of commissioned service. In addition to his work at JHU/APL, Jeff and wife Merial own and operate Patriot Scuba, with Dive Shops in Occoquan, VA and on Fort Belvoir. Jeff also serves as Executive Director of Patriots for Disabled Divers, a national Non-Profit that trains injured veterans and their families to dive.

Jeff's presentation was about the Patriots for Disabled Divers program where he and his wife give back to the soldiers and sailors by teaching disabled and PTSD-afflicted veterans and first responders to scuba dive. To date they have taught over 600 veterans to dive. Those afflicted with PTSD and TBI present more challenges than even quadriplegics.

Jeff referred to and recommended a great book about the positive effects of water (lakes, pools, ocean...) on the brain and body, titled "Blue Mind" by Wallace Nichols, also of Johns Hopkins.

When Jeff and his team train a veteran to SCUBA dive, they also train the family support group (spouse, older

children...) so that going scuba diving can become a social experience for the entire family. Jeff spoke of one recent post-PTSD veteran's wife who thanked him for saving her husband's life. It seems the veteran had been at the end of his rope and was thinking of suicide to end it all.

Jeff and his wife derive great pleasure from bringing the joy and freedom of diving to those veterans and first responders with serious disabilities.

After the presentation and question and answer session, the Base CDR thanked CAPT Curren and presented him with a USSVI challenge coin. The session ended at 1240.

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



<http://www.subforce.navy.mil/>



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### **Today In Undersea Warfare History:**

**1944** | USS Tench (SS 417) sighted the Mikamisan Naru hugging the coast and stalked her until the next morning when she had moved ½ mile off shore. In a surface attack, she scored two torpedo hits and sank her.

**1984** | USS Sturgeon (SSN 637) departed Charleston, SC, for Northern Run and returned July 30, 1984.

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## **U.S. Undersea Warfare News**

### **USS Charlotte Holds Change of Command**

*MC2 Shaun Griffin, Submarine Force, U.S. Pacific Fleet, May 17*

### **Welding Problems Fixed For Virginia Subs; Carter Tours Electric Boat**

*Sydney J. Freedberg Jr., Breaking Defense, May 24*

### **Portsmouth Naval Shipyard Submarine Arsonist Loses Second Appeal**

*Elizabeth Dinan, SeacoastOnline.com, May 25*

### **USS Olympia Holds Change of Command**

*MC2 Michael H. Lee, Submarine Force Pacific Public Affairs, May 25*

### **Navy Releases Long-Lost Thresher Photos**

*D. Allan Kerr, Portsmouth Herald, May 30*

### **Sailor Pleads Guilty To Illegally Retaining Photos Of Groton-Based Attack Submarine**

*Staff, AP, May 27*

### **US Navy's Los Angeles-class Submarine USS City of Corpus Christi Decommissioned**

*Staff, Naval Technology, June 2*

### **Contractors Start Development of Virginia Submarine's Acoustic Superiority Upgrades**

*Valerie Insinna, Defense Daily, June 1*

## [Admiral Warns: Russian Subs Waging Cold War-Style 'Battle of the Atlantic'](#)

[Sam LaGrone, USNI, June 3](#)

## [USS Albany Awarded CNO Afloat Safety Award](#)

[Commander, Submarine Force Atlantic Public Affairs, June 7](#)

## [Submarine Houston Bids Farewell to Hawaii](#)

[Sam Fellman, Navy Times, June 7](#)

## [Hackensack Submarine Memorial Forced To Relocate As Land Owner Looks To Develop Property](#)

[Meg Baker, CBS New York, June 7](#)

# [International Undersea Warfare News](#)

## [South Korea to Develop Submarine-Launched Ballistic Missile](#)

[Franz-Stefan Gady, The Diplomat, June 2](#)

## [India's Nuclear Submarine Projects In Jeopardy](#)

[Staff, The Free Press Journal, June 2](#)

## [The Submarine Drones That Could Depower Trident](#)

[James O'Malley, Alpr, June 1](#)

## [British Navy Intercepts Russian Submarine On Way To Channel](#)

[Staff, The Guardian, June 8](#)

# [U.S. Undersea Warfare News](#)

## [USS Charlotte Holds Change of Command](#)

[MC2 Shaun Griffin, Submarine Force, U.S. Pacific Fleet, May 17](#)

**PEARL HARBOR, Hawaii** – Command of the Los Angeles-class fast attack submarine USS Charlotte was passed today, May 17, as Cmdr. Andrew T. Miller, commanding officer of Charlotte, was relieved by Cmdr. Timothy J. Yanik during a time-honored ceremony at the historic submarine piers of Joint Base Pearl Harbor-Hickam. Guest speaker retired Adm. Kirkland H. Donald, former director of the Naval Nuclear Propulsion Program, praised Miller for his exceptional leadership. "The CO's job is to make their ships ready to go to sea, and take the fight to the enemy," said Donald. "Drew Miller has done exactly that."

"Teams need great quarterbacks, and that's Drew

Miller," said Donald. "He's demonstrated all attributes of a successful leader; Competence, integrity, toughness and stamina."

Miller said he was honored to have the opportunity to command Charlotte and stressed the important role teamwork played in Charlotte's success. "I challenge anyone to find a team of officers and crew who are more resilient and are as capable of the relentless pursuit of getting the mission accomplished while continuing to maintain their positive attitudes throughout it all," said Miller. As Yanik assumed command of Charlotte he addressed the crew about the command's future. "To the men of Charlotte, in the past year,



both on deployment and prior, you have had a tumultuous schedule with numerous challenges," said Yanik. "You have not only endured, but have become stronger. I look forward to what the future holds and the challenges we will face." Yanik has completed two overseas deployments in support of U.S. submarine operations in the

Pacific and European Commands that included Tomahawk missile strikes in support of Operation Iraqi Freedom. He also completed two strategic deterrent patrols and served with submarine crews who collectively earned four unit

awards and two Battle Efficiency awards.

Charlotte is the fourth U.S. Navy ship to bear the name of the North Carolina city. Commissioned on September 16, 1994, at Norfolk, Va., the 360-foot long, 6,900-ton displacement submarine arrived at its new homeport, Pearl Harbor, Hawaii, Nov. 17, 1995.

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## **[Welding Problems Fixed For Virginia Subs; Carter Tours Electric Boat](#)** **[Sydney J. Freedberg Jr., Breaking Defense, May 24](#)**

**ELECTRIC BOAT, GROTON, CT** – Shipbuilders are fixing the biggest problem on one of the Pentagon’s top priorities, the Navy’s nuclear submarine fleet. As Defense Secretary Ashton Carter toured the Groton shipyard and talked up the importance of submarines, Electric Boat officials told reporters they’re fixing faulty welds in the nuclear-powered propulsion plants of three Virginia-class attack subs. As a result, the long-delayed USS Minnesota will finally leave the shipyard Friday.

“We’ve pretty much identified all of the issues that arose as a result of that vendor,” one Electric Boat official said referring to pipe-maker Nuflo. Other officials were more cautious, since they’re still waiting on the results of some inspections. Electric Boat spokesman Tim Boulay said on the record that: “We are continuing to perform inspections and take appropriate actions to resolve the issues ... A great deal of progress has been made.”

Secretary Carter expressed his confidence in the Navy and the shipyards during his visit. “It was a propulsion system weld issue,” the former physicist acknowledged when I asked him at a brief pierside press conference. “The effect of it is, yes, to delay the delivery of one of the new [Virginia-class] boats, and that obviously creates an operational impact that we have to fill and we’re going to fill as we promptly rectify the underlying problem” (i.e. the welds).

The delay could have been much worse: While Minnesota has been in the shipyard two years, twice the normal maintenance availability after a shakedown cruise, it had been built and delivered 11 months ahead of schedule, canceling out most of the delay.

After placing the blame squarely on a subcontractor, the Electric Boat officials told us the question as to who will pay for the problem – the subcontractor, the shipyards, or the government – remains unsettled. The priority, they said, was to get it fixed fast and assign blame later.

The first sub to display the welding defect, the USS Minnesota, will finally leave the Groton yard this Friday. The welds are also being fixed on the future USS Colorado, in whose shadow Carter spoke today, and on a

third sub being built at EB’s partner yard, Newport News Shipbuilding in Virginia.

That’s good news not just for the Virginia – an otherwise exemplary program – but for its 150 percent bigger sibling, the future nuclear missile sub known as the Ohio Replacement Program (ORP). The Ohio Replacement Program “is a huge, centrally important, obviously indispensable part of our national defense because the nuclear deterrent is the bedrock,” Carter told the shipyard workers. “This is one of those issues on which we are completely aligned with the Congress,” Carter added (implicitly contrasting with a host of other issues). “I’m very grateful for that.”

The Pentagon and Congress have invested heavily in the Virginia class, increasing production to two subs a year. (Electric Boat and Newport News divide up different parts of the submarine, but both build the reactor and conduct final assembly, each taking a sub in turn). Attack submarine production is a high priority because aging Reagan-era Los Angeles attack subs are retiring faster than U.S. shipyards can build replacements, just as China and Russia beef up their submarine fleets.

Soon, the much larger Ohio-class ballistic missile submarines (SSBNs) that carry most of the nation’s nuclear deterrent will also grow too old to serve. The first Ohio replacement submarines don’t have to start patrolling until 2031, but walking backwards from that deadline through all the complex training, testing, and engineering challenges requires delivery to the Navy in 2027, Congressional authorization in 2021, and a massive design effort now.

What happens in the Virginia class affects the ORP not just because they’ll be built in the same shipyards by the same people, but because the ORP sub is in many ways a scaled-up version of the Virginia design. While the SSBN is two-and-a-half times the size of the attack sub, its entire nose section and many components will be derived or directly copied from Virginia in order to reduce cost, risk, and time.

That said, both the individual ORP submarine and the shipyards that built it have to be significantly bigger. A Virginia, for example, is built in four huge cylindrical

sections, up to 2,000 tons apiece, which EB ships by barge from Newport News or its own Quonset Point, Rhode Island facility for final assembly at Groton. An ORP will consist of six such modules weighing up to 3,000 tons.

"We'll need a new barge," said Tom Plante, Electric Boat's head of strategic planning. They will also need a bigger workforce. It plans to grow from 14,100 employees today to 18,000 at the peak in 2030, with 1,800

hires in this year alone. That's not counting suppliers and subcontractors, which already total some 3,000 companies – not employees, companies – across the country. And everything in this sprawling enterprise has to work right to avoid any more delays and malfunctions.

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## **[Portsmouth Naval Shipyard Submarine Arsonist Loses Second Appeal](#)** **[Elizabeth Dinan, Seacoastonline.com, May 25](#)**

KITTERY, Maine — A Portsmouth High School graduate, who started a fire that destroyed a nuclear submarine, has lost a second appeal in his effort to overturn his 17-year prison sentence and \$400 million in court-ordered restitution.

The appellant, Casey Fury, was a civilian worker at Portsmouth Naval Shipyard on May 23, 2012, when he ignited two bags of rags aboard USS Miami. The rags sparked a fire that burned for 12 hours inside the sub, firefighters responded from 24 departments and most had never been inside a submarine before, according to court records. Five of the firefighters were injured.

Fury pleaded guilty to two federal courts of arson, but told the Portsmouth Herald a year ago that he did so under the threat of a life sentence. Last August, Fury lost an appeal to the U.S. District Court of Maine after arguing that he uncovered new evidence in the form of an anonymous letter and that his mental health and addiction problems weren't fully considered when he admitted to burning the sub and a second, smaller fire at the shipyard.

On Monday, the four-year anniversary of the USS Miami fire, Casey lost a second appeal, this time to the U.S. Court of Appeals. In a May 23 order, three federal appeals judges ruled Fury is ineligible to receive a "certificate of appealability" to challenge the Maine District Court's denial.

The appeals judges wrote they conducted a "careful review" of the District Court denial and found it is neither "wrong nor debatable." The judges also upheld the District Court's ruling that Fury's request to file an additional claim was "time-barred" and "would have failed on the merits in any event."

During a phone interview from the federal prison in Fort Dix, New Jersey, Fury told the Portsmouth Herald last year, "I don't believe I did it. I don't remember doing it."

Fury said he doesn't remember doing it because he was taking a lot of medication at the time, some of it prescribed, some not. He said he was working the shipyard job for just 11 days when he sought employee assistance for anxiety and panic attacks. The day he was picked up at his home by federal officials and confessed to lighting the submarine fire, he said, he had taken 14 Klonopin pills, as well as Ambien to help him sleep the prior evening.

Federal prosecutor Darcie McElwee said during Fury's sentencing hearing that he stayed on scene while the submarine burned and "watched while others risked their lives to battle the fire, all while he stood safely on the pier."

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## **[USS Olympia Holds Change of Command](#)** **[MC2 Michael H. Lee, Submarine Force Pacific Public Affairs, May 25](#)**

PEARL HARBOR, Hawaii (NNS) - Los Angeles-class fast-attack submarine USS Olympia (SSN 717) held a change-of-command ceremony on the submarine piers in Joint Base Pearl Harbor-Hickam, May 25.

Cmdr. Thomas H. Shugart III, commanding officer of USS Olympia, was relieved by Cmdr. Benjamin J. Selph.

Guest speaker, Capt. Marc Stern, Maritime Operations Center Director, Commander Submarine Force, U.S. Pacific Fleet, commended Shugart for his successful tour and professional development.

"While we celebrate Cmdr. Shugart's success

today, I know he would be the first to point out that all the great things he did in command were accomplished because of the hard work of the incredible team assembled here today," Stern said. "The things you accomplish every day contribute to our nation's security and you should be justifiably proud."

Under Shugart's leadership and guidance, Olympia completed a seven-month Western Pacific deployment and recently completed a successful docking selected restricted availability at Pearl Harbor Naval Shipyard, April 2016 to May 2016.

Stern presented Shugart with the Meritorious

Service Medal for outstanding meritorious service as commanding officer of Olympia from Nov. 2013 through May 2016.

Following the award presentation, Shugart thanked his submariners for their support and loyalty to the mission.

"Sailors are the reason we serve, and the reason our Navy is as strong today as it was in the days of John Paul Jones," Shugart said. "Over and over again, the Sailors in front of you have stepped up to the plate, keeping Olympia at sea and accomplishing her mission."

After the formal reading of official orders and passing of leadership, Selph thanked the Olympia crew for the time-honored tradition as the 14th USS Olympia commanding officer.

"I am deeply honored and thoroughly excited to be on this platform taking command of this ship," Selph said. "What a privilege to lead such a fine crew of men on this outstanding ship."

Selph, a native of Prescott, Arizona, graduated from the U.S. Naval Academy in 1999 with a Bachelor of Science in Chemistry.

## [Navy Releases Long-Lost Thresher Photos](#)

[D. Allan Kerr, Portsmouth Herald, May 30](#)

Some long-lost photos have reconnected Portsmouth Naval Shipyard with one of the more haunting chapters of its storied history.

And just in time for Memorial Day, they serve as a reminder of the Cold War casualties lost in the world's worst submarine disaster half a century ago.

The pictures are interior shots of the nuclear attack submarine USS Thresher (SSN 593), which was the first in a revolutionary new class of warship built at the local Navy yard to hunt and destroy Soviet submarines. According to the shipyard's public affairs office, this may be the first time the photos have ever been published.

They are dated from 1961, the year the Thresher was commissioned during a grand ceremony at the shipyard.

"In the Thresher we see gathered for the first time the marvelous energy of nuclear power; the evolutionary development of submarine hull forms," Vice Adm. Harold Deutermann said at the August 1961 festivities. "We see a weapons system so advanced in concept and design that no other submarine in the world today can equal her range and firepower for anti-submarine weapons."

Thresher sank less than two years later during deep-dive tests about 200 miles off the New England coast, taking with her all 129 Navy sailors and civilian technicians on board. The April 10, 1963, incident marked the first time a nuclear submarine had ever been lost at sea, and represents the largest number of lives lost aboard an undersea vessel.

Naval officials later determined the disaster was

Selph's operational tours include serving aboard USS Salt Lake City (SSN 716), submarine watch officer for Commander, Submarine Group Eight, engineering officer aboard USS Nebraska (SSBN 739) (Gold), material officer for Commander, Submarine Squadron 17 and executive officer aboard USS Topeka (SSN 754). Most recently, Selph served as lead planner for U.S. Naval Forces Africa and as deputy executive assistant to Commander, U.S. 6th Fleet.

USS Olympia is the second ship of the Navy to be named after Olympia, Washington. Commissioned on Nov. 17, 1984, Olympia is the 29th ship of the Los Angeles-class fast-attack submarines. The submarine is 362-feet long, displaces 6,900 tons and can be armed with sophisticated Mk-48 advanced capability torpedoes and Tomahawk cruise missiles.

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caused by faulty piping, which eventually shut down the submarine's nuclear reactor. Thresher then sank below crush depth until it imploded under the enormous pressure of the sea.

Today, the submarine's wreckage lies in thousands of pieces on the ocean floor, more than 8,000 feet below the surface.

The shipyard's previous longtime historian, Jim Dolph, died in 2012. Current historian Joe Gluckert is going through the archives of the facility's museum "piece-by-piece accounting for all documents and historic photos," said Deputy Public Affairs Officer Gary Hildreth.

"In his research, he came across these photos," Hildreth noted.

One of the pictures, featuring a telephone and a desk, shows the surprisingly cramped stateroom of Thresher's commanding officer. At the time of the 1963 tragedy, the sub's skipper was Lt. Cmdr. John Wesley Harvey, a rising star who had played on the offensive line of the Naval Academy's football team and graduated eighth in his class.

Epitomizing the spirit of genius and adventure that characterized the lost Thresher heroes, Harvey had taken part in three historic undersea North Pole cruises aboard other submarines before taking the helm of his first command. He was the commanding officer of SSN 593 for only three months before the tragedy.

Another photo displays the crew's mess, where enlisted sailors ate and relaxed. Checkerboards are seen etched into the long tables.

The third picture included shows the officers' wardroom, where commissioned personnel dined.

"These three photos really capture the essence of the spaces in the ship's Operations Compartment where the sailors spend the bulk of their off-watch time when not sleeping," Hildreth said.

There is a possibility the images could be included in displays at Albacore Park in Portsmouth or the Kittery Historical and Naval Museum for public viewing, but no arrangements have yet been made. Other photos show one of the crew's chief petty officers stowing his dress uniform in a locker, but shipyard officials want to release them to the crewman's family before sharing with the public.

Thresher was less than 280 feet in length, and accommodated a crew of 16 officers and 96 enlisted crewmen. For perspective, the Virginia-class attack subs currently being built for the Navy are nearly 100 feet longer; the Ohio class of ballistic-missile submarines has a length of 560 feet.

Hildreth spent nearly 29 years in uniform with the "silent service" before assuming his current civilian post, and ended his military career as the shipyard's command master chief.

"From a retired submariner's perspective, I was amazed at how remarkably similar these spaces looked in a nuclear-powered submarine built in the late '50's, early '60's to today's most technology-advanced nuclear-powered submarines," he said. "With its paneled bulkheads and naugahyde (simulated leather) covered benches, the Thresher looked like familiar territory."

SSN 593 was the pride of the Navy during her brief time in service, capable of running quieter, deeper and deadlier than any other vessel at sea. The sub had just undergone a nine-month overhaul at the Navy yard when she departed for her fatal final cruise – a sea trial that was supposed to last for a couple of days before Easter weekend.

Thirteen of the 129 men who perished aboard the

submarine that morning in 1963 were shipyard employees. The loss was a devastating blow not only to surviving family members but also the entire nation, occurring at the very height of the Cold War, just six months after the Cuban Missile Crisis.

"The future of our country will always be sure when there are men such as these to give their lives to preserve it," President John F. Kennedy declared after the tragedy.

Thresher's loss led to a complete overhaul of the Navy's safety program, resulting in the creation of SUBSAFE. This program is still in use today, and no submarine passing through its rigors has ever been lost at sea.

Today, a 129-foot flagpole stands in the middle of Kittery's Memorial Circle in honor of those lost aboard Thresher.

Memorial Day observances at Portsmouth's Albacore Park on Monday morning will pay special tribute to those lost in the submarine service. USS Albacore (AGSS 569) was also a Portsmouth Naval Shipyard-built vessel, and now serves as a fascinating museum.

The ceremony starts at 10 a.m., and will provide an opportunity for folks to check out the results of a recently completed \$1.2 million renovation of the basin and grounds. It's a great opportunity to learn more about a part of our national defense that also represents a vital core of the Seacoast's legacy.

And to remember those who died defending us.

To view the photos, visit:

<http://www.seacoastonline.com/article/20160530/NEWS/160539987>

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## **[Sailor Pleads Guilty To Illegally Retaining Photos Of Groton-Based Attack Submarine](#)**

**[Staff, AP, May 27](#)**

**BRIDGEPORT** – A Navy sailor has pleaded guilty to charges that he illegally retained photos he took with his cellphone of classified areas and equipment inside a nuclear attack submarine based in Groton.

Federal prosecutors say 29-year-old Kristian Saucier of Arlington, Vermont, pleaded guilty Friday in federal court in Bridgeport to unauthorized possession and retention of national defense information. He faces up to 10 years in prison and a fine of up to \$250,000.

The photos were on a phone that was found at a

waste transfer station in Connecticut.

Authorities say Saucier was a machinist's mate from 2007 to 2012 aboard the USS Alexandria at the Navy submarine base in Groton.

He's currently assigned to a Navy facility in Saratoga Springs, New York, and is awaiting an administrative separation board hearing.

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## [US Navy's Los Angeles-class Submarine USS City of Corpus Christi Decommissioned](#)

[Staff, Naval Technology, June 2](#)

The US Navy's Pacific Submarine Force has decommissioned the Los Angeles-class fast-attack submarine USS City of Corpus Christi (SSN 705), after serving for more than 33 years, at Joint Base Pearl Harbor-Hickam.

The City of Corpus Christi was the first-ever forward-deployed fast-attack submarine deployed to the US Pacific Fleet's Submarine Force.

The 362ft-long submarine is the 18th vessel of the Los Angeles-class fast-attack submarines and is the second ship to be christened after the city of Corpus Christi in Texas, US.

Built by Northrop Grumman and General Dynamics, the submarine has a displacement capacity of 6,100t and is equipped with Mk-48 advanced capability torpedoes.

The submarine was the first vessel to complete an

engineering refueling overhaul in 24 months. It underwent its final overhaul program in May 2011.

City of Corpus Christi current commanding officer commander Travis Petzoldt said: "She is the manifestation of our collective will not only to survive, but to thrive as a nation of free people.

"On behalf of the United States, thank you to all the men and women who have touched this fine ship, who have designed her, built her, took care of her and sailed in her."

City of Corpus Christi will sail to the Pacific Northwest, where it will be prepared to be inactivated.

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## [Contractors Start Development of Virginia Submarine's Acoustic Superiority Upgrades](#)

[Valerie Insinna, Defense Daily, June 1](#)

The Navy has begun awarding contracts to companies for new acoustic superiority upgrades that will make Virginia-class attack submarines more stealthy, the service's program manager said in a May interview with Defense Daily.

The USS South Dakota (SSN-790) will be the first submarine to integrate the improvements, which include two large vertical arrays placed on each side of the boomer, a new treatment for the hull and other modifications aimed at quieting systems inside the ship, said Capt. Mike Stevens, who manages the Virginia-class submarine program.

The plan addresses the two ways submarines can better sneak up on enemy subs: by improving the "ears" of a submarine by improving sensor capability and by making less noise, thus becoming less traceable by sonar, he said.

"The key thing of a submarine is being able to hear your adversary before they hear you," he said. "We're improving the sonar system on the platform as well as improving the quieting, so we're tackling both ends of it. We can hear better, and we can't be heard as well."

So far contracts have been awarded to: Precision Custom Components (PCC-York) for array fixtures manufacturing, UTC Aerospace Systems [TXT] for array sections manufacturing, SEACON for cables and connectors manufacturing, PCB Piezotronics, Inc. for sensor manufacturing, Lockheed Martin [LMT] for outboard electronics manufacturing, D.G. O'Brien [TDY]

for cable assembly and electrical hull penetrators procurement, Northrop Grumman [NOC] for array fairing manufacturing, Doerfer for fixture cart installation and Globe Composite Solutions for tiles and fairing manufacturing.

According to Naval Sea Systems Command, several contracts associated with the acoustic superiority effort are pending, however a spokeswoman declined to comment until time of award.

The Navy will serve as the systems integrator, Stevens said. The service will prove out the new modifications during a 2019 at-sea demonstration aboard the South Dakota, a Block III submarine slated for delivery in Feb. 2018.

The acoustic superiority upgrades will then be incorporated in the Block V submarines, which will begin procurement in 2019. Backfitting the technologies on earlier ships is also under consideration, although the Navy has not yet made a final decision on whether to do so.

"This is about not just building a good submarine today, but ensuring the submarine is superior in 30-40 years from now," he said. "So it requires us to really stay ahead of the technology that's out there."

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## [Admiral Warns: Russian Subs Waging Cold War-Style ‘Battle of the Atlantic’](#)

[Sam LaGrone, USNI, June 3](#)

Russia has stepped up its submarine operations and is regularly probing U.S. anti-submarine networks in a new “Battle of the Atlantic,” the commander of U.S. 6th Fleet said.

In an article for the U.S. Naval Institute’s June issue of Proceedings, Vice Adm. James Foggo III outlined a new era in U.S. and Russian submarine warfare he dubs “The Fourth Battle of the Atlantic.”

In his piece, Foggo compares the current uptick in Russian submarine posture to the great submarine battles between the Allies and the Germans in World War I and World War II and the Soviets and the U.S. during the Cold War.

“Once again, an effective, skilled, and technologically advanced Russian submarine force is challenging us. Russian submarines are prowling the Atlantic, testing our defenses, confronting our command of the seas, and preparing the complex underwater battlespace to give them an edge in any future conflict,” Foggo wrote.

“Not only have Russia’s actions and capabilities increased in alarming and confrontational ways, its national-security policy is aimed at challenging the United States and its NATO allies and partners.”

Since the Russian seizure of Crimea in 2014, Russian Navy surface ships, aircraft and submarines have been much more active in presence operations – particularly the submarines.

Russian officials have been open about increased submarine operations over the last two years. Russian Navy head Adm. Viktor Chirkov said in March of 2015 that submarine operations have increased by 50 percent.

“This is logical and necessary to guarantee the security of the state,” he said at the time in Russian state-controlled press.

While Russian surface ships and aircraft trail behind their U.S. equivalents technologically, Russia has maintained a strong submarine industrial base since the

collapse of the Soviet Union.

In late 2014, the U.S. officer in charge of the U.S. submarine construction told a conference he was so impressed with the Russian Navy’s new Yassen-class attack submarine he had a model built of the first-in-class attack boat K-329 Severodvinsk.

“We’ll be facing tough potential opponents. One only has to look at the Severodvinsk, Russia’s version of a [nuclear-guided missile submarine] (SSGN),” then-Program Executive Office submarines Vice Adm. Dave Johnson said at the time.

“I am so impressed with this ship that I had [the Navy] build a model from unclassified data.”

In addition to nuclear submarines, the Russians are improving the technological capability of their diesel-electric submarines, including the ability for Russian Kilos to launch long-range Kalibr NK cruise missiles.

“These are the platforms that are the most challenging for us to deal with because of their inherent stealth,” Foggo wrote.

“As demonstrated last December by Kalibr launches into Syria from the Eastern Mediterranean, Russian leaders will use such weapons at will, without the same qualms we have about collateral damage.”

All told, Foggo outlines an “arc of steel” of Russian submarine strength from the Arctic to the Black Sea.

“Combined with extensive and frequent submarine patrols throughout the North Atlantic and the Norwegian Sea, and forward-deployed forces in Syria, Russia has the capability to hold nearly all NATO maritime forces at risk,” he wrote.

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## [USS Albany Awarded CNO Afloat Safety Award](#)

[Commander, Submarine Force Atlantic Public Affairs, June 7](#)

**NORFOLK, Va.** – Commander, Submarine Forces, Vice Adm. Joseph E. Tofalo, presented the Los Angeles-class attack submarine USS Albany (SSN 753) with the Chief of Naval Operations (CNO) Afloat Safety Award for Atlantic Fleet Fast Attack Submarine.

The CNO Afloat Safety Award judges Navy vessels on what sets the ship apart from other command’s safety programs in regards to statistics, proactive approaches made by the command and the safety program itself.

“With structural conditions aboard Albany continuously changing, the importance of personal protective equipment is emphasized on a daily basis,” said Chief Electricians Mate Trent Parrish, Albany’s Safety Officer and Breckenridge, Texas native. “Whether it’s a crewmember or a shipyard worker, if a safety issue is identified, it is immediately and aggressively corrected.”

In addition to emphasizing Personal Protective Equipment (PPE) and situational awareness, Albany has

lauded a highly effective Hazardous Material (HAZMAT) program in the shipyard environment through a rigorous training program coupled with close management by the boat's safety team.

"The HAZMAT program's efficiency has been improved by routine and unannounced audits performed by both the safety team and supervisors," said Parrish. "Albany's Hazardous Materials Program was evaluated as above standards in the latest TYCOM Quarterly Integrated Logistic Overhaul Review."

While undergoing a multi-year Engineering Overhaul at the Norfolk Naval Shipyard in Portsmouth, Va., Albany has remained mishaps free during conducting major ship-wide tests and complex evolutions in a hazardous industrial environment.

"It is my pleasure and an honor to accept the CNO Safety Award on behalf of the crew of the USS Albany," said Cmdr. Wade Landis, Albany's Commanding Officer. I am very proud of the crew as they continue to uphold high standards in both professionalism and safety while maintaining good morale in an extremely challenging shipyard environment."

"Albany receiving the CNO Afloat Safety award is a direct reflection her Sailors owning a strong sense of

professionalism and dedication to duty for the safety of their shipmates and their boat," said Capt. Paul S. Snodgrass, Commander, Submarine Squadron Six. "This sense of ownership makes it no surprise that they stand out and receive such high recognition of their ability to carry out their mission in a safe and productive manner. Albany's command leadership always puts the Sailors and families first. This award is a reflection of the ship's healthy command climate."

"Operational Risk Management is the cornerstone of Albany's daily process in conjunction with safety council meetings," said Parrish. "A daily review of shipwide safety is conducted by duty supervisors and roving watch standers, who identify deficiencies, note them and pass them to the appropriate supervisors to be rapidly resolved."

The award signifies Albany as having the best safety program of the Atlantic-based nuclear attack submarines for fiscal year 2015. Albany is now authorized to hoist a green safety "S" flag, as well as display the CNO Afloat Safety Award citation and a plaque on board, show all she is the safest on the seas.

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## **[Submarine Houston Bids Farewell to Hawaii](#)**

**[Sam FeLLman, Navy Times, June 7](#)**

*The Navy is saying goodbye to one of its leading film stars.*

The attack submarine Houston - which starred as USS Dallas in the 1990 hit "The Hunt for Red October" - took the first step towards its decommissioning Monday when it left its homeport of Pearl Harbor.

The attack boat is bound for Bremerton, Washington, where its crew will prepare for an August 26 decommissioning ceremony and spend the next year deactivating the sub and dismantling its components and systems, according to Submarine Force Pacific.

During its 33 years of service, the Los Angeles-class attack sub sailed on more than 15 deployments and recently served as a training platform for other crews.

"The Houston is going to be sending off some outstanding Sailors," Senior Chief Sonar Technician

(Submarines) Paul McCrory, the sub's chief of the boat, said in a Monday SUBPAC release. "Everybody has put their best foot forward. We've come through so much with the age of this ship, it's really hard to maintain after 33 years of active service. It's been special to watch the guys take advantage of being a part of what's going to be history."

The sub's departure was joined by submarine veterans and crewmembers' family and friends in Hawaii.

"It is a celebration of our time in Pearl Harbor," Cmdr. Scott McGinnis, the sub's skipper, said in the release. "You can see the energy and amount of people here who are just happy to be a part of the Houston family and celebrate the success."

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## **[Hackensack Submarine Memorial Forced To Relocate As Land Owner Looks To Develop Property](#)**

**[Meg Baker, CBS New York, June 7](#)**

**HACKENSACK, N.J.** — The future for a North Jersey veterans memorial has become uncertain since being evicted from its home.

The land near the Hackensack River had been

promised to the Submarine Memorial Foundation for \$1 a year in 1972, but now the veterans are getting kicked off of the property.

"We received an eviction notice a month ago,

effective June 1,” Gilbert De Laat, President, NJ Naval Museum, said.

“This memorial is to memorialize the 52 submarines that were lost, 3,500 men,” Les Altschuler, Vice President, Submarine Memorial Foundation, added.

The land upon which the museum and memorial sit is owned by Stephen Borg of MacroMedia — the parent company for North Jersey Media Group.

Borg’s grandfather was a veteran and brokered the original deal.

“Since 1994, the company has only had a month-to-month arrangement with the association, which we terminated on May 31, 2016,” Borg’s lawyer said in a statement.

Borg is planning a redevelopment project with mixed housing and retail, leaving the veterans and the artifacts with nowhere to go.

“The memorial was erected by WWII submariners, some still here today — 95 going on 96, still volunteering,” Altschuler said.

On Tuesday, the Navy was on site logging the

artifacts and trying to figure out how and where to move the pieces of history.

Veterans say the USS Ling, a submarine, can not be moved in such shallow water.

The Hackensack River has not been dredged since the 1960s.

Local officials have been working to get funding to relocate the memorial.

“Recognizing that development does take place, change does happen,” Assemblyman Gordon Johnson said.

The assemblyman added that as an elected official he has an obligation to find a place for the artifacts.

The site clearly has a lot of meaning, and for now, no one knows what will happen to the memorial when it is torn down.

The veterans are pushing to have a museum and memorial on the water next to the submarine they served on.

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## **International Undersea Warfare News**

### **[South Korea to Develop Submarine-Launched Ballistic Missile](#)** **[Franz-Stefan Gady, The Diplomat, June 2](#)**

South Korea will develop a submarine-launched ballistic missile (SLBM) fitted on the KSS-III (aka Jangbogo-III), the Republic of Korea Navy’s largest and latest attack submarine class currently under construction, Korea JoongAng Daily reports, based on information provided by a high-ranking military official.

“On the 3,000-ton Jangbogo-III submarine, which is currently under production, we are installing a vertical launching pad,” he said. “The installation of a vertical launching pad indicates that the SLBM is already under development.”

The SLBM is purportedly being developed by the state-run Agency for Defense Development (ADD), which has also been responsible for developing land-based ballistic missiles, including the medium-range Hyunmoo-2B.

While the South Korean defense official did not name the SLBM prototype, it is highly likely that the missile in question is a variant of the Hyunmoo-2B or its predecessor the Hyunmoo-2A, given that it, as I reported previously, can be also launched from submarines with vertical launching pads.

Two Hyunmoo-2B (현무, literally means “Guardian of the Northern Sky”) prototypes were test-fired in June 2015. The ballistic missile purportedly has a range of more than 310 miles and can carry a payload of up to 2,200 pounds (997 kilograms). It is capable of hitting

targets anywhere in North Korea.

“Although the SLBM may lack the accuracy of the SLCM, which is equipped with a guidance system, its velocity and destructive capability are significantly greater,” said Kim Hyeok-soo, first commander of a submarine flotilla and now-retired rear admiral. “The deployment of the speedy and stealthy SLBM will allow the South Korean Navy to deliver a blow to North Korea before the situation even escalates to emergency levels.”

Daewoo Shipbuilding and Marine Engineering (DSME), a South Korean shipbuilder, began construction of the first KSS-III submarine on May 17, IHS Jane’s Defense Weekly reports. The first boat is slated for induction into the ROK Navy around 2020 at a cost of around \$800 million. The ninth and last KSS-III is slated for delivery around 2029.

Overall, the ROK Navy will receive nine indigenously produced 3,400-ton diesel-electric KSS-III attack submarines, all equipped with air-independent propulsion and a six-cell vertical launching system from which up to 10 Hyunmoo-3C cruise missiles along with an unknown number of SLBMs can purportedly be fired.

Interestingly, ADD engineers have allegedly been using the cold-launch technology from Russian S-400 air-to-air missile systems, which has been in service with the ROK military since the 1990s, for launching the missiles underwater. However, up until now there have been no



confirmed tests of the SLBM.

"The military has already deployed surface-to-air missiles that use cold-launching mechanisms — a technology used by the SLBM, in which the engine fires after the missile reaches a certain altitude. We are trying to apply that mechanism so that the missiles can be fired

underwater," a ROK military official told Korea JoongAng Daily.

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## **[India's Nuclear Submarine Projects In Jeopardy](#)**

**[Staff, The Free Press Journal, June 2](#)**

NEW DELHI – India's nuclear submarine projects to build at least ten submarines, six Scorpenes at Mazgaon Docks Ltd and four Aridaman at Visakhapatnam's Ship Building Centre are in jeopardy as they are quite useless without the torpedoes that are self-propelled weapons with explosives packed in their nose as the Defense Ministry has cancelled the orders placed with Torpedo maker Whitehead Alenia Sistemi Subacquei (Wass).

A defense ministry spokesman confirmed that the orders were cancelled since the company is a subsidiary of Italian arms conglomerate Finmeccanica and the ministry has decided not to deal with any of its companies in view of the bribes paid by its subsidiary AgustaWestland to secure a Rs 3760-crore contract in 2010 for 12 VVIP helicopters.

The company was to supply 98 Black Shark torpedoes for Scorpene submarines and 49 for the Aridaman class ballistic missile submarines.

The spokesman said alternatives to Black Shark are being considered, but declined to divulge further details at this stage.

Rear Admiral (ret'd) Raja Menon said the Black Shark ordered in 2014 is the best torpedo in present circumstances and alternative will mean time, cost and inconvenience.

The only options available to the ministry to replace the Black Shark through government-to-government purchase to cut down time are Germany's SeaHake and France's F-21.

The most optimistic assessment in the Navy is that it will take two to three years to acquire the new torpedoes and several hundred crores of rupees to modify the submarines to modify the submarines to fire them.

The Navy sources said the only relief to them is that the Arihant class of submarines which completed deep water and weapon trials early this year will not be affected as they are armed with the Type 53-65 Russian torpedoes.

In January, Vice Admiral (ret'd) Dinesh Prabhakar had written to National Security Adviser Ajit Doval as the director general of the classified ATV (Advanced Technology Vessel) project that Aridaman submarines are

in advanced state of construction and their launch would be delayed if the torpedoes do not come on time.

His request to firewall the ATV project from the AgustaWestland bribery controversy, however, fell on deaf ears.

Torpedoes are not the only weapons shelved by the ministry as at least six other defense projects have been hit by the most widespread scrapping of contracts in the history of Indian arms acquisition with the most damage in terms of time and cost escalation. Unlike previous blacklisting of Bofors which made only howitzer guns and HDW that made submarines, Finmeccanica is conglomerate of companies that supplied a range of weapon systems to the three Armed Forces.

Its six companies with whom India has scrapped the deals include:

- MAITRI was making the 15-km range quick-reaction surface-to-air missiles for the Army, Navy and Air Force, the biggest tactical missile project for the Armed Forces.
- MBDA supplying weapon package for the 36 Dassault Rafale fighter aircraft India is buying from India. The company is also supplying weapons for the IAF's fleet of 50 Mirage-2000 fighters being upgraded with the French assistance.
- SELEX involved in the upgrade of 10 Russian Kamov helicopters with the Indian Navy. Kamov is Navy's primary anti-submarine warfare helicopter.
- WESTLAND SEAKING : Upgrade of the Indian Navy's fleet of 17 twin-engine Sea King helicopters for \$142million.
- OTO MELARA: 127 MM naval guns to be fitted on the project 15B Destroyers being built at Mazgaon Docks Ltd. And,
- SELEX ES supplying the air surveillance radars for the indigenous aircraft carrier INS Vikrant being built at Cochin Shipyard.

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## **[The Submarine Drones That Could Depower Trident](#)**

**[James O'Malley, ALPHR, June 1](#)**

It has been constant political background noise for

years, but soon the politicians are finally going to have to

make a decision: should our Trident nuclear deterrent be renewed for another generation?

The Trident system consists of four nuclear submarines – of which at least one is at sea at all times, hiding in the shadows under the water. The idea is that they enable Britain to have an independent “second-strike” capability, so that if the worst happens and London is reduced to a smoldering ash-filled crater, Britain will still be able to unleash the same apocalyptic level of destruction on Moscow, Beijing or whichever villainous power fired first.

The argument as to whether Britain needs nukes or not is contentious enough, but there is one other potential problem that Trident could face in the coming decades: a new generation of submersible drones that could soon render it useless.

## *Improving drones*

Remotely Operated Vehicles (ROVs) have been used to explore under the sea for decades, but these have always remained tethered to the ship, and have been driven by remote control by someone sat at the surface. The challenge for scientists now is to build autonomous underwater vehicles (AUVs) that can operate truly independently.

Such drones would obviously be a threat to Trident, because they could be deployed for long periods of time – and in large numbers – without requiring human operation, making global ocean surveillance a genuine possibility.

AUVs face different challenges to aerial drones. For example, although weight is less of an issue under water, radio waves do not easily travel beneath the surface. This means that any such drones can’t easily be guided by GPS and must instead rely on onboard sensors. It also makes transmitting collected information more difficult.

In March, the National Oceanography Centre (NOC) won £2.9 million of government funding to continue work on its Autosub program. Based in Southampton, over the past several years the project has made some impressive leaps towards solving these marine-specific challenges. The public face of the project is all about civilian-focused applications such as in scientific research, but it’s easy to imagine how the technologies could be deployed for military purposes.

For example, the Autosub3 has been tested a number of times in 24-hour missions in which it has been sent to collect data from beneath polar ice, and it has returned every time. The way it solves the GPS problem is rather clever: it uses a technique called dead reckoning, which was used by mariners long before we had satellites. The idea is that once you know one fixed position, you can use your knowledge of the speed and direction that you’re travelling to calculate your position. The Autosub3 uses sonar waves bounced off the ocean floor to figure out its speed by comparing the Doppler effect. For direction, it uses a fiber-optic gyroscope, which apparently means it makes errors of only about one meter for each kilometer travelled.

There is one problem AUVs have in common with UAVs: battery power. According to NOC, the Autosub3 is

powered by the same “D” batteries that you might find in a torch (the big, thick batteries that are about twice the size of a AA battery). It’s pretty power-hungry, though: it required 5,000 of them to run.

This means that the AUV has been able to explore undersea ice caves in the Antarctic that would otherwise be inaccessible to humans. And amazingly, this isn’t the cutting edge – this was achieved back in 2009.

## *Mobile technology*

More recently, NOC scientists have been taking advantage of the revolution in mobile technology thanks to a booming smartphone industry. The tiny, fast and power-efficient processors that we use on our phones have also made more powerful UAVs possible. The Autosub LR (as in “long range”) can – in theory – last up to six months, with a range of 6,000km. With this range, it could also be launched much more cheaply – being launched from the shore and then travelling to its destination, rather than requiring a polar research vessel to take a trip.

In 2014, the Autosub LR was launched for the first time off the coast of Ireland, and it wasn’t a 100% success. It lasted three days – surfacing each day to transmit data back – before the scientists lost signal. It was presumed lost, but eventually made contact using its emergency satellite beacon. Scientists were able to retrieve the AUV and are currently in the process of figuring out what went wrong. But what’s clear is that even though this test ended badly, this is the sort of AUV that could conceivably be tasked with hunting down nuclear submarines.

Drones that can maneuver themselves would also make it harder for submarines to get away once they’ve been detected. Currently the best detection system to figure out what is going on beneath the waves is the sonobuoy. These are missile-shaped devices that are usually dropped out of planes, which then deploy a parachute and land gracefully on the water. At this point, a sonar is dropped beneath the surface and scanning can begin. Signals are then sent back to the aircraft flying above, or perhaps a satellite. The problem with them currently is that they’re static, so if they pick up an enemy sub, the bad guys can simply float off somewhere else. A UAV system, by contrast, could conceivably lock on to the signal and essentially chase it.

The actual detection technology is getting better, too. Although sonar is still the primary means of detection, techniques are being developed that use other types of sensing – including optical. Processing signals is also improving. Relatively recent research shows that scientists are improving the range at which they can model the contents of the ocean – with man-made objects giving a distinct acoustic pattern to fish and other natural material.

## *Underwater networks*

Another other area in which UAVs are driving new research and technology is in networking. As mentioned above, radio waves don’t travel well under water – which makes it hard to feed data back to base. But if this problem

can be solved, it could be hugely useful to whoever manages to crack it – and could conceivably undermine Trident’s ability to hide.

This is because we shouldn’t just think about individual vehicles working independently when we think about UAVs. What is more likely is that we’ll eventually reach a point where UAVs operate in packs – patrolling the ocean together.

For example, Georgia Tech Research Institute has a program working on UAVs that can collaborate without human intervention – so that one drone can call over another that perhaps has a different type of sensor on board.

To get around the communication problem, the Institute’s current research is using acoustic communication techniques – essentially the same sound energy as found in sonars – to send data between UAVs. The problem is that data transfer is very slow compared to radio frequencies. The Institute has expressed hopes though that it will actually carry out further research on radio signals – although the trade-off will presumably be that any radio communications require more power to boost the signal so it can travel through water.

The danger to Trident is that UAVs hunting in packs will bring the same efficiencies that a pack of wolves has over an individual wolf looking for its prey. If communication technologies improve too – as seems likely – then this will enable even greater efficiencies.

### *Troubled waters?*

Given these advances, and the new technologies that are predicted to be close, there’s an awkward question: is renewing Trident pointless? The deterrent needs to last us an entire generation – both for actual defense reasons, and in order to justify the enormous price tag.

We can take some solace in the fact that the technologies talked about here are being developed by the West – and moreover for non-military applications – rather than any likely adversary. But this doesn’t mean Trident is safe, nor that other countries aren’t already pursuing similar, albeit militarized projects: if the Cold War arms race taught

### [British Navy Intercepts Russian Submarine On Way To Channel](#) [Staff, The Guardian, June 8](#)

The Royal Navy has intercepted a Russian submarine as it cruised towards the Channel.

The sub was being escorted by the frigate HMS Kent on Tuesday evening and was expected to pass the strait of Dover on Wednesday morning.

It is understood that the Stary Oskol, a Kilo-class submarine capable of carrying cruise missiles and torpedoes, was first detected in the North Sea, where NATO forces are monitoring the waters.

The Ministry of Defense said it would continue to be shadowed by the Type 23 Duke-class frigate, which had been taking part in commemorations for the Battle of Jutland centenary.

The defence secretary, Michael Fallon, said: “This

us anything, it’s that any technological advantage doesn’t remain an advantage for long. (And you only have to glance at consumer technology to see that China is just as capable of producing world-leading technologies as we are.)

For all the leaps and bounds being made in UAV tech, however, it’s important not to underestimate the sheer scale of the challenge involved in detecting a submarine, nuclear or otherwise. As Andrew Tate, a former UK Royal Navy officer, writes in Jane’s Navy International, “The most difficult challenge in anti-submarine warfare is to find the patrolling SSBN (nuclear-powered ballistic missile-carrying submarine). It will operate at slow speed to minimize its signature, will not make any transmissions, will rarely return to periscope depth, and may operate in a vast area. For example, the North Atlantic Ocean covers more than 15 million square miles... Persistent UAVs, even with comparable or better sensors, would not change the odds significantly.”

The good news is that even if Trident faces challenges from advances in underwater drone technology, it could still have some use. Simply put: Trident could still be the best option available. The comparison to make isn’t between having Trident submarines and not having Trident submarines at all. The question is whether a submarine delivery system is still the best option compared to aircraft, missile silo or any other way of delivering a warhead to its destination.

Similarly, although Trident will likely become less easy to hide, if it can remain relatively well hidden, it will still remain a better option than a means that cannot be hidden at all.

So should we renew Trident? That’s a question for politicians and ethicists – but whatever we decide, we should probably think about technological evolution first.

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shows that the navy is maintaining a vigilant watch in international and territorial waters to keep Britain safe and protect us from potential threats.”

HMS Kent’s commanding officer, Cdr Daniel Thomas, said: “Locating this submarine was a combined effort with NATO allies and shadowing such units is routine activity for the Royal Navy.

“We continue to escort the submarine as it conducts its passage, providing a visible presence.”

The incident is the latest face-off between the British and Russian militaries following several incursions by aircraft in skies around the UK.

In April 2015 a trawler was dragged violently by its nets while fishing 18 miles off the coast of Northern Ireland,

leading to suspicions they had snagged on a Russian submarine.

