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

The Silent Sentinel

July 2016

Our Creed and Purpose

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

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

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

Julian Parade

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Chaplain
Position is Open

The Silent Sentinel via Email

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

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

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Would like the SILENT SENTINEL emailed: YES_____ NO_____

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*DUE TO LOGISTICS CONSTRAINTS, ALL INPUTS FOR THE SILENT SENTINEL MUST BE IN MY HAND NO LATER THAN **ONE WEEK** AFTER THE MONTHLY MEETING. IF I DO NOT RECEIVE IT BY THIS TIME, THE ITEM WILL NOT GET IN. NO EXCEPTIONS! MIKE*

July 2016 MEETING

Our monthly meeting is held on the second Tuesday of the month at VFW Post 3787, 4370 Twain Ave., San Diego. Our next meeting will be on *June 14th.* The post is located one-half block West of Mission Gorge Road, just north of I-8. The meeting begins at 7 p.m. The E-Board meets one hour earlier at 6 p.m.

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

Binnacle List
Benny Williams

Submarine Losses in July

Originally Compiled by C J Glassford

USS S-28 (SS-133)
Lost on July 4,1944 with the loss of 49 crew members. She was conducting training exercises off Hawaii with the US Coast Guard Cutter Reliance. After S-28 dove for a practice torpedo approach, Reliance lost contact. No distress signal or explosion was heard. Two days later, an oil slick was found near where S-28. The exact cause of her loss remains a mystery.

USS Robalo (SS-273)
Lost on July 26,1944 with the loss of 81 crew members while on her 3rd war patrol. She struck a mine about 2 miles off the coast of Palawan. Four men survived and swam ashore, then were imprisoned by the Japanese. Unfortunately, they were put on a Japanese destroyer and lost when that destroyer was sunk.

USS Grunion (SS-216)
Lost on July 30,1942 with the loss of 70 crew members while on her first war patrol near Kiska Harbor. She radioed that she sank two sub-chasers and damaged a third, but was never heard from again. Grunion's mangled remains were found in the Bering Sea in 2006 off the Aleutian Island of Kiska.

San Diego Base, United States Submarine Veterans Inc.
Minutes of Meeting – 14 June 2016

1900 - Base Commander Bob Bissonnette called the meeting to order

Conducted Opening Exercises - Pledge of Allegiance lead by Treasurer David Ball.

Treasurer David Ball lead the prayer

Base Treasurer David Ball conducted Tolling of the Boats for boats lost in the month of February.

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

Secretary Jack Kane announced 21 members present.

Treasurer David Ball gave his report. Checking Balance is $6565.00, Savings Balance is $21,809.73. Charlie Marin Scholarship Fund is $2,455.00. A copy of the Treasurer's Report will be filed with these minutes.

The minutes of the 10 May 2016 meeting were approved as published in the Sentinel.

Base Commander Called For Committee Reports

Acting Chaplain David Ball reported the following on the Binnacle List: Bennie Williams and Jack Ferguson.

Secretary Jack Kane reported in Joel Eikam's absence. Next Parades are Saturday, 2 July in Oceanside and Monday 4 July in Julian. Jack also reported that the tentative schedule for Long Beach Veterans Day Parade on 5 November conflicts with the Chula Vista Veterans Home Fund Raiser. We haven't heard from LA/Long Beach Base - We will take the float to Chula Vista vice Long Beach. The tentative entry in the Chula Vista Starlight Parade on 3 December conflicts with the San Diego Base Christmas Party. We will not take the float to the Chula Vista Starlight Parade.

Chairman Ray Febrache reported that we have 260 Base Members. The new National Database won't be operational until after the National Convention in August.

Base Commander reported in Scholarship Chairman Paul Hitchcock's absence. Three scholarships have been recommended by the Committee. The Scholarships will be awarded at the July meeting.

Storekeeper Phill Richeson has Dolphins (gold and silver) newly stocked and new dolphin tie clips. He also has 2016 Calendars at a discount.

Base Vice Commander Warren Branges reported the 29 May Breakfast netted $217.00. Volunteers are needed to cook and serve at the next breakfast on 31 July.

Base Vice Commander Warren Branges announced the next ALL FLAGS Day will be Monday- 4 July 2016 - Independence Day. Meet at 0700 to put up the flags. The 52 Boat Memorial had one plaque (S-26) suffer some battle damage. The Memorial will some funds when Doug Smay Base disbands.

Base Commander Bob Bissonnette reported in David Kauppinen's absence. Alternate arrangements have been made to store the float while Joel Eikam is on vacation this summer. Naval Base Float Point Loma has agreed to let us have spot in RV Storage without charge.

Shipmate Glen Gerbrand reported that the Eagle Scout Program will be expanded to include several more Scout Troops in the San Diego area.

Treasurer David Ball was inducted into Holland Club. He was presented his Certificate by Base Commander Bob Bissonnette.

1923 - Base Commander called for a break.

1936 - Base Commander called the meeting back to order. 50/50 drawing was held.

1939 - Unfinished Business

Base Commander Bob Bissonnette reminded everyone that the National Convention will be in Reno in August 15-21. He suggested that the Base put an ad in the Convention Flyer congratulating Covina Base on hosting the Convention. A motion was made and passed. San Diego Base will take out the ad.

Base Commander Bob Bissonnette announced the Southern California SUBVETS Picnic will be held on Saturday, 23 July 2016. Submarine Tours will be at 0930 and 1300. Submarine Tour reservations should be sent to Bob via e-mail. Send name and SSN. Tour participants must have a photo ID. No Cell Phones are allowed on the tour.

Base Commander Bob Bissonnette has booked the VFW Hall for our Christmas Party on 3 December 2016. Choice will be Cornish Hen or Pork Chops. Cost will be $20 per person.

Voting for National Elections will held on-line or by mail in ballot. Mail in Ballots were included in the latest American Submariner. Please VOTE. We will setup a laptop at the next meeting for those who would like to vote online.

1953 - New Business

Base Commander Bob Bissonnette announced that the Doug Smay Base (Chula Vista) will be closing down by the end of year.

Base Commander Bob Bissonnette opened a discussion about protecting the float when it is parked in the RV Lot at Naval Base Point Loma. A discussion followed. A motion was made to purchase a canopy to cover the float. Cost will be approximately $200. The motion passed. The canopy will also be used for the 52 Boat Memorial Flag Trailer as needed. Currently Base Commander and Base Vice Commander have the combination to gain entry to RV Storage. Other members can obtain access as needed for moving the float and flag trailer.

2001 – Good of the Order

Shipmate Dennis announced that in addition to the 4th of July Parade and America Legion BBQ there will be fireworks at Lake Cuyamaca (Julian) this year.

The Meeting was adjourned at 2010
Jack Kane, Secretary
/s/ Jack E. Kane

Sailing List

Joe Turskey	David Ball	Jack Kane
Bob Farrell	Joe Sasser	Peter Lary
Ed Farley	Matt Baumann	Bob Bissonnette
Phil Richeson	Ray Febrache	Mert Weltzein
Dennis McCreight	Rocky Rockers	Dennis Mortensen
Warren Branges	Bud Rollison	Glenn Gerbrand
Ron Gorence	Manny Burciaga	Ed Welch
Joe Gutierrez		

Julian Parade

Oceanside Parade (George Kinnison in car)

Current News

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

Fate Of Nuclear Sub Base In Scotland Unclear After Brexit
Richard Sisk, Military.com, July 2

The White House cautiously expressed concern this week that the fallout from Brexit could lead to Scotland's independence from the United Kingdom and shutter a Trident nuclear submarine base that plays a key role in NATO deterrence against Russia.

When asked about the fate of Her Majesty's Naval Base Clyde at Faslane on Scotland's west coast, White House Press Secretary Josh Earnest said he could only hope that Scotland, where nationalists have long argued for closing the sub base, would choose to remain in the U.K.

At a press briefing Wednesday, Earnest noted that Scotland voted in a 2014 referendum against independence. "We made clear at the time that, again, that was a decision for voters in Scotland to make," he said.

"But the United States' view has been and continues to be that a united U.K. is in the best interest of the United States. It makes them a stronger partner. It makes them more effective in contributing to the NATO alliance that's the bedrock of our national security," Earnest said.

However, Scotland's First Minister Nicola Sturgeon was already drawing up plans for a second independence referendum following the U.K.'s vote last week to leave the European Union, the so-called "Brexit."

"The significant and material change in circumstances" following Brexit, which was opposed by 62 percent of voters in Scotland, made another independence vote inevitable, Sturgeon said.

"It is, therefore, a statement of the obvious that a second referendum must be on the table, and it is on the table," she said.

Currently, Britain's four nuclear Vanguard-class ballistic missile submarines armed with Trident missiles -- HMS Vanguard, Victorious, Vengeance, and Vigilant -- are based at Faslane on the River Clyde, and all of its nuclear warheads are stored at Coulport about eight miles away.

There are no alternative sites for Faslane and Coulport in England, according to George Washington University analyst Hugh Gusterson, and building alternative sites and coming up with replacements for the aging Trident subs would cost upwards of $20 billion and take possibly 20 years.

Writing in the Bulletin of The Atomic Scientists, Gusterson said that a "British parliamentary report in 2012, written in response to increasing concerns that Scotland might secede from the United Kingdom, concluded a suitable base to replace Faslane and Coulport would be "highly problematic, very expensive, and fraught with political difficulties."

On a visit to Faslane and a tour of HMS Vigilant in January, British Defense Secretary Michael Fallon touted Britain's nuclear deterrent as a mainstay of NATO.

"It has never been more needed than now," Fallon said. "We needed it in the Cold War and we need it even more now in a more unpredictable and more dangerous world."

Fallon scoffed at the suggestion of Labor Party leader Jeremy Corbyn that Britain should scrap the Tridents and send the subs out on patrol without nuclear weapons.

"That's like making imitation rifles -- those would be pointless patrols," he said. "If you are going to have a deterrent, you have to be prepared to use it."

But whether Britain maintained the deterrent hinged on the fallout from Brexit.

At a forum on Brexit this week, Council on Foreign Relations President Richard Haass gave a gloomy forecast.

"Actually, at the risk of sounding melodramatic, I do believe that this is the beginning of the end of the United Kingdom. To me it's a question of when and not if Scotland has a second referendum, and this time it will almost certainly pass, based on the argument that it is more important to be in Europe than in the U.K."

Haass said that the question of Scotland and "whether it will go off on its own as an independent country would raise fundamental issues, for example, about the ability of the use of ports for our nuclear -- for submarines carrying nuclear weapons. So I think it raises lots of defense-related issues."

Thailand Grows Closer to China With Submarine Buy
Staff, The Maritime Executive, July 1

Military-ruled Thailand will buy three submarines worth around $1 billion from China, the defense minister said on Friday, a move that signals warming ties with the regional superpower as relations with the United States cool.

Thailand's army seized power in a May 2014 coup following months of street protests, toppling the remnants of the civilian government led by Yingluck Shinawatra.

Since then, the military government has sought to improve ties with China which has stepped into the vacuum left by Western governments that have kept the junta at arms length and called for a rapid return to democratic government.

That has come as Beijing and Washington jostle for power and influence in Southeast Asia, where China's disputed maritime claims in the South China Sea have has caused tension in recent years.

The purchase of 36 billion baht ($1.03 billion) worth of Chinese-made submarines next year was confirmed on Friday by Deputy Prime Minister and Defense Minister Prawit Wongsuwan, after the navy put the plan to the cabinet.

Thailand has never had submarines and has tried, since the 1990s, to sign deals with several countries, including South Korea and Germany.

Thailand put the deal with China on hold a year ago to review the cost and capabilities of the vessels.

Warming ties with China have seen the two countries work toward a massive rail project and holding joint air force exercises.

Thailand's defense spending is set to rise to around 214 billion baht ($6.10 billion) in 2017, up 16.6 percent from 2014.

Submarines Beware: Here Come Tiny Robot Boats Armed With Torpedoes
David Hambling, Popular Mechanics, June 29

The Seagull, an Israeli unmanned boat, just successfully fired a torpedo. This may seem like a small step, but naval warfare may never be the same.

Launched earlier this year by Elbit Systems, the remote-controlled Seagull is a versatile 40-foot-long craft that can travel at up to 35 mph, and has thrusters that allow it to rotate on the spot. The Seagull can also be fitted with various sensors such as radar, and equipment including a .50 cal remote-controlled machine gun.

Seagull was built for a variety of naval roles. It has a removable bridge so an on-board crew could operate it. However, the Seagull's first mission is to counter mines, something it will do without a crew. Counter-mine vessels are the modern version of the old WWII minesweeper. In this role, the Seagull can deploy side-scan sonar to find mines and launch a tethered robot submarine to investigate. Once a mine is positively identified and located, the Seagull can destroy it with expendable "mine disposal vehicles." Basically, these are miniature kamikaze robot submarines that sacrifice themselves to blow up the mine. It's what the creators of Seagull like to call "taking the mine out of the minefield."

At its heart, launching mine-hunting drones isn't too much different from launching torpedoes. A torpedo is, after all, just another self-guided unmanned underwater vehicle. This unmanned underwater vehicle just happens to be the weapon of choice against the most powerful ship in the modern navy: the submarine.

Hunting submarines requires huge resources. The U.S. Navy, for example, deploys Arleigh Burke-class destroyers towing massive sonar arrays and carrying specialist MH-60R Seahawk anti-submarine helicopters, supported by a fleet of Boeing P-8 Poseidon long-range aircraft. But things are changing. Modern electronics mean that submarines can now be detected by networks of small unmanned craft. The Seagull, which can be fitted with dipping sonar as well as torpedo tubes, adds a new threat to a sub's existence.

"Seagull changes the dynamics of anti-submarine operations by creating a threat to submarines using a cost-effective and available asset, replacing and augmenting manned assets with minimal threat from submarines," says Elad Aharonson of Elbit. In other words, Seagull is cheap, and it's deadly.

A Mission Control System, which may be mounted on another ship, allows operators to control two Seagulls simultaneously from 60 miles away on missions lasting for four days. Despite its small size, the Seagull can operate in conditions of Sea State 4 (that's eight-foot waves) and can survive Sea State 7—waves of 20 to 30 feet. It can move autonomously. Even with no communication link, Seagull can avoid collisions and obey international navigation rules.

Elbit's Ben Dov claims that a pair of Seagulls can carry out anti-submarine missions comparable to what a frigate with a crew of 40 can do. And Dov told the Jerusalem Post that two Seagulls plus the associated control equipment would cost "tens of millions of dollars" rather than the $220 million or so for a frigate. In addition, the Seagull is far stealthier. A submarine that knows it is being hunted can take defensive measures. An invisible hunter like the Seagull can be far more lethal.

Back in the U.S., DARPA has its own take on the unmanned sub-hunting boat: a fast trimaran called the Anti-Submarine Warfare Continuous Trail Unmanned Vessel (ACTUV), better known as Sea Hunter. At 132 feet long this is a much bigger vessel than the Seagull and will be capable of 70-day voyages without anyone on board, tracking and following submarines for as long as necessary. No weapons have been fitted to the Sea Hunter yet; at present it is purely a platform for sonar and other sensors.

Though it dwarfs the seagull, the Sea Hunter is much smaller than a manned vessel with the same capability. No crew means no cabins or staterooms, no water supply or any of the other necessities for keeping sailors alive and well. It also has much lower operating costs.

This is an old idea that's finally getting its due. As far back as 1898, celebrated inventor Nikola Tesla talked of the advantages of small, unmanned warships when he demonstrated a remote-controlled toy boat in New York. Battleships ruled the seas then, but Tesla claimed unmanned torpedo boats would stop them, with dramatic consequences for warfare. "War will cease to be possible when all the world knows tomorrow that the most feeble of the nations can supply itself immediately with a weapon which will render its coasts secure and its ports impregnable to the assaults of the united armadas of the world," Tesla told the New York Herald.

Even if he was dead wrong about torpedo-firing robots bringing an end to war, Tesla was right about them changing the game. Small unmanned craft may pose a a big threat to the security of manned submarines—including those carrying nuclear weapons. Small boats like the Seagull mean that anti-submarine warfare becomes affordable for a much wide range of players or might be deployed on a much larger scale by some of the existing players.

Singapore Navy Suggests Code Of Conduct For Submarines
David Boey, The Straits Times, June 30

When submarines move beneath regional sea lanes - which are among the most congested in the world - the crew better know what they are doing. There could be tragic consequences if a submarine that is less than shipshape, or has an ill-trained crew, collides with a surface vessel or undersea object.

The Republic of Singapore Navy (RSN) invests heavily in submarine training. Every submariner can, for example, find his way about the vessel and to essential equipment while blindfolded. The RSN has also introduced its own submarine rescue vessel, the Swift Rescue, which is on permanent standby to support 171 Squadron, the RSN's submarine unit. But the bigger unknown is whether other maritime users will know what to do to avoid colliding with a submarine.

With this in mind, the RSN has proposed a code of conduct that aims to promote safer underwater operations for naval forces with submarines and for ships at sea. This code would fill an essential need - now there is no code of conduct for incidents at sea governing the underwater domain.

The RSN's Code for Unplanned Encounters at Sea (Cues) governing the underwater domain seeks to give submariners a set of rules to avoid collisions with other undersea vessels (such as other submarines or unmanned underwater vehicles) or surface ships. It was put forward at the recently concluded May 29-June 2 Submarine Operational Safety Conference in South Korea.

Cues builds on 20 years of RSN submarine operations in regional waters as well as the Singapore navy's experience operating submarines in the Baltic. The RSN has a submarine training detachment in Sweden.

If adopted by the more than 10 regional navies which operate over 200 submarines, submariners would benefit from a common code of conduct that provides useful cues on how to safely steer when submerged vessels encounter one another. More importantly, the code would provide surface ships - especially merchant ships and civilian vessels - with important cues on what to do when they spot red smoke flares fired from a submarine about to conduct an emergency surfacing. Such a procedure would see a submarine of several hundred tonnes shoot to the surface in seconds.

This aspect will strengthen maritime safety as civilian vessels do not have sonar and are, therefore, unaware of what lurks beneath them.

The sea may seem vast. But the risk of collision is not theoretical.

In February 2001, the United States Navy's (USN) nuclear- powered submarine, the USS Greeneville, collided with a Japanese fisheries training ship, the Ehime Maru. An emergency ballast blow executed by the Greeneville brought it to the surface suddenly and the submarine struck the Ehime Maru. Nine Japanese aboard the Ehime Maru were killed when it sank after the collision.

The underwater Cues recommends that submarines about to conduct an emergency surfacing release a red pyrotechnic such as a smoke flare that would float as a warning to ships in the vicinity and give them time to move away.

And in January 2005, the USN sub, USS San Francisco, collided with an underwater sea mountain while travelling at full speed. The sub was nearly lost with all hands but managed to limp to the surface. This incident underscores another aspect of the RSN's outreach to regional sub operators: the sharing of information, best practices and agreement on common standards for how subs are made and operated safely.

While information on sub movements is sensitive, the RSN holds the view that navies can still collaborate by sharing non-sensitive information that affects the safety of submerged navigation. This includes seismic activity (that could interfere with sonar), fishing activity and real-time movements of deep-water oil rigs and deep draft vessels such as Very Large and Ultra Large Crude Carriers whose hulls project tens of metres below the waves.

To promote information sharing, the RSN has developed a Submarine Safety Information Portal at the Information Fusion Centre at Changi Naval Base to facilitate the sharing of "live" updates of ships at sea. This big picture is useful, as it can be used to coordinate submarine rescue assets, especially vessels identified beforehand with the equipment to assist with the rescue of submarines involved in accidents at sea.

The sea lanes in the Malacca Strait and South China Sea are not only congested, but also traverse relatively shallow water, with the southern reaches of the South China Sea typically around 60m to 70m in depth.

What challenges do submariners face in shallow water?

Think of Changi Airport's iconic control tower, which stands 78m tall. The height from the bottom of the hull to the waterline - a measurement known as the draft - of a full laden Very Large Crude Carrier is about 20m. So an underwater submarine in the South China Sea has a distance of about two-thirds the height of the Changi control tower to avoid colliding with the hull of deep draft vessels like tankers, container ships, ocean liners and even oil rigs. It is not a lot of room to maneuver.

In Singapore waters, the number of tanker arrivals has charted a steady climb over the past five to 10 years, from about 21,000 tankers of all classes (oil, chemical, liquefied petroleum gas and liquefied natural gas) to 22,000 tankers in 2015. Not only are more tankers calling, such vessels are bigger in size and tonnage. Fully laden oil tankers are a hazard to submarines because their massive size and cargo make them hard to spot on sonar.

Add to this the rise in deep draft vessels such as ocean liners (which can embark thousands of passengers) and oil rigs (whose legs can reach the seabed), as well as expectations that the regional submarine fleet will jump by 100 hulls to around 300 diesel-electric subs by 2020 - and one can appreciate the urgency of efforts to promote safer underwater navigation.

In years to come, one can expect unmanned underwater vessels to also ply beneath the waves, adding a new challenge to submarine operations.

Congested sea lanes and shallow seas have not deterred regional navies from adding even more submarines to regional waters. The underwater space will get even busier as more subs patrol regional sea lanes.

These challenges underline the importance of a code of conduct for the underwater domain to enhance maritime safety for all sea users.

Germany and Poland Join Forces in Submarines
Lars Hoffmann, Defense News, June 29

Poland and Germany have agreed to work closely together in the field of submarines, with the navies of the two countries signing a memorandum of understanding to establish a joint submarine operating authority.

This authority will have the operational control over both Polish and German submarines, while the command will in principle remain in national hands, the German Navy announced June 28.

Two Polish naval officers will be stationed at the German maritime operations center in Glücksburg, where the joint authority will be set up. To put the operation in action, the Polish Navy will connect its U-boats to the German submarine broadcast control system.

"It's a very special step, to pass the control of an important national strategic asset like a submarine in common hands," said Vice Admiral Andreas Krause, inspector of the German Navy, at the signing of the agreement with his Polish counterpart Rear Admiral Miroslaw Mordel. According to a spokesman of the German Navy, the control of U-boats — which once submerged are very difficult to locate — was in the past very restrictively managed and considered an issue of national security. Given the history, the German Navy praises the agreement as "historically unique."

Additionally, some Polish naval officers will be trained in Germany and ride on German boats, the spokesman said.

The German Navy has six submarines of the class 212A, while the Polish Navy operates five U-boats: one of the Soviet Kilo class and four Kobben-class boats, acquired from the Norwegian Navy.

The speaker could imagine that further countries could participate in the joint authority. Germany already has offered a joint U-boat command to Norway. At the same time, the Defense Ministry in Berlin hopes that the Norwegian Navy will replace its six Ula class submarines in the coming decade with boats from German production. Germany is in turn ready to procure boats of the same design and operate them together with the Scandinavians, in order to save costs. Poland also wants to renew its submarine fleet and is in talks with Norway about a joint procurement. At the moment, only DCNS of France and German ThyssenKrupp Marine Systems remain on the short list of the Norwegians as possible suppliers.

The Polish-German submarine-authority could serve as a blueprint for joint command of the navies in the Baltic Sea region. A new operations center of the German Navy — to be built in Rostock by 2022 — could accommodate a proposed Multinational Maritime Component Command of the NATO, according to the spokesman. In this command, all bordering countries of the Baltic Sea except Russia plus Norway could ideally be represented.

So far, there have been positive signals for this German proposal from the Baltic States, the spokesman said. He expects further discussions on the subject during the upcoming NATO Summit in Warsaw.

Navy Prototypes More Lethal New High-Tech Mk 48 Heavyweight Torpedo
Kris Osborn, Scout Warrior, June 27

The U.S. Navy is now prototyping a new, longer range and more lethal submarine-launched heavyweight Mk 48 that can better destroy enemy ships, subs and incoming weapons at longer ranges, service officials said.

Many details of the new weapon, which include newer propulsion mechanisms and multiple kinds of warheads, are secret and not publically available. However, senior Navy leaders have talked to Scout Warrior about the development of the weapon in a general sense.

"There is prototyping going on for new versions of underwater weapons with significant underwater range and a wider variety of payloads. We are now coming up with effects that better enable us to provide a broader range of options for future commanders," Rear Adm. Charles Richard, Director of Undersea Warfare, told Scout Warrior in an interview.

Naturally, having a functional and more high-tech lethal torpedo affords the Navy an opportunity to hit enemies at further standoff ranges and better compete with more fully emerging undersea rivals such as Russia and China.

Progress with new torpedo technologies is happening alongside a concurrent effort to upgrade the existing arsenal and re-start production of the Mk 48, which had been on hiatus for several years.

Richard did add that some of the improvements to the torpedo relate to letting more water into the bottom of the torpedo as opposed to letting air out the top.

The earlier version, the Mk 48 Mod 6, has been operational since 1997 – and the more recent Mod 7 has been in service since 2006.

Lockheed has been working on upgrades to the Mk 48 torpedo Mod 6 and Mod 7 – which consists of adjustments to the guidance control box, broadband sonar acoustic receiver and amplifier components.

Tom Jarvo, Director and General Manager of Targets, Torpedoes and Sensors, Lockheed Martin, told Scout Warrior in an interview that Lockheed is noiw delivering 20-upgrade kits per month to the Navy.

Part of the effort, which involves a five-year deal between the Navy and Lockheed, includes upgrading existing Mod 6 torpedoes to Mod 7 as well as buying brand new Mod 7 guidance control sections.

The new Mod 7 is also resistant to advanced enemy countermeasures.

Modifications to the weapon improves the acoustic receiver, replaces the guidance-and-control hardware with updated technology, increases memory, and improves processor throughput to handle the expanded software demands required to improve torpedo performance against evolving threats, according to Navy information on the weapon.

The Mod also provides a significant reduction in torpedo radiated-noise signatures, a Navy statement said.

Alongside Lockheed's work to upgrade the guidance technology on the torpedo, the Navy is also preparing to release a Request for Proposal, or RFP, to industry for a completion to build new Mk 48s.

Upgrades to the guidance control section in includes the integration of a system called Common Broadband Advanced Sonar System, or CBASS – electronics to go into the nose of the weapon as part of the guidance section, Jarvo explained.

"This provides streamlined targeting and allows the torpedo to transmit and receive over a wider frequency band," Jarvo said.

Jarvo added that the new technology involves adjustments to the electronic circuitry in order to make the acoustic signals that are received from the system that allow the torpedo to better operate in its undersea environment.

"Digital information is used to guide the torpedo," Jarvo said.

Upgrades also consist of movement to what's called an "auto fuel propulsion system," he added.

Lockheed will deliver about 250 torpedoes over the next five years. The Mk 48, which is a heavy weapon launched under the surface, is quite different than surface launched, lightweight Mk 54 torpoes fired from helicopters, aircraft and surface ships.

The Navy's Mk 48 torpedo is also in service with Australia, Canada, Brazil and The Netherlands, Jarvo said.

A Mk 48 torpedo is 21 inches in diameter and weighs 3,520 pounds; it can destroy targets at ranges out to five miles and travels at speeds greater than 28 knots. The weapon can operate at depths greater than 1,200 feet and fires a 650-pound high-explosive warhead.

"A heavyweight torpedo is unmatched in its ability to sink things. The Mk 48 is a unique capability in the fleet," Richard said**.**

Benedict: Life Extension for Trident II Missile 'is Essential'
Otto Kreisher, Seapower Magazine, June 24

WASHINGTON — While the Navy's top acquisition program is a replacement for the Ohio-class ballistic missile submarines, the admiral responsible for the Navy's strategic systems said June 24 that his top priority is extending the service life of the Trident II missiles that arm the Ohios and will go into the first of their replacements.

The Trident II D5 missiles also are deployed in Great Britain's Vanguard strategic submarines and will continue to arm their replacement, Vice Adm. Terry Benedict said during an Air Force Association breakfast June 24.

"The Trident was planned originally for a service life of only 25 years. However, it will serve throughout the remaining service life of the Ohio and Vanguard classes, and it will be the initial on-load of the Ohio replacement and [Vanguard] successor submarines," taking it "long beyond its original service life," Benedict, director of Strategic Systems Programs, said.

Life extension therefore "is essential to ensuring that the Trident remains the successful sea-based deterrent that it has been since the early '90s," he told a forum on strategic deterrence.

Prolonging the operational life of the D5 requires upgrading or replacing all the strategic weapon systems and subsystems, including launchers, the navigation, fire control and guidance electronics and the W88 nuclear warheads in the Trident's re-entry vehicles, he explained.

The continued reliability and accuracy of the updated missiles is being tested in an extensive schedule of flight tests that will total 14 shots over 18 months, in preparation for a planned initial operational capability in fiscal 2017, he said.

Benedict is part of the Navy team working to plan and then produce the replacements for the Ohio strategic deterrence submarines, which will begin to retire in 2029. The other team members are the program executive office submarines, which heads the overall design effort, and Naval Nuclear Reactors, which is developing the nuclear power plant that is expected to last the entire service life of the new boat.

The admiral said his primary responsibility for the Ohio replacement was the middle section, which includes the common missile compartment (CMC) and the other strategic systems.

The CMC, which will have 16 missile tubes and the monitoring and control systems, also will go into the Vanguard replacements. The two navies worked closely to design the compartment and in a "truly unique" arrangement, each country will produce the CMCs it needs in its own shipyard, Benedict said.

Construction of the first 15 US missile tubes began in 2015, and the Navy is about to let a contract for the next 30, he said.

To reduce the technical risk for both the U.S. and U.K. programs, SSP is leading the development of the Strategic Weapons System Ashore integration and test site at Cape Canaveral, Fla., Benedict said.

The admiral praised the Navy's historic cooperation on the strategic submarine programs with the British, and said that relationship would not be affected by Great Britain's vote Thursday to "exit" the European Union.

Benedict said that based on a telephone exchange he had that morning with his Royal Navy counterpart, "I have no concern." The Brexit vote "was a decision based on its relationship with Europe, not with us. I see yesterday's vote having no effect."

While concentrating on the service life extension of the Tridents, Benedict said his office also is beginning work on a new strategic missile to replace them sometime in the future. In that effort, he has been cooperating with the Air Force, which is actively seeking a replacement for its Minuteman III ground-based strategic missiles. That effort appears to be focused mainly on finding as many common subsystems as possible to help both services save money.

While expressing his support for all three legs of the nuclear deterrent Triad, which also includes the Air Force strategic bombers, Benedict noted that the Navy not only provides the "most survivable" leg, but is responsible for 70 percent of the deployed nuclear warheads under the 2010 New Start Treaty with Russia that limits each nation to 1,550 deployable warheads.

General Motors Partners With Navy On Fuel Cell Program
Kristen Torres, National Defense, June 27

General Motors and the Navy announced a partnership June 23, which may lead to better fuel efficiency for unmanned undersea vehicles (UUVs).

GM will share its fuel cell research with the Navy, which is looking to boost the endurance of its submersibles up to six weeks without recharging.

"Developing this technology increases endurance for UUVs, which is important for the Navy's long-range strategy," Karen Swider-Lyons, head of the alternative energy section for the Navy's research lab, said in a phone call with reporters.

Past work with fuel cells provided about a day or two of endurance undersea, she added, but new technology developed in conjunction with GM will allow the Navy to combine both battery and fuel cell technology.

"There has been a greater interest in developing undersea power over all," said Charlie Freese, executive director of GM global fuel cell activities. "Fuel cells have a much greater capacity than batteries but they aren't a nuclear system that can go on for months. We need to determine how long you can operate UUVs without intervention and how to possibly refuel the machines autonomously."

Fuel cell technology is a potentially revolutionary energy source for zero-emission vehicles. It uses hydrogen and oxygen gas as fuel to create electricity, emitting water as waste. Batteries have generally beat out the new technology when it comes to building zero-emission cars because hydrogen refueling centers are uncommon, and require specific conditions to be contained, Freese said.

In the early days of UUV technology, the Navy used torpedo-sized vehicles, limiting the amount of energy they were able to carry. The larger vehicles allow more volume and weight, making fuel cells the more optimal choice, said Rich Carlin, head of the Navy's sea warfare and weapons department.

As UUVs grow larger, the Navy is beginning to look at primarily using fuel cell technology over batteries. Fuel cells are more reliable and refuel at a faster rate than batteries, which can take hours to recharge. A press release from GM said its fuel cells are "compact and lightweight, and have high reliability and performance."

"We are essentially trying to maximize efficiency by using fuel cells along with a motor," Swider-Lyons said. "It's tricky in undersea vehicles because it's not just weight or volume, but buoyancy as well" that the Navy has to take into consideration.

"The hope is to end up with a vehicle that becomes fast charging with long-range capabilities," Freese said, "That's exactly what the Navy needs out of this [fuel cell] application."