

TORPEDO ALLEY



Vol. 14 No. 4

April 2018

Newsletter of Charleston Base, United States Submarine Veterans, Inc.

Base Meeting:

BOD: April 4, 1800
 Membership: April 12, 1900

Location:

FRA Branch 269
 Low Country Home
 99 Wisteria Rd.
 Goose Creek, SC



Base Commander	Ralph Rohrssen	843.670.2135	Chief of the Boat	Joe Lunn	843.747.5368
Base Vice Commander	Mike Knaub	843.795.6665	Veterans Affairs	Ken Curtis	843.797.1268
Secretary	Mike Ciesielko	843.324.0011	Membership	Larry Knutson	843.860.1155
Treasurer	Gordon Williams	843.553.3015	Scholarship	George Scharf	843.873.3318
			Storekeeper	Ron Chambers	843.821.2268
			Historian	George Scharf	843.873.3318
			Public Affairs	Rick Wise	843.875.5559 (H) 843.276.0899 (C)
			Chaplain	Nick Nichols	843.452.3189
			Holland Club	Bill Freligh	843.553.1115
			Newsletter	Rick Wise	843.875.5559 (H) 843.276.0899 (C)
			Webmaster	Nick Nichols	843.452.3189
			Kaps for Kids	Bill Kennedy	843.875.3109



Submarines Lose During the Month of April

USS PICKEREL (SS-177)	April 3, 1943 – 7 th war patrol	Lost with all hands – 74 souls
USS SNOOK (SS-279)	April 8, 1945 – 9 th war patrol	Lost with all hands – 84 souls
USS THRESHER (SSN-593)	April 10, 1963 – sea trials	Lost with all hands – 129 souls
USS GUDGEON (SS-211)	April 18, 1944 – 12 th war patrol	Lost with all hands – 79 souls
USS GRENADIER (SS-210)	April 22, 1943 – 6 th war patrol	76 POWs; 72 survived the war

Five Boats and 370 Men Lost

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Upcoming Charleston Base Events

Board of Directors Meeting	Thursday, May 3	1800	FRA Branch 268, Goose Creek
NPS Class 1801 Graduation	Friday, May 4	0800	Carpool from NWS NEX Parking lot
Base Meeting	Thursday, May 10	1800	FRA Branch 269, Goose Creek
Victory House Visit	Tuesday, May 15	1000	Carpool from VFW Bellwright Rd.
Kaps4Kids	Tuesday, May 15	1000	McCloud Hospital, Florence, SC

FROM THE BASE COMMANDER

I want to express my appreciation to those members of the base who helped put on the Submarine Birthday-USS Amberjack Ceremonies. The ceremonies were informative and moving. Its too bad that so few members of the base chose to attend.

From the Editor

I am very honored to be presented the Distinguished Submariner Award from Charleston Base. In receiving the award I join the other highly deserving men who have been selected.

We call ourselves "Brothers of the Dolphin" but it is apparent from the participation in base events that fewer and fewer members believe it!

Little David maintenance has been moved to June. We will only be painting this year because it will be too hot to work inside the boat. I am hoping to get some support from the Nuclear Power Training Command since I expect very little support from our Base!

I will continue to live up to our obligations!

From USSVI National

Normal message traffic from USSVI will be published each month in the newsletter. If the message is of immediate interest to the membership it will be sent out by the Base Secretary. Messages are arranged in the order received

Date: 3/27/2018
To: Distribution List

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SubVet News - #2018-019: WWII archive information
Submitted by: Wayne Standerfer on 3/27/2018

Several of our members have been asking for a centralized location to archive WWII Submarine Veteran Biographies and/or War Patrol Stories they have in their possession. This was discussed as an agenda item during our National Mid-Term Board Meeting on March 16th-17th and a decision was made to designate St Mary's Submarine Museum in St Marys, GA. as the collection point for this type of WWII SubVet documents. Anyone that is familiar with Museum Manager Keith Post and his staff's dedication to preserving the history of our Submarine Service knows this is an ideal location to archive historical documents pertaining to WWII Submarine Veterans.

Please forward any WWII SubVet documentation you feel should be archived to the appropriate addresses below.

Single or small number of documents:

By attachment to E-Mail - Gift_Shop@tds.net Postal Mail - St Mary's Submarine Museum

PO Box 5640

St Marys, GA 31558 If UPS or FEDEX is needed:

St Mary's Submarine Museum

102 St Marys St W

St Marys, GA 31558

Get back to me if you have questions,

Wayne Standerfer NSVC

SubVet News - #2018-020: 2018 AWARDS DEADLINE
Submitted by: John E. Markiewicz on 3/28/2018

The deadline for submitting awards nominations is rapidly approaching and there have been very few submissions to date.

The deadlines for all awards nominations to reach the Awards Chairman, John Stanford, except for the newsletter awards, is April 30, 2018. Newsletter award nominations must be to the Awards Chairman by May 15, 2018.

The current Awards manual is posted on the website at ussvi.org under Awards for your review and action.

There are a lot of members out in the Bases that are very deserving of awards, but we won't know who they are if you do not submit a nomination.

JOHN MARKIEWICZ, USSVI NATIONAL COMMANDER

SubVet News - #2018-025: USS THRESHER (SSN 593)

Submitted by: John E. Markiewicz on 4/10/2018

On this date in 1963, 55 years ago, the United States Navy it's first loss of a nuclear submarine along with 129 crew members and shipyard civilian employees aboard in what has been termed the worst submarine disaster in U.S. Navy history. Its shattered hull resides at the bottom of 8,400 feet of water, approximately 220 miles east of Cape Cod.

After the disaster, the Navy accelerated safety improvements and a program called "SUBSAFE," an extensive series of design modifications, training and other improvements, which has been largely responsible for making the operation of submarines much safer and has been credited with minimizing the loss of submarines since that date.

Sailors rest your oars. May we never forget them.

SubVet News - #2018-025: Arizona Silent Service memorial info Submitted by: William C. Andrea on 4/10/2018

ARIZONA SILENT SERVICE MEMORIAL
P.O. Box 86155 Phoenix, AZ 85080

Arizona Silent Service Memorial Project

Dear Shipmates & Friends,

The Arizona Silent Service Memorial Foundation (ASSM) invites you to join us in building this important monument.

The Arizona State House and Senate unanimously approved this project which was then signed into law. The monument will be erected in Wesley Bolin Memorial Plaza which is the "front yard" of the Arizona State Capitol in Phoenix.

We solicit your support of our endeavor which will honor ALL submariners of ALL nations, past, present, and future.

Thank you.

Sincerely,

Tim Moore

Tim Moore, Chairman

Arizona Silent Service Memorial

P.O. Box 86155

Phoenix, AZ 85080

Phone: 602-574-3286

E-mail: seawolfssn@outlook.com

www.arizonasilentservicememorial.org

The following letter is from George Frankel, CEO of Eternal Reefs. This project is endorsed by USSVI and will be a living tribute to our lost boats and shipmates on eternal patrol. For complete information or any questions on the project, click on the links in George's letter. Please consider sending as many members as possible for the dedication.

Bill Andrea NJVC

Dear USSVI Representative/Member:

On Memorial Day weekend 2018, we will dedicate the On Eternal Patrol Memorial Reef. This ambitious project will be a collection of 66 reef balls and the first ever undersea memorial to honor the

crews of all 65 U.S. manned submarines that, since 1900, never returned and remain On Eternal Patrol; one additional reef ball representing the crews and boats lost in non-sinking accidents will complete the 66 reef memorial.

We'd consider it a privilege if you joined us for this historic dedication on Sunday, 27 May 2018 from 10 a.m. to 12 noon at Ken Thompson Park, 1700 Ken Thompson Parkway, Sarasota, FL 34236. Your presence at this landside dedication and military honors - complete with honor guard, rifle salutes, buglers, folded flags and a tolling of the bells for each boat – would be an honor.

Additionally, we are seeking representatives to accept the folded flag for each boat. If you would consider receiving this flag, please respond (contact below) with your name, contact information and any specific connection to a particular boat. You can find a listing of them at www.OnEternalPatrol.com. After the On Eternal Patrol Memorial Reef dedication, the flags will then be donated to appropriate state and local military representatives; the person who accepts the flag will not get to take it home.

We are planning some other events during the weekend. On Saturday, the day prior to the dedication, we are offering personal, guided tours of the Reef Innovations manufacturing facility for visitors to see first hand how reef balls are created and learn about this gold standard for designed reef systems worldwide. Call 941.330.0501 to reserve your tour at 1126 Central Avenue, Sarasota, Florida 34236. Tentative tour times are 10 a.m. to 2 p.m.

Weather-dependent, on Monday, 28 May 2018, the day after the dedication, Eternal Reefs plans to deploy a single, representative Eternal Reef about three miles off shore of Sarasota. The remaining reefs – a time-consuming endeavor -- will be deployed soon after. This ocean-going excursion is tentative at this point, but we are accepting a count of interested persons.

We welcome family, friends, submariners, veterans and other interested parties and have arranged for a discounted rate at the LaQuinta Inns and Suites Downtown, 1803 N Tamiami Trail, Sarasota, FL 34234. [Phone: \(941\) 366-5128](tel:9413665128) and ask for the Eternal Reefs discount. You may find other [accommodations](#) and details about Sarasota here.

Explore more on our [Facebook page](#). For questions about On Eternal Patrol Memorial Reef, including to inquire about the Monday ocean excursion, contact info@EternalReefs.com, phone 888.423.7333 or visit <http://www.eternalreefs.com/the-eternal-reefs-story/on-eternal-patrol-memorial-reef/>. We look forward to making history with you.

Sincerely,

George Frankel CEO, Eternal Reefs

USS Bremerton (SSN 698) Will Arrive in Bremerton for Decommissioning

BREMERTON, Wash. (April 17, 2018) The Los Angeles-class fast-attack submarine USS Bremerton (SSN 698) will arrive at Naval Base Kitsap-Bremerton to commence the inactivation and decommissioning process, April 27.

Bremerton is currently the oldest active duty submarine. Under the command of Cmdr. Travis Zettel, Bremerton will be departing Joint Base Pearl Harbor-Hickam in Pearl Harbor, Hawaii for a homeport change to its namesake city. Bremerton has been homeported in Hawaii since 2003.

Bremerton completed their most recent deployment April 6, 2018. During the six-month deployment, the boat and her crew steamed more than 42,000 nautical miles and conducted five foreign port visits.

The submarine's ability to support a multitude of missions, including anti-submarine warfare, anti-surface ship warfare, strike warfare, surveillance and reconnaissance, made Bremerton one of the most capable submarines in the world.

During the inactivation process, Puget Sound Naval Shipyard and Intermediate Maintenance Facility will de-fuel the submarine and then retain the hull in safe storage until the boat is recycled.

Commissioned March 28, 1981, Bremerton is the 11th boat of its class. She is the second U.S. Navy vessel to be named Bremerton. The boat's mission is to seek out and destroy enemy ships and submarines and to protect U.S. national interests. At 360-feet-long and 6,900 tons, Bremerton can be armed with sophisticated MK48 advanced capability torpedoes and Tomahawk cruise missiles.

USSVI Charleston Base Meeting Minutes

12 April 2018

The attendance for the April 2018 meeting was 81 members.

Opening Ceremonies: The meeting was called to order by Base Commander Ralph Rhorssen . A quorum was present and the meeting started at 1859 .Following the Pledge of Allegiance, the Invocation and the Tolling of the Boats lost in April was given by Base Chaplain Nick Nichols. The USSVI Creed was read by Base Vice Commander Mike Knaub. Ralph welcomed the members and guests to the meeting.

Holland Club Induction: Ralph Rhorssen introduced Holland Club Chairman Bill Freligh. Bill explained the meaning of the Holland Club and read the certificates that would be presented to each of the inductees. With the aid of Rick Wise, Bill presented the certificates

Chambers ,Ronald H, RMC(SS) Qualified on USS George Bancroft SSBN 643

Hance III , Arthur J, MS1(SS) Qualified on USS Queenfish SSN651

Hayes , Joseph, MMCM (SS) Qualified on USS Plunger SSN 595

Lufkin , Thomas L. , ETC (SS) Qualified on USS Lewis and Clark SSBN 644

Nelson , Lindsay K , EMC (SS) Qualified on USS Cutlass SS 478

Weir, Eugene , EMCM (SS) Qualified on USS Nathanael Greene SSBN 636

Distinguished Submariner: Ralph Rhorssen present the Distinguished Submariner award to Rick Wise.

Introductions: The following introduced themselves at the meeting: ETSC (SS/DV) David Lanphear Qual Boat: USS Cavalla(SSN684)

Secretary: The Minutes have been published and promulgated, Are there any additions or deletions. If not the Minutes are Approved

Treasurer: The treasurers report is published and promulgated, Are there any additions or deletions. If not the report is Approved.

Chaplain:

April Report

Highlighted boat of the month:

USS GRENADIER SS-210 was lost on April 22, 1943 near Penang, with no immediate loss of life. She was on her 6th war patrol. While stalking a convoy, she was spotted by a plane and dove. While passing 130 feet, Grenadier was bombed, causing severe damage. She was lodged on the bottom 270 feet and the crew spent hours fighting fires and flooding. When she surfaced, she had no propulsion and was attacked by another plane which she shot down. When enemy ships arrived, the CO abandoned ship and scuttled the boat. Of the 76 crew members taken prisoner, 72 survived the war.

On the website there is a new form called Death Notification Checklist. This was given to me by Robby Roberts. When a family member or friend has died, it is important to notify various government agencies, banks, creditors and credit reporting agencies of the death. To reduce the risk of identity theft, these notifications should be made promptly after the death. This checklist will help you do that.

Jack Harden had a car accident last week. He was rear ended and his car was totaled. The airbags worked but he received a dislocated thumb on one hand. He thought the other had had broken bones but the doctor said nothing appears to be broken...only a large bruise.

Mark Hunter's son, Peter, passed away in March. A memorial service was held at the Fleet Reserve with several SUB-VETS attending.

Charles Wood is still recovering from his major heart surgery in December. He was at the March meeting but had to go home as soon as it was over. He is doing well. Only another couple of weeks of in home PT then he will be released.

George Burton had an accident with a table saw and cut his thumb to the bone.

Ken Curtis had pneumonia but has now been cleared of that. Still weak and he's been dropped from the liver experimental program. He can reapply in 2-4 months.

Luke Murphy is at NHC West Ashley Rm 218 and visitors are welcome. Judy says Luke is doing better which is a step in the right direction. He is now able to use his arms and legs some. There is no prognosis on when he can go home. If you would like to visit the address is 2230 Ashley Crossing Dr, Charleston, SC 29414 and there are no set visiting hours.

The door does lock at 2000. Judy says you can call or text her (843.560.0431) if you have any questions. Luke appreciates those who have been by to see him.

Dick Stevenson, a base and HC member who is living in Colorado, has been sick. Was in the hospital for some time but finally went home on March 16th.

Base Commander Ralph Rohrsen had some oral surgery in late March and is doing well. He will have more surgery in May.

Moon Mullins was in the hospital at MUSC for an infection of the skull that began with a hole in his ear drum. He 2 more weeks of IVs and then back to the doctor to be checked.

Jay Pierce had hernia surgery the last week of March. Was same day surgery and he was home before evening. Doing OK, but a little sore.

Storekeeper Ron Chambers has been diagnosed with congestive heart disease and has several health issues.

COB Joe Lunn has been diagnosed with Parkinson's and has started PT to help him adjust to the diagnosis.

Tom Cyrek fell at the end of February and received 2 cracked vertebrae. He is getting better. No lifting over 2 pounds. He has a hospital bed to allow him to sleep better. Told me he is going nuts with nothing to do. Doctor has said no operation unless absolutely necessary since it is so risky.

- **Jimmy Legg** was diagnosed with pneumonia and while in ICU it was discovered he has lung cancer. The MUSC doctors have him on radiation and chemo and are very optimistic this will clear up the cancer. He had a CT scan last Friday and the plan is working. His lung has inflated and the tumor reduced in size. Only 1 ½ weeks left in his treatment and he'll be check periodically. He said he will see us next month.

Larry Cox has been diagnosed with pancreatic cancer. He had several tests last week and an oncologist appointment yesterday. He starts chemo next week.

Ed Stank will be going to the Mayo Clinic in Jacksonville to have test for his leg neuropathy.

I still need page 2s from a lot of you.

If you have a change of mailing address, phone number, email address please let the base leadership know about it. We need to make sure all of our records are updated so we can make contact with you if we need to.

We had several Charleston Base members at the SUBBALL and I hope you all had as much fun as I did. If you took any pictures with your cell phone or camera please send them to me. I'm putting together some pictures for our website and I will also share the pics with the newsletter editor for the next newsletter.

WEBMASTER NOTES:

- Ken Curtis is constantly giving me updates for the VA section.
- Website is constantly updated.

Make use of the EVENTS page on the Charleston Base website. All events that are put out to the membership via email will be listed and updated on the events page.

Victory House: Ed Stank reported that BJ Tacket will be inducted into the Holland Club. They will visit Tuesday 17 April.

Membership: Larry Knutson reported that there are 277 Members

Kaps for Kids: Bill Kennedy reported that the next Kaps for Kids visit is May 15th up in Florence. Bill is going to try to schedule four visits this year.

Veterans Affairs: Ken Curtis had no report

FRA: Larry Cox reported That the next FRA Meeting is 19 April. Sunday 29 April The USS Hobson Memorial service at White Point Gardens. May 12th is the FRA picnic at Short Stay. Free to FRA members.

Special Events: Rick recommended that we not have a Subvets picnic due to the FRA Picnic being Free.

Submarine Veterans of World War II: No members were present tonight. The WWII Luncheon is Thursday 19 April.

Scholarship: George Scharf reported that the deadline for applications will be April 16th.

NPS Awards: Ray Sparks reported that the next Graduation is May Fourth at 9am.

CRAMA: No Report.

Little David: Rick Wise is asking for working party Volunteers. Email or call him. All we are going to do this year is paint.

Public Affairs: No Report

Storekeeper: No Report

Chief of the Boat: Joe Lunn had no report.

Base Commander: Ralph reported that the SUB BALL was awesome and the Subvets were treated like royalty. A great time was had by all. The Amberjack Ceremony will be April 14th Muster time is 0900 and service will be at 1000. Captain Byrne is our guest speaker

Old Business: None.

New Business: None

Good of the Order:

The After Battery: Hog Roast is April 21st. The festivities start April 16th and run all week. The New England Subvets will be down again as well. There is a raffle for a 30-30 rifle. Tickets are \$10.00 each

Nuclear Historian: Ed explained Blow down air Officer Coronation.

Gun Club: Mike Ciesielko Gun shoot after the May Meeting

The Red FRA ticket was won by Chris McCool.

The depth charge was won by Joe Lunn

Benediction: Chaplain Nick Nichols gave the benediction.

Meeting Adjourned: Following the benediction by Nick Nichols, the Base Vice Commander adjourned the meeting at 2009.

Charleston Base Holds Holland Club Inductions

The April Base Meeting started with the induction of six members into the Holland Club. This marks a USSVI member being Qualified in Submarines for 50 or more years. Presentation of the certificates, patches, pins and coins were made by Holland Club Chairman Bill Freligh and Base Commander Ralph Rohrssen. Base Member Barry Tackett, who is a resident of the Veteran's Victory House in Walterboro was presented with his material by Ed Stank on Tuesday, April 17.



Inductees were Arthur "Art" Hance, Thomas "Tom" Lufkin, Ronald "Ron" Chambers, Joseph "Joe" Hayes, Eugene "Gene" Weir and Lindsey Nelson.



Ed Stank presents Holland Club Certificate to Barry Tackett

Charleston Base Presents Distinguished Submariner Award

At the April Base Meeting the Distinguished Submariners Award was presented to Rick Wise in recognition of his contributions to Charleston Base and promoting the submarine community. The award was presented to Rick and his wife, Jean, by Base Commander Ralph Rohrsen.



Submarine Birthday-USS Amberjack SS-219 Memorial Services

On Saturday, April 14, Charleston Base held a dual ceremony commemorating the 118th birthday of the US Submarine Service and the loss of USS Amberjack SS-219 during WWII. The USS Amberjack SS-219 is the WWII submarine that was designated the South Carolina state lost boat by the United States Submarine Veterans of World War II. Charleston Base has inherited this ceremony from the Swamp Fox Chapter.

The services were officiated by Base Commander Ralph Rohrssen with CAPT Kevin M. Byrne, USN Commanding Officer of the Naval Nuclear Power Training Command as guest speaker.

Also participating were Base Vice Commander Mike Knaub, Base Secretary Mike Ciesielko, Chaplain Nick Nichols, PAO Rick Wise, Ed Stank, VA Officer Ken Curtis, Mike Emerson and Events Coordinator Rick Sparger.

Ms Janice Waters, Coral Director of River Oaks Middle School sang the National Anthem. She is the granddaughter of Base Chaplain Nick Nichols.

CAPT Byrne talked of his experience in 2010 as Commanding Officer of USS Alaska (SSBN 732) Blue when three changes occurred:

- Starting to integrate women into the submarine service

- Elimination of smoking on submarines

- Repeal of the "don't ask don't tell" policy

He related that the hardest of these, by far, was the elimination of smoking!

He also talked on the changes expected in the submarine force in the future.

During the USS Amberjack SS-219 ceremony Ken Curtis read the US Submarine Veterans of WWII National Prayer, Rick Wise told the story of the Amberjack's last patrol, Ed Stank and Mike Ciesielko read the names of the crew as Mike Emerson tolled the bell for each name. At the end Taps was sounded by Rick Sparger.

Unfortunately only about a half dozen members of Charleston Base who did not participate in the ceremonies attended. **I guess most members believe they had something better to do than live up to our Creed!**



The audience for the Submarine Birthday/ USS Amberjack Memorial Ceremonies



Ralph Rohrsen welcomes the audience



CAPT Byrne relates his experiences



Rick Sparger sounds Taps



Presenting the Colors



Mike Emerson Toll the bell



Mike Ciesielko and Ed Stank read the names of the crew

USS Thresher (SSN-593)

The second USS Thresher (SSN-593) was the lead boat of her class of nuclear-powered attack submarines in the United States Navy. Her loss at sea in the North Atlantic during deep-diving tests approximately 220 miles east of Boston, Massachusetts, on 10 April 1963 was a watershed event for the U.S. Navy, leading to the implementation of a rigorous submarine safety program known as SUBSAFE. This was the first U.S. nuclear submarine lost at sea.

At the time it was built, Thresher was the fastest (matching the smaller, contemporary Skipjack class) and quietest submarine in the world. It was also considered the most advanced weapons system of its day. Created specifically to find and destroy Soviet submarines, the ship boasted a new sonar system whose passive and active modes could detect other vessels at greater range, and it was intended to launch the U.S. Navy's newest anti-submarine missile, the SUBROC. Shortly after its loss, the Commander of Submarine Force Atlantic wrote in the March 1964 issue of the U.S. Naval Institute's monthly journal *Proceedings* that "the Navy had depended upon this performance to the extent that it had asked for and received authority to build 14 of these ships, as well as an additional 11 submarines with very much the same characteristics. This was the first time since World War II that we had considered our design sufficiently advanced to embark upon construction of a large class of general-purpose attack submarines."

Following Navy tradition, this class of subs was originally named Thresher after the lead boat. When Thresher was struck from the Naval Vessel Register on 16 April 1963, the class name was changed to that of the second boat, Permit, and Thresher is now officially referred to as a Permit-class submarine. Having been "lost at sea", Thresher was not decommissioned by the U.S. Navy and remains on "Eternal Patrol".

The contract to build Thresher was awarded to Portsmouth Naval Shipyard on 15 January 1958, and her keel was laid on 28 May 1958. She was launched on 9 July 1960, was sponsored by Mrs. Mary B. Warder^[1] (wife of World War II skipper Frederick B. Warder), and was commissioned on 3 August 1961, Commander Dean L. Axene commanding.

Thresher conducted lengthy sea trials in the western Atlantic and Caribbean Sea areas in 1961–1962. These tests allowed a thorough evaluation of her many new and complex technological features and weapons. She took part in Nuclear Submarine Exercise (NUSUBEX) 3–61 off the north eastern coast of the United States from 18–24 September 1961.

On 18 October 1961, Thresher, in company with the diesel-electric submarine Cavalla, headed south on a 3-week test and training cruise to San Juan, Puerto Rico, arriving 2 November. Following customary procedure while in port, her reactor was shut down. Since no shore power connection was available in San Juan, the ship's backup diesel generator was used to carry the "hotel" electrical loads. Several hours later, the backup generator broke down and the electrical load was transferred to the ship's battery. As most of the battery power was needed to keep vital systems operating and to restart the reactor, lighting and air-conditioning were shut down. Without air-conditioning, temperature and humidity in the submarine rose, reaching 60 °C (140 °F) after about ten hours. The crew attempted to repair the diesel generator (four men would receive Navy Commendation Medals for their work that night). After it became apparent that the generator could not be fixed before the battery was depleted, the crew tried to restart the reactor, but the remaining battery charge was insufficient. The captain, returning to the ship from a shore function, arrived just after the battery ran down. The crew eventually borrowed cables from another ship in the harbor and connected them to the adjacent Cavalla, which started her diesels and provided enough power to allow Thresher to restart her reactor.^[2]

Thresher conducted further trials and fired test torpedoes before returning to Portsmouth on 29 November 1961. The boat remained in port through the end of the year, and spent the first two months of 1962 evaluating her sonar and Submarine Rocket (SUBROC) systems. In March, she participated in NUSUBEX 2–62 (an exercise designed to improve the tactical capabilities of nuclear submarines) and in antisubmarine warfare training with Task Group ALPHA.

Off Charleston, South Carolina, Thresher undertook operations supporting development of the SUBROC anti-submarine missile. She returned briefly to New England waters, after which she proceeded to Florida for more SUBROC tests. While moored at Port Canaveral, Florida, the submarine was accidentally struck by a tug which damaged one of her ballast tanks. After repairs at Groton, Connecticut, by the Electric Boat Company, Thresher went south for more tests and trials off Key West, Florida, then returned northward. The submarine entered Portsmouth Shipyard on 16 July 1962 to begin a scheduled 6-month post-shakedown availability to examine systems and make repairs and corrections as necessary. As is typical with a first-of-class boat, the work took longer than expected, lasting nearly 9 months. The ship was finally re-certified and undocked on 8 April 1963.

On 9 April 1963, Thresher, commanded by Lieutenant Commander John Wesley Harvey, got underway from Portsmouth at 08:00 and rendezvoused with the submarine rescue ship Skylark at 11:00 to begin its initial post-overhaul dive trials, in an area some 190 nautical miles (220 miles; 350 kilometres) east of Cape Cod, Massachusetts. That afternoon Thresher conducted an initial trim dive test, surfaced and then performed a second dive to half test depth. She remained submerged overnight and re-established underwater communications with Skylark at 06:30 on 10 April to commence deep-dive trials. Following standard practice, Thresher slowly dived deeper as it traveled in circles under Skylark – to remain within communications distance – pausing every additional 100 feet (30 m) of depth to check the integrity of all systems. As Thresher neared her test depth, Skylark received garbled communications over underwater telephone indicating "... minor difficulties, have positive up-angle, attempting to blow",^{[4][5][6]} and then a final even more garbled message that included the number "900".^[7] When Skylark received no further communication, surface observers gradually realized Thresher had sunk.

By mid-afternoon, 15 Navy ships were en route to the search area. At 18:30, the Commander, Submarine Force Atlantic, sent word to Portsmouth Naval Shipyard to begin notifying next-of-kin – starting with Commander Harvey's wife, Irene Harvey[8] – that Thresher was missing.

By morning on 11 April, all hope of finding Thresher was abandoned, and at 10:30 the Chief of Naval Operations (CNO) Admiral George W. Anderson Jr., went before the press corps at The Pentagon to announce that the submarine was lost with all hands. President John F. Kennedy ordered all flags to be flown at half-staff on 12–15 April in Honor of the 129 lost submariners and shipyard personnel.

The Navy quickly mounted an extensive underwater search using the oceanographic ship Mizar and other ships; they soon found shattered remains of Thresher's hull on the sea floor, some 8,400 ft (2,600 m) below the surface, in six major sections. [10] Most of the debris had spread over an area of about 134,000 m² (160,000 sq yd). The bathyscaphe Trieste, then in San Diego, California, was alerted on 11 April and loaded aboard the large landing ship Point Defiance and brought through the Panama Canal to Boston. Trieste was deployed for two series of dives on the debris field: the first series on 24–30 June, and the second series in late August/early September. It found and photographed major sections of Thresher, including the sail, sonar dome, bow section, engineering spaces section, operations spaces section, and the stern planes. One aspect of the search conducted that summer by Mizar involved the use of highly sensitive proton magnetometers furnished by the Instrument Division of Varian Associates, Palo Alto, California, and shipped aboard Mizar before her departure from Suitland, Maryland. The magnetometers were used in conjunction with underwater video cameras and suspended on the same electrical line used to tow the video cameras themselves. Sea-bottom photography of the wreck site taken in summer 1963 can be seen at the official US Navy history website.

Trieste's successor Trieste II incorporated parts of the original bathyscaphe and was completed in early 1964. The bathyscaphe was placed on board USNS Private Francis X. McGraw and also shipped, via the Panama Canal, to Boston. Additional operations were conducted at the loss site of Thresher that were commenced by the first Trieste the year before. Trieste II was Commanded by Lt Comdr. John B. Mooney, Jr., with co-pilot Lt. John H. Howland and Capt. Frank Andrews in an operation that recovered bits of wreckage of the lost Thresher, in September 1964. The groundbreaking deep submergence operations helped

in the design and construction of other deep-diving submersibles which could be used in rescuing crews and recovering objects from submarines in distress below levels reachable by conventional methods

.Deep-sea photography, recovered artifacts, and an evaluation of her design and operational history permitted a Court of Inquiry to conclude Thresher had probably suffered the failure of a salt-water piping system joint which relied heavily on silver brazing instead of welding. Earlier tests using ultrasound equipment found potential problems with about 14% of the tested brazed joints,[12] most of which were determined not to pose a risk significant enough to require a repair. High-pressure water spraying from a broken pipe joint may have shorted out one of the many electrical panels, causing a shutdown ("scram") of the reactor, which in turn caused loss of propulsion. The inability to blow the ballast tanks was later attributed to excessive moisture in the submarine's high-pressure air flasks, moisture which froze and plugged the flasks' flowpaths while passing through the valves. This was later simulated in dock-side tests on Thresher's sister sub, Tinosa. During a test to simulate blowing ballast at or near test depth, ice formed on strainers installed in valves; the flow of air lasted only a few seconds. Air dryers were later retrofitted to the high-pressure air compressors, beginning with Tinosa, to permit the emergency blow system to operate properly.

Subsequent study of SOSUS (sound surveillance system) data from the time of the incident has given rise to doubts of whether flooding preceded the reactor scram, as no sound of the high pressure water impacting the compartments of the submarine could be detected on instrument recordings from SOSUS at the time. Such flooding would have been a significant sonic event, and no evidence of that can be found in the recorded data.

Submarines typically rely on speed and deck angle (angle of attack) rather than deballasting to surface; they are propelled at an angle towards the surface. Ballast tanks were almost never blown at depth, and doing so could cause the submarine to rocket to the surface out of control. Normal procedure was to drive the submarine to periscope depth, raise the periscope to verify the area was clear, then blow the tanks and surface the submarine.

At the time, reactor-plant operating procedures precluded a rapid reactor restart following a scram, or even the ability to use steam remaining in the secondary system to propel the submarine to the surface. After a scram, standard procedure was to isolate the main steam system, cutting off the flow of steam to the turbines providing propulsion and electricity. This was done to prevent an over-rapid cool-down of the reactor. Thresher's Reactor Control Officer, Lieutenant Raymond McCoole, was not at his station in the maneuvering room, or indeed on the boat, during the fatal dive. McCoole was at home caring for his wife who had been injured in a household accident – he had been all but ordered ashore by a sympathetic Commander Harvey. McCoole's trainee, Jim Henry, fresh from nuclear power school, probably followed standard operating procedures and gave the order to isolate the steam system after the scram, even though Thresher was at or slightly below its maximum depth. Once closed, the large steam system isolation valves could not be reopened quickly. Reflecting on the situation in later life, McCoole was sure he would have delayed shutting the valves, thus allowing the boat to "answer bells" and drive itself to the surface, despite the flooding in the engineering spaces. Admiral Rickover later changed the procedure, creating the "Fast Recovery Startup" procedure. The Fast Recovery Startup allows an immediate reactor restart and for steam to be withdrawn from

the secondary system in limited quantities for several minutes following a scram.

In a dockside simulation of flooding in the engine room, held before Thresher sailed, it took the watch in charge 20 minutes to isolate a simulated leak in the auxiliary seawater system. At test depth with the reactor shut down, Thresher would not have had 20 minutes to recover. Even after isolating a short-circuit in the reactor controls, it would have taken nearly 10 minutes to restart the plant.

The U.S. Navy has periodically monitored the environmental conditions of the site since the sinking and has reported the results in an annual public report on environmental monitoring for U.S. Naval nuclear-powered craft. These reports provide specifics on the environmental sampling of sediment, water, and marine life which was done to ascertain whether Thresher's nuclear reactor has had a significant effect on the deep ocean environment. The reports also explain the methodology for conducting deep-sea monitoring from both surface vessels and submersibles. The monitoring data confirm that there has been no significant effect on the environment. Nuclear fuel in the submarine remains intact.

According to newly declassified information, the Navy sent Commander (Dr.) Robert Ballard, the oceanographer credited with locating the wreck of RMS Titanic, on a secret mission to map and collect visual data on both Thresher and Scorpion wrecks. The Navy used Ballard's search for Titanic as a screen to hide the mission. Ballard approached the Navy in 1982 for funding to find Titanic with his new deep-diving robot

submersible. The Navy saw the opportunity and granted him the money on the condition he first inspect the two submarine wrecks. Ballard's robotic survey discovered that Thresher had sunk so deep that it imploded, turning into thousands of pieces. The only recoverable piece was a foot of marled pipe. His 1985 search for Scorpion revealed such a large debris field that it looked "as though it had been put through a shredding machine." Once the two wrecks had been visited, and the radioactive threat from both was established as small, Ballard was able to search for Titanic. Due to dwindling funds, he had just 12 days to do so, but he used the same debris-field search techniques he had used for the two submarines, which worked, and Titanic was found.

Disaster sequence of 10 April 1963

Time line of the Thresher disaster

09:17 A second transmission is received, with the partially recognizable phrase "exceeding test depth...." The leak from the broken pipe grows with increased pressure.

08:09 Commander Harvey reports reaching half the test depth.

09:13 Harvey reports status via underwater telephone. The transmission is garbled, though some words are recognizable: "[We are] experiencing minor difficulty, have positive up-angle, attempting to blow." The submarine, growing heavier from water flooding the engine room, continues its descent, probably tail-first. Another attempt to empty the ballast tanks is performed, again failing due to the formation of ice. Officers on Skylark could hear the hiss of compressed air over the loudspeaker at this point.

09:09 It is believed a brazed pipe-joint ruptures in the engine room. The crew would have attempted to stop the leak; at the same time, the engine room would be filling with a cloud of mist. Under the circumstances, Commander Harvey's likely decision would have been to order full speed, full rise on the fairwater planes, and blowing main ballast in order to surface. The pressurized air rapidly expanding in the pipes cools down, condensing moisture and depositing it on strainers installed in the system to protect the moving parts of the valves; in only a few seconds the moisture freezes, clogging the strainers and blocking the air flow, halting the effort to blow ballast. Water leaking from the broken pipe most likely causes short circuits leading to an automatic shutdown of the ship's reactor, causing a loss of propulsion. The logical action at this point would have been for Harvey to order propulsion shifted to a battery-powered backup system. As soon as the flooding was contained, the engine room crew would have begun to restart the reactor, an operation that would be expected to take at least 7 minutes.

09:14 Skylark acknowledges with a brisk, "Roger, out," awaiting further updates from the SSN. A follow-up message, "No contacts in area," is sent to reassure Thresher she can surface quickly, without fear of collision, if required.

11:04 Skylark attempts to transmit a message to COMSUBLANT (Commander, Submarines, Atlantic Fleet): "Unable to communicate with Thresher since 0917R. Have been calling by UQC voice and CW, QHB, CW every minute. Explosive signals every 10 minutes with no success. Last transmission received was garbled. Indicated Thresher was approaching test depth.... Conducting expanding search." Radio problems meant that COMSUBLANT did not receive and respond to this message until 12:45. Hecker initiated "Event SUBMISS [loss of a submarine]" procedures at 11:21, and continued to repeatedly hail Thresher until after 17:00.

09:20 Skylark continues to page Thresher, repeatedly calling for a radio check, a smoke bomb, or some other indication of the boat's condition.

09:18 Skylark detects a high-energy, low-frequency noise, characteristics of an implosion.

09:12 Skylark pages Thresher on the underwater telephone: "Gertrude underwater telephone check, K [over]." With no immediate response (although Skylark is still unaware of the conditions aboard Thresher), the signal "K" is repeated twice.

09:16 Skylark picks up a garbled transmission from Thresher, transcribed in the ship's log as "900 N." (The meaning of this message is unclear, and was not discussed at the inquiry; it may have indicated the submarine's depth and course, or it may have referred to a navy "event number" (1000 indicating loss of submarine), with the "N" signifying a negative response to the query from Skylark, "Are you in control?")

09:15 Skylark queries Thresher about her intentions: "My course 270 degrees. Interrogative range and bearing from you." There is no response, and Skylark's captain, Lieutenant Commander Hecker, sends his own Gertrude underwater telephone message to the submarine, "Are you in control?"

07:47 Thresher begins its descent to the test depth of 1,000 ft (300 m).

09:02 Thresher is cruising at just a few knots (submarines normally move slowly and cautiously at great depths, lest a sudden jam of the diving planes send the ship below test depth in a matter of seconds.) The boat is descending in slow circles, and announces to Skylark she is turning to "Corpen [course] 090." At this point, transmission quality from Thresher begins to noticeably degrade, possibly as a result of thermoclines.

07:52 Thresher levels off at 400 ft (120 m), contacts the surface, and the crew inspects the ship for leaks. None are found.

08:25 Thresher reaches 1,000 ft (300 m).

During the 1963 inquiry, Admiral Hyman Rickover stated:

"I believe the loss of the Thresher should not be viewed solely as the result of failure of a specific braze, weld, system or component, but rather should be considered a consequence of the philosophy of design, construction and inspection that has been permitted in our naval shipbuilding programs. I think it is important that we re-evaluate our present practices where, in the desire to make advancements, we may have forsaken the fundamentals of good engineering.

Alternative theory of the sinking: electrical failure

On April 8, 2013, Bruce Rule, an acoustic data expert, published his own analysis of the data collected by USS Skylark and Atlantic SOSUS arrays in a paper in the Navy Times. Rule based his analysis on SOSUS data that was highly classified in 1963 and was not discussed in open session of the Court of Inquiry and was not revealed at the congressional hearings.

Rule concluded that the primary cause of the sinking was a failure of the electrical bus that powered the main coolant pumps. According to Rule, SOSUS data indicates that after two minutes of electrical instability, the bus failed at 9:11 a.m., causing the main coolant pumps to trip off. This caused an immediate reactor scram, resulting in a loss of propulsion. Thresher could not be de-ballasted because ice had formed in the high-pressure air pipes, and so it sank. Rule's analysis holds that flooding (whether from a silver brazed joint or anywhere else) played no role in the reactor scram or the sinking, and that Thresher was intact until it imploded. In addition to the SOSUS data that does not record any sound of flooding, the crew of Skylark did not report hearing any noise that sounded like flooding, and Skylark was able to communicate with Thresher, despite the fact that even a small leak at test depth would have produced a deafening roar. Additionally, the previous commander of Thresher would not have described flooding, even from a small-diameter pipe, as a "minor problem".

Rule interprets the communication "900" from Thresher at 9:17 a.m. as a reference to test depth, signifying that Thresher was 900 feet (270 m) below its test depth of 1,300 feet (400 m), or 2,200 feet (670 m) below sea level. According to Rule the SOSUS data indicates an implosion of Thresher at 09:18:24, at a depth of 2,400 feet (730 m), 400 feet (120 m) below its predicted collapse depth. The implosion took 0.1 seconds, too fast for the human nervous system to perceive.

SUBSAFE legacy

When the Court of Inquiry delivered its final report, it recommended that the Navy implement a more rigorous program of design review and safety inspections during construction. That program, launched in December 1963, was known as SUBSAFE. From 1915 to 1963, the U.S. Navy lost a total of 16 submarines to non-combat accidents. Since the inception of SUBSAFE only one submarine has suffered a similar fate, and that was USS Scorpion, which sank in 1968 for reasons still undetermined. Scorpion was not SUBSAFE certified.

BECAUSE HE WAS OUR BROTHER

Recently, an event occurred that supports and demonstrates the comradery that we proudly share as submariners. The event occurred as follows:

During the summer of last year an unidentified man walked unannounced into the VFW Post in Wildwood, NJ and placed a sealed urn on the bar which contained the ashes of an individual that he described only as those of a submariner. **He told the bartender "vets will know what to do with the ashes" and departed without further explanation as to how or why he was in possession of the urn/ashes.**

The commander of the VFW contacted me, as commander of the nearest submarine veterans base (Egg Harbor New Jersey Base), explained the unusual event and asked if our base would see to the proper disposition of the ashes. Our base retrieved the ashes from the VFW and began the process of trying to properly identify the remains of the individual in question and also ascertain if in fact the person was a submarine veteran. We researched identifiers on the urn and were ultimately able to identify the funeral home that performed the cremation of the individual. The funeral director confirmed that he performed the cremation on October 28, 2014 and identified the remains as those of Harry Edward Harris, DOB February 26, 1920. The funeral director advised that to the best of his knowledge there were no known relatives or family members of Mr. Harris. He further explained that he had no records or knowledge of how or why the urn was in the possession of the unidentified person who left it at the VFW.

Our base researched navy military records for Harry Edward Harris, DOB February 26, 1920 and learned that Mr. Harris was a US Navy veteran and was in fact a submarine veteran. He was awarded the Pacific Theater Ribbon with three stars, the American Theater Ribbon, the Victory Medal, Submarine Combat Pin and Submarine Qualification Pin. His military records revealed that he served as a Yeoman Third Class YN3(SS) aboard the USS Balao (SS285) during the

the period 15 March 1944 through 7 March 1946.

Our base made numerous inquiries in an effort to locate any living relatives of YN3 (SS) Harris but were unable to find any information that would be helpful. Therefore, our base concluded that it would be our privilege to give YN3 (SS) Harris a proper military funeral that would be commensurate with his military service. Associate base members Robert Frolow (Veteran Affairs Coordinator/American Legion Post 352 Commander), James Donahue and Frederick Vineyard (AMVETS Post 911) were asked for their assistance with the burial of YN3(SS) Harris. Commander Frolow was instrumental in securing a burial site and requesting a US Navy burial detail be present at grave side. As a result the navy provided a burial detail, flag bearers and bugler. AMVETS Post 911 provided a color guard and American Legion Post 352 provided side boys. Submarine Veterans Egg Harbor Base Chaplain John Pucci provided a moving eulogy and base sub-vet members served as pall bearers, and interment facilitators.

During the service it was noted that a woman who was passing by the site stopped to observe the burial of YN3(SS) Harris and the military protocol that was being shown to him. She stayed until the conclusion of the service and then approached a group of our sub base members that were gathered by the grave site. The woman approached us and offered her condolences. She stated that the service was very impressive, explained that she had never observed a military service before and found it to be very moving and emotional. She then inquired as to whom the burial was for. We told her of the unusual circumstances under which we obtained the ashes and ultimately arranged for the burial service. She was a little surprised by our explanation and stated "you mean you did all this for someone you are not related to or never met?" Yes, ma'am was the response. Noting the confusion that seemed to come over her, John Kill (Base COB) came forward with the following explanation: "You see, Ma'am, it's like this, Yeoman Harris was a veteran, a submarine veteran, therefore he was a brother to all of us. What happened here today was that brothers buried their brother." The woman paused for a moment with her mouth slightly ajar as if trying to comprehend what she had just heard. She then stated, "that is the most amazing thing I have ever heard. Thank God that our country has men and women like you to protect it. God Bless you all and thank you for your service." Thank you, Ma'am, was our response.

Thomas J. Innocente
Base Commander
Egg Harbor New Jersey Base USSVI

Navy Might Someday Consider Buying More Than 12 Columbia-Class Submarines

Marc Selinger, Defense Daily, April 11

The U.S. Navy, which has said for years that it wants to buy 12 Columbia-class, nuclear-armed ballistic missile submarines to replace its aging Ohio-class fleet, is leaving open the possibility that it will end up acquiring more than that, a service official said April 11.

The U.S. Navy, which has said for years that it wants to buy 12 Columbia-class, nuclear-armed ballistic missile submarines to replace its aging Ohio-class fleet, is leaving open the possibility that it will end up acquiring more than that, a service official said April 11.

"That's a decision that will be made and a recommendation made by leadership as we approach the end of production," said Vice Adm. Terry Benedict, director of the Navy's Strategic Systems Programs. "But I think given the current changing world dynamic, we want to reserve the right to revisit that at some point."

While Benedict did not elaborate on the "changing world dynamic," the Pentagon's new national defense strategy expresses concern about growing military threats posed by China and Russia.

Benedict's comments, which he made at a hearing of the Senate Armed Services Committee's strategic forces panel, came in response to a question from Sen. Tom Cotton (R-Ark.), who noted that the Pentagon's recently completed nuclear posture review calls for the Navy to field at least 12 Columbia submarines. Cotton welcomed the at-least language, saying that previous statements simply called for 12 submarines.

"I think that's something we should entertain as well," Cotton told Benedict. "I was glad to see that in the review."

How the Navy would pay for more submarines is unclear. The Congressional Budget Office has estimated that current plans to modernize, operate and sustain U.S. nuclear forces will cost an eye-popping \$1.2 trillion over the next three decades, and that figure does not include the Trump administration's new initiatives to develop low-yield nuclear warheads and a sea-launched nuclear cruise missile.

The Navy currently intends to spend \$128 billion to develop and buy 12 Columbia submarines. In January 2017, the program received approval to enter its detail design phase. Construction of the lead submarine is slated to begin in fiscal year 2021.

General Dynamics [GD] Electric Boat is Columbia's prime contractor and Huntington Ingalls Industries [HII] Newport News Shipbuilding has a secondary role.

Incredible Moment US Fast-Attack Submarine Launches A Tomahawk Missile To Join Air Strikes Against Syria
Danielle Zoellner, Daily Mail, April 15

Footage revealed the incredible moment the US fast-attack submarine launched a tomahawk missile from the Mediterranean Sea as part of the multi-national strike against the Syrian government.

The Virginia-class USS John Warner submarine launched the missile on Friday during the United States' air strikes in collaboration with France and England to retaliate against Syria's use of chemical weapons.

The video shows the submarine launch the missile straight up into the sky before it curves and heads towards its intended target.

The missile was one of more than 100 others that were used during the air strikes to target three military sites in Syria.

The USS John Warner operates in the Mediterranean Sea as a routine deployment to support the allies in the region. The submarine's placement is why it was used during the missile attack.

Trump hailed a 'perfectly executed strike last night' Saturday just hours after launching a series of attacks on Syria.

The USS John Warner operates in the Mediterranean Sea as a routine deployment to support the allies in the region. The submarine's placement is why it was used during the missile attack.

After the attack, US ambassador to the UN Nikki Haley vowed that the Trump administration was 'locked and loaded' for another attack if needed against Syria.

The strikes were in retaliation to the poison gas attack that killed an estimated 75 people on April 7.

Syrian state-run TV said three civilians were wounded during the attack on a military base in Homs.

The organization also said that several of the missiles were intercepted by the Syrian government during the air strikes. But Chief Pentagon spokeswoman Dana White said the strikes 'successfully hit every target'.

Another country besides Syria that was under attack by the three nations this weekend was Russia for allowing 'the use of chemical weapons (in Syria) to go unanswered'.

Depending on the US and its allies' next course of action involving Syria, the USS John Warner could be used again for another strike if needed.

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