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The Silent Sentinel

OCTOBER 2012

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.

Gala Election Issue!

The major players in this November's election are asking us to answer the questions: Is the nation better off now than it was a few years ago and is it currently on the right path? And answer them we must! Nonetheless, we are obligated to first do our research. We should not deceive ourselves into believing that the future decisions or worldview of a candidate will be any different than his or her past behavior suggests. We should keep good notes so that we can justify our choice to anyone who asks us the reasons why we believe the way that we do. And if we cannot support the logic behind our selection with facts, then we must do more investigation to obtain them or else reevaluate our thinking.

Concerning modifications to the law: As qualified submariners, our ranks are comprised of the most intelligent individuals that this country has ever produced. Our Dolphins testify to this fact! All of us have proven that we have the ability to think rationally—and that we can do so independently while under extreme stress. Therefore, take the *Official Voter Information Guide*, rip out and throw away everything in it except the proposed texts of the propositions—the rest of the guide is babble. Take the time yourself to read every word of these propositions very carefully—many of them appear to have been written by George Orwell clones (in other words, sometimes a yes actually means a no or the proposed text rambles on for page after page, mixing truths with lies).

And finally, having all this information in hand (and mind), go to the polls—or to the dining table if you prefer an absentee ballot—and vote!

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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 Bissonnette
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USSVI Base Commander
c/o VFW Post 3787
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*DUE TO LOGISTICS CONSTRAINTS, ALL INPUTS FOR THE SILENT SENTINEL MUST BE IN MY HAND NO LATER THAN **ONE WEEK** AFTER THE MONTHLY MEETING. IF I DO NOT RECEIVE IT BY THIS TIME, THE ITEM WILL NOT GET IN. NO EXCEPTIONS! MIKE*

OCTOBER 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 9 October, 2012. 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

Submarine Losses in September

Originally Compiled by C J Glassford

GRAYLING (SS 209) - 76 Men on Board:
Probably Rammed and Sunk, on 9 September 1943, by Japanese Transport in South China Sea, West of Luzon :
" ALL HANDS LOST "

CISCO (SS 290) - 76 Men on Board:
Sunk, on 28 September 1943, by Japanese Observation Seaplane, and Gunboat (ex – US River Gunboat "Luzon " (PR#7) in the Sulu Sea, off Panay Island :
" ALL HANDS LOST "

CHANGES TO SENTINEL DELIVERY: YOU MUST READ THIS!

The officers of San Diego Base realize that a very small number of Silent Sentinel readers do not have any access to the Internet. So before we go any further, I want you non computer folks to know that the paper version of the Sentinel will still be provided to you via the U.S. mail. Over the years, some of you non computer persons have written to me saying how much you look forward to receiving the Silent Sentinel every month, expressing thanks for still receiving it in a paper version. At the same time, each and every one of you fellows who have written me, have also made it very clear that you do not have a computer and that unless you are provided monthly with a paper copy of the Silent Sentinel, you would not have any copy at all.

Guys, rest assured that the officers of San Diego Base, the base membership, and the editor of the Silent Sentinel —namely, me—appreciates each and every one of you, our fellow shipmates; and that unlike the plethora of entities, principalities, powers, and agencies filling today's world—with usefulness and quality levels *inversely* proportional to their financial intakes—we here at San Diego Base will not forsake any of you non computer guys on account of the almighty dollar. Still, the costs of producing a paper newsletter are excessive, rising every day, and something needs to be done to fix it.

Consequently, this is the plan. If you honestly do not have access to a computer, then please write me—even if you have done so before—with the words: "I do not have access to a computer. I need the Sentinel paper copy via the U.S. mail" (make sure that you include your correct mailing address)—and you'll continue to get your copy in the U.S. mail without interruption.

On the other hand, if you do indeed have access to a computer—and can receive the Sentinel as an email attachment (or as a download via the San Diego Base website)—then I will need from you an email address in order to send you the electronic version.

If you are receiving the Silent Sentinel electronically already, then you need not do anything.

Guys, keep in mind that I am taking each of you at your word as a qualified submariner concernng this matter. And please also note that this whole thing is not for my personal benefit (it's the same amount of work for me—hardcopy or electronic); rather, this is all for your shipmates who have no other way in which to receive the Silent Sentinel other than by the U.S. mail.

Please note that the December 2012 edition will be the last hardcopy version of the Silent Sentinel other than the small number of Sentinels which will continue to be printed for you folks without any computer access.

Please do not delay in getting back to me on this. If you receive the *Silent Sentinel* by U.S. mail, I absolutely must hear back from you! **If you have responded in writing since receiving the September 2012 *Silent Sentinel* then there is no need to do so again. You are covered!**

My address follows:

Mike HYMAN
3639 Midway Drive, B-320
San Diego, CA 92110-5254\

Thanks,
Mike Hyman, Editor

Minutes for Submarine Veterans San Diego, 11 Sept 2012.

1900 – Meeting of the Submarine Veterans Inc., San Diego Base was called to order by Base Commander Bob Bissonnett.
Conducted Opening Exercises:
Reading of Our Creed:
Pledge of Allegiance: Lead by Dave Kauppinen
Chaplin Lead in Prayer:
Conducted Tolling of the Boats:
Observed a moment of Silent Prayer: Chaplin also requested another
Moment in memory of those lost on 9/11.
Past E-Board members, Past Officers and guest present recognized.
Secretary posted the sailing list – 30 members and guests aboard. Base Commander made a brief comment on the organizations' desire to publish the Sentinel on line only. He also pointed out that since Fred is in Bahrain someone needs to volunteer to remove the printer from his garage and take charge of printing the Sentinel. Warren Branges volunteered to pick up the printer and assume responsibility for printing the Sentinel.
Base Commander presented new Holland Club inductee: Ed Welch.
Treasurer's report: Treasurer presented, his report it will be posted online and any questions or comments can be submitted to the Treasurer.
Call for Committee Reports:
Chaplain Binnacle List: Jack Lester; also Mike Hyman's wife Hadara.
Please let the Chaplin know if any other members should be on the Binnacle list.
Parade Committee: Jack Kane:
October 20 Borrego Springs Parade
Time will be 1000, this is a two day festival and a great event.
Monday November 12th: San Diego Veterans Day Parade
Times TBD – Grand Marshal Lt. Gen Chuck Yeager
Membership Committee: Ray Ferbrache: We presently have 328 members.

Scholarship Committee: A letter was received from Rachel Kauppinen thanking the Organization for the Scholarship award she received. The letter was read and presented to the members.
Storekeeper: We have some items here and patches can be ordered. Let me know if you would like to order anything special. We now have Submarine calendars.
Breakfast Committee: Next Sub vet breakfast will be 30 Sept 2012, at 0800 to 1200. We need volunteers to help serve and we will try to set up a food handler's class.
1928 – Base Commander called for a Break….
1944 – Meeting called to order.

Unfinished Business

Float Committee report: Dave K. reported that the committee has decided to fashion the new float after the USS Perch base. If you would like to see what it looks like go to their website and there is a picture of the float. The committee has received inputs from many bases and are trying to eliminate problems experienced by other groups in building a float. The work is progressing and they are still doing research, so nothing is finalized as yet. They are working with an outside group that can fabricate the float.

New Business

Base Commander gave a brief convention report on the USSVI national convention in Norfolk, Virginia. It was reported that the attendance was well over 1100 folks. Additional information is available in the back for your examination. It was announced that the next convention, 2013, will be held in Rochester, Minnesota. In 2014, the convention will be held in San Francisco bay area. The convention for 2015 has not been decided and will be announce later. National election results are in the back of the room. (Mike Hyman) commented on the difficulty in on-line voting. The system crashed and voting was very difficult. (Dave) stated that USSVI sight was hacked into which caused additional problems. Call Mike or Dave and they will be happy to help out.

A Memorial Service will be held for George Marions, Monday, September 12, at 1630. Base Commander took this opportunity to suggest a fund to provide 75 dollars for memorial services. Motion was made and passed by the membership.

Good of the Order

More additional Submarine news is on the table in the back.
Dave K suggested members submit short stories on personal experiences that can be put in the Sentinel and Submarine magazine.

2020 – Meeting adjourned. \

Sailing List for 11 SEPT 2012

DAVID WELCH	ED WELCH	JACK LESTER
BOB BISSONNETT	JACK KANE	JIM HARER
BOB COATES	M. BURCIAGA	JACK ADDINGTON
DAVID KAUPPINEN	D. MORTENSEN	SERGIO FROST
BUD ROLLISON	DAVID BALL	LARRY KENDALL
WARREN BRANGES	JOEL EIKAM	PHILL RICHESON
LARRY DORE	BUD ROLLISON	TOM POLEN
ROY BANNACH	DAVID WOODWARD	BOB FARRELL
RON GORENCE	MIKE HYMAN	BILL BUTLER
PHI LLIP RICHESON	CLIFF BRITT	

SubVet News - #2012-085
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NEWS-01: USSVI on Facebook
Submitted by: Office on 9/19/2012
_____

For several years USSVI has had a FACEBOOK presence for the USSVI Virtual Museum and the USSVI Submarine Veterans National Office.

If you're a FACEBOOK user, visit and "Like" our pages. Tell your sub-buddies as well. There are some really great pictures in the photo albums there.

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NEWS-02: End of an era - Submarine Veterans of WWII disbands
Submitted by: Pat Householder on 9/19/2012
_____

The National SVWWII organization, established in 1955 to honor WWII subvets and remember the submarine men lost in WWII, formally closed it's national administration at the joint USSVI-SVWWII Convention in Norfolk this year.

"There are memorials all over this country they've built," said retired Vice Adm. Al Konetzni, who has long been close with the World War II veterans even though he is not of that era. "These guys started in 1955 doing this for their buddies, so they would not be forgotten. It's a wonderful story of self-image. They said, 'Hey, we're going to do it, and we will do it.'"

Walter “Gus” Kraus, final President of SVWWII said the WWII sub veterans considered themselves a unique group and that uniqueness forged a strong bond. The end of the organization, he said, also represents the “end of an era where we were able to get together and blow our own horn, remembering the circumstances under which we fought.”

“They will never be forgotten, ever, ever, ever,” said Konetzni, a former deputy commander of U.S. Fleet Forces Command and the U.S. Atlantic Fleet. “They gave us our traditions and our spirit. They were our leaders.”
Of the remaining 2,146 WWII members, due to the passage of time and the ravages of age, only 62 were able to attend the closing ceremony.

1,102 of these WWII men are also members of USSVI.

Each of the SVWWII Chapters has the option to continue meeting as a local ‘sub club’ and all World War II Submariners are always welcome to attend USSVI meetings in their area.

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SubVet News - #2012-084
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NEWS-01: Finding shipmates...
Submitted by: Pat Householder on 9/14/2012
——————————

Are your Base members interested in relocating their shipmates from a boat you served aboard?

This linked video will show you how to use the USSVI resources to explore our database of American submariners.

We don’t have 100% of all submariners recorded, but we do have over 72,000, including roughly 22,000 on their final patrol.

Video Link below
http://youtu.be/fFbGFJmOapk

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NEWS-02: Work Begins to Repair Fire-Damaged USS Miami
Submitted by: Office on 9/15/2012
——————————

Both U.S. submarine builders have teamed up to rebuild the nuclear-powered attack submarine Miami and return the 22-year-old undersea craft to service.

On Friday, the team of General Dynamics Electric Boat and Huntington Ingalls Industries (HII) was awarded a $94 million cost-plus-fixed-fee contract with an option worth another $6 million for advanced planning and material efforts for repairs to the submarine.

Go to the link for the story...

http://www.defensenews.com/article/20120914/DEFREG02/309140006

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NEWS-03: The overall Winner of the Base Newsletter of the year award (all categories)
Submitted by: T. Michael Bircumshaw on 9/15/2012
——————————

Congratulations to the National Winner of the Base Newsletter of the year award (all categories) -

ALL CLEAR by Tarheel Base!

BZ!

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NEWS-04: “AHOY BASE COMMANDERS”
Submitted by: Gil Shaddock on 9/17/2012
——————————

Many of you do not have your photo posted on the USSVI website. If you don’t know whether your photo is posted.

Check by going to the www.ussvi.org website and click on the “Officers” button on the left. On the next page click on the “Base CDRs” button on the left. Scroll to your Base and you can see if your photo is posted.

THE GREEN EVENT

To the crew aboard the Gudgeon and
To events that are hard to explain
by
Ed Welch

Eerie,
black,
no up,
no down,
no horizon,
on surface,
fromSubic
to Pacific Guam,
the screws did pound.
Black waves washed luminous flecks on deck,
a luminous green cloud was suspended there, in limbo.
We headed toward this green cloud surrounded by black velvet.
The green was cool, full of micro specs of green light over us.
Left somewhere in space and time,
the screws pounded and churned,
in the black behind our back,
as homeward we turned,
to familiar shapes,
to horizon,
to down,
to up.

Réflexions sur la violence (with no apologies to Georges Sorel or for that matter to anyone else)

Opinion *by* Michael Hyman, Editor

In an article published soon after the murder by Islamofascists of four Americans (including our Ambassador to Libya), historian David Pipes wrote that it is high time that like other religions, Islam gets used to the idea that since the beginning of the Enlightenment period, the West has been chopping religious sacred cows into hamburger. Most would agree, however, that with the West's continued refusal to seriously take-on the threat of radical Islam, there is little chance of the Mohammedan world complying with Pipe's suggestion anytime soon. And yet, there was another time in history when Islamic terrorism—then, too, a challenge to American security and well being—was eventually confronted head-on by a young America after it swallowed the bitter pill of the realization that no other option is possible. Sadly, the lessons learned during America's antebellum period have almost completely faded from our collective memory!

Until declaring independence, the Thirteen Colonies were protected by the military forces of Great Britain. This guardianship included protection via treaty between the British Empire and other nations. On July 4, 1776, everything changed. Ships displaying the American flag were left to fend for themselves. Nowhere was this more significant than in the Mediterranean—our merchant shipping then being at the mercy of Islamic naval raiders, better known as the Barbary Pirates.

In the eyes of the British government, Islamic piracy was more of a nuisance than anything else, neither worth the time nor the effort of an armed conflict (though had one occurred, the Royal Navy could have quickly and easily won the challenge—a fact not lost on the Ottoman caliphate). Rather, Britain preferred to placate Islamic terrorism by means of a yearly tribute.

The fledgling United States on the other hand could not afford the same luxury—nor did it have a naval force capable of acting as a deterrent. In a short time, Islamic piracy became one of the biggest issues facing America, with eventually over twenty-percent of the national budget being allocated for tributes, ransoms, and protection money—and with very little benefit to show for it!

Had America known the nature of its enemy, it might have considered raising the money sooner to create a naval force dedicated to combat the piracy. Sadly, however, the Islamic concepts of Kithman and Teqiya were unknown to the Americans, as were the rulings of the Twelfth-Century Imam, Al-Ghazali, one of most highly respected legalists in both the Sunni and Shiite Islamic traditions. According to Al-Ghazali, deception and lying are acceptable practices when used to promote the Islamic religion to the non Muslim world—moreover, these same practices may be used in order to extract money and property from Christians and Jews—a practice still followed today, according to Islamic scholar, Professor Abdullah Al-Araby.

It was clear to all that the young United States possessed no way in which to defend its merchant fleet. Though Morocco recognized American statehood in the 1790s, this did not stop it from capturing American vessels at the same time and imprisoning the crews.

In 1801, Tripoli declared war on the United States. In a small show of force, the USS Philadelphia was sent to the Mediterranean but the ship and its 305-man crew were captured not long after arriving. In 1804, fresh American forces were able to enter Tripoli harbor in order to burn the Philadelphia (preventing it from being used by its captors) but the ship's crew still remained imprisoned. In 1805, however, U.S. Marines under the command of William Eaton raised the American flag over the city of Darna (east of Tripoli). President Thomas Jefferson—fearful that Eaton's success would be short lived—sent George Washington's former aide, Tobias Lear, to arrange a prisoner exchange and to

schedule a series of tribute payments (in order to minimize future difficulties). Lear's success did not last long. In a short time, other American ships were captured with their crews imprisoned and/or enslaved.

America's response was now restricted by tensions developing with Great Britain. By the start of the War of 1812, American forces only had 50 warships in comparison to Britain's 800—unable to spare even one for use in the Mediterranean. Eventually, the Americans sent Mordecai Noah, a Portuguese American Jew, to act as the American consul to Tunis. In this position, Noah was able to ransom American captives at $3000 per head—an astronomical sum in the early Nineteenth-Century.

By the time of the signing of the Treaty of Ghent, ending the War of 1812, the American public had had enough and was demanding retribution against the Islamic raiders.

On the morning of June 28, 1815, Omar Pasha, the leader of Algiers, awoke to the sight and sound of ten American warships in his harbor, their cannons pointed directly toward his palace! The Americans, under the command of Stephen Decatur, gave the Pasha one hour to accept American demands—specifically, a release of all captives, a return of all monies paid to date by the United States, and a declaration of unconditional surrender. In the words of Decatur, "You are receiving liberal and enlightened terms dictated at the mouths of our cannons. . . . If you continue insisting on receiving American gun powder as tribute, you must expect to receive balls along with it."

The rest of the Islamic world took note of the new American stance. Fearful for their safety—and for the continuation of their regimes—the leaders of the Islamic world clamored to make a lasting peace with the United States.

After decades of conflict, the capture of thirty-five American naval vessels, and over seven-hundred American sailors imprisoned and/or enslaved, state sponsored Islamic terrorism was crushed. Since 1815, the United States has maintained a permanent naval squadron in the Mediterranean. The Islamic pirate threat retreated into history—that is, until recent times.

The Barbary Wars lived on for a time in American minds. Towns and cities were named after heroes from the conflict—at least twenty for Stephen Decatur alone. The Marine Corp. Hymn incorporated the words "to the shores of Tripoli" (even though the Marines advanced only as far as Darna). And the oldest war memorial in U.S. history—the Tripoli Monument—still graces the grounds of the U.S. Naval Academy. However, the most prominent symbol of the war is probably the least known. A song, originally composed at the time of the Barbary Wars contained the words, "turbaned heads bowed" to the "brow of the brave" and 'the star-spangled flag of our nation." Only after the Battle of Fort McHenry, were the lyrics revised by their author, Francis Scott Key. The song became our National Anthem.

Today, the question should be asked concerning have we as a nation learned anything after two-hundred years since first encountering radical Islam. It is similar to the question asked in the 1920s over the efficacy of Woodrow Wilson's Freedom of the Seas policy prior to U.S. involvement in the First World-War, one directly related to the mindset of the non-German participants of the Munich Conference in 1938. Specifically, how many dead will it take for Western Civilization to learn that despotism—Islamic or any other—can never be eliminated by talk nor sanctions; rather, it only responds to a physical force greater than itself, with history proving this point, time and time again. In recent years, the West—including the United States—has refused to admit this basic truth when it concerns Islamic terrorism. Nonetheless, it is clear that the Islamic world has not forgotten it—and never will!

* * *

China Builds Nuclear Arsenal While Rest Of The World Disarms
Weakened America will provoke aggression
Washington Times, Oct. 1

While the United States negotiates with Russia on dismantling America's nuclear arsenal, China has become the world's busiest builder of nuclear weapons. If America's allies, especially in Asia, lose confidence in the U.S. nuclear deterrent, the Obama administration's vaunted "pivot to the Pacific" will become irrelevant.

National security columnist Bill Gertz has just finished a series of reports about what the Pentagon will not tell the American people: China has just completed a series of intercontinental missile tests that mark the start of a new era for China's nuclear forces, one in which they deploy missiles with multiple warheads and penetration aids (MIRVs). Two apparently successful tests of the JL-2 submarine-launched ballistic missile signal that the two new operational Type-94 (Jin class) nuclear missile submarines (of a fleet of five) may soon start strategic patrols. On land, China's new DF-41 mobile ICBMs are soon expected to demonstrate MIRV capabilities and are estimated by some to be able to carry up to 10 warheads.

For about two decades, American intelligence has been watching China's development of MIRV warheads and has been commenting publicly on it since the 2002 issue of the Pentagon's annual report to Congress on China's military power. An expected near-term deployment of MIRVs would add to already existing anxiety caused by the disparities between published U.S. estimates of China's arsenal — "several hundred" nuclear weapons, according to the U.S. Strategic Forces commander, Gen. C. Robert Kelher, and 1,600 to 1,800, according to retired former Russian strategic forces commander, Gen. Alexander Yesin.

Adding further suspicion to the Pentagon's official public estimates of China's arsenal was a late 2011 report by the Georgetown University Center for Arms Control, which documented China's history of strategic use of underground tunnels and estimated that China has up to 3,000 miles of tunnels that can be used to store and move missiles and other weapons undetected. The sheer vastness of

China's strategic tunnel networks suggests they hide more than just a few hundred launchers.

But there is something else that the Obama administration hasn't been telling taxpayers — or Congress — about the nuclear balance. WikiLeaked documents reflect growing U.S. and European anxieties about China's nuclear weapons. During secret NATO meetings in February 2008, an American undersecretary of state noted with alarm that the American nuclear stockpile had been cut by three-quarters since 1968. "Meanwhile, China is building up its nuclear arsenal" and opposing the fissile materials cutoff treaty.

At another secret session in November 2008 (also courtesy of WikiLeaks), which took place in Paris, the British Foreign Office's Director General for Defense and Intelligence Mariot Leslie wondered if "China could be somewhat vulnerable to public pressure if we expose the fact that China is building more weapons while others are reducing their levels."

Ms. Leslie observed that "the Chinese goal seems to be to 'catch up' with the U.S. in weapons capabilities to avoid American strategic dominance in Asia, seeing the 'Pax Americana' as a blip in world history."

In June of 2008 (again WikiLeaks), American diplomats pleaded with Chinese counterparts in Beijing to understand that "the United States has not built any nuclear weapons since the early 1990s and therefore has the oldest arsenal in the world," and "underscored that the United States is the only P5 [one of the five permanent members of the United Nations Security Council] country without the capability to produce a nuclear weapon."

This is common knowledge among strategists in Washington, who only recently have awakened to the realization that the United States is rapidly and involuntarily disarming. The Washington Post recently devoted four full pages to this story.

Three years ago, Washington Post reporter Walter Pincus revealed that the United States had ceased to produce "fogbank," likely the code name for an aerogel-suspended neutron booster, which is a critical component in miniaturizing Trident II submarine-launched ballistic missile warheads. After decades of neglect, the United States is losing the facilities infrastructure, raw materials and — most important — the trained nuclear weapons workforce necessary to sustain a nuclear arsenal. Without "fogbank," it is likely that the half-life of America's remaining and dwindling stock of nuclear weapons is about 12 years. As the fog lifts, the world can look forward to a Pax Sinica, a Chinese nuclear pre-eminence in East Asia and the Pacific that will supplant a Pax Americana. It makes one wonder if the Obama administration has thought through its nuclear disarmament ideology.

As Rep. Michael R. Turner, chairman of the House Armed Services subcommittee on strategic forces, counsels, "China's unprecedented military buildup requires that we, as prudent national security thinkers, must plan for the worst, hope for the best and determine how to make clear to China where our interests lie. China need not be a threat, but if our history proves one thing, it is that American timidity encourages aggression."

John J. Tkacik Jr. is senior fellow and director of the Future Asia Project at the International Assessment and Strategy Center in Alexandria.

U.S. Navy Tests Mine-Seeking Sub During Gulf Drills

Associated Press, Sept 27, 2012

DUBAI, United Arab Emirates (AP) — The admiral in charge of the U.S. Navy's 5th Fleet says a prototype mine-detecting drone was put through more tests during military exercises in and around the Persian Gulf this month.

The advanced sonar-equipped Kingfish sub is being evaluated by the Pentagon. Vice Admiral John W. Miller says the sub was used for the first time internationally during the maneuvers of more than 30 nations that wrapped up this week.

The Navy says drills were not designed to specifically confront a threat from Iran. Tehran has warned it would try to close the Gulf's strategic Strait of Hormuz in retaliation for sanctions over its nuclear program.

Miller told reporters Thursday that the Kingfish could eventually be deployed with the Bahrain-based 5th Fleet and other places around the world.

Nuke Mod Funding Faces Hurdles: U.S. State Dept. Official

Defense News, Sept. 26

Securing billions of dollars to modernize the U.S. nuclear arms fleet will be challenging as Washington wrestles with its shabby finances, a senior State Department official said Sept. 26.

Additionally, the Obama administration plans a "persistent" push to convince the Senate to ratify a key nuclear arms treaty, said Rose Gottemoeller, acting undersecretary of state for arms control and international security.

The U.S. possesses 1,737 deployed strategic nuclear warheads that are fitted on land-based intercontinental ballistic missiles, submarine-launched ballistic missiles and bombs dropped from Air Force aircraft. The Obama administration, in its fiscal 2013 budget request, is seeking a 5 percent hike for all nuclear arms activities.

What's more, over the next four years, the administration intends to spend $9.6 billion to maintain and modernize the atomic arsenal, according to the Arms Control Association.

"We're going to have to work with Congress on the … request for the infrastructure modernization and stockpile stewardship part to make sure that funding is forthcoming," Gottemoeller told a forum in Washington.

She noted officials and lawmakers face a "very complicated situation on Capitol Hill" to find the billions necessary for the pricey work "with the fiscal cliff [and] with sequestration looming out there."

The fiscal cliff Gottemoeller was referring to is a term used inside the Beltway to describe the perceived effect of a number of budgetary and fiscal laws slated to expire Dec. 31: George W. Bush-era tax cuts, temporary payroll tax cuts and tax reductions for business. That also is when the health care law President Barack Obama pushed through Congress kicks in.

Additionally, twin $500 billion, decadelong cuts to planned federal defense and domestic spending will take effect under a process called sequestration unless Congress produces a $1.2 trillion deficit-reduction plan that either President Obama or GOP nominee Mitt Romney would sign into law.

To keep the nuclear modification work funded, Gottemoeller said Obama administration officials must form "deep partnerships" with key lawmakers and aides. Despite the 2013 modernization plans, some hawkish congressional Republicans charge that the White House is blocking efforts to modernize the U.S. nuclear arms fleet.

"The president has really emphasized the funding for infrastructure modernization and the stockpile stewardship program," Gottemoeller said. "He has been clear. We will continue to drive forward to get the funding we need for those."

Meantime, she also announced the administration is preparing to make a new push to convince the Senate to ratify the Comprehensive Test Ban Treaty (CTBT).

That international pact would "institute a worldwide ban on nuclear tests and the use of networks to apply pressure against states like Iran and North Korea," according to the American Security Project, a nonpartisan Washington think tank.

"Ratification would be significant affirmation to the importance the U.S. gives the international nonproliferation regime," Gottemoeller said. "U.S. ratification would increase" global efforts to reduce the number of nuclear weapons around the world, she said.

If the Senate ratified the treaty, "states interested in nuclear weapons would … face international condemnation," Gottemoeller said.

Treaty proponents believe if the U.S. ratifies it, many other nations will follow suit. A wave of such approvals would make it easier to pressure North Korea to give up its nuclear arms and convince Iran to cease its pursuit of them, proponents argue.

But some in Washington don't buy the alleged virtues of the CTBT.

"Opponents maintain that there can be no confidence in existing warheads because many minor modifications will change them from tested versions, so testing is needed to restore and maintain confidence," states the Congressional Research Service.

But Gottemoeller says verification technologies and tactics have improved greatly over the last decade, making evasion tougher.

The Obama administration has "no timetable" for a Senate vote on the measure, but made clear officials plan to meet with key senators and staffers in an attempt to gain their vote.

"We will be patient," she said. "But we will also be persistent."

Fewer Submarines To Call Groton Home

Navy turning its focus to the western Pacific

By Jennifer McDermott, The Day, Sept 26, 2012

Groton - The Navy plans to keep fewer submarines in Groton as the military shifts its focus toward Asia and sends its newest, most capable ships and aircraft to the western Pacific, the Navy's top admiral said Tuesday.

By 2020, the Naval Submarine Base is expected to have two squadrons with six attack submarines per squadron, instead of the 16 submarines it has today.

The naval station in Norfolk, Va., will have fewer submarines in the future, too, while the base in Kings Bay, Ga., will not be affected by the rebalancing since ballistic-missile submarines need to remain there as a strategic deterrent, Adm. Jonathan W. Greenert said.

Greenert was in town for a classified conference on undersea warfare technology.

"We're pretty well set up to execute this strategy, and now we have to evolve and make that rebalance that is called for," Greenert, the chief of naval operations, said in an interview at the base.

There will not be any great departure of submarines and crews. Rather, submarines that retire in the East will not always be replaced with new boats, while submarines in the West will be, Greenert said. The number of submarines in the fleet will decline overall as the aging Los Angeles-class attack subs retire more quickly than the Virginia-class submarines are built.

Even with the changes, Greenert said, the Navy needs three submarine bases along the East Coast. The Norfolk naval station does not have the capacity to support the submarines from Groton, and it would be too expensive to relocate the submarine school from the base, he added.

The three locations are "a good balance," Greenert said, and he does not intend to "move submarines en masse" out of the Groton area.

The strategic documents clearly state the Navy has to dominate the undersea domain, to "own it," Greenert said.

"To do that, the centerpiece of it is the submarine, make no mistake," he said, adding that various other platforms and payloads will also play important roles as parts of the network.

The Navy's forces overall are evenly distributed between the Atlantic and the Pacific, while the distribution of submarines is already closer to 60 percent in the Pacific.

In the future, 60 percent of the forces, including aircraft carriers, cruisers, destroyers, littoral combat ships and submarines, will be based on the West Coast and in the Pacific. That equates to 10 more ships operating in the western Pacific in 2020, with more ships based in Japan and Guam instead of rotating between the region and the United States.

The Navy wants to establish or re-establish relationships with numerous allies throughout Asia, Greenert said.

While some have said the strategy, announced in January, is a way to contain China's growing military power, Greenert dismissed that idea as an oversimplification. China, the major player in the region, put its first aircraft carrier into service on Tuesday.

"There are many things that could tend to be an outcome. You could say, 'Well, you did all this, this came out of that,' and that would be a conclusion someone draws," he said, adding later, "That's not the intent directly. It is, like I said, to establish those relationships and re-nurture them."

Greenert said the strategy is not just about having the right number of ships in the region. It is also about having the right mix of capabilities, both in vessels and aircraft, as well as having the proper training for those who will deploy there and more complex exercises to engage allies.

Officials in Singapore recently agreed to host up to four of the Navy's littoral combat ships. The Navy plans to send the new P-8A Poseidon aircraft to Okinawa and unmanned aircraft to Guam when they come online, as well as send new Virginia-class submarines and destroyers to the region.

The Navy's presence in the Caribbean, Central and South America and Africa will slightly shrink. But the Navy could use other capabilities in some areas, including unmanned systems, and work with allies who have professional, capable submarine forces, Greenert said.

The plans for rebalancing are feasible unless sequestration occurs, he added.

The $1.2 trillion in automatic spending cuts known as sequestration will take effect Jan. 1 if Congress does not act to prevent it. The Navy's shipbuilding and conversion funding would be cut by $2.14 billion in 2013 under sequestration, according to the Office of Management and Budget. That would render the strategy "un-executable," Greenert said.

Oldest Surviving Submarine Commander Passes Away
By Marie Madden, Galway Independent, Sept 26, 2012

Galway said goodbye this week to Commander Bill King of Oranmore Castle, who passed away last Friday at the age of 102.

One of Galway's best-loved characters, Commander King was the oldest surviving World War submarine commander and led a life of adventure as a navel officer, yachtsman and author.

Having joined the Royal Navy on HMS Resolution in 1927, he worked his way up through the ranks before patrolling the North Sea during World War II as Commanding Officer of the T-class submarine HMS Telemachus.

Retiring from the service in 1948, he was decorated with the Distinguished Service Order, the Distinguished Service Cross, the Battle of Britain Star, the Burma Star and the Arctic Emblem.

After his retirement, Commander King married his wife Anita and moved to Oranmore Castle after buying it for just £200 and setting about refurbishing the dilapidated building to its former condition.

Speaking to the Galway Independent in 2008, he recalled "getting up one day to find my father-in-law, who used to always wear a kilt, sweeping dead fish out of the Great Hall".

Commander King is perhaps best known for becoming the oldest sailor to complete a single-handed circumnavigation of the world, carrying out the amazing feat on his third attempt at the age of 58.

However, it was his passion for life and sense of humour that will be remembered by many, telling a Galway Independent journalist in a previous interview that living forever would be no good as "you're always cold".

Survived by daughter Leonie, son Tarka and grandchildren Cian, William, Heather and Olivia, Commander King was laid to rest on Monday following a funeral service at the Collegiate Church of St Nicholas on Lombard Street.

WWII submarine veterans disband national chapter
Virginian Pilot, Sept. 24

NEW LONDON, Conn.-The submarine veterans of World War II have seen this coming for a long time.

At their national convention in Norfolk this month, 62 veterans attended where thousands used to go.

The U.S. Submarine Veterans of World War II disbanded at the end of its convention Sept. 7. Local chapters now must decide whether to continue operating under another name or to dissolve.

This month in Groton, J. "Deen" Brown announced to his fellow WWII submarine veterans that the Thames River Chapter has a new name.

"Eastern USA Chapter U.S. Submarine Veterans of WWII," he told members before their monthly luncheon at the U.S. Submarine Veterans clubhouse.

"We simply have to face the fact that we're all getting older and, as we do so, eventually we simply cannot remain a viable national organization," said Brown, 90, of Oakdale.

Walter "Gus" Kraus, the last national president, said the veterans who wanted to keep the national group going "until the last man is gone" prevailed in a vote three years ago. Two years ago, the vote was split.

By this year's convention, some of the stalwarts had died, or their friends had. Of the 1,100 members, the youngest is 86. The oldest is 102.

It was difficult for the national organization to find members able to serve as officers and to complete all of the administrative tasks. In their last roster, published 10 years ago, the pages listing the deceased members outnumbered those listing active members.

"The guys said, 'I was all for staying. My shipmate came to the convention with me. He's gone now, and I don't feel like coming,' " said Kraus, 91, of Crescent Springs, Ky.

Only one veteran remains active with the Tidewater Chapter of U.S. Submarine Veterans of World War II, said Richard Helm, a Vietnam-era submariner who serves as the group's treasurer. It's been hard watching attendance fall steadily the past few years as members died or moved into assisted-living facilities, Helm said.

The Norfolk-based chapter will gather in November and decide whether to continue meeting on its own. Several wives of World War II veterans remain active with the group, Helm said.

The national organization was established in 1955 to honor the veterans.

Submarines were just 2 percent of the Navy's fleet then, but subs sank more than 30 percent of the Japanese navy and nearly 5 million tons of shipping.

About 16,000 men served on submarine war patrols. During the war, the submarine force lost 52 boats and more than 3,500 men.

After the sixth annual reunion of the national submarine veterans group, the membership grew rapidly. Memorials were erected.

"There are memorials all over this country they've created," said retired Vice Adm. Al Konetzni, who has long been close with the World War II veterans even though he is not of that era. "These guys started in 1955 doing this for their buddies, so they would not be forgotten."

Kraus said the sub veterans considered themselves a unique group, and that forged a strong bond. The end of the organization, he said, also represents the "end of an era where we were able to get together and blow our own horn, remembering the circumstances under which we fought."

Konetzni, who gave the keynote speech at the closing ceremony, said in an interview that the World War II veterans "lived the horror" and "lived the glory," but they do not need the administrative burdens of a federally chartered organization to preserve their memories.

"They will never be forgotten, ever, ever, ever," said Konetzni, a former deputy commander of U.S. Fleet Forces Command and the U.S. Atlantic Fleet. "They gave us our traditions and our spirit. They were our leaders."

Many of the World War II submariners are also members of the U.S. Submarine Veterans Inc., which is open to all U.S. Navy submariners.

The younger ones in that group began maintaining the memorials and conducting ceremonies when the World War II veterans could no longer do it.

Groton-area World War II veterans turned over the upkeep of the U.S. Submarine Veterans WWII National Submarine Memorial East to the Subvets Groton base and the city of Groton in 2005, said John Carcioppolo, base commander.

Subvets willingly took on the responsibility.

George Jones, 92, a World War II submariner who attended the Groton group's monthly luncheon, said it's important to him that the memorial is well taken care of because his friends' names are on its Wall of Honor.

"I lost a lot of friends during the war, and I came close myself," Jones, of Waterford, said. "I hope we will continue to be remembered for many, many years to come."

Cuts Will Hobble Future Navy, Admiral Says

Stars and Stripes, Sept. 25

NAPLES, Italy — Automatic spending cuts slated to take effect in January will mean fewer flying hours for Navy aircrews, fewer training days for ships and submarines and less fleet maintenance, with nondeployed servicemembers facing the steepest reductions, according to a senior Navy official.

Adm. Mark Ferguson, vice chief of naval operations, said the so-called sequestration process would reduce the Navy's funding by $12 billion next year, resulting in a smaller force with longer response times.

"Difficult choices" regarding fleet maintenance, ship purchases and base support services would begin to take shape in March or April, Ferguson wrote in a Sunday post on the Navy's official blog.

"Potential cuts or reductions beyond those already taken in this year's proposed budget will result over time in a smaller force with less presence, longer response times, and reduced ability to provide surge forces in support of our major war plans and other emergent needs," Ferguson wrote in a post summarizing remarks he made during a joint appearance last week with other top military leaders before the House Armed Services Committee.

"Bottom line: … if sequestration is enacted in January and these cuts continue as planned, we will not be able to afford the Navy we have today in the future," Ferguson wrote.

His warnings came as defense leaders are urging Congress to stop the $1.2 trillion in federal spending cuts scheduled to start in January. The Pentagon faces $500 billion in automatic reductions over 10 years under the budget-shrinking solution passed by Congress in 2011 after a bipartisan committee failed to come up with an alternative plan to lower the nation's $1.1 trillion deficit.

Under the sequestration law, roughly $54 billion will be trimmed from both defense and nondefense discretionary spending accounts in 2013. Military personnel and many veterans programs are to be protected from the cuts, defense officials have said.

Of the Navy's $12 billion projected budget loss next year, $4 billion would affect operations and maintenance accounts, including civilian personnel and training, Ferguson said. It's unclear how many civilian employees could lose their jobs.

"These reductions will translate to reduced flying hours for our aircrews, fewer underway training days for our ships and submarines, and less maintenance for the fleet," Ferguson wrote.

The Navy's shipbuilding and aircraft budget would also see a $4 billion hit, Ferguson wrote.

"At this point, it is difficult to know for sure the impact on any individual program, or family of programs," he wrote. "What we do know is that it will surely affect our ability to build the future Navy."

Meanwhile, a Government Accountability Office report published Friday concluded that, to improve the readiness of its surface combatant and amphibious warships, the Navy must address staffing shortages and regularly maintain its ships. Under its current readiness strategy, the Navy could see increased maintenance costs, a reduced ability to support new and ongoing missions, and shorter service lives for some ships, if it fails to assess risks and how to address them, according to the GAO report.

"This could impact the Navy's ability to meet its long-term commitments," the report concluded.

Quick turnarounds between deployments means repairs are often deferred, shortening the life of the fleet, increasing maintenance costs and creating a continuous cycle of reduced readiness, according to the report. When ships are retired early, the remaining fleet must deploy more frequently, leaving less time for maintenance, the audit found.

Navy inspectors rated 33 percent of all cruisers and amphibious ships "unsatisfactory" from 2008 through 2012, meaning the ships were unable to carry out missions.

In a response to the audit, defense leaders agreed that the Navy needs to better assess risks in its readiness strategy, but added that budgetary decisions are beyond the Pentagon's control.

Fendercare signs new US Navy deal:

Norfolk-based marine equipment supplier Fendercare Marine has clinched a deal worth almost $30m (£18.5m) with the US Navy

edp24.co.uk, Oct. 3

The five-year contract will see Fendercare supply and install its flagship hydro-pneumatic fenders to the navy's submarine fleet at its Philadelphia engineering base, the US Naval Surface Warfare Center, Carderock Division.

The contract comes on the back of a 15 year relationship between Fendercare Marine and the US Navy with work will be carried out by staff in Fendercare's Seeting headquarters.

Eric Plane, Fendercare Marine managing director, said: "Everyone at Fendercare Marine is delighted to have secured this contract. This is a testament to our ability to provide both high quality, reliable products and the required levels of customer service that goes with it. As you can appreciate, these things do not just happen but are a direct result of huge amounts of hard work both in respect of the contract submission itself and ensuring that we meet the extremely stringent technical requirements demanded by the US Navy."

Louis DiStefano, from the US Naval Surface Warfare Center, said Fendercare Marine, which is a member of Cumbria-based James Fisher & Sons group, has been the world leader in providing the hydro-pneumatic fenders to the U.S Navy for the past 15 years.

He said: "To date we have had zero defects with fenders provided through Fendercare Marine and they have been a vital part of assuring our US submarine fleet's mooring capabilities continue positively throughout the world."

The five-year contract, worth $29.42m, was awarded this month.

While the business is traditionally known for its fenders, Fendercare Marine also provides marine services to the energy industry.

Earlier this year it opened a £1m new support base in Great Yarmouth, which the company hopes will support existing wind farms.

The Cobholm base opening in the Old Bure Marine site has a large set-down and storage area with a vast crane, as well as quayside frontage and office facilities.

Fendercare Marine has offices around the world including in Brazil, Angola, Nigeria, the United Arab Emirates, China, Singapore and Australia.

Iran's Dance With The U.S. Navy Continues
Iran Announces Naval Advancements, Complete With "Yes We Can!" Banner
Ibtimes.com, Sept. 20

Iran announced on Wednesday that it had finished refitting a major submarine for its naval forces. Photos from Jaam-e Jam news [1], published by the state-owned Islamic Republic of Iran Broadcasting, show a ceremony in which naval officers in their dress whites inspected the submarine, decorated with colorful flags.

A banner placed across the front sail of the vessel (that's the part protruding from the top) carried the enthusiastic phrase "Yes We Can!" (translated by Payvand News, a U.S. based English language Iranian news site, which claims to be apolitical).

The message of hope, most likely meant to applaud domestic defense industries rather than to mock Barack Obama's 2008 slogan, was not lost on Iran's top commanders, who voiced enthusiastic notes on the country's ability to deal with foreign militaries.

Meanwhile, the lack of understanding and communication between the U.S. and Iran seems to be ever widening. After attempts to sanction and diplomatically isolate the regime, President's Obama's own initial promises to engage [2] and talk directly with Tehran seem more remote than ever.

On the seas, Tehran remains a relatively minor threat to American naval power. Iran mostly builds smaller-sized submarines, though the Commander of the Iranian Navy, Rear Admiral Habibollah Sayyari, told Iranian state-media [3] on September 19 that the country had "reached the threshold of self-sufficiency in manufacturing, equipping and repairing the most complicated and modern types of submarines in the world."

The Islamic Republic calls it newly upgraded submarine —the 'Tareq'— a "super-heavy submarine." Compared to the rest of its fleet, it is, but most other countries would call it a medium sized diesel-electric powered submarine. The ships were originally built and exported to Iran by Russia as part of a group of 3 Kilo-class subs in the early 1990s.

Press TV, the English-language division of Iran's state broadcasting services, said that the country has "launched different classes of advanced submarines including Fateh, Ghadir, Qaem and Nahang." Most of those ships are only one-third to one-fifth as large at the Teraq/Kilo in displacement.

The publicity given to the ceremony on Wednesday appears to be yet another opportunity for Iran to showcase the gains it has made in recent years in defense.

The U.S. Navy, at least, appears concerned about Iran's capabilities to attack and threaten international shipping in the Persian Gulf – something Tehran has vowed to do in the past if attacked by America or its allies.

Iran's naval development announcement comes just a day after U.S. and allied navies finished a massive training exercise in the Persian Gulf, intended for preparations to keep the Straits of Hormuz open to international shipping in case of conflict.

The U.S.-led exercise included participants from more than 30 countries, focusing on minesweeping, and was the first of its kind ever conducted in the region.

Speaking to Agence France-Presse [4] on Monday, Lieutenant Greg Raelson of the U.S. Fifth fleet in Bahrain said the exercise was "not being conducted in response to any particular threat or any specific situation."

But he may not be fooling many. Iranian forces could use mines, smaller fast attack boats, and submarines operating near the Straits to significantly disrupt oil transport in the region, should hostilities ever break out. At the very least, the cost of insuring the ships could rise significantly, adding major pressures on maritime shipping corporations and in turn global oil markets.

Hundreds of ships pass through the Straits weekly, mostly taking oil from the Middle East's major producers to nations in East Asia. 17 million barrels passed through the Straits every day in 2011, according to the U.S. Energy Information Administration [5]. That same year, oil transiting Hormuz also represented 35 percent of all oil traded by sea, or about a fifth of the entire planet's oil trade. 85 percent of oil leaving through the Strait went to Asia, particularly Japan, China, India, and South Korea.

That means if any disruptions occurred in the Gulf, either from U.S. hostilities with Iran, Iranian reactions to Israeli attacks on its nuclear facilities, or even terrorists or non-state groups acting on their own, the consequences could be most severe in areas now largely considered to be world's leading economic drivers.

To See In The Arctic, Darpa Might Stick Sensors On Icebergs
By Robert Beckhusen, Wired.com, Sept 19, 2012

Hyped-up fears of a coming Arctic war have, appropriately, cooled down recently. But Arctic ice is melting faster than ever, which could mean more activity — military and commercial — in an environment notoriously unforgiving to sensors and other location tools. Leave it to the Pentagon's far-out researchers at Darpa to work on a solution: an all-seeing network of sensors to track what's going on in the Arctic all year round — including, it seems, sensors placed on icebergs.

According to a Darpa briefing, the agency wants to leverage "mobile floating-ice" for electromagnetic and acoustic sensors, and to help track ships and submarines. In the briefing, floating icebergs are illustrated with networked sensors stuck on them (.pdf). The electromagnetic sensors are

seen stuck on top, with acoustic sensors attached to the icebergs' undersides, which could help with mapping the Arctic seafloor. The reason why is the icebergs drift up to six kilometers per day — which has been speeding up with global warming — which can allow the military to "leverage ice movement."

It's all part of an umbrella program Darpa calls "Assured Arctic Awareness," or AAA. Science Applications International Corporation (SAIC) won a $2 million contract late last month to develop it. And while much of the program is vague, interviews with its architects and agency documents provide a glimpse of how the Pentagon plans to see through the Arctic fog.

"Most of the specific technologies planned for investigation under the first phase of AAA cannot be discussed until contracts are in place with the performers," Darpa program manager Andrew Coon tells Danger Room. "However, the program will emphasize remote distributed sensing as a way to provide standoff situational awareness in the Arctic."

We've heard the background to this story before. As the planet heats up due to global warming, the Arctic ice cap could melt to the point where the summer season becomes nearly without ice coverage. (By the way, this summer's loss of Arctic ice hit a new record.) Putting aside the staggering environmental consequences, that's good for companies that want to use new Arctic shipping routes, and it gives an opening for energy companies zeroing in on the Arctic's deposits of oil and natural gas.

Then there's the "Arctic War" theory. Per that much-hyped — but far-fetched — theory, the scramble for energy and the messy overlapping claims to Arctic waters could one day provoke a largely submarine-fought naval conflict between Russia and the U.S., Canada and Norway.

"Detection of submarines is an obvious application" for the agency's network, Coon says. But so is observing the increase in shipping brought on by the melting ice, which means tracking "both ships and potential hazards like drifting ice, along with other remotely occurring activity that may hazard the stability of the region." SAIC wouldn't comment on the program, but the company has worked on underwater acoustic networks for the Arctic since at least 1990. The Darpa contract mentions one in specific, called FLOATS, which the agency wants SAIC to keep developing.

But how Darpa wants its sensors to work is a bit more radical. According to the solicitation, the agency wants to use electromagnetic and acoustic sensors to track both submarines and surface ships across "the entire summer ice extent." Although decreasing, that's currently more than three million square kilometers. The solicitation also wants FLOATS to turn the hostile but unique features of the Arctic — normally disadvantages to sensors — into advantages. Even though the ice is melting, and the unbroken ice fields are disappearing, there's still more than enough scattered ice floating around for now to be hazardous to ships, and also plenty of potential spots to stick the sensor network.

Darpa even wants its sensors to use the ice movement for "mechanical energy harvesting." Ships navigating the Arctic also give off a unique "signature" by using their radars at low angles to detect hazardous ice, which the sensors could then pick up to spot the vessels. Arctic ice also has the bad habit of scattering acoustic signals, which makes tracking submarines a challenge. Darpa wants to use "ice dynamics" and "opportunistic active acoustics" as leverage, but doesn't explain how that would work.

Still, tracking what's going on the Arctic is really, really hard. On the surface of Arctic waters, air surveillance is hampered by cloud cover, especially during the summer, and weird ionospheric effects around the North Pole can disrupt satellite signals. The winter months feature an extended dark period when the sun doesn't come above the horizon. And the temperatures in the Arctic are, well, really cold — which is why Darpa needs the sensors to withstand an extreme temperature of -65 degrees Celsius.

And the extreme latitude makes even reaching the satellites problematic. Friendly submarines can get cut off from geostationary orbiters, which means limited access to GPS systems. There's also — during the winter months — a lot of ice that can block access to satellite signals.

"A key challenge of operating under the ice is the ice itself," says Coon. For example, "the ice blocks access to satellites," he continues. "Even undersea systems operating in the mid-latitudes rely on GPS and satellite communications when operating in the open ocean by surfacing periodically."

Those submarines would be the decisive force in any Arctic war, which the U.S. already wins handily. That makes the whole concept of a potential conflict over the Arctic seem exceedingly remote. And if an all-seeing sensor network that actually works is in the mix, and it's even harder to see why an adversary would pick a frigid fight with the United States.

Iran Launches Tareq 901 Submarine, Sahand Destroyer
Payvand.com Sept 19, 2012

Iran's Navy has launched the overhauled super-heavy Tareq 901 submarine and indigenous Sahand destroyer in the southern port of Bandar Abbas.

The super-heavy Tareq 901 submarine, which was repaired by Iranian experts, and Sahand destroyer were successfully launched on Tuesday on the order of Leader of Islamic Revolution Ayatollah Seyyed Ali Khamenei.

Iranian Navy Commander Admiral Habibollah Sayyari said on May 29 that the entire overhauling process had been done by Iranian experts.

"The country of origin had failed to deliver plans of the submarine's parts and was insisting to repair the sub in its own basins. However, the Iranian Navy has now developed the plans anew and has acquired a much significant expertise in the overhaul of the kilo-class submarines. With such a success Iran is among a handful of countries which can overhaul such submarines," Sayyari said.

"Anti-radar systems, wings, pneumatic systems, compressed air systems, pumps and sensors, telecommunication systems, propelling systems, and engine parts were among the parts repaired in the project all by Iranian engineers. This shows that Iran can achieve its goals by all means," said Rear Admiral Abbas Zamini, the manager of the project.

In recent years, Iran has made great achievements in the defense sector and gained self-sufficiency in essential military hardware and defense systems.

File Photo: Iran relaunches domestically overhauled submarine

The country has repeatedly made it clear that its military might is merely based on the state's defense doctrine of deterrence and that it poses no threat to other countries.

Beastly Drone Sub May Test Next-Gen Undersea Sensors
By Sepncer Ackerman, Wired.com, Sept 18, 2012

The Proteus, a robotic submarine, peeks out of Florida waters during its first sea trials, Sept. 11, 2012. Its manufacturers want to convince the Navy to use it as a testbed for the fuel cells and sensors of its futuristic, long-range drone subs.

One of the largest unmanned submarines ever built is finally performing sea trials. But don't expect the U.S. Navy, which dreams of undersea drones that can span oceans, to proclaim the Proteus its drone sub of the future. Instead, Proteus' manufacturers want to work with the Navy to test the software, sensors and power systems that will define those next-gen drone subs — and maybe use the Proteus as a stopgap solution until someone develops those long-range submarines.

We first ran across the beastly Proteus at a special-operations industry conference in May 2011. It was hard to ignore: a 25-foot, 6,200 lb. black cylinder hauling two 220-lb. bomblets, with room to fit 400 lbs. of submerged cargo, or six Navy SEALs in its optional manned mode. By contrast, the SeaFox, an undersea drone the Navy is using to spot Iranian mines, is a paltry four feet long.

But the Proteus didn't actually wade out to sea until this summer. Manufacturers Bluefin Robotics, a Battelle subsidiary, and the Columbia Group brought it to the Gulf of Mexico off of the Florida coast to put it through sea trials, shown here for the first time. The sea trials allow Proteus to work out its bugs, and already Bluefin and the Columbia group have made improvements: It can now haul up to 550 lbs. submerged. And although the longest it's been at sea is an hour, Proteus' various battery configurations ought to give it a range of 900 miles and a top speed of 10 knots.

That's a big step toward the Navy's goal of a drone sub that it can put in the water and forget about for months, while the robot collects data on the things that lurk within the briny deep. But the Columbia Group's Ross Lindman and Battelle's Bob Geoghegan concede they can't engineer the Proteus to those kinds of specifications. What they can do, they say, is to offer the Proteus as a bridge technology for the things that will make the next-generation drone subs operate.

The aquatic futurists in the Office of Naval Research have a program called the Large Displacement Unmanned Underwater Vehicle (LDUUV). The idea is to build large, robotic subs that can swim out across oceans, collecting data, with enough autonomy to avoid ramming into reefs or other ships. The technical challenges something like that requires are formidable, and include designing new propulsion systems and figuring out what can power the drone sub for such a long period of time. The Office of Naval Research doesn't expect to prepare a long-range robotic submarine this decade.

That's where, Geoghegan and Lindman hope, the Proteus can be of use. The Navy hasn't funded their sub. But it will need a test platform for the Office of Naval Research's LDUUV program. "In general terms, we can provide a test bed and are providing a test bed for alternate undersea sensors; for development of intelligence, surveillance and reconnaissance packages; and we can provide the testing for different autonomies — things that would go into the LDUUV program," says Lindman, the Columbia Group's senior vice president for engineering. Additionally, the Navy will need to test its future power systems on an existing drone sub, and Proteus might play that role.

Beyond that, Columbia and Battelle want to talk with the Navy about purchasing Proteus as a stopgap measure until the LDUUV program bears fruit. "900 miles is a lot of open water," says Geoghehan, Battelle's manager of ocean engineering.

That's probably a longer shot — at least until the Proteus has more data from its first sea trials. But they say they're beginning to work with the Navy, as well as testing some "classified payloads" for "another DOD [Department of Defense] customer," as Lindman puts it. Maybe the beastly sub may not just be a test platform for long.

Frequent docking of US nuclear-armed ships, submarines fueling tensions in the region
Bulatlat.com, Sept. 12

Last Friday, USS Hawaii, a Virginia class submarine, docked at Subic Bay in what the US embassy in Manila described as another "routine port call and goodwill visit". It followed another American submarine, the USS Frank Cable, a LY Spear class submarine, which docked in Subic since September 3.

MANILA – For behaving like a "US doormat consenting to US military and nuclear presence," Philippine President Benigno 'Noynoy' Aquino III's overtures to meet with Chinese president Hu Jintao on the sidelines of the Asia Pacific Economic Cooperation (Apec) forum in Russia had reportedly been snubbed. Mainstream media said the schedule of the two leaders did not make the meeting possible. But protesters of the increased presence of US troops and materiel in the Philippines pointed to other reasons.

"Aquino failed to talk to the Chinese leader in APEC, even if he had said it was his priority, because Jintao did not face him – he (Aquino) has proven to be a very loyal US ally," Lengua de Guzman of Bayan said in a protest rally of activist groups near the US embassy in Manila. These groups are questioning the increased docking of US warships in the country, the latest of which are two nuke-powered submarines.

Aquino's overtures to meet with Chinese president Hu Jintao was meant to project his administration's attempt at diplomatically settling its territorial row with China. Progressive activists who have also been pushing the Aquino government to settle the dispute through diplomatic means have blamed the tension with China on the Aquino government's behavior as a "US lapdog." In the recent ASEAN meeting, for example, the Philippines has reportedly "soured the mood" with its anti-China pronouncements that echoed more the stance of the US government.

For the defense and security planners of the United States, China is "the elephant in the room," (or in the Asia-Pacific) that they want to neutralize even before it throws its weight around and starts to ram the US sway in the region. The US military is executing an increased pivot of its forces and war machines toward the region, ostensibly to promote "freedom of navigation" but analysts said it is more for maintaining the Pacific Ocean as "an American lake."

With the US forces pivoting toward the region, tension here intensifies as China chafes at the military encirclement and citizens from Japan to Korea and the Philippines protest against the increased US military presence. It does not help that the US is seen as further fueling the territorial disputes between Asian countries. It had promised to "stand by" the Philippines as a treaty partner, donating to the Philippines some discarded ships and being present in the seas just when Aquino was at his loudest saber-rattling with China.

In the Philippines, the "institutionalization" of increased US military presence followed the Aquino government's warmongering against Chinese intrusions in the Spratly Islands and Scarborough shoal. Critics condemned Aquino for misrepresenting his government's puppetry to US as his way of bolstering the Philippine claim on the disputed islands.

US warships' increased "routine port calls"

After the Aquino government admitted they had "invited" the US earlier this year to use the Philippines as transit points and venues for the US forces' pivot in the Asia-Pacific, the Aquino government has noticeably toned down its hawkish demeanor with China. After riling China it is saying now that it is pursuing diplomatic means.

But the increased presence of US troops and war machines continued, angering patriotic Filipinos.

Last Friday, USS Hawaii, a Virginia class submarine, docked at Subic Bay in what the US embassy in Manila described as another "routine port call and goodwill visit". It followed another American submarine, the USS Frank Cable, a LY Spear class submarine, which docked in Subic since September 3. As such, there are now two American nuke-armed submarines on a supposedly "routine port call," docked at Subic.

North of the capital, Subic was once the site of the largest US naval base outside of the US mainland. Against the Philippine Senate decision two decades ago to shut down the US military bases in the Philippines, and against the Philippine Constitutional ban on nuclear weapons, nuke-armed US warships, submarines and planes have been increasingly arriving in the Philippines without even a squeak of protests from the Aquino government, various progressive groups complained. In fact, according to Gabriela Partylist Rep. Luzviminda Ilagan, the US has somewhat renewed its use of the Subic Bay as a warship repair facility without corresponding treaty.

In recent months, two "fast attack" submarines – the nuclear-powered USS North Carolina and the USS Louisville – and the American's largest hospital ship, the USNS Mercy, had also docked at the former US naval base. At the Manila Bay a couple of weeks ago, the missile destroyer USS Milius also stayed for a few days supposedly just for refueling. In Washington, London and Japan that same week, reports cited the US defense officials as choosing a location in Japan and the Philippines for two separate radars of the United States' missile plan in Asia.

"Despite strong opposition of Filipinos to US men and materiel, spy planes and naval assets continue to intrude in Philippine territory. Aquino has run out of excuses, it seems, and the Filipino people can see how he is acting like a US lapdog," said LFS Vice Chairman Joaquin Sienes III.

The multisectoral group Bayan (New Patriotic Alliance) warned that while American and Filipino officials are justifying the increased US military presence in the country and in the region as for ensuring regional stability, the end-result threatens a likely race for military buildup between China and the US which could further destabilize the region.

Instead of peace and stability, Filipinos are being exposed to an unnecessary conflict and insecurity, Bayan said. During the rally near the US embassy in Manila, Rita Baua of Bayan also warned that the increasingly frequent port visits by advanced American warships not only constitutes a violation of Philippine sovereignty and constitution. She said it also puts the country at risk of a nuclear disaster. These war machines, she explained, are likely carriers of nuclear weapons. Any accident or any conflict involving these warships while in Philippine soil or seas could thus annihilate also the population living in the vicinity.

Nuclear weapons: Brazil and the no nukes option

Voxxi.com, Sept. 12

Brazil's acquisition of six nuclear submarines raises the issue of nuclear proliferation in a region of the world that renounced the use of nuclear weapons. But not in the way most casual observers would think. First, to set the record straight, the Brazil nuclear submarine joint venture with France will guard its 3000 miles of Atlantic coast and is a logical extension of its rise as a global power. After all, Brazil's extensive national wealth lies below the ocean floor.

Second, the nuclear reactors used in the submarines will be built by Brazil and coordinated through a new state-owned company, Blue Amazon Defense Technologies or Amazul. These reactors use low-enriched uranium, the same used in French submarines. The decision to use this type of nuclear fuel enables enrichment and manufacturing in its civilian plants. As such, the submarines are not in violation of the Nuclear Non-Proliferation Treaty of which Brazil is a party. Brazil's 1988 constitution affirms the use of nuclear materials for peaceful purposes, but specifically renounces their use in arms.

Nuclear weapons a means to gain respect

Still, this episode helps illustrate one of the reasons that the Americas are frequently considered the geopolitical equivalent of Rodney Dangerfield comedies, in that "they don't get no respect." In today's world, having weapons of mass destruction is a way to get attention if not respect. Think Pakistan, where the United States continues to pour billions in foreign assistance into a fragile state that seems perpetually on the verge of imploding, yet possesses the capacity to blow up neighboring India, not to mention parts of Central Asia. North Korea and its farcical government might be easily dismissed, if it were not for its nuclear brinkmanship. And then there are Iran's apocalyptic mullahs.

When policy experts who work in the Americas complain that the region is neglected by major powers, they probably never consider that it might be because, in part, the region swore off nukes with the Treaty of Tlatelolco, signed 45 years ago in Mexico City. The Americas, save for the United States and Canada, is a nuclear free zone. And no nation in Latin America or the Caribbean, not even Venezuela, has shown any overt sign of acquiring nuclear weapons, although transnational crime, international terrorist networks and weak border controls leave a gap for shipping nuclear devices across borders.

There is another side of the coin that also encourages major powers to be dismissive—the need among some of the region's leaders to get attention by grandstanding. Some taunt the concept of western democracy by suspending civil liberties, expropriating private industry, enriching cronies through corruption, or even backing international pariah states at such forums as the Non-Aligned Movement.

Latin America chooses peaceful resolution over nuclear weapons

Still, the American states are part of the global community, no longer the junior partner in a relationship dominated by the United States. The challenge ahead will be to promote a more responsible approach to regional problems we all face that go beyond our borders—crime, climate change, migration, trafficking, pandemics and more. Eleven countries in the hemisphere have signed on to the 2003 Proliferation Security Initiative that seeks cooperation in interdicting nuclear and other threatening arms concealed on ships and planes. In similar spirit, governments might embrace new multilateral arrangements that offer the region and our own country peaceful means of resolving problems, while also promoting a deeper partnership for the combating future threats.

In the final analysis, we should never forget that a region without nuclear weapons gives us common ground to build more constructive partnerships around other goals—stronger democratic governance, access to justice, and opportunities for workers to become educated to meet future economic needs. The hemisphere's policymakers should consider how to riff off the success of a 45-year-old idea—a nuclear free zone—to create the Americas as a zone of peace, equality, justice and self-fulfillment for all citizens. That would be the way to get respect from the major powers.

MY SUBMARINE SHORT STORY

Sergio Pietro Moretti Frost

June 11, 2011

I joined the U.S. Navy in Anaheim, California on February 5, 1960 at the tender age of 17 years and 5 months. I *wanted* to join the U.S. Marines after watching a bunch of John Wayne movies. Picture this: I went into the recruiting building which consisted of 4 offices all in a row: 1st office Air Force Recruiting, 2nd office Army Recruiting, 3rd office Marine Corps Recruiting and finally Navy Recruiting. As I walked to the Marine Corps recruiting office, the recruiter looked so mean, I kept on walking straight to the Navy recruiter!

Several days after all the papers were signed (including consent from my mother) and basic testing was done, I was bussed to the Navy Induction Center in Los Angeles. After an overnight stay there (awaiting other inductees), I and all the other inductees were bussed to the Naval Training Center (NTC) at San Diego, CA for basic training (Boot Camp). The initial 5 week isolation period was spent at the Recruit Training Center (RTC), then we moved over to the NTC side. (The isolation period was to fester out cooties, etc.) There I was tested and the powers to be determined I should become an Electrician's Mate (EM) even though I wanted to be a Sonarman. I was in company 60-074 and my company commander (C.C.) was an African-American 1st class Machinery Repairman (MR1): J. J. Vickers. He was strict, but a good and fair Company C.C.

FIREMAN RECRUIT SERGIO M. FROST

Following Boot Camp I attended the Electrician's Mate Class "A" (EM "A") school, also there at NTC followed by the Motion Picture Repair school, also at NTC.

[NOTE: NTC not only provided boot camp training, but a host of schools for the training of a myriad of ratings.]

(Class "A" schools are job training technical schools, the cornerstone of training for all ratings giving you the basic knowledge to be of use when reporting aboard your next major command. Besides maintenance and repair of electrical equipment, EMs on ships were responsible for obtaining movies (35 mm format) from the shore

based motion picture exchange, and showing the movies for the crew. This responsibility included the verification that the film was not damaged and the ability to splice damaged film. Some of these movies were as long as 4 reels which had to be inspected and rewound prior to obtaining the movies, and after showing the movie. When deploying we had to obtain movies for a minimum three month period.)

Upon graduation from that last school, I was advance to Electricians Mate Fireman Apprentice (EMFA), and I was assigned to the aircraft carrier USS MIDWAY (CVA 41) home ported in Alameda, CA, and to the distribution gang of Electrical Division (distribution of electrical power from the 4 switchboards).

–INCLUDEPICTURE "http://upload.wikimedia.org/wikipedia/commons/thumb/f/f0/Rating_Badge_EM.jpg/50px-Rating_Badge_EM.jpg" * MERGEFORMATINET —

ELECTRICIAN'S MATE SYMBOL

(CVA stands for Carrier Vehicle Attack. In later years this designation was changed to simply CV)

In March of 1961 the ship deployed to the Western Pacific (WESTPAC). Didn't much care for carrier duty, so I submitted my request for submarine duty. By this time I had advanced all the way up to E-3: Electrician's Mate Fireman (EMFN). **[A pay grade chart is located at the end of this narrative.]**

Upon our return to Alameda in September I had orders to the Submarine Base at New London (actually Groton) CT to attend the Basic Submarine Training School. **(For some reason the Submarine Base was referred to as the Submarine Base at New London, Groton, CT, when in fact it was in the City of Groton – go figure!)**

Following that school I attended the Submarine Electrical Course, also located the submarine base. My first submarine experience was on the USS SEA OWL (SS 405), assigned to be a learning platform, where our class went to sea for a day to learn and experience submarine evolutions. Upon completion of that school I had orders to the USS POMFRET (SS 391) at San Diego, CA. By this time I had been advanced to E-4: Electrician's Mate Petty Officer 3rd Class (EM3), and I was a little cocky!

Guess I better introduce some designations here:

Submarine, non-nuclear powered (basically your old WWII diesel-electric submarines): SS

Submarine, attack, nuclear powered: SSN

Submarine, nuclear powered, ballistic missile firing: SSBN

There are other classification, but those are the ones I served on.

At that there was a rhyme and reason in the naming of ships; example, submarines were named after fish, cruisers were named after states, etc. POMFRET are perciform fishes belonging to the family **Bramidae**.
They are found in the Atlantic, Indian, and Pacific Oceans, and the largest species, the Atlantic pomfret, *Brama brama*, grows up to 1 meter (3.3 ft) long. Several species are important food fish, especially *Brama brama* in south Asia. The earlier form of the Pomfret's name was *pamflet,* a word which probably ultimately comes from Portuguese *pampo,* referring to various fish such as the blue butterfish .

The POMFRET was a Balao (SS 285) class diesel-electric submarine with a crew of about 85, that had undergone Guppy II-A modernization (greatly increasing her underwater performance), and had seen action during WW II in the pacific as well as action during the Korean War. She was homeported in San Diego at Fort Rosecrans; Point Loma Area. (She was sold to the Turkish Navy in 1971 and renamed ORUC REIS – after a brave Ottoman officer.)

There was no Submarine Base at Point Loma at that time; it was Fort Rosecrans, an Army base. There was a host of submarines home ported in San Diego which were all "nested" to both sides of two Submarine Tender Ships (designation: AS), USS SPERRY and USS PROTEUS, anchored out in the San Diego harbor. I would drive to Fort Rosecrans, park, get on a liberty boat and motor out to the Tender, then from the tender meander down to the boat. In the evening , the reverse route was taken to get back home. This happened on weekends since my family was in Anaheim, CA. People who did not have families in the area lived on board the boat. **Submarines are not called "ships", they are called "boats"**

[Note: A boat in Naval terminology is a vessel that is launched or tended from a larger ship. The earliest submarines required support vessels to maintain and launch them, hence they were termed boats and the name stuck as the nomenclature for all submarines even though some are as long as cruisers.]

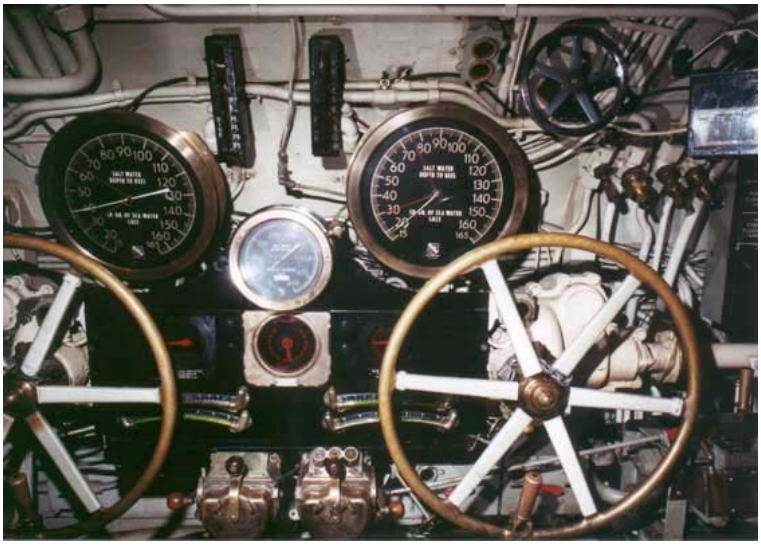
Slowly parts of Fort Rosecrans were ceded to the Navy. We were told that if we wanted a submarine base, we (enlisted personnel) would have to build it. We converted one army building to a small exchange, and another to a bowling alley – no allies at first, but plenty of beer! Not long after we had a 5 lane bowling alley in the building!

[In later years most for Fort Rosecrans was ceded to the Navy and a submarine base began to emerge, including a couple of piers to moor the tenders and the boats alongside the tenders. Now it is a fully functional Naval Base with several commands attached to it. Parts Fort Rosecrans still remain as a federal cemetery for veterans, as well as the Army's Veterinary Command (who used to inspect all meats sold at supermarkets – still does for all I know).]

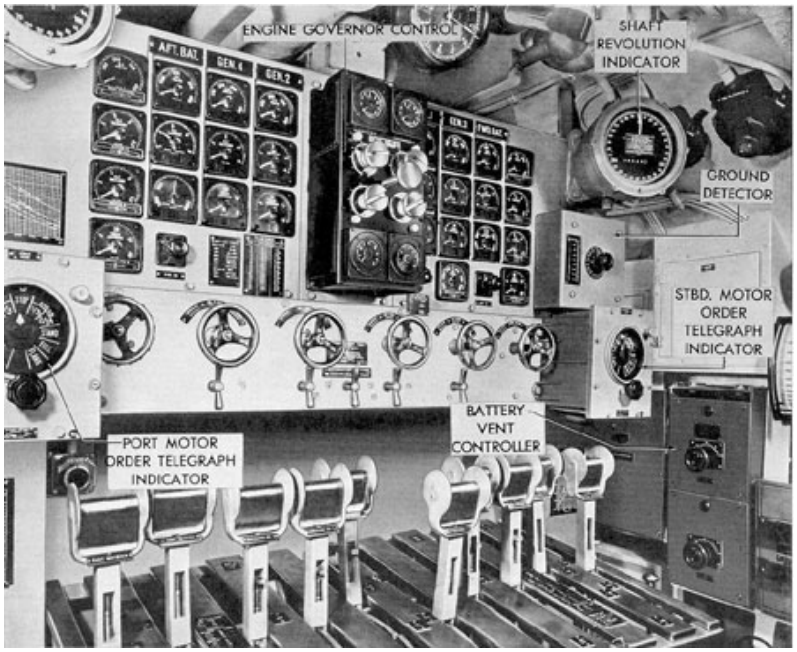
I had a variety of watch station assignments, mostly for submarine qualification purposes: Surface Lookout, Helmsman, Bow Planes Operator, Stern Planes Operator, but primarily my watch station was Auxiliary Electrician Forward, then as I became more proficient, Propulsion Control Cubical Operator (basically the switchboard that transferred power between: the generator to the propulsion motors, and/or the generators and to the batteries, or the batteries to the propulsion motors. The cubicle operator also controlled the rotational speed of the propellers based on the Engine Order Telegraph orders from the Conning Tower. The cubicle is located in the Maneuvering Room. I was also assigned "Topside Watch" in port which is the same as the Officer of the Deck on a surface ship while in port. I was issued a 45mm pistol and screened people coming on board. Amazing that I never shot myself!

TYPICAL CONNING TOWER – HELM AT THE VERY FORWARD END

ENGINE ORDER TELEGRAPH



TYPICAL STERN PLANES & BOW PLANES CONTROL STATION



A TYPICAL PROPULSION CONTROL CUBICLE

But my biggest challenge was to "qualify in submarines" and earn my Silver Dolphins (gold for officers). Every crew member (officer and enlisted) is required to qualify on the very first submarine they are assigned to, and once you did, you earned the coveted Dolphins that stayed with you the whole time you were in the Navy. We were given a Qualifications Card which listed the systems and components we were required to know and next to that a space for a qualified Petty Officer's signature. Yes, even officers had to get checked out by a qualified Petty Officer. We had six months to earn our Dolphins.

Qualification consisted of studying systems, procedures, capacities, limitations, etc., and to demonstrate certain capabilities.

I am going to speak in the first person, but what I experienced applies to all non qualified ("non-quals") personnel.

I studied fluid systems like Hydraulics, Trim, Drain, Air, Fuel, Sanitary, Fresh Water, Ventilation, Salt Water Cooling, Emergency Blow, etc. Other systems like Sound Powered Phone System, Ballasting System, Air Conditioning and Refrigeration System, Sonar Systems, Damage Control, etc. But the very first thing I had to study and learn, was how to flush a submarine toilet: open the sea water flushing valve, pull on the lever/or turn to open the valve that allows the waste to go into the sanitary tank, close the ball valve when the wasted is flushed down, then allow a few inches of water in the bowl to prevent smells, close the flushing valve. Oh, and you never "shut" anything on a boat because it sounded too much like "shoot." Instead you "closed things."

TYPICAL BALAO CLASS SUBMARINE TOILET

Once I studied a system I would seek out a qualified Petty Officer to get a "check out." The first thing I was required to do was make a drawing of the system. If I did not draw the system correctly, I would have to go back, relearn it and try again. If I got it right, then I was asked pertinent questions about the system:

- At what pressure did _____ system relief valve go at?
- What is the pumping capacity of the Drain pump?
- Where was the power supply for the Trim pump?
- Where do you sound for the level in the fresh water tank?
- Why is there a check valve in this line of the _____ system?
- What is KW-HR capacity of each battery?
- How many gallons does the fuel oil tank hold? Etc., etc., etc.

That was followed by a "show and tell" of sorts:

- Put your hand on the main hydraulic isolation valve for the forward engine room.
- Put your hand on the low salvage vale in the forward torpedo room.
- Put your hand on the aft engine room bulkhead isolation valve for the _____ air system.
- Where is the high salvage valve in maneuvering room?
- Point out the vent operating gear for all the ballast tanks.
- Show how to line up the sanitary system valves to blow the sanitary tanks overboard.
- Show how to manually operate a ballast tank vent.
- Show how to cross-connect the Trim and Drain systems. Etc., etc., etc.

But, that was not all.

I had to learn the name function, height, and capabilities of all the boat's masts: both periscopes, UHF, IFF, OMNI, Snorkel, Radio Transmitting and Receiving Antennas, etc., how tall they were and at the maximum depth they could be utilized.

I had to demonstrate the practical use of the boat's radio in case of emergency.

I had to demonstrate a working knowledge of the firing of a torpedo.

I had to know the location of the boat's alarm actuators throughout the boat, their color and handle shape.

I had to demonstrate damage control procedures and techniques.

I had to know the names of every tank, location, use, and capacity:

- All the Ballast Tanks
- Bow Buoyancy Tank
- Fresh Water Tanks

- Fuel Tanks
- Hydraulic Fluid Tanks
- Negative Tank
- Safety Tank
- Sanitary Tanks
- Water Round Torpedo (WRT) Tank, etc., etc.

And of course I had to learn the Electrical System, and about the boat's two batteries, and how to line up the ventilation system for a battery charge.

But when I thought it was all over and done with – **it was not!** Once the card was all signed, I had to seek out the Engineering Officer. He walked me from the forward torpedo room all the way through the boat to the after torpedo room, pointing at things, valves, gages, etc. and asking "What does that do?" "Where is the isolation valve for ___?" "Show me how to ____ ." "What is maximum pressure for ____?" "Where is the emergency isolation for _____ ?" And so on. Once he was satisfied, he added his signature as the next to last signature. He then forwarded the qualification card to the Commanding Officer (C.O.).

[Forward-to-Aft the compartments on POMFRET were: Forward Torpedo Room with the C.O.'s Shower and head; Forward Battery (comprising of the forward battery itself below the Officer quarters, Wardroom, Captain's stateroom, Officer's head and shower, and Chief's quarters); Control Room comprising the pump room and sonar room below the control room, radio room in the aft section of the control room, the conning tower above it (called the "CONN"); After battery comprising the after battery itself below crew's sleeping quarters, the refer room below the crew's dinette, the galley, crew's dinette, crews sleeping quarters, crew's head and showers); Forward Engine Room; Aft Engine Room; Maneuvering Room including the motor room below it; and After Torpedo Room.]

A 

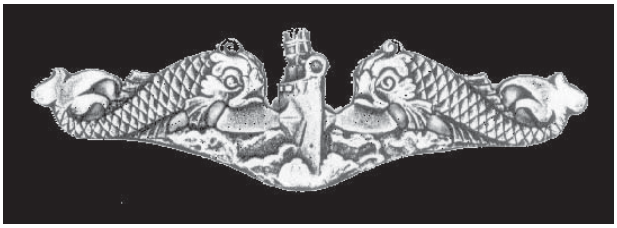
USS POMFRET'S SAIL

A detailed diagram of this class boat can be viewed at http://usscubera.org/images/SubPlans.pdf

[Note: Submarine crews did not eat in a mess hall – they ate in the crew's dinette, a horseshoe shaped seating area much like a home dinette (but larger). Food was prepared by a skilled cook and served to the table by mess cooks (a.k.a. enlisted waiters for a "service" period not to exceed three months) – no mess line!]

If the C. O., after watching your performance, felt you were ready for the coveted Dolphins, he would sign the card (and maybe ask you some questions) and the card would be placed your service jacket; an entry would be made on page 4 of your service jacket (which followed you until you retired or got out of the Navy) indicating the INITIAL qualification date and boat you qualified on.

At the first all hands muster in port, the newly qualified persons were presented with their Dolphins, pinned on to our uniform by the C.O. I earned my Dolphin in January 1963.



There were several different styles of Dolphin pins, and the one pictured at left (above) became the regulation device. The device is light metal with a silver finish and hollow in back, but you could go in town and get a solid back one. The device shown on the right is rare, those were called "East Coast" dolphins even though they were made in Yokosuka, Japan. Some sailors went so far as to actual buy solid sterling silver dolphins and then have a small emerald placed in the eye of the left dolphin, and a small ruby in the eye of the right dolphin (designating Port & Starboard). But of course you could not wear these at inspection.

After the presentation of the Dolphins, the ritual began:

Qualified submariners would "pin the Dolphins to your chest" by punching you right on top of the Dolphins – **hard** (which would distort the Dolphins – not to mention leave a bruise on your chest!), then shake your hand and congratulate you. This was followed by a drunken binge. The newly qualified man was taken into town by the crew. His Dolphins dropped in a beer pitcher which was filled with a shot of every type liquor behind the bar. The idea was to drink the contents of the pitcher all at once, and catch the Dolphins in your mouth. Whatever happened next was a total blur.

Life on POMFRET was OK. Food certainly was GOOD! But I got tired of battery charges every other night, crawling on top of one of the two batteries about every two weeks to clean the cells and polish the bus bar covers, and daily gravity checks in both battery compartments. My dungaree trousers were spotted from battery acid and looked like moths had got to them, and had to periodically buy new ones. We would be submerged so long that because of the low oxygen content you could not light a cigarette. At that time if you were a non smoker you were a pariah – we used to string steel wool across the terminals of a battle lantern battery, and when the steel wool glowed (like an incandescent lamp filament), we would light a cigarettes from that!

TYPICAL BATTLE LANTERN BATTERY

On the surface at night, rolling port to starboard, with the sound of the rock crushers (diesel engines) breaking into your sleep. Not to mentioned being awakened in the middle of the night to fix the stupid distilling unit (which distilled 2000 gallons of fresh drinking water per day ***if*** you were lucky) just about every night! Or, waking up with an ear ache because we were submerged at periscope depth, engines running and snorkeling. Every time a wave hit the snorkel intake vale, it would shut momentarily, and the engines sucked the air they needed from inside the boat!

After a few weeks at sea, my working uniform smelled like diesel fuel.

But I was a 3rd Class Petty Officer, now submarine qualified, so my rank now changed to EM3(SS). Still, I had to hot bunk (3 men assigned to two bunks), while

senior enlisted qualified personnel had their own bunks in "Hogan's Alley," an area off the main passageway of the After Battery compartment, and a coveted sleeping area because it was quiet and there was no foot traffic through it. An interesting article about the "alley" can be read at http://www.olgoat.com/substuff/dex14.htm
Some POMFRET memorable times:

- Two of the officers were of French descent. The senior officer (Chief Engineer a.k.a. CHENG), upon diving, as officer of the deck (OOD) on the bridge, would sound the diving alarm then announce on the boat's speaker system (1MC) "Plungé! Plungé!" which is French for "Dive!" Dive! (or Plunge!)" When it came the junior officer's time to dive the boat, he too sounded the diving alarm but could not remember the French words, so he announced on the 1MC: "Douche! Douche!" Afterwards the Commanding Officer made it perfectly clear that only English would be spoken.
- Because of limited berthing conditions, temporary bunks were set up in both the forward and aft torpedo room, on top of torpedoes. Additionally, both these compartments had one berth each suspended from the overhead in the center-aft part of the room. These were called "honeymoon racks" and you had to be agile to get into one since there was no ladder to get you into that bunk.
  - Now, first class Torpedoman "Speedy" and 2nd class electrician Ron Summers were buddies and went out drinking together, just about every night we were in port. One morning at quarters, neither could be found and we had to get underway. Eventually we found BOTH of them in the "honeymoon rack" in the after torpedo room, passed out drunk! How did they get up there, drunk?! *Well, they do say that a submarine gets underway with 100 people and returns with 50 couples……..*
- POMFRET was the Submarine Squadron 3 Flagship. The Admiral wanted to go to Santa Barbara, so early one Friday morning we headed to Santa Barbara and had to anchor out because there was no pier facilities for us (or maybe no payment was made for a pier facility). The Coast Guard provided boat ferry service to and from shore as well as personal civilian pleasure boats.
  - Whatever power we needed at anchor came from the batteries; at night the batteries would be charged.
  - We used the weekend as a visitor's day on board POMFRET and even had "Welcome Aboard" pamphlets printed up, and we invited visitors to lunch and/or dinner.
  - The following morning at reveille, half the people that turned out of bunks were women.
- That Monday we headed out back to San Diego. NOPE! Up north to Seattle and to the World's Fair for five days of liberty.

- When going to sea for longer than two to weeks at a time, the two enlisted showers were secured; fresh water was mainly for cooking and for cooling of engines. We were issued a #10 can (1 gal) of water a day for washing and brushing our teeth. Food storage was also a problem. Some food items were stored in the showers. Potatoes were stored in the space between the upper hatch and lower hatch of the After Battery compartment access trunk.

POMFRET'S AFTER BATTERY UPPER HATCH

- We had just finished a short overhaul at the Mare Island Naval Shipyard (MINSY) in Vallejo, CA. The boat looked good: freshly painted, clean and brand new Naugahide hatch covers with our ship's patch embroidered on them. The covers would be placed on the hatches in port when they were open. We went to the torpedo firing range before proceeding back to our home port of San Diego. One of the un-armed torpedoes we fired with it's so-called ***anti-circling*** device came around and struck the stern light (located in the aft part of the sail) leaving a hole in the fiberglass, then came around again and hit one of the two propellers. We returned to San Diego limping as if we were returning from a war patrol.

[The SAIL is the tower-like structure that rises from the submarine's deck. It houses the conning tower, periscopes and antennas.]

USS POMFRET'S SAIL

- During that period, I received and induction notice from the Italian Army which the ship had to respond to officially and tell them I was a U.S. citizen.
  In 1963 I volunteered for the Nuclear Powered Program.

I was sent to Basic Nuclear Power School at Mare Island (Vallejo), CA. It was all learning business, with almost nil military interaction. As students we stood no military duties – our job was to learn – that was made abundantly clear by Admiral Rickover!

[Rickover is known as the "Father of the Nuclear Navy." With his unique personality, political connections, responsibilities, and depth of knowledge regarding naval nuclear propulsion, Rickover became the longest-serving naval officer in U.S. history with 63 years active duty. He directed the original development of naval nuclear propulsion and controlled its operations for three decades as director of Naval Reactors. And to think that as a commanding officer of a Balao class submarine, he had been passed over twice for promotion! He was ordered into retirement by President Reagan.] An excellent article can be read by going to the following link: http://en.wikipedia.org/wiki/Hyman_G._Rickover

We were assigned to rooms, two men to a room furnished with bunk beds and enough room to allow two people semi-private study time. There was a ***huge*** communal lounge to relax in, done in light knotty pine adorned with paintings of different classes of submarine of that time as well as futuristic submarines:

- Anti Submarine Submarine or K Boat (SSK)
- Cargo Submarine (SSA)
- Mine Laying Submarine (SSM)

- Oiler Submarine (AOSS)
- Radar Picket Submarine (SSR)
- Target and Training Submarine (SST)
- Transport Submarine (SSP)
- Troop Transport Submarine (APSS)
- Unclassified Submarine (IXSS)

After an entrance math exam, students were assigned to a learning level class 1 through 10. Ten was for students who would start at the highest education level: start math at integral calculus and go up from there. One was remedial students that, would start math at two plus two. I was in the 5th level and my math level ended at integral calculus. We studied math, physics, nuclear physics, thermal dynamics, electrical and electronic theory and application. I was in class 63-2-5.

The final exam was the best part of the whole school. We were divided into teams of 6 people and told to design a nuclear reactor that had to produce XX megawatts of power for X number of years, and fit in a container of XXX dimensions, AND show all your work! Each team's parameters were different.

Upon graduation I was sent to the Nuclear Training Prototype Unit (NTPU) at Idaho Falls, IDA. The prototype is located at the National Reactor Testing Site located about 70 miles from Idaho Falls and closest to Arco, IDA. Most students lived in Idaho Falls, Pocatello, and a few in Blackfoot. At that time Arco was a very small town of less than 1 square mile with a population of under 1,600 people. It was the first city in the world powered by atomic energy.

We were bussed (at government expense chartered buses under contract) daily from Idaho Falls, Blackfoot or Pocatello to the prototype site. The bus ride was about 70 to 85 minutes long from Idaho Falls (depending on your bus stop location) – in winter, up to two hours, and sometimes in winter impassable, or a 3+ hour bus ride behind huge snow plows that cleared the roads ahead of us. It was not unusual to get stuck at the prototype site because the busses could not get through, nor could the snow plows.

[There were many other activities, laboratories chemical companies, engineering firms and commands operating at the site, including the Army, petroleum companies and private contractors. It was also the site of one of the first nuclear reactor accidents. The army had a very small prototype field reactor in the site (SL-1). One day one of the control rods got stuck and a soldier pulled it out by hand too fast causing a steam explosion. You can read more about the first fatal nuclear power accident at http://www.radiationworks.com/sl1reactor.htm]

The Navy had 3 prototypes, One prototype consisted of an exact operating replica of a nuclear Aircraft Carrier's engine room (USS ENTERPRISE), designated A1W, the other that of a submarine's engine room, designated S1G (USS NAUTILUS) an the 3rd under construction that of a new design designated S5G.

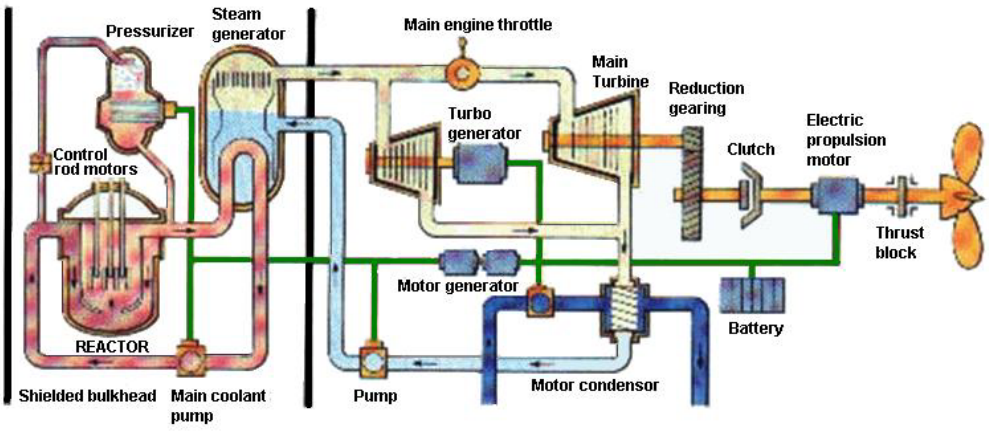
(A = Aircraft carrier, S = Submarine, W = Westinghouse, G = General Electric, 1, 2, 3 etc. = version.)

I was assigned to the A1W plant. The plants were operated exactly the same way the engine rooms on a carrier or submarine were operated, including day-to-day routine tasks and tests as well as casualty drills.

Each day trainees were assigned to a different training location; it could be lower level engine room, reactor controls room, generator room, or Enclosed Operating Station (EOS), etc. Each day we were rotated to a different location. After six months of training and qualification, and after passing written examinations, I went before an oral test board, and graduated. I was then assigned instructor duty there for four months before receiving orders to a boat.

As an instructor/operator I was assigned duties as Power Absorber Generator watchstander as well as assisting other people in their qualification process. The prototype generated mega-watts (millions) of energy, some was used at the prototype itself, some sent to Idaho Falls, but much more had to be dissipated. This was done through the Power Absorber, a generator, which absorbed left over energy from the reactor plant and discharged it to three wells through a series of plates (basically power absorbing liquid rheostats). This Power Absorber generator had no end bells and was not enclosed like a typical motor or generator, but was open framed to allow cooling. It was so large you could stand between the stator and the rotor! It night the three "rheostat" wells would glow.

Pressurized-water Naval Nuclear Propulsion System



Some Prototype Memorable Moments:

- At that time many people smoked cigarettes. We had no military Exchange (NEX/PX) where to buy cigarettes. Had there been, the regulations were that you could only buy 2 cartons at a time. Quarterly the Prototype commanded would sign a letter for the authorization to buy more than two cartons of cigarettes. Remember, a carton of cigarettes at the base NEX/PX was about ¼ - ½ the cost of smokes in the local market.
  - o One time I volunteered to make the run. I got the cigarette orders from all the buyers, picked up the authorization letter and drove to Salt Lake City and to Hill Air Force base, to fill the order. Then drove back with about 60+ cartons of smokes to deliver to the buyers. BUT, still the order had to be two cartons per person. All the orders included a 50¢ per carton fee to cover the cost incurred by the driver making the run.

- An Engineering Laboratory Technician (ELT) accidently spilled a sample of radioactive primary coolant he was analyzing (part of the daily routine). The spill occurred in the hall way between the prototype engineering spaces and the ELT's laboratory in the building that surrounded the engineering spaces. Rather than cause a big "Primary Coolant Spill" fiasco, he opted to go get some rags to wipe up the spill, which was a BIG NO NO! While he was gone, the janitor came along and mopped up the "water" that was on the floor. The janitor left the building to go to other floors below using the back steps, and as he did, he dragged the mop behind him, spreading the contamination as he walked down the stairs.
  - o A good looking civilian secretary used to sit on those back steps, take a break away from the hustle and bustle of the prototype activities, and talk to sailors; mostly officers. Unknowingly, she sat on one of the step the mop had spread the contamination. By this time the liquid had dried.
  - o At the end of the work day, as we left to return home, we had to pass through radiation detectors. When she pass through, her behind set off the alarms. All those that had not passed through the detectors were in lockdown until it was discovered what happened some 24 hours later. Fortunately I had already passed through the monitors, was on the bus under way for Idaho Falls.

In August 1964 I got orders to the Blue Crew of the Fleet Ballistic Submarine (FBM a.k.a. boomer) USS THOMAS JEFFERSON (SSBN 618), an Ethan Allan (SSBN 608) class FBM with a crew of about 145 men. Boomers have two crews: a Gold and a Blue crew (the senior crew by commanding officer status/rank). Each crew mans the boat for three months at a time, then turns it over to the other crew. The crews were home ported at the Sub Base in New London (Groton), while the boat operated out of Holy Loch, Scotland. In January of 1965 our Blue crew relieved the Gold crew in Holy Loch, and after a 30 day upkeep we went on deterrent deployment for 60 days, which was called a PATROL.

Upon completion of a patrol crewmembers were awarded the Deterrent Patrol Pin (gold for officers, silver for enlisted). For subsequent patrols a silver star was added to the pin, and after six patrols, the five silver stars were replaced by a single gold star. This patrol pin was reminiscent of the WWII combat patrol pin.

I was cocky. I had my dolphins, I had nothing to worry about AND I had been advanced to Petty Officer 2nd class; EM2(SS). Hellooo? The JEFFERSON is completely different from the POMFRET. Although I got to retain my Dolphins and the privileges that went with them, I had to start the qualification process all over again learning more fluid systems and more equipments than POMFRET. But heck, I had a year to re-qualify submarines: 4 deployments. Hah! What I did not know is that I had

six months to attain my nuclear power plant qualifications plus six more months to attain the submarine re-qualifications.

Nuclear power plant qualifications were pretty much the same as submarine qualification but dealt primarily with nuclear power plant fluid systems, electrical systems, control systems and interactions with other systems and of course the nuclear reactor. The purpose of this qualification was to train you to be a safe nuclear plant operator and prevent a nuclear incident or accident. You had to know how your watchstation actions might affect other watchstation and especially the reactor plant. An engine room Machinist Mate watchstander had to know how his watch standing actions affected the reactor plant, electrical plant and engine room equipment. Ditto for Electricians Mate, the Throttleman, and the Reactor Operator.

Additionally I was required to qualify certain watch stations on a progression scale, and for me as an electrician, it was: Boiler Sight Glass Watch in the Reactor Tunnel, Emergency Propulsion Motor Operator (EPM), Auxiliary Electrician Aft (AEA), Steam Plant Control Panel Operator (SPCP a.k.a. Throttleman), Electric Plant Control Panel (EPCP) Operator (a.k.a. Electrical Operator), and Shutdown Maneuvering Area Watch (SMAW – which was the overseeing of the reactor plant when shut down in port). By the end of patrol I had achieved AEA qualifications. This progression of watch station qualification, as an electrician, was required on all nuclear powered submarines I served on.

TYPICAL MANEUVERING ROOM CONTROL PANELS
STEAM PLANT (SPCP) - REACTOR PLANT (RPCP) - ELECTRIC PLANT (EPCP)

Some JEFFERSON memorable moments:

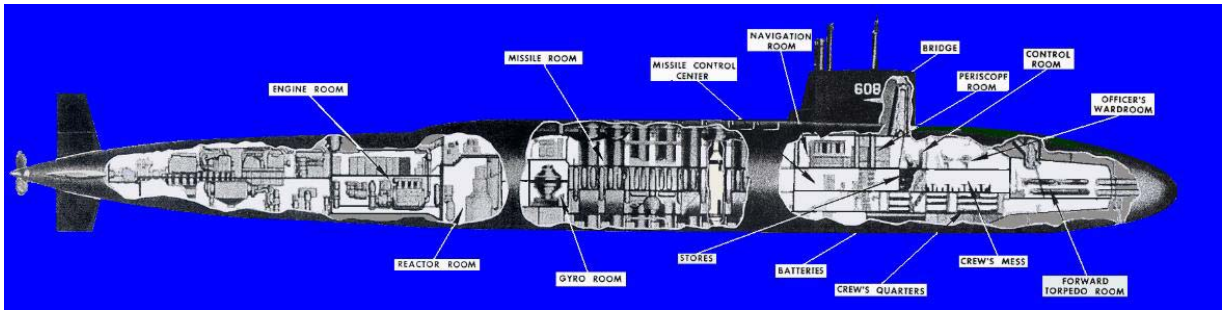
- My first nuclear powered submarine (Nuke). Our Blue Crew was bussed from New London, CT to Quonset Point, RI and flew on a chartered airline to

Glasgow, Scotland, and then by bus to Holy Loch where we relieved the Gold Crew. Sometimes we flew there by USAF Military Air Transport (MAT) flights. As we were preparing for our patrol, stores (food, etc.) were being loaded on board. I was impressed to see big hams being hung from overhead brackets along with bags of oranges, tangerines and grape fruit in the non-engineering (nuclear propulsion) spaces. This practice went away several years later.

- After about 10 days into our patrol the Trash Disposal Unit's (TDU) **sea-end** ball valve got stuck open. The TDU is basically a vertical torpedo tube used to eject trash, in weighted canisters so it would sink to the bottom. With the sea-end valve stuck open we had to keep the **in-hull** hatch shut tight and therefore could not eject any trash, and also limited our operating depth. For the remaining 50 or so days trash and garbage had to be stored on board, mostly in the Engine Room but other spaces as well. This trash included paper trash, wet garbage, cigarette butts and ashes, etc. When the patrol was over and we were on the surface heading for Holy Loch, all the bags of trash and garbage were tossed overboard. It took the off watch working party over 4 hours to get rid of it all. (It had to be moved from the Engine Room aft (and other spaces), weighted down, then to the Auxiliary Machinery Room #1 hatch, taken topside on deck and dumped overboard.)

–INCLUDEPICTURE "http://americanhistory.si.edu/subs/operating/aboard/leisure/images/tdu.jpg" * MERGEFORMATINET —

TDU & IN-HULL HATCH



TYPICAL ETHAN ALLAN CLASS SSBN. NOTE THE GYRO ROOM. IT IS ACTUALLY AUXILIARY MACHINERY ROOM #1. THE "STABILIZER" GYRO WAS LATER REMOVED. ON JEFFERSON. A BRONZE PLAQUE WAS PLACED IN THE MIDDLE OF THE DECK WHERE THE GYRO ONCE STOOD, ENGRAVED: "IN MEMORY OF IGOR, THE NODDING IDIOT."

[Notes about the compartments forward to aft: The FORWARD TORPEDO ROOM is just that. The OPERATIONS COMPARTMENT comprises the Stores, Batteries, Crew's Quarters, Crew's Mess, Officer's Quarters, Officer's Wardroom, Control Room, Periscope Room and Navigation Room. *The Periscope Room is not really a room but a raised platform addressed as "CONN." The Navigation room is not a room, but a space that lies just aft of the Conn.* The MISSILE ROOM also houses some enlisted berthing (9 people), and the Medical Corpsman's office/exam room; this compartment is sometimes referred to as "Sherwood Forest." Look just above the REACTOR ROOM and you will see a thick line which is the deck of the TUNNEL connecting the nuclear spaces to the rest of the boat. The ENGINE ROOM is deceiving. Between the Engine room and the Reactor Room is the AUXILIARY MACHINERY #2, then comes the ENGINE ROOM with the MANEUVERING ROOM located in the forward starboard side of the Engine room. What is labeled as the Engine Room is in fact the Auxiliary Machinery Room #2. Just aft of that is the Engine room.

- At the patrol's mid point we had a feast: Beef Wellington with Baked Alaska for dessert. That was followed by "splicing the main brace." Each man was given 1½ ounce of "medicinal" whiskey to mix with an eggnog type mix or grapefruit juice; we were not permitted to drink it straight! Those scheduled to go on watch could get their "dose" when the watch was over. The practice was discontinued several years later. However "boomers" kept up the mid-patrol feast tradition for several years.
- During the patrol many members took advantage of Polaris University: pre-patrol ordered college courses delivered to the "students" via 35 mm film.

Back in New London I I asked to be reassigned to New Construction due to family problems with the first wife.

In April 1965 I was assigned to the Gold Crew of USS GEORGE C MARSHALL (SSBN 654), a Benjamin Franklin (SSBN 640) class boat with a crew of about 150 men, which was being built (new construction) at the Newport News Shipyard (NNS&DD Co.) in Newport news, VA. The MARSHALL had so many new innovations and newer state of the art electronics that it could have been a class of its own. In fact during our initial sea trials we went through pretty much the same sea trial routine that a new class of boat would undergo. This included going to test depth, closing and opening all sea valves, shutting down and restarting the nuclear reactor.

Qualification was on hold – sort of. We had to monitor the construction of the boat and make sure at the "Ts" were crossed and the "Is" dotted. If we saw something amiss we filed a report. This was going to be our home and we did not want shoddy work. Additionally, since this was a "nuke" boat it had strict construction standards. For example when a nut was placed on a retaining bolt, the bolt had to show at least 4 threads past the nut. I personally filled out over 500 discrepancy reports. That being said, Newport News Shipyard, ***at that time***, did good work as well as good finish work (aesthetic). Certain bulkhead and switchboard panels were finished off if various shades of veneer resembling wood grain.

We studied the nuclear reactor plant including material used in construction of this particular class boat, we practiced radiation exposure drills, and started learning a bit about the rest of the boat, things like where the radiac equipment was to be stored and where different damage control equipment would be located. This included the knowledge of the expanded capability of the reactor core's lifetime. The other major difference was in the engine room: General Electric designed and outfitted engine room and propulsion system versus a De Laval system (which I prefer). MARSHALL had a De Laval engine room with a Westinghouse reactor.

As construction of the boat proceeded we were able to qualify more and more; both submarines and nuclear power plant.

[Note: Whenever one gets transferred from one boat to another, that person must re-qualify submarines for *that* boat, even if it is the same class. The re-qualifying process between the same class of boat is a lot less stringent than re-qualifying between different classes of boats.]

Then came sea trials which took us to St. Croix for liberty and swim call on the way as well as a port call in San Juan, Puerto Rico. All in all, it was a pretty nice sea trial period. Of course we had to put the boat through all the operating paces.

Finally the boat was completed and commissioned. The Blue Crew took it out on its first patrol, taking the boat to Rota, Spain where she would be homeported while our crew moved to New London, CT; both crews would be home ported there. Eventually the boat's home port was changed to Holy Loch, Scotland.

I did three patrols on MARSHALL from Rota, Spain and three from Holy Lock, Scotland where I met a nice young lass that ***almost*** became my bride. Never mind – you don't have a need to know!

During my tour on MARSHALL, I managed to qualify up to the Electrical Operator watch station level and re-qualify submarines on that boat. In total I think I made six patrols.

Some MARSHALL memorable times:

- The boat was being built in Newport News, VA. I reported aboard at a stage of construction where the major machinery and switchboards had been installed but not much more than that. I was a **Plank Owner** (or **Plankowner**) on this boat. Meaning I was part of the crew that commissioned the boat.

[A Plank Owner is an individual who was a member of the crew of a ship when that ship was placed in commission. Originally, this term applied only to crew members that were present at the ship's first commissioning. Today, however, PLANK OWNER is often applied to members of newly commissioned units, new military bases and re-commissioning crews as well. The origin of the term is the implication that a crew member was around when the ship was being built and commissioned, and therefore has bragging rights to the "ownership" of one of the planks in the main deck. Historically, a Plank Owner in the United States Navy and United States Coast Guard, or his widow, could petition the Naval Historical Center's Curator Branch for a piece of the deck when the ship was decommissioned.]

- After construction, the boat went through a phase called "power range testing" where the nuclear reactor as well as the rest of the steam plant was put through its paces to ensure it operated properly and the safety systems operated accordingly. Normally this lasts about 30 days. Ours lasted over 45 days because we had SCRAMS (automatic shutdown of the nuclear reactor) of unknown causes:
  - If the after Reactor Compartment Tunnel Door was slammed shut, the reactor would SCRAM.

(The Reactor Compartment Tunnel is a small passageway over the compartment housing the nuclear reactor and its associated equipment, that allows passage from the front part of the boat to the aft part of the boat. The compartment is well shielded from the radiation emitted by the nuclear reactor. There is a water-tight door at the forward end of the tunnel compartment, and another at the after end.)

  - When the electrical operator on the EPCP took a ground reading on the port electrical bus, the maneuvering room radiation Air Particle Detector (APD) would alarm and the reactor would SCRAM.
  - Then a SCRAM would occur at odd times for no particular reason. Later we found out that the bored Lower Level Auxiliary Machinery Room #2 watchstander would grab hold of a bundle of overhead cables and do pull ups. Obviously a loose connection caused the SCRAM.

(Nobody really knows where the word "SCRAM" comes from. Some think it means Safety Control Rod Ax Man" but that has never been verified or proven.)

- After the testing the boat was commissioned by the sponsor, Mrs. George C. Marshall, on 29 April 1966, followed by a reception and a huge party later that evening.
- After the testing was over we headed south to Florida. We had a great time in the area. The boat was at the missile range in preparation for firing a Polaris missile down range, and we held liberty in Satellite Beach – almost owning the town.
    - Nightly we would gather at the lounge of the Satellite Lanes (bowling alley). The place was packed with the crew and local women. The band would start out the evening by making a statement: "***Women like submarine sailors better because they go down lower and stay longer!***" That got the evening going full blast!
- The Blue Crew fired their missile first, while we observed the launch from the Missile Range Instrumentation ship USS OBSERVATION ISLAND (AG 154), then we took the boat out and fired our missile the down range. We were much more on target than they were.
- Our crew took the boat on sea trials while the Blue Crew prepared to take over the boat and go on the first patrol. Sea Trials took us down to St. Croix (Virgin Islands). The mail was always a day late and a dollar short. (At that time we were being paid by government check.) When we got to St. Croix we had not been paid since arriving in Florida, some 6 weeks prior. The Commanding Officer made arrangements with the local bank to allow people to cash personal checks (amount varied by rank).
    - The C.O. took out a personal loan to lend money to sailors who were broke and who did not have a checking account, again the amount varied by rank. I remember at the bank, cashing a check, the identification required was my George C. Marshall cigarette lighter.
- During pre-patrol sea trials, we strung a string in the aft end of upper level of Auxiliary Machinery Room #2 at about waist level. When we reached test depth during our trials, you could easily step over the string; the boat having compressed that much!
- For the first several patrols the boat was stationed in Rota, Spain at the Spanish Naval Base. Because of security considerations, we were not permitted to go on liberty in uniform (enlisted personnel had the ship's name patch sewn on the upper part of the uniform's right sleeve). This was unusual because, at that time, sailors were not permitted to depart a ship or boat on liberty wearing civilian clothes. Of course with the spies in Rota and the couple of Communist owned bars, this did little to deter the identification of the boats in port. Later the boat was stationed in Holy Loch, Scotland.

[NOTE: EVERY TIME A BOAT (SSN OR SSBN) GOES TO SEA AFTER AN UPKEEP PERIOD OR A PROLONGED IN PORT PERIOD, IT IS PLACED THROUGH HER EXERCISES (ROLL, PITCH, ETC.) AS WELL AS DIVING TO TEST DEPTH.]

- While in Rota I took an overnight tour of Jerez, Spain and visited two bodegas where they distilled wines, primarily sherry. Bodegas Tio Pepe and William & Humbert.
- I used to take a taxi late in the evening to a little café outside of town, sit under a grapevine canopy, drink red wine and eat salami, just relax and listen to the quiet.
- One evening the enlisted men's club sponsored a show of French lady performers, putting on a Can Can-type show. Everybody, including the club manager, thought it was going to be a strip show. It was not, and the poor girls got hooted off the stage in tears. The good news: the booze at the club for the rest of the night was free!
- Going from and returning to the base at Rota we were always stopped at the Guardia Seville guard post and scrutinized. They carried automatic weapons all the time. (At that time dictator Francisco Franco ruled Spain). Leaving the base, we had to stop at their guard station just outside the base's guard station and show that we did not have any contraband with us.
    - Contraband would include excessive number of cigarettes (a carton; we were permitted 2 packs per person per day going into town), or items from the Navy Exchange that were not normally available in Rota.
- On one patrol we were assigned to the North Atlantic area, but were ordered not to go below 200 feet. It was not a pleasant patrol as we were tossed around a lot. On that same patrol we had to cross the Arctic Circle, so for every one who was not a "Blue Nose," a Blue Nose ceremony was held in the aft part of the crew's mess:
    - A big and hairy torpedo-man was dressed in a diaper, and sitting in a chair. His stomach was amply covered with whip cream, topped with a cherry.

THE BABY, INDUCTEE & THE COURT – THE BABY & KING MOUSE
ACTUAL USS GEORGE C. MARSHALL PHOTOS

- The non-Blue Nose inductee would approach the "baby" on his knees and pluck the cherry from the belly – you can imagine what happened next! The smart inductee would make sure to keep his eyes shut!

  - Upon completion of that part of the rite, the inductee was placed (rear-end first) in a huge tub of ice water. He then became a "Blue Nose" and the tip of his nosed colored with a blue magic marker.
  - The boat's Engineering Officer did not want to participate, so he locked himself in his stateroom. The C.O. order two of the burliest crew member to stand on each side of the Engineer's stateroom door. Then the C.O. ordered the announcement of "Reactor SCRAM" on the ship's announcing system. The Engineering Officer rushed out of state room heading for the Engine Room and to the Maneuvering Room (as he was required to do). As he stepped out of stateroom the two burly crew men grabbed him by each arm, lifted him up with his legs pumping a mile a minute and carried him to the crew's mess for the initiation. The next announcement he heard was "Belay That" (meaning forget the last announcement) and the Engineering Officer's comment: "Oh, shit!" Yep! He got initiated!
- In Holy Loch, a group of us decided to take the ferry from Holy Loch's port city of Dunoon to Greenock, then catch a train to Glasgow and stay for the weekend. On the ferry we ordered tea, and ate the crumpets available on trays on the tables. When we reached Greenock, we went to pay and we were asked how many crumpets we had eaten. We didn't know. We turned around and pointed at the table: it was void of crumpets! We all chipped in and I am sure the ferry made some money that trip!
- The train ride from Greenock (and back) was a night mare. The train consisted of individual compartment cars which did not allow you to move from one to the other, so if you had to go wee wee after a night of drinking, you had to hold it, or pee out the window, which some guys did to their chagrin. Windows were another challenge. They were raised with a leather strap and latched pretty much the same was as a man's pants belt.
- During the early years of the "boomer" era, medical doctors were assigned to the boats to evaluate the crews mental condition since they were being burdened with the responsibility of such an awesome weapon and so much fire power. (A single boomer carried more firepower than was used in WW II.) We had a doctor assigned to our boat who would walk several times a day fore to aft, talk to sailors and make notes. We set him up:
  - As soon as he entered Auxiliary Machinery Room (AMR) #2 the watch stander would get on the hand set (telephone) and warn all watch station of the doc's presence, then go to a corner, kneel down and perform and imaginary task. When asked, the watchstander told the doctor that he was tending to his vegetable garden and the "veggies were just starting to sprout." ***The doctor noted that in his little book.***
  - As the doctor stepped into the engine room the upper level engine room watch admonished him to watch where he walked because he did not want his flower bed stepped on. ***The doctor noted that in his little book.***

  - When the doctor went to lower level engine room he saw the lower level watch bending over some deck plates. The watch stander stated he was cultivating his verdigris farm. ***The doctor noted that in his little book.***
  - And when he came into Maneuvering Room, I told him to be careful because I was growing a tiny herb garden under the lip of the SPCP panel. ***The doctor noted that in his little book.***
  - The doctor noted a small vial stuck to the status board in Maneuvering room. We told him we were collecting belly button lint to stuff a pillow with. ***The doctor noted that in his little book***
  - At the end of patrol the doctor recommend that about one third of the crew be removed from submarine duty, including the Executive Officer. The doctor was never heard of again once we reached port.
- Speaking of Executive Officers, we had a strict one. One day when he was in the control room conducting some operation or another, several guys took his stateroom door off the hinges and hid it under his mattress. Upon discovering his stateroom door missing, he made an announcement on the ships communications announcement system (1MC) that if his door was not returned ASAP the crew would go to battle stations until it was returned. The C.O. came flying out of his state room and told the X.O. to leave and return to his stateroom. When he did, the X.O. laid down on his bunk. What was that lump underneath his mattress……..? Yes, his door was restored.
- Back in Groton in 1967 I met a sweet German girl at Lamparelli's/Seven Brothers night club in the city of New London, CT and we started dating. Little did I know this was the woman God at placed on this earth to drive me crazy! I never regretted one moment! And I soon forgot the gal in Holy Loch.
- During the next to last patrol, our boat had a ship's party at the Old Ferry Tavern in East Lyme, CT. It was there that the engagement between Ingrid and I was announced – taking her totally by surprise. We were married in October of 1967 after a divorce from wife #1.

In 1968 I applied again for new construction duty and was assigned to the USS BERGALL (SSN 667) a Sturgeon (SSN 637) class fast attack submarine being built at the Electric Boat Shipyard in New London, CT.

[A saltwater fish found in the western Atlantic. It is edible and its musky taste is considered a delicacy by some. Specimens may grow to 12 inches though most range from 4-10. Often bergalls are found mixed in with black fish (Tautog), living on or near the same structures.]

Like new construction on the MARSHALL, qualification was minimal. Unfortunately nine months later a medical condition (ulcer) forced me to be transferred to a ship that had a large medical facility, so I was transferred to the USS SHANGRI-LA (CVA-38) at Mayport, FL. By this time I had been advance to Petty Officer 1st Class: EM1(SS). I never saw any sea time on BERGALL.

On SHANGRI-LA, I was on board one year making a deployment to the Mediterranean area. Back in Mayport in November 1969, I got orders to shore duty in Sand Diego as instructor at the very same Electrician's Mate Class "A" school at NTC where I first started out, but in a new state of the art building. We have lived in San Diego ever since that time.

In December 1971, at the end of my shore duty tour, I got assigned to the USS GURNARD (SSN 662), another Sturgeon class fast attack boat with a crew of about 135.

[The flying gurnards are a family, Dactylopteridae, of marine fish notable for their greatly enlarged pectoral fins. As they cannot literally fly, an alternative name preferred by some authors is helmet gurnards.[1] They are the only family in the suborder Dactylopteroidei. They have been observed to "walk" along sandy sea floors while looking for crustaceans and other small invertebrates by using their pelvic fins. Like the true gurnards (sea robins), to which they may be related, they possess a swim bladder with two lobes and a "drumming muscle" that can beat against the swim bladder to produce sounds.]

Since I had not qualified on BERGALL, and my last submarine qualification was on the GEORGE MARSHALL (a boomer), I had to start the process all over again. The good news was that I was submarine qualified and had earned my Dolphins, and I was a 1st class Petty Officer, which meant I had my own bunk to sleep in and did not have to hot rack/hut bunk.

(POMFRET as well as fast attack subs carried more people than there were bunks, so the assignment was three people to two bunks. Since the watch rotation consisted of three sections, one of the two bunks would be available for sleep, albeit a bit warm. Also, during a portion of SSN submarine deployment we took on a cadre of intelligence personnel so temporary bunks were set up in torpedo room on top of torpedoes, or between torpedoes!)

[Note: At that time when fast attack boats went on **WESTPAC**, two months of that was spent on independent Special Operations **(SPEC OPS)** duty, with a bunch of "spooks" on board, usually trailing a Russian sub or other Russian intelligence vessel, and obtaining its noise signature and/or radar signature. "Spooks" were intelligence agency people who wore "coke bottle thick eye glasses" and were able to identify all sorts of contacts. They were not required to qualify submarines (although many tried and did) and they had their own watch rotation.]

Because of the differences between a boomer and a fast attack sub, the submarine qualification requirements on GURNARD were a lot more stringent than those between JEFFERSON and MARSHALL, but the nuclear power plant qualification requirements were close to those of the JEFFERSON and those of the MARSHALL. Fortunately the nuclear power plant pretty much mirrored the MARSHALL's plant. I had 12 months to qualify submarines on GURNARD, it took me 18 months. I had 6 months to qualify all of my watch stations and nuclear power plant, it took me 10 months. Turns out these times were pretty much typical at that time, for most qualifiers! Primarily because of operating schedules and maintenance/repair requirements.

During the period on board GURNARD we were in the shipyard to refuel the reactor core at the Puget Sound Naval Shipyard (PSNS) in Bremerton, WA which took 18 months, so qualification slowed me down there. Additionally at first I had the responsibility of being the division "whip" under the leadership of Chief Petty Officer Gary Woodworth, later, I had the responsibility of being the division leading Chief Petty Officer – by that time I was fully qualified.

Some GURNARD Memorable times include:

- The commanding officer (C.O. - Bobby Bell) wore a white terry cloth robe with blue edging at night when he was in his stateroom, and would wear it if called to the control room in the middle of the night for a variety of reasons. He also insisted the engineering department personnel carry a rag in their back pocket to clean up oil spills as they walked around the engineering spaces.
    - o One day the C.O.'s robe came up missing.
    - o In the engineering spaces, we took white terry cloth rag material, cut it in rag-size pieces and using a magic marker, colored the edge of the rag in blue; then stuffed the rag in our back pocket.
    - o Each time the C.O. would see and engineer walking around with a white terry cloth rag that had a blue edge, the would stop the sailor and pull out the rag. Obviously a lot of difference between a rag colored with a magic marker and a garment made with blue edge. Finally at the end of patrol, the C.O.'s robe magically reappeared.
- While leaving San Diego Harbor, the Weapons Officer requested permission to fire a water slug (we were still on the surface). Basically firing a water slug is like firing a torpedo, without a torpedo actually being loaded in the torpedo tube. This is done every time a boat gets underway to ensure the torpedo tube systems are operational. Many times this is done while submerged.

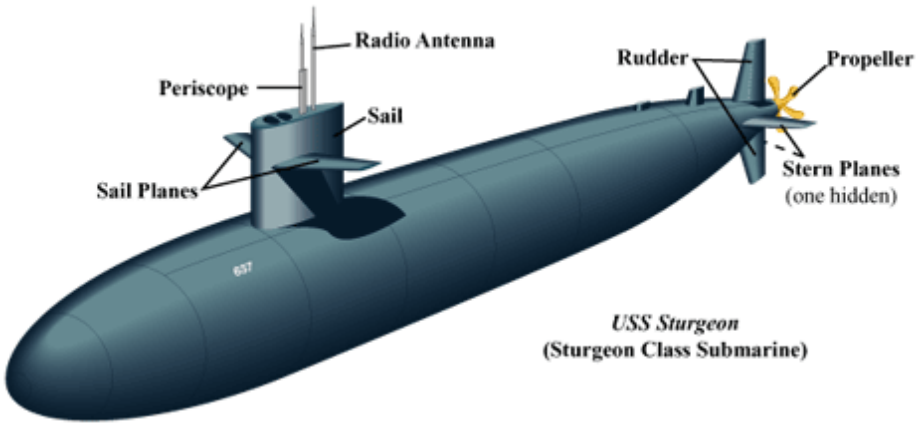
o Reluctantly, the C.O. (Ralph West) gave the permission as he would have preferred to do it submerged – lucky for us! As we fired the #1 torpedo tube water slug, an accident to the ejection ram caused the water line to the Water Round Torpedo tank to shear and the outer torpedo door to jam open. Water started pouring into the torpedo room which sits atop the boat's battery compartment. Salt water and a battery's sulfuric acid don't mix; the result is Hydrogen Chloride gas which is fatal. Fortunately the hatch to the battery compartment was shut tight.

o The collision alarm was sounded. All water tight doors were shut and dogged tight. The C.O. ordered air to be introduced into the compartment at a pressure great enough the stem the flow of incoming water. We returned to port, and for us trapped in the operations compartment, we had to decompress prior to exiting, which took about 3 hours.

o While in the harbor, pictures were shown on monitors in the crew's mess from the periscope's camera. One of the junior officer exclaimed "Wow, look at the ***snow*** on those mountains; **it goes all the way to the top**!" That junior officer, Lt Fargo, eventually became Admiral Fargo, the Commander-in-Chief of the U.S. Pacific Fleet and was one of the two nominees for the Chief of Naval Operations position.

  - My division officer, Lt Eubanks was a pal of Lt Fargo; so close in fact we referred to them as "FarBanks." Lt Eubanks got out of the Navy and started a computer company. You can Google his name (Gordon Eubanks) to see his achievements and his value!
- Another time we were testing a new sonar array system (called the floating wire); we found and trailed a Russian boat from an extreme distance which was so successful, that we were ordered back to San Diego and Captain West was ordered to report to the Pentagon to give his report on the mission.
- On a separate time we were heading to Guam for upkeep when we were ordered to pick up the crew from a downed B-52. Problem was there was a typhoon in the area. We had to surface and head to the area on the surface. Had we remained submerged we would have not been able to surface because of the sea conditions (we would have not been able to blow air into the ballast tanks and keep them filled with ballasting air while trying to surface since very extreme rolls would dump air out of the ballast tanks). On the way there navigation was done through the periscope – the bridge was unmanned and secured. I was on the throttles, suddenly the boat pitched forward and within seconds we were at 100 feet and dropping. (I did not know we were navigating by periscope, I thought we had an officer on the bridge).

    [NOTE: THE DEPTH SENSOR ON A FAST ATTACK SUBMARINE IS LOCATED AMIDSHIPS OF THE BOAT.]
- I spun the ahead throttle shut and spun the astern throttle open to bring us back up, the reactor operator immediately shifted the reactor cooling pumps to fast (to compensate for the immediate energy required by the reactor) and the electrical operator had to crank up on the generator's frequency to handle the extra load of the cooling pumps. We returned to the surface in under 60 seconds.
  - The seas were rough, our sail planes were dipping in the water as we rolled, but we managed to pick up 2 fliers.
  - We approached the life raft, and as the boat rolled towards it, the Chief of the Boat (COB), standing on the end of the sail plane and strapped to the boat, would pluck an aviator from the life raft.
  - We then submerged to the calmness of the sea below. The story of that rescue can be read in the December 1973 Reader's Digest, "Submarines to the Rescue" written by an on board shipmate: Ralph Seeley.



- Prior to entering the shipyard at Bremerton, WA for nuclear refueling, we had a period of Deep Submergence Vehicle (DSRV) operational certification, (the mini-sub that would rescue sailors from downed submarines at depths up to 5,000 ft). The previous 18 months we had been working with and improving the DSRV capabilities. Finally it was time to certify the vehicle for use.

DSRV MOUNTED TO THE STERN OF A SUBMARINE

- During that period, and just before we left of the shipyard, we took onboard the actor Charlton Heston so that he could get a feel of submarine life as he was filming the movie “Gray Lady Down.”
- The testing was unsuccessful. Mechanical problems with the DSRV forced us to go into San Francisco and await the DSRV’s builder technicians (Lockeed). As we passed under the Golden Gate Bridge, the wind blew the shrouds off the DSRV. Eventually another boat completed the certification since we had to get to the shipyard because of monetary constraints. Every day out of dry dock cost the Navy $1M!

- Upon completion of refueling and overhaul, we went on sea trials to Nanaimo, Canada for sound signature testing. Machinery would be started, acoustic noise (signature) would be recorded and cataloged so that the signature would identify our particular boat, and also to ensure we were not emitting noise that could detect us.
  - In order to do this properly the boat had to be submerged without the reactor in operation. So we were submerged in the bay, at 150 feet on shore power!
  - The shore power cables entered through the after escape trunk upper hatch and connected to the boat, in the trunk itself, via “joy” plugs (so called because they are a pain in the ass to hook up). A bladder was placed on the hatch around shore power cables. The escape trunk lower hatch, obviously was shut and dogged. The three cables could handle 1200 amperes of electrical power.
- Upon completion of overhaul and refueling we went back to San Diego, and in 1976 we were ordered to the North Pole for a variety of military reasons. We had a route to the pole, but if we could not come back that way, were to proceed on an established route to New London, CT.
  - For the trip, a special “look ahead” sonar was installed and a scientist, who was VERY familiar with that type sonar, accompanied us.

- Transiting the Bering Straits we had little water to work with: about 17 feet above us and about the same below us.
- After transiting through the straits, we found a Pollyanna and surfaced. We contacted scientists working in the area and saw some scraggly Polar Bears.
- Diving once more we reached the Magnetic North Pole, then the Geographic North Pole, where we circled earth about a dozen times in less than 20 minutes.
- At the Pole we broke through the ice and held "liberty call." Baseball was played, a "time capsule" was left and one guy actually streaked! We made it back to San Diego by the same path we left originally.

- Another interesting aspect of fast attack submarines was the lack of storage space. We had two large reefers (freezers) that handled our cold food items. But for can goods, well…the excess that could not be stored in storage bins, were store on the deck of the crew's berthing space. So when we went to our bunks to sleep, we literally walked on top of our food!

GURNARD AT THE NORTH POLE

- The highlight of this tour on GURNARD was my advancement to Chief Petty Officer: EMC(SS).
- By the time I transferred from GURNARD in December 1976 to go back to shore duty in San Diego, I had qualified past Shutdown Maneuvering Area Watch (SMAW) to Engineering Watch Supervisor (EWS), the highest watch station attainable below Engineering Officer of the Watch (EOOW) which, although enlisted people could attain, only officers would be permitted to stand the watch (unless it suited the C.O. so all officer could be present at a wardroom meeting).

CAPTAIN RALPH WEST PRESENTING MY ADVANCEMENT CERTIFICATE TO CPO

- Qualifying EWS was a milestone. I had to face a board of the C. O., Executive Officer (X. O.), Chief Engineering Officer, Reactors Officer and Engineering Department's Master Chief Petty Officer.
- Questions ranged from reactor core construction, reactor safety procedures, emergency procedures, theory, and chemical analysis. My final test was to be placed in the Maneuvering room in place of the EOOW and a training SCRAM was initiated by the Commanding Officer. My job was to orchestrate the recovery of the reactor plant to full operating condition. (The EWS is allowed to relieve, temporarily, the EOOW for nature calls, so conceivably a real scram

could occur at time time).

After a stint of shore duty, first as instructor at the Basic Electric and Electronics schools in San Diego, then as Curriculum Supervisor for that same school (and a temporary stint at the Navy Personnel Research Development Center (NPRDC)), I received orders in February 1980 to report to the USS PINTADO (SSN 672), another Sturgeon Class submarine.

But first I had to attend six week of EWS refresher training in Honolulu, HI. By this time I had been advanced to Senior Chief: EMCS(SS).

I had also been selected for advancement to Warrant Officer II, and had to go back to Washington DC for an interview with Admiral Rickover, and ultimately, I turned the appointment at the last minute: I like the CPO community too much.

PINTADO had a good crew with a great C.O. and X.O. At the annual Submarine Birthday Ball, the C.O. (Captain McDonald), invited all the crew members (who would be going to the Ball) to his house for cocktails before going to the ball.

[A fish (Scomberomorus regalis) similar to, but larger than, the Spanish mackerel, and having elongated spots, common about Florida and the West Indies. Common Names: Tiger-Fish, Tigerwel, Silure de Tigre.

Pintado is a freshwater fish from the Pantanal and Parana River basins in Brazil. It is a skin fish (no scales) feeding mainly on other fish.]

Re-qualification on PINTADO was relatively easy. I had come from a similar class boat, so, basically, all I had to do is show damage control proficiency and Trim and Drain System proficiency.

[NOTE: The TRIM and DRAIN systems provide submarine stability. They provide the ability to discharge water from tanks, or transfer water between tanks for stability, or to intake water and disperse it throughout any tank in the boat. It is the stabilizing heart of a boat.]

Nuclear re-qualification was relatively easy as well. I had to show proficiency in the construction and operation of the nuclear reactor plant for the Commanding Officer and I had to repeat my Maneuvering Room SCRAM procedure form GURNARD. The only difference was that between the time I left GURNARD and the time I reported to PINTADO some terminology changed. We no longer “light off” a piece of equipment, we now “start up” a piece of equipment.

In 1981 after one year on board PINTADO I got orders to the USS HADDOCK (SSN 621) a Thresher (SSN 593) class boat, then re-classified as a Permit (SSN 594) class boat when Thresher was lost with all hands.

My assignment to HADDOCK was as the Chief of the Boat (COB).

[The haddock or offshore hake is a marine fish distributed on both sides of the North Atlantic. Haddock is a popular food fish and is widely fished commercially. The haddock is easily recognized by a black lateral line running along its white side (not to be confused with pollock which has the reverse, i.e. white line on black side) and a distinctive dark blotch above the pectoral fin, often described as a “thumbprint” or even the “Devil’s thumbprint” or “St. Peter’s mark”. Haddock is most commonly found at depths of 40 to 133 m (130 to 436 ft), but has a range as deep as 300 m (980 ft). It thrives in temperatures of 2 to 10 °C (36 to 50 °F).]

[The Chief of the Boat is the senior enlisted man on a submarine who is tasked with keeping the command (C.O.) appraised of existing or potential situations, procedures, and practices which affect the welfare, morale, good order and discipline, job

satisfaction and utilization of its enlisted members. (On nuclear submarines, he cannot be a nuclear watchstander and be COB at the same time.) As such, the COB reports directly to the Commanding Officer, orally and/or by written report. The COB is the Command Master Chief of the submarine world. In addition, the COB is the Administrative Assistant to the Executive Officer (X.O.) supervising certain activities affecting the crew as a whole. The COB is an integral part of the chain-of-command on Navy submarines. There is only one COB on a submarine. These responsibilities at times include interaction with junior officers.]

[Note: It is interesting to note that submarine crews always had a COB. Before the advent of the Senior Chief and Master Chief ranks, it was the most senior chief on board (usually at Machinist Mate or Torpedoman). Years later the surface force established the shipboard position of Command Chief/Senior Chief/Master Chief (depending on the senior enlisted man's rank on board). It is also interesting that submarine crews always had to undergo submarine qualification and when completed were awarded the dolphin pin. Years later, the surface navy adopted a "quasi" qualification system and Surface Warfare Pins would be awarded. Finally in the late 1980's the surface qualifications program got serious and became more stringent moving along the lines of submarine qualifications, although not as rigid.]

Submarine re-qualification was not too bad. The 594 class boat is not that much different than the 637 class boat. And as COB I got a lot of "freebie" signatures on my qualification card.

The hard qualification came in an area I was never associated with. First I had to qualify as Chief of the Watch (COW) mastering the Ballast Control Panel (BCP).

[Ballast on a submarine is essentially weight, in the form of water, which controls the depth and trim (angle) of the boat. Filling the main ballast tanks at the bow and stern of the boat with water allows the submarine to submerge. Pumping water between variable tanks along the submarine's hull, (along with the diving and depth control sail planes), controls the water depth and trim once the boat is submerged. To bring the boat to the surface, compressed air is used to blow the water from the ballast tanks. **Controlling the precise depth near or below the water surface is one of the most critical operations on a submarine. Proper depth control allows a submarine to remain exactly deep enough for periscope viewing, avoid obstacles (especially in polar operations), hide from enemies, or dive quickly to avoid interception.** On WWII diesel-electric submarines the BCP was referred to as the "Christmas Tree" because it showed hull opening in red when open, and green when closed.]

TYPICAL SSN/SSBN BALLAST CONTROL PANEL

Once I qualified as COW, and mastered that watch station, I next had to qualify Diving Officer Of the Watch (DOOW). It took a while because I had to learn the boat's trim signature: you can't be heavy forward and light aft at the same time. And vice-versa. So I had to learn how to order the COW to move water around to maintain stability of the boat. Also, my main job was to carry out the orders of the Officer of the Deck (OOD) in regard to navigation course, speed, depth, angle of dive and

angle of ascend. I also had to memorize the safe operating envelope of the boat (speed vs. depth).

At the instructions of the OOD relative to depth and course, I instructed, as DOOW, the helmsman which the course to take (which way to turn), the fairwater/stern planes operator how many degrees to raise or lower the planes (to go up or down), and this is done though an bubble inclinometer which is a bubble arced instrument similar to a bubble level. Giving orders like "2 degree down bubble," 1 degree up bubble." Hence the term "BUBBLE HEAD" when referring to a submarine sailor.

TYPICAL DIVING STATION & TYPICAL INCLINOMETER

Besides standing watch, I had to make out the watch bill for the non-nuclear crew, assign berthing for the whole crew, schedule some drills, be the "foreman" of the enlisted personnel topside when getting underway or entering port, father, mentor, disciplinarian, etc.

Some HADDOCK Memorable moment include:

- The biggest achievement while on HADDOCK is that shortly after reporting on board I was advanced to Master Chief Petty Officer: EMCM(SS).
- Interestingly, HADDOCK's C.O. was CRD Davis, who had been my Division Officer on BERGALL, at that time, LT Davis.

[NOTE: THE RANK OF MOST SUBMARINE COMMANDING OFFICERS WAS COMMANDER (CDR – O5). BUT AS THE COMMANDING OFFICER OF A VESSEL, HIS TITLE WAS THAT OF CAPTAIN]

- When I reported on board, HADDOCK had failed her Operational Reactors Safeguard Examination (ORSE) and morale was pretty low. After a re-test, the crew passed the ORSE and we prepared to go to WESTPAC.
- One afternoon, several weeks before deployment, the Executive Officer (X.O.) called me into his stateroom. "COB, there is a brand new Ensign coming down the pier, ready to check on board. Play along with this, and escort him to the C.O.'s stateroom." Now this was odd because the C.O. was in Hawaii getting his pre-deployment briefing and orders.
    - The topside watch called down below informing me an officer was topside waiting to report on board.
    - I went topside and there was this tall, lanky, geeky looking Ensign, in dress blues, wearing horn rimmed glasses. I introduced myself and took him down below.

  - Once below I escorted him to the C.O.'s stateroom. There, in his dirty, oily working khakis and sporting a scraggily long beard, was "Skip," the Chief Machinist Mate of Auxiliary Division, sitting in the captain's chair, wearing the captain's collar devices, one leg on the desk, shirt half out of his pants, fly open, with a Playboy centerfold open on his lap.
  - I introduced the Ensign to the fake C.O. who told me to bring him back when he had changed into working clothes. The Ensign paled.
  - About then the X.O. came running through the Wardroom towards the captain's stateroom yelling "Captain, Captain, the Engineer [officer/ CHENG] is drunk again and trying to pull rods!" (Pulling [control] rods is the action taken to take the reactor critical (startup of the reactor). The Ensign paled even further!
  - I eased the Ensign away from there, took him to the head, showed him how to flush a toilet, (I figured that by this time he either had to pee or poop!), then sat down with him in the crews mess, providing some basic submarine life information.
  - After our little talk I took him on a tour of the boat, starting out with the bow compartment. As he stepped half way through the hatch he saw "Skip" working on an overhead ballast control vent valve operating gear. The Ensign straighten up to come to attention (not noticing that "Skip" had changed back to the CPO insignia on his collar) and when he did, he banged his head on the hatch combing! I don't think the Ensign used to stutter before, but after that day's encounter, he stuttered all the time.
- Our X.O. developed a medical condition so we had to depart for deployment without an X.O. Our first port of call was in Hawaii where a X.O. had been ordered in from the east coast.
  - The new X.O. was OK, but had an East Coast Navy mentality about him that did not sit well with us West Coast sailors. (Yes there is a difference in mentality and outlook between the East and West coast sailors.)
  - After leaving Hawaii, his clothes that were in the washing machine, came up missing.
  - He sounded battle stations (a.k.a. General Quarters (GQ)), where the ENTIRE crew had to man ***specific*** watchstations, and announced that we would remain at GQ until his clothes were returned.
  - I pointed out to the X.O. that if we remained at GQ, he would not get his clothes back because the crew could not leave their watchstation to retrieve his clothes.
  - Finally he relented. Unfortunately he did not get his clothes back until we reached Guam. Someone had put them into one of the torpedo tubes. I was very upset with the crew about this act but there was not much I could do.

[NOTE: Fast attack submarines had one front loading washer, and one front loading electric dryer for the entire crew. They were Norwegian built (Wascomat). They were small, standard size capacity and operated almost 24 hours a day, which each division being allocated a day a week to do their laundry. Usually a laundry petty officer was assigned to the division and he was responsible for doing the division's laundry, about 9 people. Officer laundry was done by the mess specialist assigned to the wardroom. The dryer's heating elements burned out quite often and was not unusual to have them replace four to five time in the course of a deployment.]

–INCLUDEPICTURE "http://americanhistory.si.edu/subs/operating/aboard/habitability/images/washerdryer.jpg" * MERGEFORMATINET —

TYPICAL SUBMARINE WASHER & DRYER

- We did our Spec Op first then operated with the battle group. Several events made the trip unpleasant, especially since we were operating in the warm waters of the Indian Ocean, just south of the Arabian Peninsula:
  - First, our air conditioning broke down, and it took 5 days before it could be fixed, meanwhile we were sweltering in the hot canister of a boat. (Subsequently that class boat would never again be sent to the Indian Ocean).
  - Then due to a broken part, our port torpedo tube nest (2 tubes) was not operational. We ended up surfacing with decks awash in the middle of the night while a helo ferried the parts we needed to us.
  - After the transfer, the battle group admiral asked (by secure radio) if there was something else we needed. Our C.O. responded "A couple of cases of beer!"
  - From the supply ship USS SHASTA (AE 33) we received, by helo, 4 cases of Shasta Root Beer!
- Morale was pretty low on board and the crew had a serious drug problem. During an underway field day (spring cleaning) we found a lot of marijuana (MJ) and other substances squirreled away in the engine room and some home-made liquor in the Electronics Laboratory Technician (ELT) work space. Also you could smell MJ in the diesel room below the forward sleeping compartment which is where the exhaust from the sonar room exhausted to.
- We crossed the equator on the way to Australia, among several pollywogs that had never crossed before, was the C.O. and me. We went through the initiation (submerged) and became Shellbacks.

ME WITH A "WENCH" ON THE EVE OF THE INITIATION

- We moored at HMS Sterling, the naval base on Garden Island which is close to the town of Rockingham in Western Australia, about 30 mile south-west of Perth, Australia. We had a great time down under and my only official duty was to attend a welcoming reception hosted by the local politico on the second night, but the remaining five days were all liberty.

- o While there we were berthed at the Naval facilities barracks (HMAS Sterling), which were quite nice.
- o I rented a car (pre-ordered from the States) because I wanted to see the countryside. I actually drove on the left side of the street with no problems.
- o I went to see kangaroos and actually fed Temars on Garden Island.

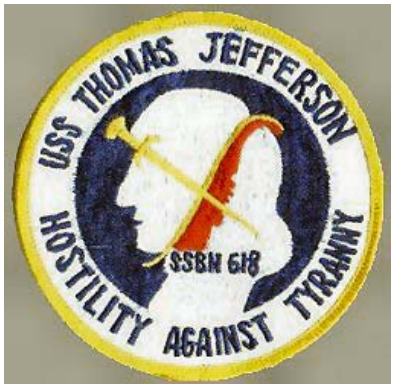
- When we arrived in Guam for upkeep and we were met by the Commodore Ralph West: my C.O. on GURNARD!
- During our upkeep in Guam, we were berthed in the Bachelor Civilian Quarters (BCQ) at an outrageous rate of 25¢ per day. While there the command rented a car for the use of the CPOs.

Unfortunately a medical condition in December 1981 forced me off HADDOCK and almost out of the Navy.

After a medical review board I was assigned to the nuclear powered guided missile cruiser, USS BAINBRIDGE (CGN 25), then four years of shore duty at the Shore Intermediate Maintenance Activity (SIMA), in San Diego, and culminating with a tour of duty as the Command Master Chief on the aircraft carrier USS KITTY HAWK (CV 63), first home ported in San Diego, then Philadelphia, PA.

That just about wraps it up. No more to say about submarine life – oh wait , there is more, but it would be boring unless you lived the life and could associate to it, or it is classified.

MY BOATS


USS THOMAS JEFFERSON
SSBN 618
HOSTILITY AGAINST TYRANNY


SSBN USS GEORGE C. MARSHALL 654
PATIENCE NOT WEAKNESS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DE PROFUNDIS
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GURNARD


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USS PINTADO
EL MAS PINTADO


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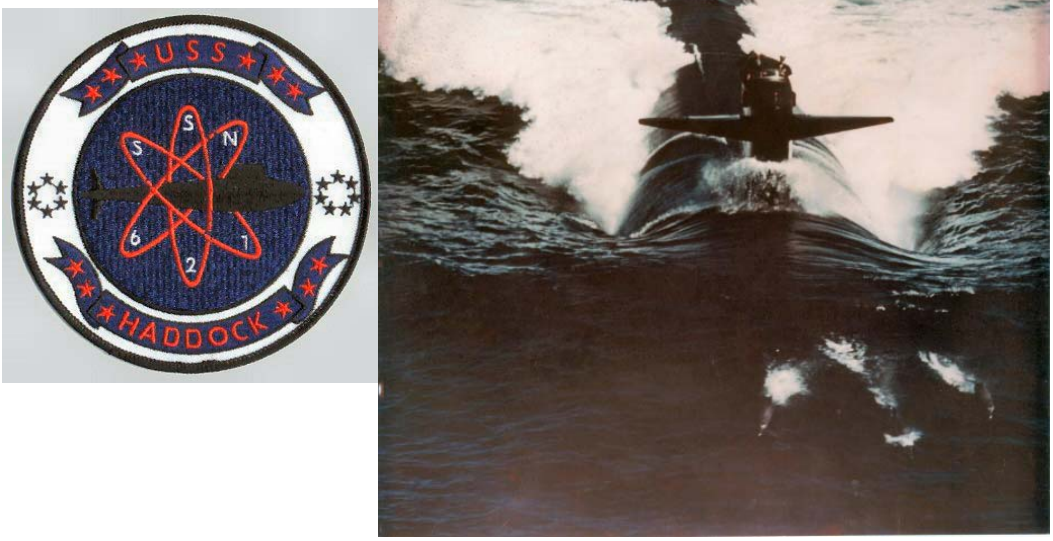


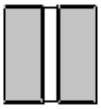
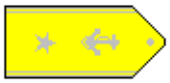
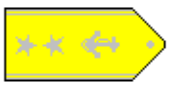
The 3 wakes in front of the boat are Dolphins

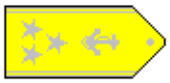
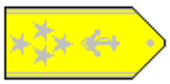
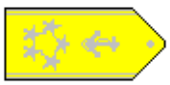
Grade	Rate	Abbreviation	Upper Sleeve	Collar and Cap
E-1	Seaman Recruit	SR	One	none
E-2	Seaman Apprentice	SA		none
E-3	Seaman	SN		none
E-4	Petty OfficerThird Class	PO3		

E-5	Petty OfficerSecond Class	PO2		
E-6	Petty OfficerFirst Class	PO1		
E-7	Chief Petty Officer	CPO		
E-8	Senior Chief Petty Officer	SCPO		
E-9	Master Chief Petty Officer	MCPO		

NOTE: THE UPPER SLEEVE MARKINGS FOR SA & SN ARE DIFFERENT COLORS:
WHITE = DECK RATINGS: SEAMAN APPRENTICE, SEAMAN
RED = ENGINEERING RATINGS: FIREMAN APPRENTICE, FIREMAN
GREEN = AIR RATINGS: AIRMAN APPRENTICE, AIRMAN
BLUE = CONSTRUCTION BATTALION: CONSTRUCTIONMAN APPRENTICE, CONTRUCTIONMAN

Grade	Rank	Abbreviation	Collar	Shoulder	Sleeve
O-1	Ensign	ENS			

O-2	LieutenantJunior Grade	LTJG				
O-3	Lieutenant	LT				
O-4	LieutenantCommander	LCDR				
O-5	Commander	CDR				
O-6	Captain	CAPT				
O-7	Rear Admiral(lower half)	RDML				
O-8	Rear Admiral(upper half)	RADM				

O-9	Vice Admiral	VADM			
O-10	Admiral	ADM			
O-11	Fleet Admiral*	FADM			

* The rank of Fleet Admiral has been reserved for war time use only. The last Fleet Admirals were in World War II. Fleet Admirals during that war were Chester W. Nimitz, William D. Leahy, Ernest J. King, and William F. Halsey.

Pay Grade	Rank	Abbreviation	Collar	Shoulder	Sleeve
W-1*	Warrant Officer	WO1			
W-2	ChiefWarrant Officer	CWO2			
W-3	ChiefWarrant Officer	CWO3			
W-4	ChiefWarrant Officer	CWO4			

W-5*	ChiefWarrant Officer	CWO5			

* The grade of Warrant Officer (W-1) is no longer in use. W-5 was established in the Navy in 2002.

The End!