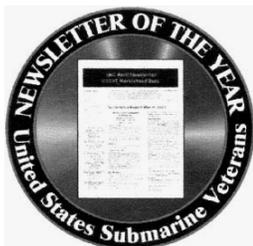


American Submariners Inc.
4370 Twain Ave.
San Diego, CA 92120-3404



The Silent Sentinel February 2014



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.

Deep-Diving Sub Alvin Cleared to Return to Service *WHOI Media Relations, Jan 24*

Navy certification is final step in Alvin upgrade project

After a three-year overhaul and major upgrade, the United States' deepest-diving research submersible, Alvin, has been cleared to return to work exploring the ocean's depths.

The sub has been out of service since December 2010, undergoing a major upgrade, including the replacement of its personnel sphere with a newly fabricated, larger, more capable hull.

The Woods Hole Oceanographic Institution (WHOI) operates the U.S. Navy-owned sub for the National Deep Submergence Facility on behalf of a consortium of universities and research organizations conducting deep ocean research.

On Jan. 8, 2014, the Naval Sea Systems Command's (NAVSEA) Executive Director of Undersea Warfare for the Department of the Navy Steven Schulze certified that the sub could safely operate to depths of 3,800 meters, with the expectation that a certification dive to 4,500 meters will be completed later this year.

"There has been tremendous coordination between the Navy, Woods Hole Oceanographic Institution and the National Science Foundation (NSF) to ensure Alvin's safety and integrity," said the Navy's Director of Advanced Undersea Integration Don Hoffer. "Alvin is a national asset and the Navy is pleased to be a part of the team that returned the vehicle to service."

"Achieving Navy certification is a major milestone in the Alvin upgrade project, enabling the vehicle to get back to its critical mission of taking scientists to the deep sea," said WHOI Vice President for Marine Facilities and Operations Rob Munier.

"This significant accomplishment is a testament to the rigorous engineering collaboration between WHOI and NAVSEA and the unwavering support of NSF. Certification helps ensure that Alvin's excellent record of safety will continue for many decades to come."

Alvin carries a pilot and two science observers on missions that last approximately eight hours.

Certification was the final step in Stage I of the Alvin upgrade project, funded by NSF and WHOI.

The project included upgrades to major components for an increased depth rating of 6,500 meters, including installation of a new, larger personnel sphere with improved interior ergonomics; five viewports (instead of the previous three) to improve visibility and provide overlapping fields of view; new lighting and high-definition imaging systems; new syntactic foam for buoyancy and an improved command-and-control system.

Upgrades also included improvements to Alvin's launch system and storage hangar onboard its support vessel, the R/V Atlantis. (CONTINUED ON PAGE 5)

U.S. Submarine Veterans San Diego Base

Base Commander

Bob Bissonette
1525 Walbollen Street
Spring Valley, CA 91977
(H) 619-644-8993
(CELL) 619-251-7095
RBisson250@aol.com

Membership -- Change of Address

Ray Ferbrache
2955 lloyd St.
San Diego, CA 92117
arayz@san.rr.com
619-972-4474

Treasurer

David Ball
3804 Wildwood Road
San Diego, CA 92107-3750
619-225-0304
davidball@cox.net

Senior Vice Commander

Bill Earl
2251 Vancouver Ave
San Diego, CA 92104-5350
619-2804053
dinkysan@yahoo.com

Newsletter Editor

Mike HYMAN
3639 Midway Drive, B-320
San Diego, CA 92110-5254
(619) 223-9344
stamps@fortunesofwar.com

Assistant Editor / Photographer

Jack Kane
619-602-1801
jkane32@cox.net

Junior Vice Commander

Manny Burciaga
8406 Alado Place
El Cajon, CA 92021-2003
619-921-5877
mpburcia@co.net

Base Storekeeper

Phil Richeson
Phillip92071@aol.com
619-922-3230

Chief of the Boat/Middle East Liason

Fred Fomby
858-735-0026

Secretary

Jack Ferguson
jackmeboy@san.rr.com

Chaplain

John (Jack) Lester
6531 Cowles Mtn. Blvd.
San Diego, Ca. 92119
619-469-8805
lanabjack@cox.net

Assistant Chaplain

Russ Mohedano
8709 Dallas St.
La Mesa, Ca. 91942
619-697-5029
moecowboy@cox.net

The Silent Sentinel via Email

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

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

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

EMAIL: _____

TELEPHONE: _____

Would like the SILENT SENTINEL emailed: YES _____ NO _____

Robert Bissonette
1525 Walbollen St.
Spring Valley, CA 91977-3748

USSVI Base Commander
c/o VFW Post 3787
4370 Twain Ave.
San Diego, CA 92120-3404

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

February 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 February 11, 2014. 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

Al Strunk, Benny Williams

ETERNAL PATROL

Vice Admiral Hannifin

Submarine Losses in January

Originally Compiled by C J Glassford



*“ SUBMARINE FORCE LOSSES “
“ JANUARY “*

STURGEON (SS 25) - Duty Section on Board
Battery Explosion, on 15 Jan 1916, In New York Navy Yard:
“ 4 MEN LOST “

S – 34 (SS 139) - 43 Men on Board
Accidental Signal Cartridge Explosion, on 11 Jan 1934:
“ 1 MAN LOST “

S – 26 (SS 131) - 46 Men on Board
Sunk, on 24 Jan 1942, After Collision with USS (PC460),
In the Gulf of Panama:
“ 43 MEN LOST, 3 SURVIVORS “

ARGONAUT (SS 166) - 105 Men on Board
Sunk, on 10 Jan 1943, By Japanese Aircraft and Destroyers, Southeast of New Britain, in Solomon Sea:
“ ALL HANDS LOST “

S-36 (SS 141) - 45 Men on Board
 Scuttled, on 20 Jan 1943, After running aground, In Makassar Straits: "NO LOSS OF LIFE"

SCORPION (SS 278) - 76 Men on Board:
 Probably Sunk, on 15 January 1944, by Japanese Mine, in the Yellow or East China Sea: "ALL HANDS LOST"

SWORDFISH (SS 193) - 89 Men on Board:
 Possibly Sunk, on 9 Jan 1945, by Japanese Coastal Defense Vessel or Mine, Off Okinawa:
 "ALL HANDS LOST"

SAN FRANCISCO (SSN 711) - 127 Men on Board:
 Struck a Sea Mount, on 8 Jan 2005, while Traveling Submerged at High Speed, South of Guam:
 "1 MAN LOST" - "23 MEN INJURED"



ANYONE NEEDING A RIDE TO OUR MONTHLY MEETINGS, PLEASE CONTACT JACK KANE AT 619-602-1801, jkane32@cox.net.

Minutes for Submarine Veterans San Diego 14 January 2014

1905 - Meeting of the Submarine Veterans Inc., San Diego Base was called to order by Base Commander Bob Bissonnette.

Conducted Opening Exercises:

Reading of Our Creed.

Pledge of Allegiance lead by Base Commander.

Chaplain Jack Lester lead us in prayer.

Conducted Tolling of the Boats for January.

Observed a moment of Silent Prayer for our lost shipmates.

Base Commander recognized past E-Board members, past Officers, and three guests; Henry M. Chan, Edgar Tomines, and Juanita Williams.

Secretary Ferguson announced 34 members and 3 guests present.

Treasurer Report: Treasurer Ball was absent but Base Commander reported \$17,984.80 in the bank.

Revised November 2013 minutes were announced, and the minutes of 10 December 2013 were approved.

Call for Committee Reports:

Binacle List: Al Strunk, Frank Walker, and Tommy Cox. Welcome back to Benny Williams. Chaplain reminded the members to keep him informed as to members on the binnacle list.

VADM Patrick Hannifan and Sotero Sergio Serious Jr. were reported on Eternal Patrol.

Chaplain Lester lead the members in a silent prayer for the quick recovery of our Base Commanders son Chris, who had recently suffered a heart attach and was home regaining his health.

Parade Committee: Joel Eikam stated that the float was in upkeep and the next parade in April was at Linda Vista.

Membership Committee: Ray Ferbrache announced 301 members. Anyone knowing a member of the Thresher Commissioning Crew, please inform Ray as he has a person looking for such members.

Scholarship Committee: Paul Hitchcock reminded members of the March deadline for applicants.

Storekeeper Report: Phill Richeson still has 2014 calendars at \$8, 50th anniversary patches, and embroidered jackets available.

Breakfast Committee: Fred Fomby announced 67 persons at the December breakfast and a \$219 profit. Next breakfast is March 30th and a new volunteer is needed as the Chairman.

Float Committee: David Kauppinen asked for \$300 budget to update the new float. Also suggested we scrap the old float once we are sure of title ownership.

1938 Base Commander called a break.

1950 Base Commander called the meeting back to order.

Bob Bissonnette reminded prospective Holland Club members to see Ray Ferbrache to apply.

Unfinished Business:

Base Commander announced 70 persons enjoyed the Christmas Party and a good time was had by all. Thanks to all who attended and helped organize the party.

A motion was passed to salvage the old float and add any moneys obtained to the new float upkeep budget.

New Business:

Warren Branges volunteered to assume responsibility for attending to the 52 Boat Memorial at Liberty Station. Members are needed to assist with placing the flags of boats lost on the specific lost date, and all the flags on certain National Holidays. The flags are presently being stored by Rocky Rockers. The missing monument will be replaced this month and all monument faces will be resurfaced this year.

Good of the Order:

Bob Bissonnette announced that the budget committee's report for this year will likely be presented to the members for approval next month.

Paul Hitchcock reported that possible changes to the scholarship fund distribution could be voted on next month.

David Kauppinen requested that a contact and phone number be provided in the next "Silent Sentinel" for members needing a ride to the monthly meeting.

James Pope provided some samples of the candy that he is producing. He also provided us book marks listing State Capitols and Admission Dates to the Union.

Rocky Rockers reminded us of the Military Fair to be held on the Midway Museum next November.

Phill Richeson reminded us that a donation of \$1 should be provided for **EACH** midrat item taken.

Fred Fomby reminded us to clean up after ourselves as we leave the meeting.

Bob Bissonnette auctioned off a number of Charlie Marin's personal possessions that were offered us by his wife Lee. The subvest provided the treasury \$40, buckles \$20, a watch \$45, and the lone sailor statue \$40. The members thank Lee Marin for thinking of us.

David Kauppinen notes: "My Verizon service was past the 2 year contract, so I switched to PagePlus Cellular. By doing this I am saving \$85 per month, still using the Verizon cell towers, still using my Verizon phone, and still have the same phone number. In addition, there is no contract; just month to month. This was done in less than 30 minutes. I went from \$145/mo to \$60/mo for two phones with more minutes, text, and data that my wife and I will ever use. The details are on their websites. <https://www.pagepluscellular.com/plans> and http://www.pageplusdirect.com/compatible_phones.html. You can do this on the internet, or call on the phone. I called and they were very helpful. Note: They will want some ID numbers that are inside the phone behind the battery and the password to your Verizon billing account. If you forgot or do not have a Verizon billing password, then call and set that up with Verizon before calling PagePlus. Good luck shipmates

Base Commander Bissonnette adjourned the meeting at 2035.

Jack Ferguson, Secretary

Sailing List for 14 January 2014

Fred Fomby	Jack Ferguson	Joel Eikam
Chris Stafford	Phillip Richeson	Jim Harer
Phil Richeson	David Kauppinen	Benny Williams
Paul Hitchcock	Bill Earl	Ray Ferbrache
Gino Rillamas	Al V. Poblete	Ron Gorence
Glenn Gerbrand	Mert Weltzien	Bob Farrell
Richard A. Smith	Warren Branges	Jack L. Addington
Rocky Rockers	Manny Burciaga	Ed Farley
James Pope	Joe Acay	Jack Lester
Dave Lemly	Don Mathiowetz	Peter Lary
Seymour Phillips	Dennis Mortensen	Nihil D. Smith
Jack Kane	Juanita Williams (Guest)	Edgar Tomines (Guest)

Current News

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

Deep-Diving Sub Alvin Cleared to Return to Service (Continued from Front Cover)

The Navy certified Alvin using its Deep Submergence Scope of Certification process, reviewing the design, construction and materials used to ensure the vehicle performs as expected. The Navy uses the same process to certify manned undersea systems for submarine rescue and submarine-based Special Operation Forces delivery systems.

"The successful partnership between NSF, Navy and WHOI ensures that researchers will continue to have direct access to the deep ocean for the next generation of scientists and scientific challenges," said Bob Houtman, section head in NSF's Division of Ocean Sciences.

Added Brian Midson, program director in NSF's Ocean Sciences Division, "WHOI engineers demonstrated remarkable adaptability in directing progress in constructing the 6,500-meter submersible—especially the larger titanium hull.

"The re-design of the existing vehicle was only possible thanks to the experience and expertise of the Alvin team, whose members worked closely with NAVSEA to meet the rigorous demands of naval safety standards."

Alvin will be put into service in mid-March for a “science verification” cruise led by Peter Girguis of Harvard University, who is chair of the University National Oceanographic Laboratory System’s Deep Submergence Science Committee, tasked with oversight of the National Deep Submergence Facility.

Girguis, along with a team of scientists from across the United States, will test the various data acquisition and sampling systems in and around a combination of cold seep and deep-water coral sites in the Northern Gulf of Mexico, between New Orleans and Gulfport, Miss.

The scientists onboard will provide the research community with their written descriptions and assessments of the sub’s performance.

Following that expedition, Alvin is scheduled to conduct three research expeditions in the Gulf of Mexico, examining the impacts of the Deepwater Horizon oil spill, determining the effects of ocean acidification on deep-water corals and studying deep water seeps.

During the second half of 2014, Alvin will be on the U.S. West Coast for dives on Juan De Fuca Ridge and later at the East Pacific Rise and Dorado Outcrop off Costa Rica.

Last November, the Alvin operations team, along with observers from the U.S. Navy, conducted certification dives off San Diego, where the sub was taken to progressively greater depths to prove that all its systems are safe for operation.

“The modifications made to Alvin during this upgrade and overhaul have exponentially improved its capabilities,” said Pat Hickey, Alvin manager and one of the chief test pilots.

“The new LED lights save power while illuminating a far greater area than before, and the bigger and repositioned windows improve visibility. By repositioning the manipulators, we increased our work area, and the larger science basket allows us to load up to 400 pounds of exterior equipment and samples. An additional lateral thruster now allows the sub to hover like an underwater helicopter.”

While Alvin is capable of operating at depths of 4,500 meters, time and location constraints during the certification trials prohibited dives to those depths.

Later this year, WHOI, NSF and the U.S. Office of Naval Research will schedule a dive to 4,500 meters to achieve the maximum certified depth of 4,500 meters for Stage I. The current Alvin certification depth supports all planned science activities in 2014.

Stage II of the upgrade is dependent on funding and improvements to lithium-ion battery technology. That stage will bring the remaining systems (battery, variable ballast and hydraulics) to the 6,500-meter capability, and the sub will then be certified to that depth.

This year marks Alvin’s 50th year in operation. Commissioned in 1964 as one of the world’s first deep-ocean submersibles, Alvin has made more than 4,600 dives.

The sub has undergone many upgrades over the years, including replacement of its steel personnel sphere in 1973 with one made of titanium, enabling access to a greater percentage of the seafloor.

The sub’s most famous exploits include locating a lost hydrogen bomb in the Mediterranean Sea in 1966, exploring the first known hydrothermal vent sites in the 1970s and surveying the wreck of RMS Titanic in 1986.

In addition, the sub has enabled dozens of new discoveries in deep-sea geology, chemistry and biology.

USS Monitor Work Goes Dark as Funding Dwindles

Steve Szkotak, Navy Times, Jan 26

NEWPORT NEWS, VA. — When the turret of the USS Monitor was hoisted from the ocean floor in 2002, the real heavy lifting was just beginning: conserving and restoring more than 200 tons of Civil War ironclad artifacts.

The task went to The Mariners’ Museum. Now, diminishing federal dollars have darkened a lab containing the revolving turret and other large pieces, closing to the public a window on the nation’s maritime history and delaying possibly by decades their public display.

The museum has seen a steady decline in annual funding from the National Oceanic and Atmospheric Administration amid budget cuts and shifting federal priorities. The private museum was designated by Congress as the official repository for the artifacts, but museum officials say they can’t do it alone.

The museum’s president and CEO, Elliot Gruber, said the 5,000-square-foot lab containing the turret, two Dahlgren guns and the Monitor’s steam engine will remain dark until the federal government restores funding levels. The museum, he said, can’t pour more money into the project while sustaining its own vast collections of maps, books, paintings and other exhibits — 35,000 pieces all told.

Gruber framed the dilemma.

“How do we continue with the conservation effort in an era when funding is harder and harder to obtain, and how does NOAA honor its obligation to the American people to continue the conservation work and put these on display?” he asked in an interview.

The Brooklyn-built Monitor is a staple of American history lessons because of the iron-hulled warship’s pioneering place in maritime lore, its sinking in rough seas off North Carolina on New Year’s Eve 1862 and the discovery of the wreck in 1973. Sixteen of the ship’s 62 crewmembers were killed in the sinking.

The Monitor’s demise came about eight months after its clash with the Confederate ironclad CSS Virginia, the former USS Merrimack, in the Battle of Hampton Roads. It ended in a draw.

After the Monitor’s recovery, a \$30 million exhibit opened in 2007 and houses pieces retrieved from the wreck, restored and conserved. They include the propeller, the anchor and silverware used by the Monitor’s crew. But expectations that tens of thousands more visitors would flock to the museum’s USS Monitor Center have fallen short.

James Delgado, director of NOAA’s Maritime Heritage Program, said the agency will support the museum’s work “as appropriations allow.”

“We have been partners with the museum since 1987 when at their request they asked for the artifacts to be entrusted to them for conservation. That partnership continues, and the artifacts are not at risk,” Delgado wrote in an email to The Associated Press.

A team of divers descended to the Monitor wreck in 2002 to hoist up the turret, which was filled with coal, sand and silt. Divers had to chip away at the hardened mass so the turret could be lifted. The remains of two sailors were found in the turret and they were buried a year ago at Arlington National Cemetery.

At the museum, the 120-ton turret is stored in a 90,000-gallon tank containing treated water and chemicals intended to draw out the saltwater. Without the bath, the massive piece would have crumbled into a heap after it was pulled from the ocean depths. Two 13-foot-long Dahlgren guns, muzzle-loading naval artillery each weighing 8 tons, and the steam engine that powered the Monitor are also stored in similar concoctions, now covered with thick, black plastic tarp.

The large pieces are undergoing the conservation in the so-called Wet Lab, a hangar-like space. Visitors to the museum once could peer through windows down into the lab from a platform above the space where five conservators used to work. Tours of the lab have also been suspended.

Now, a lone worker, Will Hoffman, sits at a computer at the base of the turret’s towering holding tank where he monitors the pieces from a computer screen.

In an adjoining lab, hundreds of plastic containers hold other Monitor artifacts, ranging from a crewman’s hair contained in a vial to a wooden plug shaped like a mushroom cap. It was used to ram charges into the Dahlgren guns.

The conservators are mindful of the work their work on an American treasure.

“We’re entrusted with the history of America,” Hoffman said.

The conservation, in its 10th year, has now slowed to a holding pattern.

“It’s like a ghost town,” said David Krop, director of the USS Monitor Center. “It’s disheartening; it’s sad.”

If federal dollars hadn’t dipped, the work would be complete within 15 years.

“But right now, if nothing was to change, 50 to 60 years is not out of the question,” Krop said.

Krop said that while the artifacts will remain stable, their restoration will not progress.

NOAA contributed 10 percent of the \$500,000 conservation costs last year, but none was received in 2012. In the past, NOAA’s share had risen to about \$1 million.

Despite the funding disagreement, relations between NOAA and the museum remain cordial. “Outside of the funding, we see pretty much eye to eye,” Gruber said.

Meantime, he said, the two sides are continuing to talk.

Second Submarine for Vietnam Ready to Sail from Russia *Prensa Latina, Jan 26*

Hanoi, Jan 26 (Prensa Latina) A second submarine for the Vietnamese defense forces is ready in a Russian shipyard to sail to Vietnam in two months, local media announced today.

The Admiralty of St. Petersburg shipbuilder signed this week a document certifying the completion of the submarine, including evidence supporting its safe operation.

This second submarine, named Ho Chi Minh City, is expected to arrive in March.

Known as “black holes”, this type of submarines is able to remain underwater without being detected, reaching a speed of 37 kilometers per hour, and is equipped with torpedoes and cruise missiles, said public sources.

Vietnamese Businessman Successfully Tests His Submarine *vietnamnet.vn, Jan 25*

VietNamNet Bridge – Mr. Nguyen Quoc Hoa, the boss of a print company in Thai Binh province, has stated to have successfully test his submarine, named Truong Sa (Spratly Islands).

After being tested in a tank dozens of times, the mini submarine named Truong Sa is now able to dive well and keep a balance in the tank, Hoa said.

“Now the ship is ready to run anywhere,” he asserted confidently.

According to Hoa, the most difficult thing is keeping the ship in the water tank because “the tank is too narrow, I was afraid that the ship could break the tank.”

After overcoming several technical flaws, the mini submarine was fixed in the tank and it could float and dive. To achieve such results, Hoa made dozens of tests and tried to fix errors during the past several weeks.

On January 23, he and his colleagues tested the submarine again and the result was positive. “The AIP system worked well and this suggests that the submarine was successfully tested,” said Hoa.

The businessman said after the Lunar New Year he would continue the test to improve both technical features and the outlook of the ship. “Testing in the tank is very different from reality, so I want to prepare more carefully and take it out to the ocean for trial,” said Hoa.

Hoa began the test on January 6, in a tank designed by himself with a depth of 4.5 m, a length of 10 m and the width of 3.7 m.

The submarine has a length of 9 m, a height of 3 m, equipped with two 90 Hp diesel engines, operated by an air-independent propulsion system (AIP). Maximum design speed is 40 km/h, 800 km radius of operation, dive time of 15 hours, and maximum diving depth of 50 m.

USS Nautilus: A Record-Breaking Sub *Claire Bowes, BBC World Service, Jan 22*

It’s 60 years since the world’s first nuclear-powered submarine was launched. The USS Nautilus was the first “true” submarine as it did not need to be refuelled and could remain submerged for months. So what was it like living on it?

“I was teased that if I was going to this nuclear power programme, I might become irradiated and sterile and not have any children.”

Jerry Armstrong was a 23-year-old sonar operator when he volunteered to work on a new top-secret submarine. His wife was four months pregnant at the time and they knew they wanted another child.

“I was concerned, I discussed it with my wife but we knew that other naval and civilian personnel were already working on a prototype so we decided it would be safe.”

Armstrong hadn’t told anyone about his decision so his family and his in-laws were surprised when they got a visit from the FBI, asking what kind of student he had been and other questions about his lifestyle. His wife’s family background was checked closely. Some of the others who’d volunteered for the programme were rejected.

“They were just picked up from the classroom and we never saw them again. The only thing we heard was that their family history didn’t satisfy the investigation.”

Armstrong was then sent to work on the prototype nuclear reactor in the desert in Idaho, where he and the others spent nine months learning about nuclear fission. Before then, his knowledge of nuclear power was limited to the atomic bombs dropped on Japan.

They were constantly monitored as they worked, he says. “The crew wore two testing devices. One was a film badge. literally made of photographic film which was worn on our belts. The other was a dosimeter which was like a ballpoint pen which we wore in our shirt pockets and would record any radiation.”

Finally the Nautilus was ready and on 21 January 1954 it was launched into the Thames River in Connecticut. Twenty thousand people flocked to see it. The wife of President Eisenhower, Mamie, “christened” the submarine by breaking a champagne bottle on it as it slid into the water.

From the outside the Nautilus didn’t look all that different to a World War Two submarine but inside there was much more space because the old diesel-powered subs had to have fuel tanks to carry 90,000 gallons of diesel fuel.

“Previously submarines stayed under for up to 48 hours and then they had to surface to refuel, recharge batteries or take on air but the nuclear-powered submarine could stay submerged for years if need be,” says naval historian and author Don Keith, so it could go anywhere in the world without detection.

“That is the ultimate in stealthiness and what gives it the amazing military advantage. They made their own oxygen, their own water and the reactor core could survive for years without having to be serviced.”

Armstrong remembers that the recycled air had a strange effect on him.

"I hated cottage cheese, but one time we stayed submerged for a long time and when the ship surfaced I began to crave cottage cheese. I think breathing the recycled air changed my metabolism."

When they surfaced and began to pump fresh air back into the Nautilus "it was so clean and so sweet it made you light-headed".

The Nautilus began going to sea in 1955. During these sea trials it was soon breaking all sorts of records - going deeper, further and faster than any previous submarine. It was able to dive to 700ft.

"For every 100ft in depth, there's 44lb of pressure per square inch of the vessel. So when we went deep in the ocean, the hull would compress and the locker doors would pop open."

Keith says submariners have to be competent in every area - so the cook has to be able to drive the submarine too. "I don't think I've ever seen anything as close as the brotherhood of submariners," he says.

But because the vessel would be remaining submerged for much longer than ever before, there were concerns this brotherhood might now be tested.

"The US Navy sent psychologists on board the Nautilus because they were concerned about the effects on the personalities and mental health of the men who would be confined in such a small amount of space for long periods."

They found no impact, he says, but some submariners would talk gibberish and pretend to be crazy.

In 1958 the Nautilus conducted its most daring experiment - becoming the first submarine to travel under the North Pole.

This sent an important signal to the Soviet Union that the US could operate in its backyard without detection. That same year the Soviets commissioned their first nuclear submarine.

Jerry Armstrong and his wife did go on to have another child, and he says he could not have played his part in the story of the Nautilus without his wife's generosity and understanding.

"When we launched in January 1954, the families went to watch us. One elderly man there said 'that thing is going to go to sea and blow up like an A-bomb'. You can only imagine the effect on the families. It takes a special breed of woman to be a military wife."

The Armstrongs have been married for 60 years.

This Is Russia's New Nuclear Attack Submarine

Jesus Diaz, gizmodo.com.au, Jan 22

Behold the Severodvinsk-the pride of the Russian Navy, the first of the post-Soviet era Yasen-class submarines. It entered service at the end of December 2013 and it will replace the old Akula-class and Alfa-class subs. But unlike those warships, and thanks to a new cruise missile, the Severodvinsk has strategic and tactical nuclear weapon capabilities.

According to the Barents Observer, the Severodvinsk successfully tested its nuclear-capable Caliber missiles during a trial run in 2012:

The new supersonic missile hit its target, reports Rossiskaya Gazeta. The Caliber missile has a flight range that exceeds 2,500 kilometer, according to the portalNavalToday. With such range, the cruise missile can be defined as a strategic weapon if tipped with a nuclear warhead. The new START agreement between Russia and USA does, however, not include long-range cruise missiles into account, a fact said to weaken the deal.

Another cruise missile the submarine is believed to carry has an even longer range, 5,000 kilometer according to an infographic posted by RIA Novosti.

Nice! The Severodvinsk started development in the 1970s. It was hit by many budget-related delays thanks to the fall of the Soviet Union. It was supposed to enter service in 1998 but it was finished in 2010. After three years of testing, it finally entered active service in 2013. In fact, for all we know, it may be in the Mediterranean right now.

Get Ready to Deploy Underwater N-Deterrent

Rahul Singh, Hindustan Times, Jan 22

Maritime rivalry between India and China is heating up, with the two countries making rapid strides to deploy a credible sea-bound nuclear deterrent this year. India's first indigenous nuclear-powered ballistic missile submarine, Arihant, will head for "comprehensive sea and weapon trials" within a month, a big leap towards the country completing its nuclear triad - the ability to launch strategic weapons from land, air and sea, a navy official said.

The 6,000-tonne Arihant is moving closer to kicking off patrols, armed with nuclear warheads, this year. China's newest submarine-launched ballistic missile (SLBM) Julang-2, to be deployed on the Jin-class (Type 094) boats, is expected to attain operational capability this year. The JL-2 SLBM is expected to have a range of 7,250 km, more than that of the missiles to be fitted on the Arihant. The Indian submarine will be equipped with the K-15 missile, capable of delivering a nuclear warhead up to 750 km.

Two more nuclear-powered submarines are in the works to reinforce India's strategic deterrent force at sea. China plans to expand its Jin-class fleet from the existing two to eight by the end of this decade. China's first nuclear-powered ballistic missile submarine, the old Xia-class (Type 092), was commissioned in the late 1980s but never took up deterrent patrols.

Give the Cold War Submarine Clamagore a Reprieve

www.postandcourier.com, Jan 19

Facing a deadline as serious as a depth charge, advocates for the submarine USS Clamagore have asked for an extension of time to raise the money to help save the submarine. Given its value to Patriots Point Naval and Maritime Museum, officials should willingly extend the deadline.

And in doing so, museum officials should consider the possibility that they ought to refocus their own efforts on providing more financial support to save the Cold War submarine.

Unless Patriots Point changes course, one of its three remaining naval vessels will be dumped off the Florida coast as an attraction for skin divers. The decision was made because the Clamagore is viewed as a liability, with needed repairs and re-positioning estimated at about \$5 million.

No question, the museum has had its money problems, most recently the \$9.2 million spent to restore the USS Laffey, a World War II destroyer that almost sunk at its berth.

That problem was a failure of oversight by a previous administration, and it seems unfair to jettison the Clamagore because of that experience.

But the museum is seeing better days financially, and has been involved in high profile efforts to improve its marketability, primarily by supporting a new museum honoring those who have been awarded the Congressional Medal of Honor.

Those are commendable efforts. But they shouldn't divert the museum's attention from what the Legislative Audit Council found to be its second-most popular exhibit. The Clamagore has been an essential part of the museum since 1981. It is the last remaining sub of its class.

A tour of the submarine offers stark evidence of the difficult conditions that submariners faced during the Cold War, when they provided a front line against potential Soviet aggression. Many of those sailors were homeported in Charleston.

There have been other suggestions for the Clamagore, such as moving it to North Charleston where it could be part of a museum featuring the CSS Hunley, the first submarine in history to sink another ship.

That's an intriguing idea, but keeping it at its long-time Patriots Point berth would be simpler and seemingly more easily achieved — if Patriots Point officials get on board.

Tom Lufkin, chairman of the Clamagore Restoration and Maintenance Association, says the campaign to raise money for the vessel has finally begun to pick up steam in recent weeks. The association has been joined by a group of retired business executives to map out a rescue plan.

Meanwhile, veteran submariners have offered to do some of the needed maintenance, but have been turned down by museum officials because of the potential liability.

That decision also should be revisited. Maybe the museum could check with its lawyers to see if there's a way to hold the museum harmless. Those veterans already know their way around the submarine better than anyone else.

The clock is ticking, with only a few weeks left before the Clamagore is removed from Charleston Harbor and sunk offshore.

The cooperation of the Patriots Point Development Authority — or the intervention of the Legislature or the governor — will be required if the campaign to save the Clamagore is to continue.

All involved should get together and see what can be done before time runs out.

Boeing Arms Taiwan to Repel Invasion by China

Rich Smith, The Motley Fool, Jan 20

When it comes to defense contractors, there's almost nobody bigger than Boeing (NYSE: BA).

One of America's biggest defense contractors, Boeing sold \$32.6 billion worth of defense, space, and security products in 2012. This month, Boeing published a tally of all the hi-tech arms it's shipped out to military customers in calendar year 2013. Among the revelations: In all of last year, Boeing customers accepted delivery of only 29 of the company's upgraded "Harpoon II" anti-ship missiles.

The original Harpoon anti-ship missile, emerging from the water after being launched from a torpedo tube (circa 1983). Source: Wikimedia Commons

Just two weeks into 2014, Boeing has already beaten that record.

Missiles for peace

Boeing this year began delivering some three-dozen advanced Harpoon II missiles to Taiwan. In addition to four missiles earmarked for certifying the product for use, and use in training exercises, Taiwan bought 32 UGM-84L Harpoon II missiles for active duty. For Boeing, it's a modest-sized arms deal, worth about \$196 million to the defense contractor. But for Taiwan, the Harpoons will arm its two diesel-electric attack submarines, dubbed the "Sea Dragon" and "Sea Tiger" with an advanced ship killing capability — aimed at deterring a Chinese strike across the Taiwan Straits.

Granted, in a world where most leading naval powers have "gone nuclear," diesel-electric submarines may sound like an anomaly. And it's true — diesel-electrics are rather low-tech. Burning their fuel, and needing oxygen to burn it to generate electric power, these boats have both a more limited range than, and an increased vulnerability to air attack relative to nuclear boats. But diesels are also cheaper than nuke boats, and when moving stealthily under electric power, are practically invisible to an aggressor force.

This opens up the possibility for Taiwan to wage "asymmetric warfare" should it ever be attacked by the much larger, much more heavily armed People's Liberation Army. Able to strike targets as far out as 67 nautical miles out, the Harpoons will expand the submarines' range of attack beyond the reach of their torpedoes.

Also, in addition to being used to simply "sink ships," the advanced Harpoons that Taiwan bought have a land attack capability (hence the "L" designation in UGM-84L). Tactically speaking, this means that unless an invading force can sink or incapacitate Taiwan's subs, it must constantly "watch its back," lest the subs slip past the pickets and launch a missile attack on the Chinese mainland.

Foolish takeaway

Thus, arming Taiwan with Harpoons creates a situation of "mutually assured destruction" writ small. By threatening some small measure on harm on the Chinese mainland in the event it attacks Taiwan, Boeing may have helped ensure the two countries never come to blows at all.

Invest in an even better weapon

The Harpoon II is certainly a fine weapons system, in use on submarines in no fewer than four separate navies. But is it the right weapon to invest in... for you? U.S. News & World Report recently wrote about a new invention that "will drive the U.S. economy" going forward. Business Insider calls it "the growth force of our time." In a special report entitled "America's \$2.89 Trillion Super Weapon Revealed," you'll learn specific steps you can take to capitalize on this massive growth opportunity. Act now, because this is your shot to cash in before the fat cats on Wall Street beat you to the potentially life-changing profits. Click here now for instant access to this free report.

8 Foreign, Polish Bidders Apply For Submarine Contest

Jaroslav Adamowski, www.defensenews.com, Jan 20

WARSAW — Eight offers have been submitted for the technical dialogue to supply three submarines to the Polish Navy. The defense companies include foreign and Polish entities, according to a statement obtained from the Ministry of Defense by local news site Defence24.pl.

The bidders include France's DCNS and Thales, Spanish shipbuilder Navantia, Germany's ThyssenKrupp Marine Systems, a consortium of Sweden's state-run defense procurement agency Försvarets Materielverk and Kockums shipyard, Poland's defense company Kenbit, Sweden's Saab, and Norway's Kongsberg Defence & Aerospace.

In addition, the ministry's Armament Inspectorate reserves "the right to invite other entities which did not reply to the call to participate in the [dialogue]," the statement said.

Local media have reported that the submarine procurement is estimated to be worth at least 7.5 billion zloty (US \$2.44 billion).

The ministry is aiming to acquire two new submarines by 2022, and a further one by 2030 as part of its Navy modernization program. The Polish Navy has one Kilo-class submarine and four Kobben-class submarines in its fleet. The latter four were acquired from Norway and are expected to be withdrawn from service by 2015.

Armed Sub Scare

Samyabrata Ray Goswami, Telegraph India, Jan 18

An Indian Navy submarine loaded with missiles and torpedoes has run aground five months after a disastrous accident on board a berthed one.

The latest mishap occurred during low tide on Friday evening as the kilo-class vessel — the first of the 10 Sindhughosh-class submarines owned by the navy — hit the ground while returning to the naval dockyard after a patrol.

By the early hours of Saturday, all personnel aboard had been rescued. By afternoon, the submarine had been tugged back onshore.

"As many as 70 men were on board and the submarine was fully armed at the time of the incident. The incident occurred around 6pm on Friday and as soon as we got to know about it, a chill ran down our spine — memories of the horrific August 14 (2013) accident returned," said a naval officer in Mumbai. In the accident in August, 18 sailors had died.

The submarine that ran aground was under the command of Capt. Subhash Chandra. "Initial reports say that there was misjudgement about the time of the tide and depth of water in the harbour," said a naval source.

A naval spokesperson in Mumbai denied that any such incident took place.

But top naval officials confirmed to The Telegraph that the submarine, due to enter the naval dockyard around 4pm on Friday afternoon, got delayed and ran aground while trying to enter the harbour in low tide.

The Brihanmumbai Municipal Corporation listed the timing for peak high tide on January 17 at 1254 hours to the height of 3.80 metres after which the tide began falling and it was at its lowest of 0.74m at 1847 hours.

"There has been some damage to the submarine's sonar system and hull but the damage is superficial. The submarine is in operational condition," said the naval source.

The same submarine was involved in an accident with a merchant vessel in January 2008 during a fleet-level war game off Mumbai.

"That accident had happened because of a malfunction in the sonar system while the submarine was at periscope level. It had damaged the boat's conning tower," said the source.

India had a fleet of 10 Sindhughosh-type submarines — it now has nine after the accident in August.

INS Sindhurakshak — another submarine of the Sindhughosh class — was destroyed after a implosion when ordnance was being loaded on August 14. Fitted with anti-submarine and anti-surface warfare capabilities, these submarines were the first ones to be commissioned into the Indian Navy.

All Sindhughosh-class submarines were built under a contract between Rosvooruzhenie and the Indian defence ministry. The submarines of this class are able to operate solo for 45 days with a crew of 53.

The total complement of personnel is 68-70, including seven officers. The submarine is 73 metres long with a beam of 10 metres.

Naval Academy Announces Nuclear Engineering Major

Brian Witte, The Associated Press, Jan 17

ANNAPOLIS, MD. — U.S. Naval Academy midshipmen can now major in nuclear engineering, and the school is offering aerospace engineering majors a chance to specialize in rotorcraft engineering for Navy and Marine Corps leadership positions related to vertical lift aircraft.

The academy announced Thursday that the nuclear engineering major will be available to the class of 2017. The rotorcraft engineering specialty will be the only formal undergraduate program of its kind in the nation, the academy said. The first midshipmen in the rotorcraft track will graduate in May 2015.

Martin Nelson, a mechanical engineering professor at the academy, said nine members of the class of 2016 will take courses to complete the new nuclear engineering major. Midshipmen who pursue a degree in nuclear engineering will study nuclear propulsion, applications of radiological technology and systems of nuclear powered ships and weapons. Graduates will have the opportunity to work in the Navy's nuclear power program.

"The major will not only offer theory but also real-world experience and provide a very strong analytical background and understanding of engineering principals," Nelson said.

The new rotorcraft engineering program is the largest expansion of the academy's curriculum since the astronautics track was added in 1985. The program will include a rotorcraft performance course, rotorcraft stability and control course and a year-long course that will involve designing, building and testing rotary wing Unmanned Aerial Vehicles.

"We're very excited about this program," said Capt. Ken Ham, chair of the academy's aerospace engineering department. "Thanks to it we will better prepare future officers to fill leadership positions related to vertical lift aircraft, and will be able to expand our capabilities in performing relevant rotorcraft research."

Contempt Then Respect in Submarine Story

Malcolm Quekett, The West Australian, Jan 17

"Submariners are nothing more than tradesmen and submarines are underhand, unfair and damned un-English. All submariners captured should be treated as pirates and hanged."

Little did he know, but in dismissing so readily in 1910 the capabilities of early submarines, Britain's First Sea Lord, Sir Arthur Wilson, expressed a view that submariners have delighted in proving wrong ever since.

And to celebrate the centenary of Australian submarines, a new book helps explain how the transformation in how submarines are viewed has come about.

The book, *Century of Silent Service*, by Professor Graham Seal, of Curtin University, was commissioned by the Submarine Institute of Australia under the guidance of Lloyd Blake, a former crew member of submarine HMAS Otway. The book presents a history of Australia's submarine fleets and the submariners.

It explains how Australia's first two submarines, AE1 and AE2, which were built in Britain, reached Australia after an historic long voyage in May 1914.

AE1 was lost in still unexplained circumstances off the island of New Britain in September 1914, but AE2 became the first submarine to breach the Dardanelles passage and harass Turkish shipping from April 25, 1915, thus reserving for itself a key place in the Anzac tradition.

The book traces the path of the submarines that came after, through to the present day, and explores their future prospects.

It has a detailed section on the AE1 and the search for it.

Professor Seal said submariners were a group with a strong sense of identity and tradition they had maintained through the years. "Once a submariner, always a submariner," he said.

He said there had always been a public interest in submarines in Australia.

"In the early days, they were an unknown, and there is still a mystique about submarines, their role and the nature of the people who sail them," he said.

Mr Blake said the launch of the book next month was one of a number of events planned for the centenary year.

House Passes Spending Bill With \$572B for Pentagon

John T. Bennett, Defense News, Jan 15

WASHINGTON — The House on Wednesday approved a mammoth spending bill that funds the Pentagon and America's overseas conflicts through Sept. 30. The vote tally was 359-67.

The omnibus spending measure easily breezed to passage in the lower chamber, making \$572 billion in Pentagon appropriations one step closer to becoming reality. The measure, which contains an \$85 billion war-funding measure and \$487 billion in baseline defense dollars, now moves to the Senate.

The current government-funding bill expires at midnight, but both chambers are slated to enact a three-day continuing resolution before then. Senate Majority Leader Sen. Harry Reid, D-Nev., said Wednesday the upper chamber will begin debating the omnibus almost immediately after it has been delivered from the House.

Lawmakers, congressional aides, and insiders expect the Senate will approve it before the three-day CR expires on Saturday.

The omnibus includes a full 2014 Pentagon appropriations measure that would provide nearly \$93 billion to buy new weapons.

The Defense Department would get \$63 billion for research and development (R&D) projects, an area senior officials have warned isn't funded enough. That is almost \$7 billion less than the department got in 2013.

The White House had asked for \$99.3 billion for Pentagon procurement, and \$67.5 billion for R&D.

For weapons programs, the Pentagon appropriations section of the bill contains few surprises. For the most part, it's a rubber stamp for the Obama administration's spending and force-structure whims.

The Republican and Democratic leaders of the House and Senate Appropriations committees included \$5 billion more for America's overseas conflicts than requested by the White House.

Included in the \$85 billion war-funding section, also called the overseas contingency operations (OCO) budget, is more than \$6 billion in procurement funds spread across the Defense Department.

"It appears Congress used the OCO loophole to increase the base defense budget without breaching the budget caps they just agreed to," said Todd Harrison of the Center for Strategic and Budgetary Assessments.

"The cuts from [operations and maintenance accounts] and procurement in the base budget were largely offset by corresponding increases in the OCO budget, which doesn't count against the budget caps," he said. "This is nothing new — Congress and DoD have been using this tactic to soften the impact of budget constraints for several years now."

Congressional hawks, Pentagon officials and industry titans are welcoming the spending bill as a guarantor of stability for the defense sector — for one year at least. But not everyone is impressed, especially with all the procurement dollars stuffed into the war-funding section.

A coalition of nearly 30 watchdog and anti-war groups, in a statement issued Tuesday, said, "Congress and the Pentagon are using the OCO as a 'slush fund' to pad the department's budget and avoid spending reductions." The groups say Congress "should not be artificially increasing the Pentagon's budget with accounting tricks, but should instead be targeting wasteful and unnecessary spending."

And Stan Collender, a longtime Washington-based budget analyst, wrote in a Wednesday blog post that the 1,500-plus-page omnibus — released at 8 p.m. EST on Monday — is simply too large for members to have a clue what's in it.

"The House is voting on a multi-hundred page bill that it has only had a chance to review for one and a half days," Collender wrote. "This is the same House that made the inability to review the Obamacare legislation a major issue. Because of its length and the limited amount of time they have to review it, House members cannot possibly know what they are voting on."

Going Nuclear-Free

The Washington Post, Jan 14

The long slog toward a nuclear-free world.

Efforts by Iran and North Korea to acquire nuclear weapons have been at the forefront of diplomacy and international concern over the past few years, and justifiably so. Neither country has been convincingly stopped, although Iran is negotiating. Elsewhere, though, there has been progress toward preventing nuclear materials from falling into the wrong hands.

The Nuclear Threat Initiative (NTI), a nongovernmental organization, has just published the second edition of its global index on the security of nuclear materials, prepared with help from the Economist Intelligence Unit. The report shows that, since the first study was released in 2012, seven nations — Austria, the Czech Republic, Hungary, Mexico, Sweden, Ukraine and Vietnam — have removed all or most of the nuclear weapons-usable material from their territory. This brings the number of countries with more than a kilogram of such material down to 25, compared with more than 50 states two decades ago. The index also shows that 13 states with more than a kilogram have reduced their stocks in the past four years, including Russia and the United States.

This kind of incremental progress often escapes wide attention; giving up such nuclear materials as highly enriched uranium and plutonium is not often accompanied by a parade. Some of the impetus has been the regular nuclear security summits that began in 2010, where leaders made commitments, and many carried them out. The next summit is in March in the Netherlands.

Before anyone heaves a sigh of relief, a lot still needs to be done. The four nations at the bottom of the NTI's index present familiar and continuing concerns: North Korea is dead last, followed by Iran, India and Pakistan. India and Pakistan, both of which are increasing their stocks of nuclear materials, are still a particularly worrisome flashpoint. Despite its rank on the index, Pakistan was praised for improved laws and regulations that tighten on-site physical protection. However, the study pointed out the dangers of Pakistan's instability, corruption and "the presence and capability on its territory of criminal or terrorist groups interested in illicitly acquiring nuclear materials."

Perhaps the most important finding in the study is connected not to any single nation but rather to the lack of a global system of oversight. About 2,000 metric tons of weapons-usable nuclear materials are spread around the world, yet "there is still no effective global system for how nuclear materials should be secured," no common global standards or best practices, nor a way to hold nations accountable, according to the study. Former senator Sam Nunn, a co-chairman of the NTI, pointed out that strict standards exist in other high-risk enterprises, including aviation, but not for nuclear materials security. The International Atomic Energy Agency has a role to play but is limited by its mandate and resources.

President Obama once pledged to secure all vulnerable nuclear materials in four years. The deadline won't be met — this is a long game and a long slog. But the goal remains worthy.

Restored Torpedo is a Treasure for Military Museum

Auditi Guha, Southcoasttoday.com, Jan 13

NEW BEDFORD — The Fort Taber-Fort Rodman Military Museum has a shiny new addition that takes up almost the entire breadth of the main exhibit hall.

Veterans, officials and visitors on Sunday admired the 16-foot, 2,800-pound Mark 28 torpedo, donated by a resident and recently restored with a black body, grey nose and golden fittings.

"It's an extraordinary gift and we are absolutely delighted to have the piece, what I like to call a weapon of freedom," said Joseph Langlois, president of the Fort Taber-Fort Rodman Historical Association, after the installation ceremony. "Without such devices we would not be able to hold the lifestyles, values and what we hold important in this country."

About 80 attended the event, including Bristol County District Attorney Sam Sutter, City Councilors Linda Morad and Steve Martins, and former Mayor Scott Lang, among others.

The Mark 28 torpedo was a submarine-launched, acoustic homing torpedo designed by Westinghouse Electric in 1944 for the Navy. Previous ones were steam-powered, said Paul Zbornak, a veteran and volunteer at the museum. In an original item, he said, the nose would contain the explosive, the body would contain the batteries and the tail end with the propeller would contain the motor.

“To me, it’s a monument to the guys who served in the submarines,” Zbornak said.

North End resident Tony Enos was one of those guys.

The retired veteran said he was on a submarine that sank 14 Japanese ships during World War II. He said he acquired the torpedo about 30 years ago as a memento. He said he decided to donate it to the museum because they expressed interest in it.

Those who recall driving past the rusty old item placed in his Acushnet Avenue backyard will not recognize the gleaming gold and black exhibit in the museum.

“It’s beautiful. To me it looks like a fancy black automobile with gold trimming,” Enos said. “I’m happy it’s here because I’m not going to live forever. I think it will be the number one object in the museum for a while.”

Dennis Hudon of Acushnet, president of N.C. Hudon Inc. Crane and Rigging in New Bedford, said the two-month restoration project was a labor of love for him and the other volunteers who helped clean, fix and paint it.

“It was a lot of fun. We don’t get a lot of torpedoes in my line of work,” he said. “To me it makes an awesome addition to the museum where I hadn’t been before.”

Steve Borowicz of Dartmouth said he volunteered to work on the restoration because he had worked in submarines in the Navy.

“It was fulfilling to see Tony’s eyes gleaming to see what it would look like,” he said. “This is forever a memorial to our servicemen and to Tony Enos, and a big advantage for the museum.”

“This is such a historic weapon and they turned it into a trophy,” said Cheryl Strohmeier of Damariscotta, Maine, a visitor at the museum and Borowicz’s sister. “Nobody likes to talk about war, but you have to give credit where credit is due, and this is a great place for it.”

Getting to the Depths of the Bribes for Submarines Scandal *Enetenglish.gr, Jan 14*

Associate of former defence minister accused of paying over •65.5m in bribes for German subs

Yiannis Beltsios (63), an associate of former defence minister Akis Tsochatzopoulos, is accused of handing over German bribes totalling •63,192,691 and 2,960,225 Swiss francs to Tsochatzopoulos and to Sotiris Emmanouil (61), the former chairman of Hellenic Shipyards

One of the two men arrested on Monday on accusations of involvement in a massive corruption and kickbacks scandal relating to the procurement of four German submarines for the Greek navy in the last decade is accused of handing over about •65.5m in bribes to Greek officials, including a former defence minister, according to the indictment against him.

Early on Monday, police arrested Yiannis Beltsios (63), an associate of the former minister, Akis Tsochatzopoulos, who was jailed for 20 years in October for money-laundering and taking kickbacks for armaments procurement.

According to people familiar with the case, the indictment against Beltsios accuses him of the felonies of active corruption and money laundering.

Specifically, it states that, together with two foreign nationals (a German and an Armenian citizen) and three Greek nationals (Alexandros Avatangelos and Michail Matantos, both of whom have already been charged, and another person), he handed over German bribes totalling •63,192,691 and 2,960,225 Swiss francs to Tsochatzopoulos and to Sotiris Emmanouil (61), the former chairman of Hellenic Shipyards at Skaramagas, outside Athens.

Emmanouil was also arrested on Monday morning, after anticorruption investigators, who have heard explosive testimony about the submarine deals from a number of people in recent weeks, issued warrants for the two, who they suspected would attempt to escape justice.

The two defendants will remain in Attica police headquarters on Alexandras Avenue until they deliver their testimony. Emmanouil is expected to testify on Friday and Beltsios on Saturday.

Generally unknown to the authorities until recently, Beltsios’ name surfaced in documents presented during the so-called “golden kickbacks” trial against Tsochatzopoulos and over a dozen others.

Avatangelos, who is accused of involvement in paying the bribes with Beltsios, was released on bail in November of •500,000. Matantos, another of those named in the indictment, is also expected to be called to testify next week.

German documents

German documents provided to the Greek judicial authorities appear to show the involvement of Emmanuel and Beltsios in the scandal.

The former, according to the German case file, appears to have received the sum of •17m, which was to be distributed in Greece as a “gift” to compensate for the decision to order the submarines from Germany.

The latter, as it appears from the documents, acted as an intermediary between Tsochatzopoulos and the HDW/Ferrostaal consortium.

As Matantos has already testified to a Munich public prosecutor, he paid about •1m to Beltsios.

“At MIE (a Greek agent of Ferrostaal), we were asked if we could pay something to Mr Beltsios, which we did. We paid Mr Beltsios about •1m around March 2000. I think that the amount paid in drachmas, I do not remember if it was by cheque or cash. I wasn’t told why Mr Beltsios received this money. I believe it was for his excellent work.”

Although Matantos subsequently denied some of the statements attributed to him, there are other stakeholders who have given similar testimony to the prosecutors in Munich.

Among them is a former senior Ferrostaal executive, Johann-Friedrich Haun, who has claimed that Tsochatzopoulos “advised us that Mr Beltsios was someone who knows a lot of people and who could be useful for us ... The two of them, Tsochatzopoulos and Beltsios, know each other from Pasok and was very old friends.”

In December 2011, a Munich court imposed a •140m fine on Ferrostaal, after two former managers, including Haun, were convicted of bribery. Haun was fined •36,000 and required to pay an additional •30,000 to charities. Both received suspended prison terms of two years.

Explainer: Getting to the bottom of the submarine deals

In February 2000, a German consortium, comprising Thyssen Nordseewerke, Howaldtswerke-Deutsche Werft (HDW) and Ferrostaal, signed a •1.14bn contract with the Greek government to build three Type 214 submarines at Hellenic Shipyards and a fourth submarine at HDW’s shipyard in Kiel. contract with the Greek government to build three Type 214 submarines at Hellenic Shipyards and a fourth submarine at HDW’s shipyard in Kiel.

The consortium also incurred associated costs – known as offset obligations – to the tune of •1.53bn. Common but controversial, offsets are where a country demands certain economic benefits – like technological know how or the of local suppliers to build the equipment they are buying – when they spend large parts of their government budgets buying defence equipment from foreign suppliers.

Another contract, signed in May 2002 involved the modernisation of three Type 209 submarines at Hellenic Shipyards, with an option for a fourth submarine. The contract was worth approximately •469.4m. Offset obligations in relation to this contract amounted to •563m. As part of the deal, HDW and Ferrostaal agreed to buy a majority interest in Hellenic Shipyards, signing a contract for that on the same day as the submarine deal.

