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

The Silent Sentinel
August 2013

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.

VADM Eugene P Wilkinson

RADM Paul Lacy

Sailor Rest Your Oar!

U.S. Submarine Veterans
San Diego Base

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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: _____

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Would like the SILENT SENTINEL emailed: YES_____ NO_____

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

August 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 August 13, 2013. 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, Tommy Cox, Jim Harer, Bobby Medina.

ETERNAL PATROL

VADM Eugene P Wilkinson, RADM Paul Lacy

Submarine Losses in July

Originally Compiled by C J Glassford

G – 2 (SS 27) Duty Section on Board: Sank, on 30 July 1919, At Moorings, in New London, Connecticut : " 3 MEN LOST "

GRUNION (SS 216) 70 Men on Board: Sunk, on 13 July 1942, by Gunfire from Torpedoed Japanese Transport (Kashima Maru), Ten Miles North of Segula, near Kiska Island, Aleutians : " ALL HANDS LOST "

S – 28 (SS 133) 50 Men on Board: Sunk, on 4 July 1944, During ASW Exercises, Off the Hawaiian Islands : " ALL HANDS LOST "

ROBALO (SS 273) 78 Men on Board: Sunk, on 26 July 1944, by a Mine, Off Western Palawan, Philippine Islands. " 74 MEN " went down with the Boat. Four Men managed to swim away, but were picked up by a Japanese Destroyer. " ONE MAN DIED, " of injuries on board the Destroyer. " THREE MEN DIED, " in POW Camp : " THERE WERE NO SURVIVORS "

Minutes for Submarine Veterans San Diego, 9 July 2013

1900 – Meeting of the Submarine Veterans Inc., San Diego Base was called to order by Base Commander, Bob Bissonnette.

Conducted Opening Exercises:

Reading of Our Creed:

Pledge of Allegiance: Lead by David Ball

Chaplain Jack Lester lead us in Prayer:

Conducted Tolling of the boats for June

Observed a moment of Silent Prayer

Base Commander recognized past E-Board members, Past Officers and guests.

Secretary Ferguson announced 29 members and 1 guest (Juanita Williams) present.

Treasurer Report: Dave Ball announced $16,758 total in the savings and checking accounts. A $230 check was sent to the Holland Club from our individual member donations and the Base Commander stated that a Certificate signed by Holland Club National Commander Bircumshaw and Bud Akins was received to thank the membership for their generosity.

The Minutes of 11 June 2013 were approved subject to a correction of the first sub tour to 0900 rather than 1000.

Call for Committee reports:

Chaplain Binnacle List – Al Strunk, Tommy Cox, Jim Harer, Bobby Medina.

Chaplain Lester announced the following members on eternal patrol:

Michael Malone (ETCSS) passed away on 6/6/13 with services at 1430 Ft. Rosecrans 7/15/13 and CDR Henry Johnson passed away 6/4/13 with services at Ft. Rosecrans 7/11/13 at 1100.

Parade Committee – Joel Eikam reported that the Oceanside and Poway parades were well attended.

Membership – Ray Ferbrache stated that we have 305 members.

Storekeeper Report – Phil Richeson announced that items available from the National Storeskeeper can be obtained at a lesser cost if ordered from Phil.

Breakfast – Base Commander stated that the next one will be in September and the recent one served 90 meals and made $300.

Float Committee – David Kauppinen stated that he had no report which was met with applause from the members present.

1922 Base Commander called for a Break.

1933 Base Commander called the meeting back to order.

Unfinished Business:
The Picnic is 13 July from 0900-1600, boat tours 0900 and 1300. The picnic list contains 25 needing gate access, 13 on the 0900 tour, and 23 on the 1300 tour. Bob Bissonnette noted that we generally break even for picnic costs. He Believes the USS Oklahoma City may be in port and their crew as well as the USS San Francisco crew have been invited to attend the picnic.
The Base Commander will be attending the National Convention August 25 – September 1, 2013 in Rochester MN.
The Chula Vista Veterans Walk – Kick-off event on 6 July raised a total of $1100 for the Chula Vista Veterans Home. There is an October 12 Team rally and on November 2nd there will be a 4 mile walk to raise additional funds. Cost is $25 per person or $100 per team. Rocky Rockers is donating $200 for two teams and just needs names of walkers.
Christmas Party is 21 December 1:30 – 5 PM with dinner at 2PM. A motion was approved to serve Roast Beef and Cornish Hens for $20 per person.
New Business:
The deadline for submission of next years Scholarship nominations is March 15th.
The Base Commander mentioned the problems at the Groton Base could possibly affect the USSVI National Organization and suggested that anyone wishing to discuss it could meet with him after the meeting.
Good of the Order:
Charlie Marin mentioned meeting a Doctor that will come to a meeting to discuss health care aboard our new submarines.
David Ball met online a former WWII submariner, CWO Delmar J. Schwichtenberg USN retired, that served on the USS O-6 SS67, USS Sandlance SS381, USS Menhaden SS377, USS SeaDog SS401, USS Sabalo SS302 and USS Coucal ASR-8.
Bob Bissonnette stated that the VFW wives holding the Xmas in July luncheon are looking for raffle prizes to raise money to defeat Cancer.
Chaplain Lester presented a video made by Jack Kane of a presentation to Mrs. Eileen Torrance who was given a "Book of Remberance" and a bouquet of roses for Robert Dudley Bissell who was lost on the Pompano SS181. Ms Torrance was the young daughter of submariner Bissell and did not remember much about her Father.
David Kauppinen mentioned July Birthdays for Phil Richeson on the 4th, Dennis Mortensen the 11th, and Nihil Smith the 14th.
He also mentioned his proposal for the E-Board to consider "Recruit Cards" for members to hand out to assist recruiting.
Bob Bissonnette still working out the sale of the old float.
And lastly, Ed Farley announced that he was married last Friday.

Base Commander Bissonnette adjourned the meeeting at 2010.

Jack Ferguson, Secretary

Sailing List for July 9, 2013.

Phill Richeson	Jack Ferguson	Jack Kane
David Ball	W. J. Sasser	Tom Polen
Dick Smith	Benny Williams	David Kauppinen
Bob Chapman	Rocky Rockers	Ray Ferbrache
Nihil D. Smith	Bob Farrell	Jack Lester
Bill Earl	Charlie Marin	Bob Bissonnette
Jack L. Addington	Roy Bannach	Dennis Mortensen
Mike Hyman	Dennis McCreight	Joel Eikam
Manny Burciaga	Ed Farley	Peter Lary
Dave Lemby	Bob (Doc) Coates	

VADM Eugene Parks 'Dennis' Wilkinson

(Services will be held on Monday, August 26, 2013, at the Fort Rosecrans National Cemetery in San Diego, California, at 1 pm. Should you wish to send a card to his family, his daughter's (Marian Casazza) address is: 1449 Crest Road, Del Mar, California 92014.)

Eugene Parks "Dennis" Wilkinson (August 10, 1918 - July 11, 2013) was a United States Naval officer who was selected for three historic command assignments. The first, in 1954, was as the first Commanding Officer of the USS Nautilus, the world's first nuclear submarine. The second was in 1961, where Admiral Rickover selected him to serve as the first Commanding Officer of the USS Long Beach, America's first nuclear surface ship. The third was in 1980 when he was chosen as the first President and CEO of the Institute of Nuclear Power Operations (INPO) from which he retired in 1984.

Biography and military career[edit]Wilkinson, born in August 1918 in Long Beach, California, the son of Dennis William and Daisy Parks Wilkinson. He attended Holtville, California, High School and San Diego State College. He graduated from the latter in 1938 with a Bachelor of Arts degree with a major in chemistry. He taught chemistry there for a year. He also filled in and taught a course in mathematics. During this year he attended the University of Southern California. The next year he had a teaching fellowship in chemistry at USC. During those two years he completed all of the course work for a doctor's degree but never did a thesis or received any graduate degree. Commissioned ensign in the U.S. Naval Reserve on 12 December 1940, he was transferred to the regular U.S. Navy on 28 August 1946.

Wilkinson's commissioned service began in the heavy cruiser Louisville (CA-28), in which he had duty in the engineering department until December 1941. He was detached in San Francisco, with orders to the Submarine School, New London, Connecticut, for instruction in submarines. After completing the course in March 1942, he served in the engineering department of the submarine R-JO in April and May, after which he was ordered to the submarine USS Blackfish (SS-221). After the commissioning of that boat in July, he served on board for one year, making four war patrols. He had commissary, engineering; and electrical duties. During his time in the crew the submarine participated in the North African operation (Algeria-Morocco landings).

From June 1943 to October 1944 Wilkinson was in the crew of the submarine
USS Darter (SS-227) which participated in four war patrols, including the Truk attack and the Battle of Leyte Gulf. Wilkinson was awarded the Silver Star for his service aboard the Darter. Officially detached from the Darter in November 1944, following her loss the previous month, he returned to the United States. From January to March 1945 he was an instructor at the Submarine School, New London, Connecticut. He next served as executive officer and navigator of the submarine Menhaden (SS-377) from March to October 1945 and had similar duty on board the submarine Raton (SS-270). Upon his transfer from the Naval Reserve to the U.S. Navy, he was ordered to the General Line School, Newport, Rhode Island, where he completed the assigned course in May 1947.

From June 1947 until April 1948, Wilkinson was executive officer and
navigator of the USS Cusk (SSG-348). From April 1948 to April 1950, he completed assignments at the Oak Ridge National Laboratory in Oak Ridge, Tennessee; the Argonne National Laboratory in Chicago as an associate engineer, and at the U.S. Atomic Energy Commission in the Pittsburgh, Pennsylvania, area, as chief of the operations branch and Bureau of Ships representative. In May 1950 he assumed command of the submarine USS Volador (SS-490) in which he participated in action in the Korean area from 12 August to 2 November 1951. From January to May 1952 he fitted out the submarine USS Wahoo (SS-565) and on her commissioning on 10 May of that year became her first commanding officer.

In February 1952 Wilkinson had temporary duty for one month as commanding officer of the submarine USS Sea Robin (SS-407). He was detached from the Wahoo in June 1953. He then carried out a series of temporary assignments by way of preparation for becoming prospective commanding officer of the USS Nautilus (SSN-571), the world's first nuclear-powered submarine. He took command of the ship upon her commissioning on 30 September 1954 and held that billet until relieved in June 1957. During his three-year tour aboard the Nautilus, he presided over pre-commissioning and post-commissioning trials of the submarine. These

trials established the capabilities of the nuclear-powered submarine and were used in the development of early nuclear-powered submarine tactics. Nautilus successfully attacked surface ships without being detected and evaded most pursuers.

At 1100 on January 17, 1955, after getting underway, CDR Wilkinson signaled "Underway on Nuclear Power." This historic message ushered in the nuclear age for the United States Navy, as well as the world. CDR Wilkinson was the first commanding officer in a nuclear fleet that would eventually cover most of the aircraft carriers, several cruisers, and the entire submarine fleet for the United States Navy.

After spending the following academic year as a student at the Naval War College, Newport, Rhode Island, Wilkinson served as Commander Submarine Division 102 for a year and had brief temporary duty as commanding officer of the Nautilus. In September 1961 he became the initial commanding officer of the guided missile cruiser Long Beach (CGN-9), the U.S. Navy's first nuclear-powered surface ship. After completion of that command, he reported on 1 November 1963 as Director of the Submarine Warfare Division (OP-31), in the Office of the Chief of Naval Operations, Navy Department, Washington, D.C. While in that billet he was promoted to the rank of rear admiral.

On 23 November 1966, he assumed duties as Chief of Staff for the U.S. Forces in Japan. After earning the Distinguished Service Medal for his service in Japan, Admiral Wilkinson assumed command of Submarine Flotilla Two on 6 June 1969. He was promoted to vice admiral upon becoming Commander of the Atlantic Fleet Submarine Force on 12 February 1970. He had additional duty as Submarine Operations Advisor for Polaris Operations, Atlantic Command and Supreme Allied Command Atlantic, Commander Submarines Allied Command, and Commander Submarine Force Western Atlantic. His final billet on active duty, from 1972 to 1974, was as Deputy Chief of Naval Operations (Submarine Warfare), OP-02, on the staff of the Chief of Naval Operations.

He retired with the rank of Vice Admiral, having commanded the Submarine Force U.S. Atlantic Fleet from 1970 to 1972 and served as Deputy Chief of Naval Operations for Submarine Warfare from 1972 to 1974.

He died July 11, 2013.

Commands held USS Nautilus (SSN-571)
USS Long Beach (CGN-9)
USS Volador (SS-490)
USS Sea Robin (SS-407)
USS Wahoo (SS-565)
Submarine Force U.S. Atlantic Fleet

Battles/wars World War II

Awards Distinguished Service Medal
Silver Star
Legion of Merit
Joint Service Commendation Medal
Navy Unit Commendation
Order of the Sacred Treasure, 2nd Class (Japan)
Navy Meritorious Civilian Service Award
Golden Fleece Award
Henry DeWolf Smyth Nuclear Statesman Award

Sailor, Rest Your Oar.....

PASSING OF RADM PAUL LACY

It is with a heavy heart that we announce the passing of Rear Admiral Paul L. Lacy, Jr., on Sunday, 14 July 2013, in Massachusetts. RADM Lacy was COMSUBPAC from 1970 to 1972 and the last WWII submarine skipper to hold that position. His daughter conveyed that he considered his command at COMSUBPAC the best throughout his career. Funeral arrangements in Massachusetts are pending. Interment services will be held in Hawaii at the National Memorial Cemetery of the Pacific at Puowaina (Punchbowl Crater) in November.

Condolences can be sent to

Ms. Sheryl Lacy Anderson,
342 Jerusalem Road
Cohasset, Mass. 02025
sherylanderson@aol.com

Rear Admiral Paul L. Lacy, a native of Dallas, Texas, graduated from the U.S. Naval Academy in 1943 and attained the rank of Rear Admiral in July, 1967. After duty aboard the USS Cleveland, he served aboard the submarine USS Sea Cat in the closing days of World War II. He has commanded three submarines — USS Guitarro, USS Pickerel and the nuclear-powered Fleet Ballistic Missile Submarine USS Ethan Allen. Prior to SUBPAC, RADM Lacy was assigned as Manager, Later Design Attack Submarine Project in Washington, D.C. Lacy assumed the duties of Commander Submarine Force, U.S. Pacific Fleet on October 13, 1970.

Sailor, Rest Your Oar.....

The following is the personal opinon of the author. It does not necessarily reflect the sentiments of USSVI

Fools Rush In

by Michael Hyman

We all have our earliest memories, images of people, places, and events, that linger in our minds—and though oftentimes recollections such as these can simply be hallucinations (tricks that our minds are playing on us) many times they are not. One of my earliest remembrances is that of a funeral procession in Brooklyn, NY, in the early 1950s. People were lined up on both sides of the street. It was the funeral of Ethel and Julius Rosenberg, the Atomic Bomb spys.

Now in all honesty, I believed for a very long time that my memory concerning it was really an imaginary thing—a trick that my mind was playing on me. So I asked my mother about it (this was during the late 1970s, before the Internet could impress images and ideas upon us by merely suggesting them). She told me that she had a girlfriend who lived a block away from the I.J. Morris Funeral Home (within walking distance from our apartment). She had decided to visit her on Sunday (the Rosenbergs were electrocuted the previous Friday before sunset)—little did she know that the funeral of two of America's most notorious spies was being held that day. Since I was too young to be left alone (and since there was no one available to watch me), she took me along. And amazingly, I remember it like yesterday.

For the Jewish community, the Rosenbergs represented the biggest *shandeh un kharpeh* ' shame and disgrace' (in Yiddish) since anyone could remember. American Jews who had served their country heroically since the days of the Continental Army (along with those who died for it—for example, my cousin, a Marine 2nd Lieutenant, a pilot, shot down in the line of duty in 1943 [he's buried in Arlington]) –were quickly forgotten. The only thing anyone thought about was those damn Rosenbergs. What were they thinking? Why did they do it? How could they betray the United States and also betray their Jewish brethren? Where in God's name was their loyalty to the United States, the country which gave them opportunity, life, freedom, and the ability to live without fear of being hauled away in the middle of the night for simply being a Jew—like 6,000,000 of their brethren who perished in the concentration camps a few years earlier?

In a 2008 interview, co-conspirator Martin Sobell confirmed that "Julius Rosenberg participated in a conspiracy that delivered to the Soviets classified military and industrial information ... [on] the atomic bomb." Writing in 2001, Rosenberg's KGB handler, Alexander Feklisov, described him "as an idealist, deeply committed to the cause of Communism, seeking above all acceptance by the Soviet Union, and hoping to be eventually acknowledged as a fellow partisan fighting for the Communist future. . . . He reports that Rosenberg was disinterested in financial gain when he delivered atomic secrets to the USSR."

Does the scenario above suggest déjà vu? If you believe so, you would not be alone in your thinking. Specifically, I am referring to Edward Snowden and Bradley Manning, the latest in a long history of Americans who have compromised classified material and who at the same time have argued the morality of their behavior from an "ethical" perspective. One retired NSA analyst has commented that in her opinion, Snowden has given with one hand and taken with the other. She argued that though it is possible that some will make the case that Snowden may have saved the American republic by acknowledging that the US government is spying on its own citizens, the additional material that he compromised negates any benefit derived by his earlier action.

His supposed motives may not be all that they appear to be. Only the future will tell us—hopefully! At the same time, however, the court marshal of Bradley Manning has just entered the sentencing stage. And this takes us back to where we began.

This past June was the sixtieth anniversary of the executions of Julius and Ethel Rosenberg in the Sing Sing electric chair. And the following is what Irving Kaufman, the judge who presided over the trial, orated after both Rosenberg's were found guilty:

> "Citizens of this country who betray their fellow-countrymen can be under none of the delusions about the benignity of Soviet power that they might have been prior to World War II. The nature of Russian terrorism is now self-evident. Idealism as a rational dissolves . . .
>
> "I consider your crime worse than murder. Plain deliberate contemplated murder is dwarfed in magnitude by comparison with the crime you have committed. In committing the act of murder, the criminal kills only his victim. The immediate family is brought to grief and when justice is meted out the chapter is closed. But in your case, I believe your conduct in putting into the hands of the Russians the A-bomb years before our best scientists predicted Russia would perfect the bomb has already caused, in my opinion, the Communist aggression in Korea, with the resultant casualties exceeding 50,000 and who knows but that millions more of innocent people may pay the price of your treason. Indeed, by your betrayal you undoubtedly have altered the course of history to the disadvantage of our country.
>
> "No one can say that we do not live in a constant state of tension. We have evidence of your treachery all around us every day—for the civilian defense activities throughout the nation are aimed at preparing us for an atom bomb attack. Nor can it be said in mitigation of the offense that the power which set the conspiracy in motion and profited from it was not openly hostile to the United States at the time of the conspiracy. If this was your excuse the error of your ways in setting yourselves above our properly constituted authorities and the decision of those authorities not to share the information with Russia must now be obvious . . .
>
> "In the light of this, I can only conclude that the defendants entered into this most serious conspiracy against their country with full realization of its implications . . .
>
> "The statute of which the defendants at the bar stand convicted is clear. I have previously stated my view that the verdict of guilty was amply justified by the evidence. In the light of the circumstances, I feel that I must pass such sentence upon the principals in this diabolical conspiracy to destroy a God-fearing nation, which will demonstrate with finality that this nation's security must remain inviolate; that traffic in military secrets, whether promoted by slavish devotion to a foreign ideology or by a desire for monetary gains must cease.
>
> "The evidence indicated quite clearly that Julius Rosenberg was the prime mover in this conspiracy. However, let no mistake be made about the role which his wife, Ethel Rosenberg, played in this conspiracy. Instead of deterring him from pursuing his ignoble cause, she encouraged and assisted the cause. She was a mature woman—almost three years older than her husband and almost seven years older than her younger brother. She was a full-fledged partner in this crime.
>
> "Indeed the defendants Julius and Ethel Rosenberg placed their devotion to their cause above their own personal safety and were conscious that they were sacrificing their own children, should their misdeeds be detected—all of which did not deter them from pursuing their course. Love for their cause dominated their lives—it was even greater than their love for their children.

Is the current scenario concerning Snowden and Manning significantly different than that of the Rosenbergs? One would have a hard time in arguing that the differences between Stalinism and radical Islam are all that great—both are despotic and express an appetition to overpower the world; both make means of any method available in implementing their agendas; and each hijacked the minds of the less educated—and at the same time have equally swayed highly cerebral but hopelessly blinded utopians—Americans, casting them into the vacuous realm of relativism. Did either Snowden or

Manning purposefully act to benefit Islamic terrorists. No, I do not believe that this is the case (in the case of the Rosenbergs, however, there was without any doubt an appetition to aid the Soviets). Nonetheless, the actions of each have produced a similar affect even though the defense would argue that the behavior was driven from "a higher purpose."

To the rational thinker, entering the domain of relativism is similar to Dante's representation of the lost soul entering Hell:

> "Through me the way is to the city dolent;
> Through me the way is to eternal dole;
> Through me the way among the people lost.
>
> Justice incited my sublime Creator;
> Created me divine Omnipotence,
> The highest Wisdom and the primal Love.
>
> Before me there were no created things,
> Only eterne, and I eternal last.
> All hope abandon, ye who enter in!" (Dante, *Divine Comedy*, Inferno, Canto III, translated by Henry Wadsworth Longfellow).

In the case of Edward Snowden, now condemned to wallow in what was the former Soviet Union—the appetition of the Rosenbergs—I am reminded of the poet's description of the first circle of Hell, Limbo, where lost souls are condemned to witness from a distance the joys of heavenly joy and salvation but at the same time know full well that they, themselves, will never partake of it. In Manning's case, however, the punishment which the poet would assign is significantly more severe—probably one of the harshest described in the Inferno—specifically, the ninth circle, where traitors are meted out punishment. Dante describes both Count Ugolino and Archbishop Ruggieri, two real historical figures, frozen in a lake of ice in a region called Antenora—the realm of political traitors—for a series of betrayals against Pisa. For their crimes, the poet indicates that "Ugolino is eating the back of Ruggieri's head like a dog using its strong teeth to gnaw a bone."

If the future proves that Snowden's motives were significantly more malevolent than many would care to believe, a modern rendition of the Inferno will be depicting Snowden eating the back of Manning's skull. Only time will tell. This weekend, twenty-two American embassies were temporarily shut in the Middle East on account of an "impending" terrorist attack. Some may argue that the closings are simply "drama" created to justify NSA eavesdropping activities. Whether this is the case or not it goes without saying that even were Snowden's activities not the cause, one cannot say the same concerning Manning's. The US Army Private, First Class, has compromised the safety of the United States by releasing almost 400,000 classified documents, including operative's names, cell phone numbers, passwords, safe houses, and so on.

In the case of Snowden, however, I would remind those who would like to have his image added to Mount Rushmore that most historians would agree that it is no secret that the American government has intercepted the phone conversations, telegraphic communications, and at times the private postal correspondence of law abiding, American citizens, since the mid Nineteenth-Century.

When Secretary of State, Henry Stimson, discovered that the founder of the American Black Chamber (a 1920s version of today's NSA), Herbert Yardley, was intercepting and deciphering the incoming and outgoing telegrams of foreign diplomats as well as that of private American citizens, he scolded Yardley with the admonition: "Gentlemen do not read other gentlemen's mail." Of course, by the time Stimson became Secretary of War in 1940, his opinion had

changed significantly. Within a few hours of Germany's December 10, 1941, declaration of war against the United States, over one-thousand American citizens—Nazi sympathizers—were rounded up by the FBI. How was this possible? Did agents randomly question the man/woman on the street and ask: Sprechen sie Deutsch? Hardly. The truth of the matter is that the government was active in the surveillance of persons such as these for years. They were listening in on phone conversations, reading telegrams, intercepting letters, and all without a warrant or a court order.

In 1943, the Venona project was begun. It lasted into the 1950s. Its purpose was to intercept phone conversations of possible Soviet spies, their handlers, and associates. Venona was used in helping to convict the Rosenbergs, though its existence was never admitted until 1985—at this time, the transcripts were declassified under the Freedom of Information Act and released to the public.

From 1935 to 1972, J. Edgar Hoover, headed the FBI. It is an established fact that he investigated and had clandestine files on thousands of Americans (President Nixon requested that Hoover investigate former Beatle, John Lennon). Hoover's files contained the transcripts of phone conversations, sexual behavior, political ideology, and many other personal details, any one of which could be devastating to a person if revealed to the public. Most of these files are still intact and remain in government possession. They have never been destroyed.

Frankly, I do not want my privacy invaded by anyone—and certainly not by the government. To quote the Rabbi from Fiddler on the Roof: "May God bless and keep the Czar . . . far away from us." Nonetheless, Snowden supporters will have a hard time convincing me that government surveillance of American citizens is a brand new phenomenon—and that, "our precious bodily fluids," are in peril, to quote a line from the movie, *Dr. Strangelove,* more so today than they have been in previous years. To anyone with a knowledge of American history, government interception of personal communications has been an ongoing affair since the Civil War era, when both Union and Confederate code readers, climbed 30 foot high wooden poles in order to listen in on telegraphic messages, mostly from and to persons on their own sides.

In the words of King Solomon: "What has been will be again, what has been done will be done again; there is nothing new under the sun" (Ecclesiastes 1:9, NIV).

Current News

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

Yasen-class nuclear attack submarines to give Russia major edge

Russia & India Report, Aug. 9

The Project 885 nuclear submarine is the quintessence of everything the Russian military industrial complex has achieved in over half a century of building submarines.

Large-scale construction of the next-generation Project 885 Yasen-class multi-purpose nuclear attack submarine, armed with Onyx supersonic cruise missiles has begun in Russia. The ships will compete with the latest American Seawolf-class nuclear submarines in terms of their noise profile and will be world leaders in terms of fire power. Moscow plans to acquire at least 10 of these boats by 2020. The fourth submarine in this class was laid down in Severodvinsk on the eve of Navy Day, which was celebrated on the last Sunday in July.

The Project 885 nuclear submarine is the quintessence of everything the Russian military industrial complex has achieved in over half a century of building submarines. The vessel has a hull made from high-resilience low-magnetic steel, and so can dive to a depth of more than 600 metres (conventional boats cannot go deeper than 300 metres), which effectively puts it out of reach of all types of modern anti-submarine weapons. Its maximum speed is more than 30 knots (about 60 kilometres per hour). The nuclear submarine is equipped with an escape pod for the whole crew.

The Russian designers say that the Yasen is not only quieter than the Project 971 Akula, but also quieter than the latest American Seawolf nuclear submarine. Moreover, unlike those vessels, the new missile submarine will be more functional thanks to the weapons at its disposal (several types of cruise missile and torpedo) and will be able to fulfil a wide range of roles at sea.

Formidable

The Akula nuclear submarine is currently the most important of the Russian multi-purpose attack submarines designed for raiding operations against sea lanes. Virtually inaudible in the depths of the ocean, they are equally effective against transport vessels and

warships, and can also hit the enemy's coastal infrastructure with cruise missiles. Akula submarines were recently spotted within the 200-mile zone of the coasts of the United States and Canada, which caused a serious commotion among the countries' respective militaries. Having discovered the presence of these 'guests,' neither of them was able to track their movement, which naturally caused serious concern. After all, the Akula carries on board 28 Kh-55 Granat cruise missiles, the equivalent of the American Tomahawk, which can fly 3000 km and deliver 200-kilotonne nuclear warheads to their targets.

Invulnerable

The main attack system on the Yasen is the P-800 Onyx, the latest Russian supersonic cruise missile. This missile is the base version for two absolutely identical export versions in terms of their appearance: the Russian Yakhont and the Indian BrahMos, although with significantly reduced combat characteristics. These devices are capable of being fired from under water. They fly at a speed of 750 metres per second and carry a devastating high-explosive warhead weighing half a tonne. They have a range of more than 600 kilometres.

The Onyx is guided to its target by a navigational system that operates on target designation data, that is inputted provisionally to the missile before it is launched. At a predetermined point in the trajectory (25–80 kilometres), the missile's homing device is briefly activated and determines the precise location of the target. The homing device is activated again after a sharp reduction in altitude of 5–15 metres, just seconds before it hits the enemy. This is to ensure that when the enemy detects the missile's launch it cannot 'jam' the missile with electronic countermeasures.

'Wolf pack'

But it's not its high speed or the protection of its homing device against electronic countermeasures that makes the Onyx a super-modern weapon.

Once it is launched from the submarine, the missile finds the target by itself. After determining their coordinates, the missiles 'wait' until the last one is out of the launch tubes and then line up, just like a wolf pack, and begin to 'home in on their prey'. The designers are not really advertising this point, but it's the missiles themselves that decide which missile attacks which target and how. The missile 'pack' decides these targets, classifies them in terms of importance, and selects the tactics for the attack and the plan for its execution.

In order to prevent mistakes, the missile's on-board computer system is programmed with electronic data on all modern classes of ship. This is purely tactical information – for example, on the class of vessel. This enables the missiles to determine what they are up against, whether it be an aircraft-carrier or landing group, and then to attack the main targets within the group. The Onyx missile's on-board computer also holds data on how to counter the enemy's electronic warfare systems, which can divert a missile from its target, and systems for evading anti-aircraft defence systems.

At the same time, like wolves in a real pack, the missiles themselves decide which one of them is the main attacker and which one must take the role of the decoy to lure the enemy's aircraft and air defence systems away. Once the main selected target has been destroyed, the other missiles immediately redistribute the combat assignments between themselves and begin to destroy other vessels. There is no ship in the world that can dodge an attack by Onyx missiles. Yes, ship-borne radar systems can detect that they have been launched, but then further resistance is useless. The speed of these missiles and the way they constantly manoeuvre above the surface of the sea makes it practically impossible to intercept them with air defence systems or aircraft.

Universal

Another advantage of the Onyx missile is that it can be used with various types of carriers. In Russia, it is installed not only in submarines but also on surface vessels and mobile land-based platforms – the Bastion shore-based missile systems. It's the presence of these systems in Syria that so worries Washington today.

Onyx will also be included in the weaponry of the Su-30MK family of fighters and the latest Su-34 frontline bombers. But the most important thing is that the next generation following the Onyx is already on its way. This is the Zircon, the first hypersonic combat missile system, for which testing is due to start next year.

USS Miami: A Tangible Impact to Readiness from Sequestration

By Rear Adm. Richard Breckenridge, Director, Undersea Warfare, OPNAV N97

NAVY LIVE BLOG, Aug. 7

USS Miami was set ablaze by an arsonist in May 2012. The Navy recently completed a comprehensive assessment of the extensive fire damage, finding that the submarine is fully repairable from a technical perspective; however, inspections have revealed a greater scope of work than originally envisioned. Under the financial constraints imposed by sequestration, we simply cannot afford to undertake the repairs. Sequestration effects this past year (work force limitations) coupled with the increased scope of work have combined to raise the estimated cost of repairs from $450M to $700M. Given the fiscal challenge facing the country and the strain that such an investment would make on the maintenance for the remainder of the fleet, the responsible decision for our Navy is to inactivate Miami.

A Rock and a Hard Place: A Colossal Work Effort in a Time of Fiscal Austerity

The demand signal for attack submarines is as strong as ever. Around the world, our combatant commanders recognize the unique value provided by undersea forces, and request them in nearly double the quantity that the Navy is able to provide. So there's no question that we want to do everything possible to maintain a robust SSN force. This impetus was the basis of our original intent to return Miami to service.

So what's changed? We recognized from the start that repairs to Miami presented a significant technical challenge. The type of damage was unlike anything we'd seen in recent memory, meaning the effort contained plenty of unknowns. Moreover, the planners had to recreate drawings for a ship built with different construction methods from those used today. Above and beyond the nature of the work, the pure size of the job is staggering: the anticipated scope of work is four times greater than any previous submarine repair due to damage and 50 percent larger even than that of an Engineered Overhaul, the largest and most demanding maintenance availability performed on a submarine. In times of prosperity with more flexible defense spending, sufficient resources would be available for our industrial base partners to rise and tackle this formidable challenge. However, sequestration pressures remove the needed foundation of stability to support an endeavor of this magnitude.

Sequestration Effects are Real and Hampered Our Progress This Past Year

Unfortunately, the initial damage assessment and repair estimate came around the same time as the commencement of sequestration spending cuts. Portsmouth Naval Shipyard began Fiscal Year 2013 with a workforce tasked to full capacity; these cuts required the shipyard to implement a hiring freeze and to sharply restrict overtime, limiting their available workforce and requiring the damage assessment and planning to be shifted to Electric Boat. Shifting the work to the world's finest private shipbuilder is not without a cost impact.

Further, damage inspections revealed that the high temperature environment and corrosive atmosphere present during the prolonged fire caused a phenomenon known as Environmentally Assisted Cracking to occur in steel piping and fasteners used in the air, hydraulic and cooling water systems. Due to the nature of the cracking, a significant number of components in the torpedo room and auxiliary machine room would require replacement. Although the Navy was aware of the possibility of Environmentally Assisted Cracking, it was not until May 2013 that the full scope and cost was understood.

Unknown Unknowns: Future Risk Necessitates a Reset of Contingency Funds

Since the initial cost estimates were made, the Navy analyzed other recent major submarine damage repair efforts to gain insight into the accuracy of initial rough order of magnitude repair cost estimates. Data gathered from repairs to USS Hartford and USS Montpelier indicate that the final cost typically falls between 140 to 150 percent of the initial repair rough order of magnitude estimate due to unforeseen repair issues/complications. Therefore it was appropriate to apply this cost planning insight to Miami and establish responsible contingency reserves.

In addition to scope growth, this contingency funding would cover other cost growth, whether unanticipated or expected but unable to be accurately priced. For example, a known impact that cannot be accurately priced is the anticipated FY 2014 sequestration impact at Portsmouth Naval Shipyard, which will likely diminish the shipyard's ability to provide Lead Yard Services (cranes, ventilation, electricity, service air, etc.) for Electric Boat's execution of production work.

The Responsible Choice: And Yet a Tough One at That

The combination of these effects — sequestration effects in 2013 and the expanded scope of work — resulted in two adverse consequences: the bulk of the repair effort was pushed from FY 2013 to FY 2014, and the cost estimate increased from $450M to $700M.

Sequestration could levy a devastating burden on FY 2014 maintenance spending, causing the potential cancellation of up to 60 percent of scheduled availabilities. The shift in Miami repairs and the increased cost estimate means that without $390M in additional resources in FY 2014, funding the repairs would require cancellation of dozens of remaining availabilities on surface ships and submarines. The Navy and the nation simply cannot afford to weaken other fleet readiness in the way that would be required to afford repairs to Miami.

Our Navy is a capital-intensive force that requires funding to operate forward. Sequestration limits our ability to responsibly cashflow maintenance, planning, and operations to maintain the necessary level of readiness. The decision to inactivate Miami is a difficult one, taken after hard analysis and not made lightly. We will lose the five deployments that Miami would have provided over the remaining ten years of her planned service life, but in exchange for avoiding the cost of repairs, we will open up funds to support other vital fleet maintenance efforts, improving the wholeness and readiness of the force. Inactivation is the right choice for the Navy and the nation during a very unique time period in our nation's history.

Green Water
Can the U.S. Navy win the eco-arms race?

Foreign Policy, Aug. 6

With domestic oil production up, imports declining, and new oil and gas reserves being discovered, some question whether energy remains, or ever was, a security challenge and military vulnerability for the United States. The rise in oil prices back over $100 per barrel in the wake of Egypt's political turmoil provides a sobering answer.

Even if bullish predictions about America becoming energy self-sufficient, even a net exporter, by the 2020s prove true – a welcome development, no doubt – energy will continue to play a key role in economic and political stability. Self-sufficiency will not insulate the United States against oil price shocks, as Egypt and, before that, Libya remind us. It also will not lessen global political and economic friction from resource competition or threats to infrastructure and distribution.

Fossil fuels, chiefly oil, account for approximately 80 percent of the world's primary energy, according to the International Energy Agency (IEA). Oil is the ultimate global commodity, often trading on speculation and rumor because of this lack of competition. Supply

shocks, like those in the 1970s, have been relatively infrequent, but remain a concern for many nations. Price shocks occur too often. Pronouncements by hardliners in oil-producing states, national or transnational instability, as we've seen across North Africa and the Middle East, or threats to close vital maritime choke points or disrupt supplies in any way can cause major price swings.

Even as new discoveries and new technologies increase supply, demand is increasing even more. In the past 30 years, while U.S. oil consumption remained relatively stable, consumption in the world's two fastest-growing economies, China and India, rose four to five times. China alone doubled its oil consumption between 1990 and 2000 and then doubled it again in the last decade. By 2035, the IEA predicts world liquid fuels consumption will grow by another 40 percent.

As the world's largest fossil fuel consumer, the U.S. military sees oil price volatility having an outsized impact on its budget. The Department of Defense (DOD), which consumes 93 percent of the fossil fuels used by the federal government, spends $15 billion each year on fuel. But in the current fiscal year and the previous two, price spikes added another $5 billion over what was budgeted. For just the U.S. Navy and Marine Corps, every $1 rise in a barrel of oil costs us an extra $30 million per year. With increasing budget pressures, the Navy and our other military services have few places other than training and readiness from which to cover these "instability surcharges." That means our military flies less, steams less, and trains less. Cutbacks in ships, planes, and other procurement come next. At some point, it makes no sense to build platforms for which we cannot afford fuel. That not only impacts military effectiveness, it hurts our economy as well.

The Navy's recent energy investments do not come, as some critics suggest, at the expense of building ships or training sailors. Just the opposite: They are producing savings to help build and operate those ships and planes and prepare sailors and Marines to defend our nation by flattening our energy budget and easing the taxpayers' burden. Alternative fuels also will provide competition to dampen price spikes and hedge against supply shocks. In fact, we are already seeing returns on investments made early in the Obama administration.

Energy's impact on global security is the age-old human story of how competition for resources can create conflict. The ability of military organizations to minimize their own energy vulnerabilities or capitalize on those of an adversary is often decisive. Nazi Germany invaded the Soviet Union in 1941 in part to seize its rich Caucasus oil fields. Its war machine thirsty for fuel and with no domestic reserves, Germany also began examining alternatives, ultimately building nine plants to manufacture fuel from coal. On May 12, 1944, a single day of Allied bombing damaged or destroyed every synthetic fuel facility. Hitler's minister of armaments and munitions later said the technological war was decided on that day. Just five months later, the United States fought the Battle of Leyte Gulf, the largest naval battle in history, primarily to deny Japan access to Southeast Asia's fuel supplies. Following its defeat off the Philippines, the Japanese Navy was forced to tie up its surviving heavy warships in port for the duration of the war due to lack of fuel.

Throughout history, nations also have used resources as a bargaining tool, even a weapon. American support for Israel in the Yom Kippur War in 1973 prompted the Organization of the Petroleum Exporting Countries to retaliate with an oil embargo. Having become a net importer, America awoke to its vulnerability, experiencing long lines at gas stations and skyrocketing fuel and heating oil prices. From Richard Nixon on, every American president has urged energy independence, although serious strides toward that goal have come only in the last few years.

Still associated with Middle Eastern instability, energy's impact on economics, politics, and security is truly global, the result of growing competition in Asia and South America and new energy exploration from the Arctic to Africa.

While visiting several African nations in June 2011 during Navy/Marine Corps partnership-building missions, I met with then-President John Atta Mills of Ghana. Like many Gulf of Guinea nations, Ghana hopes to reap significant economic benefits from offshore oil reserves. But alluding to the often politically distorting effects of natural resources, Atta Mills sagely noted that Ghana "thankfully discovered democracy before we discovered oil." Other nations blessed with valuable natural resources have seen corruption become a way of life, with resource wealth benefitting only a favored few. "Corruption," former Secretary of State Hillary Clinton says, "is often a factor in energy poverty as well as political instability."

There are also security challenges to both production and distribution. Drilling platforms, particularly offshore and in deep water, are subject to accidents, attacks, and natural disasters, requiring huge upfront investment and a regulatory system that assures private companies meet their public obligations. Many smaller and developing nations do not have the resources, and often they call on the U.S. Navy and Marine Corps to assist, calls that will come more often as exploration and extraction reach more difficult, more remote, and more fragile environments, such as the Far North or deeper oceans. I witnessed firsthand the impacts of the Deepwater Horizon explosion and subsequent spill as I worked at President Obama's direction to develop a disaster recovery plan for the U.S. Gulf Coast.

On the distribution side, the Energy Information Agency estimates that about half the world's oil is transported by sea, moving through a handful of choke points such as the straits of Hormuz, Malacca, and Denmark; the Suez and Panama canals; and the Bab-el-Mandeb at the southern end of the Red Sea. Since the end of WWII, the U.S. Navy has patrolled the world's global maritime commons, keeping sea lanes open for peaceful commerce and transport for all, not just itself or a few allies. While this has come at no small cost to our nation, after the upheaval of two global conflicts in just the first half of the 20th century, the relative peace and prosperity of the last few generations argues the wisdom of that investment.

Still, the postwar and post-Cold War eras have been marked by smaller conflicts, asymmetric engagements, and the harmful actions of non-state actors. Maritime choke points provide rogue states and terrorists with particularly vulnerable targets, allowing them to cause potentially devastating political or economic disruption. This year's attack and hostage crisis at the natural gas facility in southern Algeria again spotlighted the potential for havoc in countries heavily dependent on oil and gas for their economies. Algeria is a prime example, with fossil fuels providing 97 percent of its exports and two-thirds of its revenue.

Dependence for their energy needs on states less sympathetic to U.S. interests also increases the possibility for shifting allegiances around the globe, even among our allies. Energy has been a key concern for Europe and many former Soviet republics in

their dealings with Russia. Tensions in the East and South China seas and competing claims for uninhabited bits of rock are in part related to possible fossil fuel reserves beneath the ocean floor.

Just as resource competition is rooted in history, so is the U.S. Navy's leadership in energy innovation. Moving from sail to coal-fired steam power in the middle of the 19th century, our ships then shifted from coal to oil at the start of the 20th, and we pioneered nuclear power in the 1950s. As the Navy prepares to meet the demands of the defense strategy announced by the president in January 2012 – a maritime-centric strategy focused on the Western Pacific and Arabian Gulf regions – the requirement for a global presence using innovative, low-cost, light-footprint engagements, while continuing to protect the global commons, means decreasing our reliance on fossil fuels must be at the top of our agenda.

It was clear what was coming when, in October 2009, I outlined far-reaching goals for our Navy to increase energy efficiency and ensure supply diversification:

1. Cutting our use of fossil fuels to no more than 50 percent of our total usage, both afloat and ashore, by 2020;
2. Producing at least half of shore-based energy requirements on our installations from alternative sources by 2020;
3. Cutting petroleum use by half in the Navy's 50,000-strong commercial fleet by 2015;
4. Demonstrating a Green Strike Group in local operations by 2012 and sailing it by 2016;
5. And making evaluation of energy factors mandatory when awarding contracts for systems and buildings.

The Navy's use of nuclear energy, accounting for 17 percent of our power at sea, gave us a head start on the first goal. President Obama provided another boost in March 2011, when he directed the Departments of Energy, Agriculture, and the Navy to partner with the private sector to accelerate a domestic market for advanced biofuels by providing expertise, financial investment, and purchasing power to encourage development that is cost-competitive with petroleum. The departments committed up to $510 million – on at least a one-to-one cost-share basis with the private sector – to fund the construction or retrofit of multiple, geographically dispersed, commercial-scale refineries.

One vehicle for this effort is the authority in Title III of the Defense Production Act (DPA) to support industrialization of defense-critical domestic industries and materials, such as nuclear propulsion, steel, aluminum, titanium, semiconductors, beryllium, and radiation-hardened electronics. Following an official presidential determination that advanced biofuels are essential to national defense, DOD announced a DPA award in late May that committed three companies to building the capacity to produce more than 150 million gallons of drop-in, military-compatible biofuels each year at an average price of well below $4 per gallon, a price competitive with conventional fuels at today's prices. Since that announcement, a fourth company has been added. At full production, the biofuels from these bio-refineries, when combined with conventional fuel at a 50/50 blend, hold the promise of being able to cost-effectively provide the fleet with nearly 25 percent of its annual fuel demand, providing real competition in the liquid fuels market.

As with its leadership in energy innovation, the Navy also has a history of partnering with private industry to promote business sectors and products important to our nation's military and economic security. In the 1890s, when it was building its first four steel ships, the Navy paid nearly double the going price of cheaper European steel to support domestic steelmakers. Our government's belief that it was unacceptable to rely on foreign steel for our warships helped boost American steel to lead the world, driving our rise in the 20th century as an industrial, military, and political power.

This is not the first such alternative fuel partnership. Responding to Nazi efforts to create synthetic fuel, Congress passed in 1944 the Liquid Synthetic Fuels Act, authorizing $30 million (nearly $392 million in 2012 dollars) to build synthetic fuel demonstration plants. The United States paid $58 per barrel for that fuel, far above the petroleum market price at the time. Over the next decade, the government invested $87 million ($750 million in 2012 dollars) in alternative fuel.

Unlike previous energy transitions, this time we are seeking fuel alternatives that do not require modifications to existing platforms or supply chains, which is why increased natural gas supplies will not help the Navy's effort. The 50/50 blends of biofuel we've tested work in all our aircraft and ships, enabling us to meet our goal to successfully operate an entire carrier strike group (the "Great Green Fleet") on alternatives during the Rim of the Pacific Exercise in July 2012. Our program also requires biofuel production not compete with food crops or exceed legal carbon emissions.

Finally, we committed not to buy operational quantities of biofuels until they were price competitive with fossil fuel. We originally projected we would reach that goal by the end of the decade. With the recent DPA announcement, if we continue our efforts, biofuels will be competitive with conventional fossil fuels by the end of this administration.

There have always been critics who challenge every new idea or new technology as too costly or too risky, questioning the effectiveness of trading a proven method or platform or an existing supply chain for an uncertain, expensive replacement. In this budget-constrained environment, cost must be a concern and we must be careful stewards of taxpayer dollars. But our first mission must be to protect our nation by assuring stability around the globe. If concerns over cost and fear of change had carried the day, we would still be using sails. We never would have built aircraft carriers nor become the only nation that launches and lands aircraft off them day or night. We never would have pioneered nuclear power, nor would we build nuclear carriers and submarines today, because they remain far more expensive than conventional models. We do these things because they give us a technological advantage. They make the Navy and Marine Corps better warfighters. As blacksmiths and battleship admirals prove, change is inevitable and irresistible.

Advanced biofuel prices have dropped dramatically since the Navy first purchased test amounts. Now, in concert with the effort directed by President Obama, more and more industries are investing in biofuels, helping speed the day when a competitive, American alternative to fossil fuels becomes available. Several commercial airlines – including Alaska Airlines, Lufthansa, and the world's largest carrier, United Airlines – have completed test flights on advanced biofuel. More will follow as the business case for biofuel improves, a

development helped along by rising oil prices and the carbon-trading scheme for commercial aviation that took effect in the European Union last year. Although international compliance has been deferred, all flights within and between EU countries and Iceland, Liechtenstein, and Norway must either fly on drop-in biofuels or pay to offset their carbon emissions. Other nations pursuing advanced biofuels like Brazil, Australia, and Singapore create the potential for increased cooperation on research, development, deployment, and increased security for our allies. Canada is examining biofuels as an alternative to power its navy, and Italy has begun an advanced biofuels testing and qualification program for its fleet.

Increased demand has also lowered prices for other energy alternatives for the Navy ashore. On three California installations, we have power purchase agreements projected cumulatively to save $20 million. These illustrate how we will execute our one-gigawatt renewable energy strategy, announced by the president in his 2012 State of the Union address. That strategy will produce enough clean energy to power the equivalent of a quarter of a million homes annually and improve security by producing more power available independent of the U.S. grid at the same price or lower than conventional power.

Energy efficiencies are a critical component in reaching our goals. The amphibious assault ship USSMakin Island has a hybrid-electric propulsion system that powers the ship at low speeds while using gas turbines for less frequently used higher speeds. On its most recent deployment, the ship spent less than half its $33 million fuel budget. The new amphibious assault ships USS America and USSTripoli will also use this hybrid system.

Diversifying energy supplies doesn't just save money, it saves lives. A Marine Corps study found during the height of the fighting in Afghanistan that one Marine was killed or wounded for every 50 convoys. Most convoys transported fuel and water, so cutting fuel means fewer convoys and fewer casualties. In one example alone, the Third Battalion, Fifth Marines, deployed in the middle of heavy fighting in Sangin Province, cut fossil fuel use and supply requirements by 25 percent at main operating bases and up to 90 percent at combat outposts with more efficient equipment and alternative power.

This energy mission can also reaffirm American leadership in innovation. If we do not lead, we will be left behind. In the mid-1990s, the United States was a global leader in solar technology; today, it is China. China is also making major investments in biofuels, including successful tests by Air China, and plans for a ten-fold increase in production over the next decade. With oil prices rising, many importers – like Morocco and Jordan (solar power) and Egypt and Tunisia (wind) – are moving to alternatives, while oil exporters expand domestic alternative energy use so they can export more oil. Saudi Arabia recently announced a target of 54 gigawatts of renewable energy by 2032.

Each revolution in energy changed the nature of warfare and made the Navy stronger, more effective, and better able to defend the United States and our interests around the world. Today, we have the opportunity to be present at the creation of a new energy future, which will strengthen our national security even as it creates an engine for a new economy and provides for more stability around the globe. This opportunity cannot be undermined by present-day naysayers who refuse to envision the future, even when the path is illuminated by past successes. For 237 years, the U.S. Navy and Marine Corps have led the way, and we will again – innovating, adapting, and emerging victorious.

Sorry, AirSea Battle Is No Strategy

The National Interest, Aug. 7

In his article "Don't Sweat AirSea Battle," Elbridge Colby argues that AirSea Battle Concept (ASB) provides a more effective approach for dealing with Chinese aggression than the Offshore Control (OC) strategy I've proposed. I certainly welcome the debate, since one of the reasons I developed OC was to stimulate discussion about strategy.

Unfortunately, while Colby points out what he sees as deficiencies with OC, he never articulates the strategy ASB is designed to support. To date, ASB has only been expressed as an operational concept. This creates the difficult, if not impossible, problem of comparing a strategy to an operational concept. To be fair, the Department of Defense has stated that ASB is not a strategy and is not directed at China. Rather, it is an operational concept that supports the Joint Operational Access Concept. (It is also an office tasked with coordinating the procurement, technologies, tactics and techniques that will allow U.S. forces to defeat anti-access/area-denial systems.)

Unfortunately, in absence of a strategy, even successful operational concepts can be a disaster. Blitzkrieg was highly successful against France. When used against the Soviet Union, it was an unmitigated disaster. Thus an operational concept cannot be judged as good or bad unless it is applied to a specific strategy. There are areas in the world where AirSea Battle might well support a strategy. China is not one of them. Moreover, the scarce resources invested to make ASB operational would be better spent on other capabilities than will be needed.

In a somewhat different way, a strategy cannot be evaluated in isolation as either good or bad. It needs to be evaluated to see if it is better or worse than another strategy that deals with the same problem. This is why I have encouraged the development of alternative strategies – to permit a discussion of the merits of Offshore Control in comparison to another strategy. I look forward to reading a strategy based on AirSea Battle but, to date, no ASB proponent has suggested one.

What Offshore Control is

Offshore Control is a military strategy for the unlikely event of a conflict with China. It uses Professor Eliot Cohen's outline for a military strategy – assumptions, ends-ways-means coherence, priorities, sequencing, and a theory of victory. OC seeks competitive advantage by moving the conflict to geography that favors the United States using tactical actions that pit U.S. strengths against Chinese weaknesses. It also seeks to match the operational approach to take advantage of China's cultural approach to war.

While a conflict with China is highly unlikely, the Pentagon still must prepare for it – and in a time of reduced budgets. To be successful a strategy must first be affordable. Then it must achieve four goals. It must deter China, reassure our allies, guide U.S. defense investment and, if conflict comes, resolve the it on terms favorable to the United States. Note I said "resolve the conflict" and not "win." Colby seems to suggest a major weakness of Offshore Control is that the strategy does not seek to win. Unfortunately, he never clarifies what he means by win. Does he mean the United States achieves the elusive total victory and occupies China? Does he mean the overthrow of the Communist Party? By failing to define what he means by winning or even what he sees as success, Colby prevents a discussion of how to balance ends, ways, and means. This is a fundamental task of a strategy and is particularly important during a time of restricted means.

For those readers who have not read the Offshore Control, it seeks to deny China use of the seas inside the First Island Chain, defend the First Island Chain, and dominate the seas outside the First Island Chain. OC does not seek the surrender of China or the overthrow of the Chinese Communist Party. Rather it seeks to force China to acknowledge it cannot win the conflict and allows it to declare victory and stop fighting. It seeks a return to pre-war status quo with a China that understands it cannot achieve its goals through military action. As Colby notes, it assumes a long war. Most nation-state wars of the last two centuries have been long. Thus it is prudent to plan for a long war rather than hope for a short one. OC also assumes trade will be interdicted in any major conflict with China. It is difficult to envision the U.S. population accepting continued trade with China even as it attacks U.S. bases and warships.

Deter

Deterrence is clearly the most important element. It has two components – denial and punishment. Offshore Control uses both. Defense of the First Island Chain based on using antiaccess/area denial (A2/AD) concepts denies China its war goals. It makes use of the strategic geography to force China to use its few long-range assets to penetrate combined air-and-sea defensive networks at extreme range. While we may not be able to prevent an initial attack – and perhaps even landings on islands inside the First Island Chain, a properly executed, integrated defense will be able to prevent reinforcement and resupply of such an effort. It will also provide the most effective defense of First Island Chain allies.

Punishment is two-fold. First, denial of the sea inside the First Island Chain maximizes U.S. superiority in undersea warfare and integrated air defense. U.S. and allied submarines will pursue and sink Chinese naval assets that venture outside Chinese waters. To get out of port, the Chinese fleet will have to run the gauntlet of mines and submarines. In short, Offshore Control makes use of U.S. superiority in undersea warfare and integrated air defenses to destroy any Chinese assets that venture away from her shores. Playing to our strengths rather than the defenders' is the mark of a smart competitive strategy. Investing in offensive strategies that impose more costs on us than on the opponent is neither smart nor likely to be productive.

Second, Offshore Control punishes China's economy. It does not seek to shut off all Chinese trade but only to raise the cost of such trade high enough that business will go elsewhere for the exports it currently gets from China. Colby, and others, have suggested that Russia can break the blockade by offering overland transit. In fact, the Trans-Siberian Railroad and the Baikal Amur Mainline cross Russia from the Far East. The combined capacity of both routes will not begin to match the throughput capacity of China's ports. In addition, due to gauge differences between Chinese-Russian and Russian-European rail lines, all containers will have to be shifted to new trains twice. Currently, it costs roughly $5000 more per container, or twice as much, to rail a container from western China to eastern Europe as it does to move it to China's east coast and ship it by sea. As demand for rail transport increases sharply, so will costs. Rail does save time, but temperature-sensitive materials may not be shipped during the winter due to the extreme cold along the route.

Offshore Control does not suggest blockade will cause China's economy to cease functioning only that it will make it noncompetitive globally. Domination of the sea and air space outside the First Island Chain allows the United States to selectively intercept those ships that trade with China. By violating the blockade, they became subject to seizure and sale in prize court. The seizure and sale of some of these ships will immediately result in massively higher shipping charges by those shippers and insurers willing to risk the blockade.

Given that the Chinese Communist Party stakes its legitimacy on providing a better future for its people, Offshore Control strikes at the legitimacy of the Party. The Party can choose to continue the fight in hopes of defeating the distant blockade, escalate to attempts to invade the First Island Chain or even to nuclear exchange. Or it can do what it has done in the four conflicts it has fought since 1949. It can declare China has taught the "aggressor" a lesson and cease hostilities. The CCP has done this regardless of whether the war was going well (India), badly (Korea, Vietnam), or was essentially a draw (the Zhenbao Island Incident with the Soviets).

Assure

Assurance of allies and friends in the region is the second requirement of a strategy. China is the largest trading partner for most of the nations of Asia. As a result, they turn to China for economic growth but still rely on the United States for security. The American failure to express a strategy has led to confusion and uncertainty, even among our allies in the region. They are uncertain both of our position and what the we expect from them.

Offshore Control asks only that allies and friendly nations assist in the defense of their own territory. It assures them U.S. forces will NOT strike into China and not make them a target. This makes it much easier for allies and friends to participate in combined exercises. It will also help focus allies on purchasing their own A2/AD systems. A2/AD works both ways. Defense of the First Island Chain takes advantage of this fact. It forces China to use its limited long range assets to penetrate combined, integrated defenses to reach First Island Chain targets. In doing so, it shifts the cost to China and the geographic advantage to the United States and its allies.

Of particular importance, Offshore Control can be openly discussed and exercised with our allies. The United States will be able to demonstrate it can execute its strategy to both our allies and China.

Guide

Guiding defense investment in a time of declining budgets is a critical aspect of strategy. Colby suggests I support "excessively expensive counterinsurgency operations." This is an odd charge. In fact, I have stated my opposition to direct, large COIN and note that the administration's guidance has specifically directed DoD to NOT plan for such contingencies. That said, there are also significant savings to be had by not spending the enormous funds necessary to prepare for a continent-sized campaign against a sophisticated air-defense system. Rather than spending our money to penetrate Chinese air defenses, Offshore Control proposes reversing A2/AD and imposing the cost of penetrating the First Island Chain defenses on the Chinese. Given the current and projected defense budgets, it is essential a strategy be practical under those reduced budgets. OC can be achieved with today's assets. If adopted, it will guide investment to undersea warfare, mines, alternative cyber connectivity and non-space-based surveillance systems. In short, OC seeks affordable solutions rather than very-high-technology systems. This, too, is a mark of a strategic approach rather than simply engineering an exquisite solution for its own sake.

AirSea Battle Fails To Deter, Assure, Or Guide

Deterrence is based on the other side believing you can deny its goals as well as punish it for trying. While we have no unclassified statement of the AirSea Battle concept, it does seem to rely heavily on a "networked, integrated force" that can strike deep. This implies heavy use of digital networks as well as comprehensive surveillance of major portions of the Chinese mainland. China has clearly been working to defeat these capabilities. On January 11, 2007, China destroyed a satellite in Low Earth Orbit. From 2006 to the present, they have repeatedly used lasers to dazzle U.S. satellites in Low Earth Orbit. From TITAN RAIN to BYZANTINE ANCHOR, China has also demonstrated the ability to penetrate U.S. cyber systems – even classified systems. If China believes it can defeat ASB through action against U.S. space and cyber systems, then ASB loses much of its deterrent effect.

In fact, the very existence of a serious AirSea Battle capability is escalatory. In a recent article in Foreign Policy, David Gompert and Terrence Kelly note that ASB pushes China to a first strike.

Given that, to be most effective, AirSea Battle would need to take down Chinese targeting and strike capabilities before they could cause significant damage to U.S. forces and bases. It follows, and the Chinese fear, that such U.S. capabilities are best used early and first – if not preemptively, then in preparation for further U.S. offensive action. After all, such U.S. strikes have been used to initiate conflict twice in Iraq. This perception will, in turn, increase the incentive for the PLA to attack preemptively, before AirSea Battle has degraded its ability to neutralize the U.S. strike threat. It could give the Chinese cause to launch large-scale preemptive cyber- and anti-satellite attacks on our AirSea Battle assets. Indeed, they might feel a need, out of self-defense, to launch such attacks even if they had not planned to start a war. It is a dangerous situation when both sides put a premium on early action.

In contrast, Offshore Control moves into place deliberately – and since it can be executed without full space or cyber capabilities, the incentive for first strike is reduced. Equally important, we don't have to attack their warning systems, and differentiate between their tactical networks and their strategic warning systems. Inadvertently blinding the assets used to direct their strategic-response systems could be the trigger to a first use. We do not have much historical evidence for evaluating conflict between nuclear-armed powers. In the U.S.-USSR Cuban Missile Crisis, the USSR-Chinese Zhenbao Island Incident, and the India-Pakistan Kargil Crisis, the leaders on each side sought to slow and contain the crisis. Do we really want to select a military strategy that puts the President in the position of conceding great advantage if he fails to strike preemptively? Given that Truman and Johnson refused to strike China when hundreds of thousands of U.S. troops were in combat, are we sure a future President will authorize an extensive strike campaign into China? Even worse, do we want to select an approach that convinces Chinese leaders they must strike first to protect their homeland?

AirSea Battle also fails to assure allied and friendly leaders. While we can exercise all the elements of Offshore Control with our allies to openly demonstrate we can achieve what we state we will, ASB remains cloaked in secrecy. Senior Japanese civilian and defense officials have told me they are very concerned that the United States does not share its plans. The lack of knowledge of U.S. military strategy makes it very difficult for the Japanese government to develop its own strategy. U.S. officers note that many of the systems are in Special Access Programs and thus they not only can't talk to allies about the project, they do not have access themselves. Essentially, ASB assurance is based on telling our allies to "trust us." It's not working.

Misconceptions About Offshore Control

Colby makes some statements that indicate he has some misconceptions about Offshore Control. He states OC will leave our allies "essentially prey to Chinese military power," and "give up the close-in fight." Apparently, he did not read the sections on defense of the First Island Chain and denying the Chinese use of the seas inside the First Island Chain. OC focuses investments on destroying Chinese assets that enter international sea or airspace, as well as on defending First Island Chain allies.

He further contends that Offshore Control lets the Chinese pick the "preferred battlefield." In fact, under OC we select where we will fight as well as where we will blockade. Colby wants to play to the Chinese strengths on their home field, which is their preferred battlefield. Selecting the battlefield is one of the traditional advantages of the tactical defense. We can decide where inside the First Island Chain we fight as well as where and how we enforce the blockade. In contrast, any AirSea Battle penetrating campaign must go where the targets are – and China selects where to put its key assets as well as how to site defenses around them. ASB clearly lets China select the battlefield.

Colby states that Offshore Control emasculates AirSea Battle by not conducting deep attacks into Chinese territory. However, if the point of ASB is to defeat anti-access/area denial systems, then it appears the objective of ASB deep strikes is to allow U.S. forces to get close enough to China to conduct strikes into China. In short, it focuses on attacking tactical targets to enable more of the same tactical actions by the United States. Complicating the effort to determine the strategic impact of such a campaign, ASB proponents fail to explain how we will find the "precision-guided missiles, tactical command and control, reconnaissance sensors, and the like." Given our track record against mobile missiles in the uncontested air space and relatively simply terrain of Iraq, how do ASB proponents suggest

we search a continent-sized country with cities as complex as Shanghai? Do we think China will position its missiles and command and control in the open? Or will they either be hidden in tunnels, garages, mines, etc.? Even if they are outside, will the trucks be painted green, or will they bear the colors and shape of a Coca-Cola tractor trailer and move about a city? While "killing the archer" is a great bumper sticker, it really means playing whack-a-mole in highly contested airspace.

In contrast, Offshore Control is strategically and operationally offensive but tactically defensive. Tactical actions are guided by an operational campaign to attack Chinese strategic assets.

Colby also has some misconceptions about escalation. He seems to think U.S. concerns are limited to nuclear escalation. However, as outlined above, much of the concern is about the initial escalation that moves from crisis to open warfare. Colby states that AirSea Battle, if done properly, can effectively manage escalation. Colby assumes the U.S. can conduct a precision campaign without stimulating escalation. This assumes a level of precise intelligence that has been missing in our last few conflicts. Given the fact we mistakenly bombed the Chinese embassy in Belgrade in 1999, the Chinese may not be as confident we will limit our attacks to tactical targets.

I am also concerned about potential nuclear escalation. Four thousand years of recorded military history show people are poor at controlling escalation once a war starts. In fact, Clausewitz cautioned that once war starts, passion tends to dominate the primary trinity of passion, chance, and reason. Given that the United States does not understand China's decision-making process for the employment of nuclear weapons, this seems an egregious risk. The risk is magnified by the low return even if the strikes succeed. If the strikes succeed, we gain the ability to continue to strike into China. Unless we believe Douhet will finally be right and bombing will defeat China, what is the theory of victory for an AirSea Battle-based campaign? Do we risk nuclear conflict in order to gain the "advantage" of conducting a conventional-bombing campaign against a continent-sized state?

As a clinching argument, Colby suggests that the larger U.S. nuclear arsenal means China cannot "win" an exchange. I am not sure the American people are willing to risk the destruction of a dozen or so major U.S. cities to find out.

Prepare For War

It is an old adage that the best way to prevent war is to prepare for it. Like many adages it assumes a certain level of common sense. You must be able to pay for the preparation. If you cannot afford the plan you have for war, you are not preparing by pretending you can afford it.

We are facing massive defense-budget cuts. Polls indicate the American people want even deeper cuts. Strategists have to balance ends, ways and means. If the means are restricted, then the ways must be altered. Thus it is vital the United States develop an affordable, executable strategy for the unlikely event of a conflict with China. It must deter China, assure allies, guide investment and, if needed, achieve a favorable conflict resolution. I proposed Offshore Control as a way to fill those requirements. I hope others will propose different strategies. Only by comparing strategies to each other can we evaluate them. As the Germans learned, an operational concept simply won't do.

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Navy makes order of submarine-hunting sonobuoys for helicopters and patrol aircraft

www.militaryaerospace.com, Aug. 6

PATUXENT RIVER NAS-U.S. Navy anti-submarine warfare (ASW) experts are buying 9,400 AN/SSQ-53F advanced passive sonobuoys from ERAPSCO Inc. in Columbia City, Ind. under terms of a $7.2 million contract modification announced Monday.

The AN/SSQ-53F directional frequency and ranging (DIFAR) sonobuoy, which is dropped from fixed-wing aircraft or helicopters, uses four hydrophones — each one a multichannel directional piezoelectric ceramic transducer — that operate at depths of 90, 200, 400, and 1,000 feet to listen for potentially hostile submerged enemy submarines.

Aircraft can drop a pattern of sonobuoys, which relay information back to the aircraft by radio link, to determine the exact locations of enemy submarines.

Each AN/SSQ-53F sonobuoy is designed to determine the direction from which it can hear submarine noises, so a pattern of sonobuoys can determine a submarine contact's range, bearing, and location by using triangulation.

The Navy Boeing P-8A Poseidon maritime patrol jet, which is scheduled to begin fleet operations this year, will be able to drop sonobuoys from relatively high altitudes on large-area patterns. The aircraft will be able to monitor signals from sonobuoy fields, or hand off that job to the future Navy MQ-4C Triton broad-area maritime surveillance unmanned aerial vehicle (UAV).

Today Navy aircraft such as the P-3 fixed-wing maritime patrol turboprop and the SH-60 Seahawk helicopter carry the AN/SSQ-53F sonobuoy, which can be deployed from altitudes between 40 and 30,000 feet, at speeds from zero to 370 knots.

Japan unveils 'largest warship' since World War II

BBC News, Aug. 6

Japan has unveiled its largest warship since World War II, to be used in anti-submarine warfare and border-area surveillance missions.

The vessel has a flight deck nearly 250m (820ft) long and can reportedly carry more than nine helicopters.

Its unveiling comes amid tensions with China over islands which both countries insist are theirs.

The Philippines is also bolstering its marine defences by buying a second decommissioned US Coast Guard ship.

Benigno Aquino on Tuesday welcomed the arrival of the vessel in Subic Bay.

He said it would intensify patrols of the Philippines' exclusive economic zone in the South China Sea, where disputed waters have also raised tensions.

Island tension

Correspondents say that the launch of the huge Japanese flat-top destroyer, Izumo, has raised eyebrows in China because it bears a strong resemblance to a conventional aircraft carrier.

Officials say it will be used for national defence and will enhance the Japan's ability to transport personnel and supplies in response to large-scale natural disasters, such as the devastating earthquake and tsunami in 2011.

Although work on Izumo has been ongoing since 2009, its unveiling comes as Japan and China are locked in a dispute over several small islands located between southern Japan and Taiwan.

Vessels from both countries have been conducting patrols around the islands, called the Senkaku in Japan and the Diaoyutai in China.

Tension over the issue, along with China's heavy spending on defence and military modernisation, have heightened calls in Japan for its naval and air forces to be strengthened.

China recently began operating a refurbished Russian aircraft carrier - and is also reportedly moving forward with the construction of another that is domestically built.

Technically the Izumo is a destroyer, but some experts believe the new Japanese ship could potentially be used to launch fighter jets or other aircraft that have the ability to take off vertically.

That would be a departure for Japan, correspondents say, even though it has one of the best-equipped and best-trained naval forces in the Pacific.

Since the end of WWII it has not sought to build aircraft carriers of its own because of constitutional restrictions that limit its military forces to a defensive role.

Navy undergoing 'unprecedented' upgrade in capabilities

The Jerusalem Post, Aug. 7

We will upgrade the weapons of these new submarines," a source in the Israel Navy stated, as the military prepares to receive two more advanced submarines In 2014, the INS Tanin – Israel's fourth German-made Dolphin-class submarine – will enter the navy's service.

A few months later, the INS Rahav will join the fleet. The sixth new generation Dolphin is still being manufactured at a German shipyard.

The navy has been working with Israeli defense companies to develop a range of sea and underwater combat technologies, from radars to electronic warfare capabilities.

Despite budget cuts, the IDF is in the midst of a multi-year force buildup process, and the navy is going through an unprecedented phase marked by weapons upgrades, the source said.

"People are staying up late into the night around here, because a lot of new technology is being introduced," he said.

Innovations include a new long-range air defense system that is being installed on missile ships this year.

"From now on we'll have the ability of destroying incoming threats dozens of kilometers away. It won't be like before, when we were without independent air defenses. We won't have to trouble the air force," the source said.

Coastal electronic sensors that feed data to navy regional command and control centers are also being improved. Engineers from the navy's Weapons Systems Department – some of them former sailors with operational experience – are managing the armament projects.

The navy prefers to purchase existing defense products and tailor them according to needs, the source said.

But if this is not possible, the navy works with the Defense Ministry to develop new weapons systems from scratch.

The Weapons Systems Department, tasked with locating technological solutions to combat needs, often stretches the limits of its ability and finds a willing partner in Israeli defense companies, pushing technological innovation to the brink.

As Israel's Exclusive Economic Zone in the eastern Mediterranean is filling up with large-scale natural gas drilling, the navy is expecting the government to approve a budget that will add four missile ships, drones, unmanned sea vessels and patrol air craft to protect it.

The zone is the size of the State of Israel, and it will up be to the navy to defend this vital national asset from terrorist threats and hostile states.

"We're being called up to tackle a challenging mission," the source said, referring to the EEZ.

"We'll need to be able to send a ship to inspect suspicious traffic there. There's nothing like personal contact.

The ship must be able to arrive and direct its cannons at suspicious movements."

Without this kind of security, there will be no international investment in the gas drilling, the source warned.

The navy has been hailed by defense chiefs for launching classified, toppriority missions far from Israel's shores.

"We'll provide whatever is needed so that the mission's goal is met. Even if we need to be very creative, on the border of the imaginary," the source said.

"This is how we safeguard our relative edge over our enemies," said the source.

"The more exotic things don't blow up," he added, hinting at the most advanced assets.

Additional innovations include the phased array radar system, in which thousands of small antennas are linked up together to face four directions and direct an electromagnetic ray in various directions, instead of spinning around like a traditional radar.

The navy developed these systems together with the Defense Ministry's Administration for the Development of Weapons and Technological Infrastructure, and Elta Systems, a subsidiary of Israel Aerospace Industries.

"We must be ahead of the other side. It's always good to keep the gap as large as possible," the source continued.

Most important, he stressed, is the personnel that makes up the Israel Navy.

"We have a family-like connection, making the grinding work easier. We relate to each other at eye level in the navy's culture, irrespective of rank. We invest in our people and in our technology.

"The defense industries have been a caring partner, and go above and beyond for us," he said.

Environment: Italy's submarine sensors track, protect whales

www.ansamed.info, Aug. 7

PALERMO-Italian marine biologists have developed a high-tech and harmless system to track sperm whales migrating off the south-eastern coast of Sicily.

The system allows scientists to warn ships away from the whales' course, protecting the animals from often fatal noise pollution.

It consists of 14 acoustic sensors hosted on an underwater, 450-meter tower located 3,500 meters below the surface and 80 kilometers off Sicily's Passero Cape. ''The sensors captured sonar from two whales as soon as they became operational, beginning on March 23. New software told us the whales were about 12 meters long, so they could be young males or females'', said Giorgio Riccobene, from the National Institute for Nuclear Physics (INFN) in Catania.

Run by the INFN, the host tower is part of the Cubic Kilometer Neutrino Telescope (KM3NeT), a European project made up of several relay towers on the bottom of the Mediterranean. The idea is to detect neutrinos from distant sources in our galaxy, thanks to thousands of optical sensors able to pick up so-called Cherenkov radiation, a faint bluish light that is generated when neutrinos collide with seawater.

For now, the only fully operational parts of the tower are its acoustic sensors, which record the voices of the whales for five minutes out of every hour.

The whale tracking and protection system was made possible by a grant from the Ministry of Research and Education (MIUR) in collaboration with the INFN and Roma Sapienza, Roma 3, Pavia, Messina, and Catania universities.

A U.S. Navy With Only 8 Carriers?
The Drastic Consequences of Hagel's Fleet Options

Christopher P. Cavas, Defense News, Aug 4

WASHINGTON — At first, the statement is shocking. "Reduce the number of carrier strike groups from 11 to 8 or 9, draw down the Marine Corps from 182,000 to between 150,000 and 175,000."

But those words July 31 from U.S. Defense Secretary Chuck Hagel brought into the open some of the behind-the-scenes discussions that have been going on at the Pentagon for months. Senior Defense Department officials continue to stress no decisions have been made out of the Strategic Choices and Management Review (SCMR), but the everything-is-on-the-table nature of the discussions is becoming clearer.

Or is it? Beyond top-line statements, hardly any real details were released, leaving those outside the inner circles to speculate on the immediate and far-reaching effects of sequestration. One reason, many observers feel, is that talking about a specific potential cut could turn into a self-fulfilling prophecy. Even acknowledging that an eight-carrier fleet is on the table, some fear, could turn that once-unthinkable idea into a reality.

And it's not just about cutting carriers — it's air wings with seven or so squadrons of aircraft, it's a cruiser and three or four destroyers, and it's the crews. Substantial savings would be found from reducing nearly 10,000 personnel billets with the elimination of each strike group.

Reducing the air wings would ease carrier acquisition, maintenance and recapitalization. The fleet of legacy F/A-18 Hornet aircraft – mostly C models — could be swiftly retired, leaving an all-Super Hornet fleet of Es and Fs that itself could be smaller than what exists today. Retirement of older SH-60 helicopters could also be accelerated.

Dropping the carrier fleet could be done several ways. Two or three ships could simply be ordered to go — likely the oldest ships that have not undergone a refueling overhaul. The older Nimitz-class ships — Nimitz, Dwight D. Eisenhower, Carl Vinson and Theodore Roosevelt — are likely safe, having completed their reactor refueling. Abraham Lincoln, which has just begun its overhaul at Huntington Ingalls Industries (HII) Newport News Shipbuilding in Newport News, Va., is likely safe, as the three-year effort has already been largely paid for. But the George Washington, set to begin its refueling overhaul in 2015, would likely go, along with the John C. Stennis and possibly the Harry S. Truman.

Spreading out the current five-year carrier building schedule is dangerous, and could actually lead to increased costs that would cancel out any savings. Significant portions of the carrier supply base are barely sustainable under the current schedule, and some suppliers can be expected to go out of business should the building time be stretched any further. Newport News, faced with the loss of the refueling overhauls and a longer building time, would be forced to lay off several thousand workers, again increasing costs for new ships.

Carriers also have a significant disposal cost. The eight-reactor Enterprise, now in the early stages of a multiyear disposal process, will likely cost more than $1.1 billion to ultimately dispose of. Nimitz-class carriers have only two reactors and could cost less to dispose of, but the bill still will be significant and, with inflation, would likely exceed the Big E's cost.

Even laying up the carriers in mothballs will entail major costs. Reactors, once shut down for a significant time, cannot be restarted due to changes in their metallurgy, so the ships cannot be completely shut down and maintained in reserve.

Rather, the reactors would be set to a minimum level and the ships kept at a secure facility, like an active naval base. The Navy already has a significant backlog of seven decommissioned conventional carriers to get rid of, and the nukes would likely sit for some years before actually going away.

Fate Of The Warships

The Navy's 22 remaining Aegis cruisers are on the back-half of their projected 30-35 year careers, and the service already is trying to decommission seven.

The first Arleigh Burke-class destroyer entered service in 1991, and the Aegis ships are still being built. Complicating the decision about which ships would be cut are expensive modernization upgrades to the older ships, most of which have already received a ballistic-missile defense (BMD) capability — a key requirement among most regional combatant commanders.

For littoral combat ships, contract options to build them run through LCS 24, and the Navy is considering how to approach the rest of the planned 52-ship force. Options include eliminating one of the two LCS variants or ending the program at 24.

Cutting the Navy Department means cutting the Marine Corps, which inevitably leads to fewer amphibious ships. While the Navy seeks a 10 or 11-ship big-deck amphibious force, nine are in service today. Peleliu, the oldest assault ship, already is to be replaced by the new America. A reduction to eight big decks would likely mean the Wasp — about to begin a sorely-needed $110 million modernization overhaul — would be decommissioned.

Construction of the eleventh and last of the highly capable LPD 17 San Antonio class of amphibious transport docks has begun at HII's Ingalls shipyard in Pascagoula, Miss., and the ships are nearly as effective as the bigger assault ships, so they would likely survive.

But the older dock landing ships of the Whidbey Island class would be on the chopping block — as would be their LSD(X) replacement.

Submarines

Pentagon support for the nuclear attack submarine force seems to be stronger than ever, and the number of SSNs is not likely to diminish. But the Navy's desire to incorporate a Virginia Payload Module (VPM) with four large weapon tubes into Block V Virginia-class ships is threatened. Each VPM would add about $350 million to the cost of each sub, but without the modifications the four SSGN guided-missile submarines will retire in the 2020s without a replacement.

Also to be decided is the fate of the Ohio-class replacement submarine, a major acquisition effort sitting squarely in the middle of future shipbuilding budgets. The first ship isn't scheduled to be ordered until 2021, but development costs are significant.

Future modernization programs also are at significant risk under the various SCMR options. The Air Missile Defense Radar (AMDR) to be installed in an Arleigh Burke Flight III version beginning in 2016 is threatened and could be delayed, despite urgent requirements for the BMD mission.

As for infrastructure, a fleet that would drop below 250 or 230 ships would also need fewer bases or support facilities. With the shift to the Pacific, whereby 60 percent of the fleet will be Pacific-based, several facilities could close. Targets would likely include the Portsmouth Naval Shipyard in Kittery, Maine, and Mayport Naval Station in Florida, as well as lesser facilities.

The shipbuilding industry could shift as well. The most striking change could be a joining of the two biggest shipbuilders, HII and General Dynamics. Such a move would probably mean the closure of one or two of the five major yards operated by the two companies. The upshot would mean less competition for Navy contracts, something the service would not welcome.

Analysis: A look at cutting 3 carrier strike groupsANALYSIS

Navy Times, Aug. 5

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But those words on July 31 from Defense Secretary Chuck Hagel brought into the open some of the behind-the-scenes discussions that have been going on at the Pentagon for some months. Hagel and other senior Defense Department officials continue

to stress no decisions have been made out of the Strategic Choices and Management Review, but the everything-is-on-the-table nature of the discussions is becoming clearer.

Or is it? Beyond top-line statements, hardly any real details were released, leaving room for speculation on the effects of adhering to the 10-year, 10 percent-a-year budget cuts required of sequestration. One reason, many observers feel, is that talking about a specific potential cut could turn into a self-fulfilling prophecy. Even the acknowledgment that an eight-carrier fleet is on the table, some fear, could turn that once-unthinkable idea into a reality.

The 11-carrier fleet is established by law, but legislation also requiring substantial budget cuts leads inevitably to a flattop reduction. And it's not just the carrier — it's air wings with seven or so squadrons of aircraft, it's a cruiser and three or four destroyers, and it's the crews. Substantial savings would be found from reducing nearly 10,000 personnel billets with the elimination of each strike group.

Reducing the air wings would ease carrier acquisition, maintenance and recapitalization. The fleet of legacy F/A-18 Hornet aircraft — mostly C models — could be swiftly retired, leaving an all-Super Hornet fleet of Es and Fs that itself could be smaller than what exists today. Retirement of older SH-60 helicopters could also be accelerated.

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55 years ago: Connecticut's Submarine Nautilus crosses the North Pole

tolland.patch.com, Aug. 4

Given the enduring popularity of Jules Verne's classic novel "20,000 Leagues Under the Sea", it should come as no surprise that no fewer than six vessels in the Navy have been named the Nautilus — two ships and four submarines.

But the last submarine named Nautilus (SSN-571) was a game-changer. Built during the Cold War in the 1950s, this version of the Nautilus was the first sub ever to be powered by a nuclear reactor. As such, its ability to stay submerged for extremely long periods of time was unprecedented. At 319 feet in length, the Nautilus was much larger than diesel-powered subs, and weighed more than 3,000 tons. It rewrote the submarine record book for durability and distance.

Built in Groton, CT, in 1951, the sub was christened there by First Lady Mamie Eisenhower on Jan. 21, 1954. Its home port was the Naval Submarine Base in Groton, the home, as well, to many of its crew.

By the time it was decommissioned in 1980, it had roamed the seas of the world for more than 25 years and had traveled an incredible 500,000 miles! Today, it is the centerpiece exhibit at the Submarine Force Library, Museum, and Gift Shop on 1 Crystal Lake Road in Groton. More than 250,000 visitors tour the Nautilus annually. The submarine was declared a National Historic Landmark in 1982.

Its most famous voyage happened 55 years ago this week. Having left New London on July 23, 1958, the Nautilus headed to Pearl Harbor. After a layover in Pearl, SSN-571 then headed north on a secret mission called "Operation Sunshine."

As the sub headed north, a water leak developed in the engine room in one of the condensers and threatened the safety of the mission. Commander William Anderson had the Nautilus berth in Seattle while he devised a solution for the leaking condenser. His ingenious solution was to have his crew go out into the city of Seattle to purchase "Bar's Leak" — the tried-and-true solution for fixing a car's leaking radiator. (More than 100 million have been sold to date.)

He ordered the crew to don civilian clothes and to buy as much "Bar's Leak" as they could find at service stations and automotive supply stores in Seattle. They returned with 140 bottles! Half of that supply was dumped into the system, and it worked! The leak was fixed. Next stop: the North Pole.

As the Nautilus approached the North Pole, it had to submerge to pass under the ice. While submerged and traveling at about 500 feet in depth, the 116 man crew became the first known human beings to say that they had literally been "on top of the world."

They were the first mariners to say that they had reached 90 degrees North. As the submarine passed 90 degrees North, Commander Anderson uttered these famous words: "For the world, our country, and the Navy — the North Pole." The sub was under the ice for 96 straight hours and covered 1,830 miles before surfacing off the northeast coast of Greenland. The Nautilus then headed to port in England briefly before returning to New London. The entire crew received a Presidential Unit Citation—the first one ever given to servicemen not at war.

The importance of the polar exploration in 1958 cannot be overestimated. It was a major morale booster for the country, as just one year before the Soviet Union had put the first ever satellite into space — the Sputnik. The Soviets did not have a nuclear submarine in their arsenal. We did. It was superb, and it was made in and stationed in Connecticut!

U.S. Navy Personnel Trained on Sea Glider Underwater Drone
UPI, Jul 29

WASHINGTON, July 29 (UPI) — The U.S. Navy reports the first sailors have been trained to operate and maintain the Sea Glider undersea drone.

The training, part of the service's Persistent Littoral Undersea Surveillance system, was conducted by the University of Washington Applied Physics Laboratory, where the Sea Glider is produced.

"This milestone is an important step toward fulfilling the PLUS mission of providing effective, adaptive and persistent surveillance of multiple quiet targets over large littoral areas — a powerful trump card for ensuring the safety of global waterways," said Capt. Duane Ashton, program manager for unmanned maritime systems within the Navy's Program Executive Office for Littoral Combat Ships.

Sea Glider is an autonomous vehicle that propels itself from the water's surface to the ocean floor, collecting environmental data.

The Persistent Littoral Undersea Surveillance prototype system is designed to detect underwater threats, such as diesel submarines. The PLUS prototype network consists of five Sea Gliders and six Remus 600 unmanned underwater vehicles, which act as sensors. Sea Gliders collect the Remus' data underwater and transmit it from the sea surface to a shore-based station.

The U.S. Naval Sea Systems Command says the training took place over one week and included hands-on assembly and testing, launch preparation, launch, piloting, recovery, breakdown and wash-down.

Testing and evaluation of the prototype PLUS system is scheduled to continue until 2015.

Pentagon Likely to Cut Furlough Days
Lolita C. Baldor, Associated Press, Jul 29

WASHINGTON – Defense department civilians will likely face up to five fewer unpaid furlough days than originally planned, as Pentagon leaders scrimp to find up to $900 million in savings in the final months of the budget year that ends Sept. 30, officials told The Associated Press.

Officials said no final decisions have been made, but they believe civilian workers will be forced to take six to eight unpaid days off rather than the 11 days that had been scheduled. The move comes as workers begin their fourth week of furloughs - a decision that riled department employees and prompted many to complain directly to Defense Secretary Chuck Hagel as he visited military bases earlier this month.

Hagel has been saying that budget crunchers have been doing all they can to find saving to shorten the furlough time. Defense officials said Monday that they do not expect an announcement this week because the numbers have not yet been finalized.

They cautioned that the savings are for this year only, and won't affect likely budget cuts in 2014, if members of Congress don't act to avoid automatic, across-the-board cuts slated for next year.

About 650,000 department civilians have been taking one furlough day each week since early July. The furloughs were expected to save roughly $2 billion.

According to one defense official, current budget projections suggest that if Pentagon budget chiefs find about $500 million in savings, the number of furlough days will be shaved to eight. If they can find $900 million, the furloughs will be cut to six days.

Officials said the savings are the result of a number of things, including penny-pinching by the military services and Congress' decision to give the Pentagon more flexibility in moving money around between accounts.

During a recent swing down the East Coast to bases in North Carolina, South Carolina and Florida, worried defense workers peppered Hagel with questions about the furloughs and their job security. And they gasped in surprise as the Pentagon chief warned that budget cuts will probably continue next year, likely triggering more furloughs and, possibly, layoffs.

Facing $37 billion in budget cuts this year, Pentagon leaders initially announced the 11 furlough days, arguing that they needed to shift money to other priorities, including combat training, flight hours, and efforts to bring tons of equipment home from Afghanistan. Since then, budget chiefs have been analyzing the numbers in a persistent effort to find unspent dollars as they neared the end of the fiscal year.

The Pentagon faces the prospect of an additional $52 billion budget cut in 2014 unless Congress and the White House come up with a deficit-cutting plan.

About 85 percent of the department's civilians have been subject to furloughs. The bulk of the exempt employees are foreign nationals or workers not paid through appropriated funding. Nearly 7,000 defense intelligence workers are also exempt, along with about 29,000 workers at Navy shipyards, where officials worried that the harm to shop maintenance would end up costing more than the salary cuts would save.

Israel Gets Ready to Expand its Submarine Fleet
UPI, Jul 29

HAIFA, Israel, July 29 (UPI) — The Israeli navy is getting ready to expand its fleet of German-built Dolphin-class submarines that are widely believed to give it the only seaborne nuclear missile capability in the Middle East.

Three early-model Dolphins are already in service and reportedly range as far as the Indian Ocean south of Iran. But the navy's moving closer to deploying two more of the 1,720-ton, diesel-electric boats built by Howaldtswerke-Deutsche Werft in the Baltic port of Kiel. HWD is a unit of ThyssenKrupp Marine Systems.

The fourth Dolphin, christened the Tanin, was handed over to the Israeli navy by HDW in May 2012 and is due to become operational within the next few months following sea tests and evaluation.

The fifth boat, the Rahav, was launched in Kiel April 29 and is expected to arrive in Israel's northern port of Haifa, the submarine fleet's headquarters and main base, around mid-2014.

A contract for a sixth Dolphin, the most advanced of the series, was signed with the German government in May 2012 after differences over payment.

German Chancellor Angela Merkel also imposed a series of political conditions on Israeli Prime Minister Binyamin Netanyahu, including unblocking $100 million a month in customs duties imposed on the Palestinian Authority and other funds blocked by Israel.

The sixth Dolphin is scheduled to reach Israel in 2017.

Little information on the Dolphin operations is ever released, though it is general understood that with the current three boats operational, one is on patrol in the Red Sea or Indian Ocean, covering Iran and its gunrunning routes to Hamas in the Gaza Strip and Hezbollah in Lebanon.

One is at Haifa on refit, while the third is cruising the Mediterranean.

After the Israelis supposedly knocked out an arms depot outside the Syrian port and naval base at Latakia July 5, where the regime was said to be storing ship-killing, Russian-supplied P-800 Yakhont missiles, there were reports — never substantiated — that a Dolphin in the Mediterranean had unleashed a broadside of land-attack missiles on the site.

The Dolphins carry conventional versions of the Popeye Turbo cruise missile for that kind of mission. These are manufactured by Israel's Rafael Advanced Defense Systems.

The navy adapted the original air-launched version of the Popeye for the Dolphin force. The U.S. Navy tracked a secret Israeli submarine-launched Popeye test in the Indian Ocean in 2002 in which the missile hit a target at a range of nearly 950 miles.

The Dolphins, based on the design of HDW's U-209 class sub, have a range of about 2,700 miles, although this has been likely extended in the three advanced models Israel's now getting.

Expanding the Jewish state's submarine force from three units to six is no trivial matter since it will involve finding and training men for the Dolphins, which usually carry 35-man crews.

These systems will form the navy's strategic spearhead that will add immense firepower to Israel's nuclear triad of air-, land- and sea-based weapons, which in the event of war with Iran over its contentious nuclear program would play a vital role in taking out nuclear facilities or other strategic targets.

Manning the new Dolphins, and having backup crews for rotations, will have to be implemented without weakening the quality of existing crews.

The Israeli military's Bamachaneh magazine reports that the number of personnel selected for submarine warfare has grown by 30 percent in recent recruitment intakes.

According to published reports in Israel, that's a significant shift in a country where the arm and the air force traditionally have been given precedence when it comes to top-quality recruits.

Israel's Arutz Sheva news outlet reported that more officers are being trained for submarine posts and the number of cadets who will be trained for submarine command has been rising by 35 percent.

The head of the navy's high school outreach program, identified only as Maj. Yisrael, said the project began in 2012 as the new subs were still being built in Kiel. He expects about 30 percent of the young sailors who attend a five-day introductory program at the Naval Instruction Base at Haifa this year will reach the navy's training course phase after enlisting.

The major told one group of 11th-graders: "To serve in submarines is unique ... . This is all-important work but it won't be publicized and submarine crew members can't tell anyone what they do."

Russia to Hand Over 'Black Hole' Sub to Vietnam in November
Ria Novosti, Jul 29

MOSCOW – The first of six Russian submarines, dubbed by the US Navy as "black holes in the ocean" because they are nearly undetectable when submerged, will be delivered to Vietnam in November, the shipbuilder said Monday.

The Varshavyanka class (Project 636M) of diesel-electric submarines have very low noise emission and can hit targets at long distances without being detected by an enemy's anti-submarine warfare assets.

"We are expecting the signing of the acceptance act and the sub's sailing to Vietnam in November," the press service of Admiralty Shipyards said from St. Petersburg.

The submarine successfully completed 100-day sea trials in July while the Vietnamese crew has been in training since April this year, the shipbuilder said in a statement.

"The vessel showed excellent maneuverability and reliable work of all mechanisms during the trials," the statement said.

Vietnam ordered a fleet of six Russian-made submarines in 2009, seen as an effort to counterbalance China's expanding maritime influence in the region. The contract, which also stipulates the training of Vietnamese submarine crews in Russia, is reportedly worth $2 billion.

All six boats are being built at Admiralty Shipyards. They are due for delivery by 2016.

The Varshavyanka class is an improvement on the Kilo, with more advanced stealth technology and an extended combat range. The vessels displace 3,100 tons, reach speeds of 20 knots, can dive to 300 meters and carry crews of 52 people.

The submarines, which feature 533-milimeter torpedo tubes and are armed with torpedoes, mines and Kalibr 3M54 (NATO SS-N-27 Sizzler) cruise missiles, are mainly intended for anti-shipping and anti-submarine missions in relatively shallow waters.

India's First Ballistic Missile Sub to Begin Sea Trials
Zachary Keck, The Diplomat, Jul 30

India's first indigenously-built, nuclear-powered ballistic missile submarine, INS Arihant, is set to begin sea trials shortly India's The Tribune reported on Sunday, citing unnamed Indian officials.

"The nuclear reactor that will power the submarine can be formally declared 'critical' anytime now, while the nuclear-tipped missiles to be launched from underwater are in place," an unnamed source was quoted as saying.

The sea trials are set to begin in mid-August with the wait being attributed to the rough waters caused by India's yearly monsoon, which begins to weaken in mid-August according to the source. Once it sets sail the submarine will undergo extensive testing underwater including test launching submarine-launched ballistic missiles.

Once the INS Arihant is ready to conduct deterrent patrols, perhaps as early as the end of this year, India will have at least a nascent nuclear triad—the ability to launch nuclear weapons by land, air or sea.

India is only the sixth country to acquire a sea-based nuclear leg, with the others being the U.S., the UK, France, Russia and China, albeit—as noted last week—Beijing's ballistic missile submarines are not believed to have conducted deterrent patrols.

India's quest to build a nuclear-powered ballistic missile submarine (SSBN, in U.S. Navy parlance), reportedly began in 1970 under Prime Minister Indira Gandhi. Code-named the Advanced Technology Vehicle (ATV) program, its existence was kept under wraps for more than three decades ago before the former chairman of India's Atomic Energy Commission, PK Iyengar, revealed it at a public forum back in 2007.

"Indian scientists and technologists are capable of making light water reactors and we are already constructing an LWR at Kalpakkam in south India for the submarine," Iyengar was quoted by The Guardian at the time as saying.

Russia is thought to have helped design the vessel, although India claims it built the LWR entirely by itself.

The INS Arihant (slayer of enemies) was first launched in 2009 without any corresponding submarine-launched ballistic missiles or the LWR. The vessel weighs 6,000 tons, has a length of 367 feet (110 meters) and reportedly travels at twenty four knots underwater. According to the Tribune, it cost Rs 15,000 crore (appx. US$2.5 billion) to build.

It is powered by an 80-mw pressurized water reactor that uses uranium as fuel and light water as a coolant and moderator. This will allow it to operate quietly and stay submerged for about 2 months at a time.

The SSBN can reportedly carry up to 12 K-15 Sagarika submarine-launched ballistic missiles (SLBMs), that have a range of around 700 km, or 4 K-4 SLBMs, which have a range of 3,500 km and are comparable in many ways to India's Agni-III land-based missile. The K-4 Missiles are still under development, however. It is also believed to be developing a K-5 SLBM with a range of nearly 1,864 mi.

In 2008, Rear Admiral (retired) Raja Menon was quoted by India Today as saying, "One submarine carries at least 12 [K-15] missiles with Multiple Independently Targetable Reentry Vehicles, which could mean as many as 96 warheads."

India first announced that it had tested a K-15 SLBM from a submerged pontoon at a depth of 50 meters in January of this year (see video below). At the time it said that it had secretly conducted over a dozen earlier tests of the K-15, and that the development phase was now complete.

Altogether, India plans to field 3 SSBNs with the goal of keeping two on patrol at all times, a highly ambitious plan given needed repairs. As noted last week, U.S. intelligence reportedly believes that China will deploy its own new SLBM, giving it an effective sea-based deterrent for the first time. Both China and India maintain no-first-use nuclear policies. SSBN's are seen as the most survivable leg of the nuclear triad.

China's Folly of Self-Containment
Harry Kazianis, The Diplomat, Jul 29

Over the last several months, an interesting debate has occurred concerning the future of American grand strategy. What defined such ideas during the roughly half century struggle between the USSR and the United States was the doctrine popularly known as containment. America and its allies attempted to constrain Moscow and its communist partners across economic, political and military domains. At times, tensions flared with many fearing such a stance could lead to World War III, and even a nuclear holocaust.

Today, a new bipolar competition is taking shape. While not a global chess match for influence or a new "Cold War" as some theorize, the United States and the People's Republic of China faceoff in a competitive contest in the Asia-Pacific and larger Indo-Pacific region. In November 2011 in a now famous long form op-ed in Foreign Policy, then Secretary of State Hillary Clinton laid out American's strategy of a "pivot" to Asia. Chinese pundits and media have panned the pivot or now respun "rebalance" as a blatant attempt to contain China's rise. One Chinese professor even remarked, "The pivot is a very stupid choice… the United States has achieved nothing and only annoyed China. China can't be contained."

I agree — unless China makes the choice to contain itself.

Clearly Beijing has interconnected itself into the global economy and international system with enormous success. U.S. – China bilateral trade stood at a jaw-dropping U.S. $536 billion last year. China is now the second largest economy in the world. With an expanding middle class, it is also expected to become the world's largest energy importer. Indeed, the nature of today's interlinked global financial system serves as the ultimate insurance policy against any U.S.-led containment strategy.

Yet, despite China's growing economic integration, it seems leaders in Beijing have been doing a pretty good job of creating a regional environment that is weary of its intentions. China has made a number of controversial strategic moves that have alarmed the international community. The result has been an ever increasing number of nations looking to each other as well as the United States out of fear that China's rise could have dangerous consequences for their own national interests.

A short survey of the last several years — while by no means exhaustive — gives rise to a disturbing narrative: Beijing is attempting to slowly but surely gain regional hegemony in Asia. While it is unclear if such moves are part of a coordinated master plan or a clumsy series of unintended blunders by various actors in China's government, the result is the same — a region on edge that fears Beijing's intentions.

A good starting point as any would be Sino-Japanese tensions over the Senkaku/Diaoyu islands. While Tokyo is not completely innocent — escalating tensions last year by nationalizing three of the disputed islands, Japan has controlled the disputed area since the early 1970s. Beijing has raised the stakes by sending a steady stream of non-naval maritime vessels, surveillance planes, and now even fighter jets close to the disputed area. Japan has responded by scrambling its own fighter planes in an increasingly dangerous standoff. Recent op-eds in Chinese state media went so far as to question Japan's control over Okinawa.

Conservative Japanese Prime Minister Shinzo Abe, responding to the threat posed by Beijing, is looking to revamp and strengthen Japan's military — with historic implications. Japan's recent annual defense paper noted, "China has attempted to change the status quo by force based on its own assertion, which is incompatible with the existing order of international law." Creating even more tension, Tokyo has protested a recent Chinese move to assemble a gas drilling rig near a hotly disputed area in the East China Sea. As reports correctly note, the rig is in China's area of control, however, there is concern it could take gas from Japanese controlled territory.

Extending beyond the maritime arena, tensions in the Indo-Pacific concerning China and its neighbors also involve one of Beijing's BRIC counterparts, India. Both nations have been at odds over an ongoing border dispute that spans several decades. Recently tensions have been exasperated by incursions of (some of which have a strange, almost comical nature) small bands of Chinese troops crossing over what is referred to as the line of actual control (LoAC). While such incidents have not lead to conflict, considering each side is ramping up their military capabilities, one could argue Chinese actions are creating tensions that can only push New Delhi, however weary, closer to Washington. Combined with reports that Chinese undersea naval forces have deployed to the Indian Ocean Region (IOR), India may seek stronger relations with America in an effort to hedge its bets.

Then there are the ongoing disputes in the South China Sea. China's effective seizure last year of Scarborough Shoal, well within the Philippines' Exclusive Economic Zone (EEZ), has created a dangerous precedent. In various panels I have attended here in Washington and during recent travels to

the region, it is clear that Beijing's actions last summer have put many on edge. The Philippines has begun modernizing its armed forces — an obvious response to recent troubles with China. Tensions this summer have also been exasperated by Chinese activity near Filipino-held Second Thomas Shoal.

The above collection of incidents — a result of historical tensions, economic competition, and budding nationalism, certainly has many starting origins. It would be inaccurate to single out China as the cause of all of Asia's strategic tensions or to label it Asia's next boogeyman. Yet, there is one common denominator in all of these territorial squabbles — China. In almost all of the Asia's strategic tensions, Beijing somehow enters into the mix.

The danger for Beijing is quite clear. A narrative is quickly developing (in the media and in foreign policy circles globally) that whatever China's intensions, the People's Republic in the years to come will use its economic and military muscle to achieve its aims in the region — utilizing an aggressive posture if necessary. While America's pivot clearly has a military component to it, with China being the obvious target, many could argue quite convincingly that Washington is merely reacting to Chinese military advancements that specifically target U.S. capabilities and actions over the last several years. The collective consequences of China's recent moves risk creating an environment where its rise to regional and even global superpower status is effectively blocked — a self-created containment if you will.

Putting aside America's pivot, nations in the region are also beginning to step up their diplomatic and military efforts to balance against Chinese actions. Nations across the Asia-Pacific have fueled what could be called a budding arms race. Vietnam, who fought a bloody war with China in 1979 and has a long history of territorial tensions with Beijing, is acquiring new submarines from Russia. Taiwan is attempting to develop its own asymmetric military force. On a recent visit to the Philippines, Prime Minister Abe promised support to Manila's coast guard. Many have argued a recent large Russian military exercise in the Far East was sent as a possible signal to China.

In the end, Beijing is the one who holds the cards to reverse the trend of such a narrative — a narrative that it largely has itself to blame for creating. Taking an aggressive stance against neighbors over rocks, islands or reefs will only serve to feed into regional tensions. Accidently or not, troops crossing disputed borders only feeds the narrative that Beijing is a regional bully — pressing forward where it can to gain advantage . Beijing should recall that history shows us that the rise of any nation to global stature creates natural tensions. Harvard's Graham Allison recently noted that "in 11 of 15 cases since 1500 in which a rising power rivaled a ruling power, the outcome was war."

With the odds stacked against it, Beijing would be wise to do all it can to reverse just a narrative. If it does not, its own self-containment could be the end result — or worse.

How To Sink An Entire Navy | Just Pretty Much Stop Funding It, Is How
David Axe, War is Boring (Medium.com), Jul 29

On June 6, 1944, more than 900 British warships sailed across the English Channel escorting the troops that would liberate Europe from Nazi Germany.

Today the Royal Navy is capable of routinely deploying no more than six warships on short notice. The British navy, once the world's mightiest, is now a token force.

Why? Because the country stopped paying for it.

To be fair, all the world's major navies have been getting smaller, trading large numbers of older ships for fewer new vessels that are generally bigger and more high tech. The U.S. Navy, by far the world's leading maritime force, has declined from more than 600 ships and support vessels to fewer than 400 today, including just 280 frontline warships.

But the Royal Navy's decline has been more precipitous, resulting in a devastating loss in capability. As recently as 1982 the U.K. could quickly muster no fewer than 115 ships—including two aircraft carriers carrying jet fighters plus 23 destroyers and frigates—to retake the Falkland Islands from Argentina.

Today the navy doesn't even have jet fighters, having mothballed the last Harriers in 2010.

The fleet has declined amid steady cuts to the Ministry of Defense's budget as a share of overall government spending, from 4.1 percent of Gross Domestic Product in 1988 to 2.6 percent in 2010. Reductions in 2010 sliced another eight percent from the ministry budget in real terms.

Today the Royal Navy possesses 97 ships. That includes two helicopter carriers, five other amphibious assault ships, six destroyers, 13 frigates, seven attack submarines and four ballistic-missile submarines. The rest are minesweepers, survey ships and other support vessels. Roughly half the ships are in maintenance or training at any one time. Several others are committed to small standing patrols, leaving a tiny core of vessels to respond to emergencies.

This so-called "Response Group Task Force" is built around a helicopter carrier plus one assault ship, a pair of escorts—frigates or destroyers—plus probably one each submarine and supporting tanker ship: between four and six vessels in all. "The keynotes to the Navy's Response Force Task Group are flexibility and adaptability in size, shape and range," the sailing branch crowed in its latest yearbook.

But the task group is dwarfed by the British naval forces that helped invade Iraq in 1991 and again in 2003. Twelve years ago the Royal Navy mustered 11 frigates and destroyers and 23 other ships. In the 2003 assault on Iraq the British naval force included some 40 vessels. Britain's contribution to the next war at sea will be a footnote in comparison.

British officials are fast to highlight the new and improved ships planned for coming years, especially the two Queen Elizabeth-class aircraft carriers and their F-35B stealth fighters, slated to enter service starting in 2018 to replace the current helicopter carriers. The Royal Navy yearbook calls the new flattops the sailing branch's "biggest game changer."

Not true. The biggest game changer—pardon the cliche—has been the inexorable decline of the British fleet, from a decisive power during World War II to a comparatively insignificant force today.

Navy Wants to Expand Philippine Presence, Create Temporary Base
Gina Harkins and Sam Fellman, Navy Times, Jul 27

Your chances to visit historic Subic Bay, once a favorite port of call, are increasing.

The U.S. and the Philippines are negotiating to expand the presence of American warships and service members at Filipino bases, deepening an already close alliance and providing the fleet door-step access to the contested South China Sea.

The talks center on an "access agreement" that would allow the Navy to dispatch ships more often to Subic Bay; to store spare parts, supplies and hardware there that would be useful in a crisis; and to temporarily base sailors and Marines there.

The presence of U.S. forces in the Philippines is still a touchy issue two decades after the U.S. left its huge and long-standing bases there, such as Naval Station Subic Bay and Clark Air Base. Officials with both countries say the push is part of an attempt to work more closely together — not an invitation to re-establish the bases.

The government of the Philippines is "working with us as we look at, you know, potential access agreements down the road," said Adm. Samuel Locklear, the head of U.S. Pacific Command, in a July 11 Pentagon briefing. "They're always going to ask the question, 'Is the U.S. going to re-open Subic or Clark?' And I say, the U.S. isn't going to open anymore bases in the Asia-Pacific."

"We're not in that business," Locklear said.

Ship visits to the Philippines are on the rise. The U.S. is training more with the Filipino military and is using Subic Bay as a logistics hub, as with the June visit of attack submarine Asheville and submarine tender Frank Cable. Port visits to the Philippines increased from 54 in 2011 to 88 in 2012 and continue to rise, according to the news agency Reuters.

Subic Bay holds a hallowed place in naval history. A fleet commanded by Commodore George Dewey seized it in 1898 by destroying the Spanish fleet in the Battle of Manila Bay. (The famous phrase, "You may fire when ready, Gridley," dates to Dewey's open-fire order to cruiser commanding officer Capt. Charles Gridley.)

The U.S. presence reached its heyday during the Vietnam War, when Subic Bay's piers and anchorages were used as a repair, refueling and rest-and-recuperation stop for as many as hundreds of ships each month. Mechanics repaired carrier-based aircraft at Naval Air Station Cubi Point.

But the U.S. pulled out of all its bases — some of its largest overseas — in 1992 after the Philippine Senate rejected a plan to extend a basing treaty signed in 1947. Various reasons were cited, including concerns over nuclear weapons passing through the region, the end of the Soviet Union as a Cold War threat, and the notion that the U.S. presence harkened back to the days of colonialism.

Return and refocus

Now, with the Pentagon's strategic focus shifting to the Pacific, the Filipino bases are an ideal stopping point that's roughly 1,000 miles west of Guam, where four ships are homeported. It also boosts the defensive posture of the Filipinos, who are locked in a territorial dispute with China over the South China Sea.

"With this recognition of an existential threat from China, I think there's much more interest in having the United States presence," said retired Air Force Col. Carl Baker, a Hawaii-based defense expert at the Center for Strategic and International Studies.

Baker said he believes the agreement likely would lead to more ship-repair work getting done in Subic Bay and more exercises with the Filipino navy. He estimated that the Marines dispatched there would number a few thousand at most and would rotate over for no more than six months at a time.

Baker said he anticipates the agreement may entail more berths for U.S. warships, but added that Subic Bay is highly commercial and will "stay largely focused on ship-servicing."

Exact details on the basing proposals remain guarded in diplomatic channels. Asked how many ships and sailors the agreement may bring to the Philippines, a spokeswoman for the U.S. Pacific Command would only say that the basing would "enable temporary access to Philippine military facilities."

A spokesman for the Philippine Department of Foreign Affairs declined to answer questions.

Whatever the final level, the additional basing is intended to boost training between the countries and to depot supplies in case of a crisis.

"An access agreement would increase opportunities for joint military training and exercises and allow the pre-positioning of equipment and supplies enabling us to respond quickly to disasters," a State Department spokeswoman said in an email.

Is America's Naval Supremacy Sinking?
Larry Bell, Forbes, Jul 28

Seth Cropsey, a former assistant secretary of the Navy in the Reagan and George H.W. Bush administrations, now a fellow at the Hudson Institute believes so. His recent book, titled Mayday: The Decline of American Naval Superiority, sounds an alarm that as the number of U.S. ships and aircraft continue to decrease, as our defense budgets are dictated by politically correct policies, as our planning strategies emphasize larger and costlier rather than smaller, cheaper and more technologically advanced vessels, and as expanding bureaucracy and regulations increase shipbuilding expenses, the Chinese gain steady naval power advantage.

There can be no doubt that the American Navy is becoming increasingly stretched both in budget and territorial challenges. While the 2007 U.S. maritime strategy focused much attention upon the Western Pacific and greater Indian Ocean, its framers also mandated that sea services were to maintain a capacity to seize command of any navigable region on the face of the globe. The Obama administration's current pivot to Asia is encountering fierce political pushback from "Europe first" advocates who continue to demand a strong Atlantic naval presence.

Mr. Cropsey blames much of the U.S. Navy budget problem upon a political imperative over at least the past 25 years which dictates that defense dollars be apportioned equally among the three military departments and the defense bureaucracy regardless of the projected role assigned to each in the overall national strategy. He also criticizes several ills of the Navy's planning and budgeting system. Included are: low and unsteady quantities of ship orders; trade-offs between building a few cutting-edge ships and more ships that are less technologically complex; and ever-increasing contractual and regulatory cost burdens. An example of the latter involves requirements for new paints that emit fewer shipbuilding toxins, compliance mandates which alone add an estimated $16 million to the cost of an aircraft carrier.

Basing naval strength on ship fleet numbers can be very misleading. During the 2012 presidential campaign, candidate Mitt Romney emphasized that the U.S. Navy is currently smaller (286 ships) than any time since the WWI period in 1917 under the Wilson administration (342 ships). Yet this number, in itself, has little meaning because true defense capability depends upon what types of ships are included in the tally. A three-hundred-ship fleet comprised only of aircraft carriers and destroyers would be far different from the same number comprised of unarmed oilers and ammunition vessels. Actual combat strength depends upon the proportion of battle-force combatants, light combatants such as the new Littoral Combat Ships and support vessels.

The Obama camp made an equally meaningless claim counteracting Romney's ship number in stating that the U.S. Navy is bigger than the size of the next 13 fleets combined. This was a reference to aggregate tonnage, not to firepower or any meaningful measure of battle performance necessary to accomplish operational and strategic goals. As James Holmes, professor of strategy at the Naval War College points out, the 157,000-ton container ship Emma Maersk hardly equals the battle power of the supercarrier USS George H.W. Bush, although it displaces one and one-half times as much as the nuclear-powered flattop.

To expand warfare capabilities under difficult budget constraints, Mr. Cropsey proposes that many smaller carriers, especially those equipped with short takeoff and landing aircraft, can do the same job as a few large ones. He also maintains that newer submarines with air-independent propulsion are quieter and can get closer to shore at less expense for construction and maintenance than current nuclear types…thus enabling more carriers and subs to be built for the same budget.

Seth Cropsey's argument pays special heed to a 2009 Naval Postgraduate School monograph titled "The New Navy Fighting Machine" compiled by a team headed by retired Captain Wayne Hughes. The report advocates smaller, more numerous, less expensive platforms, suggesting that the number of big-deck aircraft carriers be gradually scaled back from the current eleven, to eight, or even six. The savings would then be used to construct 18 smaller carriers, expanding the Navy's geographic coverage, diversifying its combat power, and reducing the consequences of losing any individual ship.

Captain Hughes also notes that: "Mathematically, it has been proven that if an enemy has twice as many ships attacking, then in an exchange of fire, the other fleet to achieve parity in losses must have twice the offensive power, twice the defensive power, and twice the staying power. The operational insight comes from observing that when a ship is put out of action it loses all three of its combat properties—offensive, defensive, and staying power—simultaneously."

Former Chief of Naval Operations Admiral Gary Roughead (Ret.), a fellow at the Hoover Institute, agrees with Mr. Cropsey that "the most advanced technology should bow to numbers", and using unmanned systems to achieve "decreased cost and increased surveillance and combat power", yet cautions against assumptions that a linear relationship exists between cost and reduced ship size.

Writing in the Wall Street Journal, Admiral Roughead comments: "The inconvenient truth is that a ship that is half the size doesn't cost half as much. Deploying more ships is appealing, but to get to areas of interest such as the Middle East, the Western Pacific and the Indian Ocean we must cross vast waters and remain present for extended periods. Size, speed, endurance and lethality matter greatly, especially when forward bases can't be assured at a time when foreign populations are prickly about sovereignty."

Vice Admiral Edward Briggs (Ret.) told me that he disputes the credibility of Mr. Cropsey's small carrier priority, stating that "We have been through this short takeoff and landing argument before, only to see it discarded." VADM Briggs pointed out that one reason Admiral Holloway developed the aircraft carrier concept for Admiral Moorer (then Chief of Naval Operations), was to "ensure that the carriers represented multipurpose combat capability – that the air wing mix of aircraft would vary to meet the threats posed in any confrontation," and that "At the same time the mix would provide airborne early warning and air defense aloft."

VADM Briggs observed that "Small carriers do not have the flexibility and capability to meet a spectrum of foreseeable threats and simultaneous flexibility for the offensive operations. He also emphasized that "numbers without concomitant technology and flexibility is a dangerous concept of war."

As the U.S. reduces its military budget, Bloomberg reports that the Chinese Communist Party plans to boost military spending 10.7 percent this year as it responds to a concurrent American push for more influence in the Asia-Pacific. China already has the second-largest military budget in the world after the U.S.

Richard Bitzinger, a senior fellow at the S. Rajaratnam School of International Studies in Singapore said, "We are getting indicators of a long-term intention, decisive intention, on the part of the Chinese to build up a carrier-based navy. That's pretty much irrefutable." Still, Bitzinger believes that building the new carrier from scratch will be very challenging for them. He observes that "One carrier is symbolic but if you really want to have an effective carrier-based force you've really got to have two, three or four." And perhaps that's exactly what they have in mind as evidenced by current developments and announcements.

China recently conducted a month of J-15 fighter jet takeoffs and landings on its Liaoning aircraft carrier which was retrofitted from the hull of an unfinished Soviet-era model. Reuters quotes Song Xue, deputy chief of staff of the People's Liberation Army-Navy (PLA-N) stating that "China will have more than one aircraft carrier…The next aircraft carrier will be larger and carry more jets."

Song also said that the PLA-N is building a naval aviation force for the Liaoning which will have at least two aviation regiments on the carrier, including fighters, reconnaissance aircraft, anti-submarine aircraft, electronic countermeasure (ECM) planes, and rotary-wing aircraft. Their domestically-produced J-15 is part of China's aviation modernization process, capable of carrying anti-ship, air-to-air and air-to-ground missiles as well as precision-guided bombs.

Meanwhile, the Obama administration has actually now offered to restrain our own missile defense activities in Asia in exchange for China's help in reducing nuclear threats from North Korea. This includes canceling deployment of two destroyers equipped with Aegis missile defense systems, along with terminating delivery of a second TPY-2 phased-array X-band long-range missile defense radar system for Japan. China had objected to these deployments, arguing that the assets would deepen regional tensions. Unfortunately, that American concession is unlikely to lessen tensions for our allies Japan and Taiwan regarding territorial and sovereignty disputes with China.

Seth Cropsey believes that Beijing's eventual intent is to rise in naval supremacy to surpass the U.S. as guarantor of international commerce and maritime security in Asia. As he recognizes, "the signs point to a change in power in the Western Pacific" …a region of great importance to our own future prosperity. Admiral Roughead doesn't dispute that China has such aspirations, but notes that this won't happen any time soon since unlike armies, navies are much slower to build. He explains that this is why framers of our Constitution wrote of the imperative to "provide and maintain a navy", as opposed to the need to "raise and support an army."

As former Chief of Naval Operations Admiral Hayward (Ret.) told me: "The Chinese with one carrier (or even two) and a few submarines that can launch nuclear missiles is hardly superior to even a lesser capable navy than we have now or expect to have."

Captain Jim Patton (Ret.), who Admiral Hayward described as one of his best strategic thinkers, said: "If I try to stretch the current state of the PLA-N to envision an ocean-going navy that could deploy more than one carrier strike group [CSG] to more than one place at a time – or combine CSGs with expeditionary strike groups to conduct forcible entry anywhere on the globe – while at the same time, maintaining enough submarine-launched ballistic missiles to obliterate any country on the globe – I guess that I would be anxious to shout 'MAYDAY' with the loudest of alarmists. How long did it take the U.S.A. to build and test (repeatedly!) that kind of naval power? Well, half a century, if you count the end of WWII. If that kind of naval power is in China's wish list they had better 'get with the program'."

Still, Captain Patton doesn't entirely rule out that possibility. While he characterizes extrapolating the Navy we presently see China building equivalent to some sort of "transfer of power" with the U.S. as "rank alarmism", he concedes that the "dire competition that supported our own building to a force of nearly 600 ships to fight the Soviets and a readiness to fight unequalled between WWII and now, I can understand how folks will stretch the threat." Yet he concludes "That doesn't mean I have to believe it."

In any case, whether or not it's time to call "Mayday", the book calls to question some very important issues. Perhaps above all, as Vice Admiral Dunn observes, it cogently warns us that "cutting back on American sea power promises nothing except advancing powerlessness, the suspicion of allies and global challenges to American security, especially from China." Admiral Dunn equates the current philosophy of "offshore balancing", prodding others to stand in for the leadership we are unable or unwilling to supply ourselves, as being akin to the expectations of a child that he can control the motion of a mechanical toy horse he mounts outside a supermarket.

America can ill afford to rely upon a wild herd of toy horses engineered by international coalitions and transient agreements to protect our national interests on sea, air and land. Doing so will sink our dominion over sovereignty and prosperity at home and abroad, placing us and our allies at the mercy of tyrants.

SSBNX Under Pressure: Submarine Chief Says Navy Can't Reduce
Hans M. Kristensen, FAS Strategic Security Blog, Secrecy News, Jul 24

In a blog and video on the U.S. Navy web site Navy Live, the head of the U.S. submarine force Read Admiral Richard Breckenridge claims that the United States cannot reduce its fleet of nuclear ballistic missile submarines further.

This is the third time in three months that Breckenridge has seen a need to go online to defend the size of the SSBN fleet. The first time was in May in reaction to my article about declining SSBN patrols. The second time was in June when he argued that the design chosen for the next-generation SSBN was the only option.

Now Breckenridge argues that the number of operational SSBNs cannot be reduced further if the U.S. Navy is to be able to conduct continuous deployments in the Pacific and Atlantic oceans.

Three public interventions in as many months shows that the plan to spend $70 billion-plus to build a new class of 12 SSBNs is under pressure, and Breckenridge acknowledges that much: "The heat inside the Pentagon right now is probably just as bad" as the summer heat outside and "with sequestration and the fiscal crisis and the budgetary impacts on the DOD topline, there's a lot of folks looking at how low we can go with the SSBN force."

But the 12 planned next-generation SSBNs "is the floor," Breckenridge claims.

A Matter of Geography

It is not the first time that the navy has argued that what it has or plans to build is the absolute minimum and that anything less would undermine U.S. national security. But why does the navy plan to build 12 new SSBNs?

The answer, Breckenridge says, "really is a matter of geography."

"For us to be able to conduct two-oceans strategic deterrence requires a bare minimum number of SSBNs of a force of twelve," he claims. To get to that number, Breckenridge begins with a series of broad assumptions and claims about deterrence and SSBN operations.

"There are two important points for you to know for how strategic deterrence works. The first is those SSBNs have to invincible. They have to be survivable at sea. The adversary can't find them. Hidden and unable to be detected. And second, they have to be within range of targets that matter to the adversary, that we can hold at risk to deter or dissuade them from ever considering attacking our homeland."

"Geography requires that 60-40 split of our SSBN force," he says. "A few more in the Pacific than in the Atlantic to be able to meet those two criteria for our nation's defense."

I May Not Know Much About Geography, But…

That explanation might work well for a public relations sound bite, but I hope the Pentagon folks examining the SSBN force level probe a little deeper.

First of all, why does two-oceans strategic deterrence require 12 SSBNs? Three decades ago it required 41. Two decades ago it required 33. One decade ago it required 18. Now it requires 14. And in two decades it will still require 12 SSBNs, according to the navy.

Breckenridge explains that out of 14 SSBNs currently in the fleet, 11 are on average operational but it sometimes drops to 10, with the rest undergoing maintenance (see here for article about SSBN operations). Those 10 operational SSBNs (six in the Pacific and four in the Atlantic) "is the bare minimum required to provide uninterrupted alert coverage for the combatant commander," according to Breckenridge.

He says that the current SSBN fleet is a "lean" force. But there is nothing lean about it: the fleet is bigger than that of any other country; each Ohio-class SSBN carries more missiles than any SSBN of any other country can carry; each Trident II D5 missile can be loaded with more warheads than SLBMs of any other country; each missile is more accurate, lethal, and reliable than any other country's SLBM; and the U.S. SSBN fleet conducts three times more deterrent patrols than any other country. The force is bloated both in terms of size, loadout, capability, and operations.

Britain and France both manage to ensure their security each with four SSBNs operating from a single base. In contrast, the "bare minimum" force that Breckenridge advocates of 10 deployable next-generation SSBNs will be able to carry 160 SLBMs with up to 1,280 warheads – more than Britain, France, China, Pakistan, India and Israel have in their total stockpiles, combined! In fact, that 10-SSBN force would be able to carry more than the entire deployed strategic warhead level proposed by President Obama in his recent Berlin speech.

Like Russia's future SSBN fleet, the U.S. Navy could easily operate eight SSBNs from two bases. That would ensure that six next-generation SSBNs would always be deployed or ready to deploy on short notice. Combined they would be armed with nearly 100 long-range missiles capable of carrying up to 760 warheads that can hold a risk the full range of targets. Try to put 760 Xs – even 100 – on a map of Russia or China and tell me why that would be insufficient for deterrence in this day and age.

Equally important, where does the requirement to provide "uninterrupted alert coverage" on such a scale come from? What is the scenario? And why is it necessary – more than two decades after the end of the Cold War – "to provide uninterrupted alert coverage for the combatant commander"?

The requirement comes from the nuclear strategists that create the objectives and tasks that military planners translate into a "family" of nuclear strike plans against half a dozen adversaries. Those requirements are what Breckenridge is trying to meet with his 12 SSBNs.

But there is nothing in the strategic threat environment of today's world that requires U.S. SSBNs to "provide uninterrupted alert coverage" under normal circumstances. Indeed, the new nuclear weapons employment policy issued by the White House last month concluded that "the potential for a surprise, disarming nuclear attack is exceedingly remote" and ordered DOD to "reduce the role of launch under attack" in nuclear planning.

Consequently, the SSBNs could be taken off alert and their readiness level significantly reduced while still providing basic operational training to the crews. The annual number of SSBN deterrent patrols has already declined by more than half over past decade and may drop further in the next years.

The Pentagon is already so confident in the capability of the SSBN fleet that it has concluded that Russia "would not be able to achieve a militarily significant advantage by any plausible expansion of its nuclear forces" because it would have "little to no effect" on the U.S. ability to retaliate with a devastating strike.

Despite Russian modernizations, the size of its strategic force is declining and will continue to decline over the next decade with or without a new arms reduction agreement. And there is no indication that China, despite its own modernizations, is planning to increase the size of its strategic nuclear force to anything remotely comparable to the force level proposed by President Obama.

Yet for the next two decades, until 2031 when the first next-generation SSBN is scheduled to sail on patrol, the navy plans to continue to operate all 14 Ohio-class SSBNs. Of those, the 12 operational boats currently carry 288 Trident II D5 missiles, which will be reduced to no more than 240 deployed missiles by 2018 under the New START Treaty. But that is 80 missiles (50 percent) more than the 160 missiles that will be deployed on the 10 operational next-generation SSBNs.

Why does the navy plan to sail for two decades with 50 percent more missiles than it has already decided it can do with on the next-generation SSBN?

This is even more puzzling because the plan for 12 SSBNs with 16 missiles each "did not assume any specific changes to targeting or employment guidance," STRATCOM commander Robert Kehler testified before Congress in November 2011.

Read that again: the significant reduction planned for deployed sea-launched ballistic missiles did not require any specific changes to targeting or employment guidance!

That statement indicates that there is significant excess capacity on the SSBN fleet. And it is mind-boggling that Congress did not even notice it.

Conclusions and Recommendations

I may not know much about geography but it appears the SSBN force is significantly in excess of what is required now or planned for later. A force of 8-10 SSBNs with six operational boats would provide more than enough capacity to perform adequate deterrence deployments in Pacific and Atlantic.

Shedding the excess SSBN capacity now would save billions of dollars in construction and operational costs and make it easier to persuade Russia to reduce it forces as well. That seems to be a double win.

Part of the problem with debating SSBN operations and the war plans they are tasked under is that everything is so secret that there essentially is no way to independently verify Breckenridge's claims. All we have are bits a pieces and common sense.

And because of this secrecy, and the almost religious aura of legitimacy that the SSBN force enjoys, many lawmakers blindly accept the claims and do not question the size of the force or the assumptions for its operations. That ends up costing the U.S. taxpayers billions of dollars.

The issue facing us is not whether the SSBN force provides an important contribution to U.S. national security or not. It does. The issue is what composition it needs to have and how it needs to operate to provide sufficient security at an affordable price.

Asia Drives Global Submarine Sales
Zachary Keck, The Diplomat, Jul 24

A new report by Strategic Defense Intelligence, a private intelligence firm, says that Asia will be a primary driver of the global submarine market over the next decade. After noting that the Western submarine market has slowed considerably since the Cold War ended, the report— entitled The Global Submarine Market 2013-2023— observes that BRIC countries and Southeast Asia are becoming "financially able to fund a cost consuming submarine capability." It also singles out China, North Korea, and Pakistan and India as "drivers for the submarine market worldwide."

Based on commercial satellite imagery, 38 North finds that North Korea has halted construction on its Tonghae Satellite Launching Ground. Pyongyang was building the site to launch larger rockets with heavier payloads but, according to the analysis, halted work near the end of 2012 and hadn't it resumed it yet as of the end May. The reasons for the stoppage were not clear, 38 North said.

That won't "stop" Chinese Vice President Li Yuanchao from visiting North Korea later this week to commemorate the 60 year anniversary of the signing of the armistice that ended active fighting in the Korean War. As previously reported on this blog, China announced that it would be sending a then-unnamed high-ranking official to Pyongyang to mark the occasion in early July. News reports say that Li will be the highest ranking Chinese official to visit North Korea since Kim Jong-Un took over power. I argued at the time the trip was announced that Beijing was sending an official as an award for Pyongyang's recent charm offensive.

U.S.-Chinese mil-to-mil ties have been improving as of late and apparently, the military leaders in both countries may have more in common than previously thought. As Xi Jinping has tried to crack down on PLA leaders' excess, the Los Angeles Times reports on a new Pentagon study sent to Congress that found the U.S. military's top brass live in what the paper described as "hundreds of high-end homes, villas and mansions" around the world. The head of U.S. Southern Command, for instance, lives I a Miami, Florida villa that costs U.S. $160,000 a year, with current renovations on the place costing an additional U.S. $402,000.

With U.S. Vice President Joseph Biden in India this week, U.S. cyber experts told Congress on Tuesday that the U.S. needs to partner more closely with India on cybersecurity, citing threats it faces from Pakistan, China, and non-star actors. The testimony was part of the House Foreign Affairs Committee's Subcommittee on Asia and the Pacific's hearing, "Asia: The Cyber Security Battleground."

Speaking of the U.S. House of Representatives, the Congressional body is trying to pass its version of the FY 2014 Defense Appropriations Act this week. The Hill reports that it considered amendments on the bill through wee hours on Wednesday.

Among the amendments that failed was one that would have prohibited Pakistan from receiving any funding from the bill. Measures that passed included ones prohibiting any funds from being used to reduce the size of the U.S. nuclear arsenal and their delivery systems to meet Washington's obligations under START 2010. The Defense Department will also not be allowed to furlough civilian defense employees next year, as a means of reducing its spending as required by sequestration.

U.S. Military Vows to Put Women in Combat Roles by 2016
David Lerman, Bloomberg News, Jul 24

Officials from all military service branches told Congress today they can open combat positions to women by 2016 without lowering physical or performance standards.

Six months after the Pentagon announced it was lifting a ban on women serving in ground-combat units, military officials charged with implementing the policy said they've started the studies needed to make it work.

"I don't envy you," Representative Joe Heck, a Nevada Republican, said today at a hearing by the House Armed Services Committee's military personnel subcommittee. "As you know, there's not universal acceptance of this concept."

Ending the ban will open as many as 237,000 positions to women by January 2016. The three-year process will require what officials describe as a methodical review of the physical standards needed for each combat job to determine how best to measure fitness and whether some positions will need to remain restricted to men.

"We're not going to lower standards," said Juliet Beyler, the Defense Department's director of officer and enlisted personnel management. "It's not a matter of lowering or raising standards. The key is to validate the standard to make sure it's the right standard for the occupation."

While women have been a permanent part of the military services — as opposed to separate auxiliaries — since a 1948 act of Congress, they have long been excluded from infantry, artillery and other ground-combat jobs. After a decade of fighting in Iraq and Afghanistan that sent more than 280,000 female troops into war zones, Pentagon leaders and women who served have said gender discrimination no longer makes sense.

"I'm real excited to get this done," said Representative Loretta Sanchez, a California Democrat, who described the task as providing equal opportunity for women. "Combat performance is an important issue when people are looking at moving up in all of these organizations."

The plan wasn't embraced as whole-heartedly by all members of the panel.

Representative Jackie Walorski, an Indiana Republican, said she was worried that integrating women into small ground-combat units risked an increase of sexual assaults in the ranks.

"Have you anticipated what's going to happen?" Walorski asked. "What's happening now doesn't work. Is there research? Is there a plan?"

Beyler said expanding opportunities for women is part of the Pentagon's strategy to combat sexual assaults. "The more we treat service members equally, the more likely they are to treat each other with respect," she said.

For the Marines, where women are 7 percent of the force, "it's going to be a crawl-walk-run process, but we're looking at that," said Marine Corps Lieutenant General Robert Milstead, deputy commandant for manpower and reserve affairs.

Representative Niki Tsongas, a Massachusetts Democrat, suggested men and women may need different training to reach the same standards.

"Yes, you want the standards to be gender-neutral, but you may need to train for the standards in different ways in order to have success," Tsongas said.

Milstead said the Marines already have gender-specific boot camps. "They need to be nurtured different," he said. "They just need different steps as they go. They get to the same place. They're Marines."

The path to the front combat lines may be most complicated for special-operations forces, such as those that killed al-Qaeda leader Osama bin Laden in Pakistan.

"Our concerns about integration generally center upon the impact on unit cohesion," Major General Bennet Sacolick, director of force management and development for the U.S. Special Operations Command, said in written testimony.

Sacolick said his command has asked RAND Corp. to provide an independent analysis of qualification standards, with an assessment to be completed by July 2014 and recommendations to be submitted by July 2015.

Army Lieutenant General Howard Bromberg, deputy chief of staff for Army personnel, said he's prepared to respond to misperceptions that standards will be lowered.

"We're going to have to lay the facts out," he said.

The use of valid, equal standards for men and women should make clear the fairness of job qualifications, he said.
"We're going to eliminate males in some cases," Bromberg said. "A standard's a standard."

The Future of Britain's Nuclear Deterrent
Frank Klotz, The National Interest, Jul 24

A perennial question faced by the major nuclear powers is how many and what kinds of nuclear forces are necessary to maintain an effective, credible deterrent. Contending assessments of security threats, as well as differing strategic concepts, have traditionally informed the debate. Yet, the tug-and-pull of domestic politics can also play a significant role in determining a nation's nuclear policy.

That's certainly the case in the United Kingdom today. A decision on the future of Britain's nuclear deterrent could depend as much on the dynamics of intracoalition and interparty politics—and a referendum on Scottish independence—as it does on strategic analysis.

Missiles and Submarines

The United Kingdom is one of the five nuclear-weapon states officially recognized by the 1968 Nuclear Nonproliferation Treaty. At one time, it fielded a wide variety of nuclear-capable weapon systems. (According to Professor Sir Lawrence Freedman, these included longer-range bombers, fighter aircraft and maritime helicopters capable of delivering British-produced nuclear weapons; as well as short-range land-based missiles and artillery able to fire U.S. nuclear weapons under a dual-key arrangement.) But by the late 1990s, Britain had phased out all of its air-delivered and land-based nuclear-weapon systems as part of a post–Cold War adjustment that led to a substantial reduction in the total number of deployed nuclear weapons.

Today, the UK's nuclear force consists of four Vanguard-class nuclear submarines, each armed with up to sixteen Trident D-5 ballistic missiles. The UK builds its own submarines and nuclear warheads; the missiles are purchased from the United States under the terms of a sales agreement that dates back a half-century. With four submarines in service, at least one can always be under way and on patrol. British government officials have long regarded "continuous at-sea deterrence" as essential to maintaining a credible deterrent, because it ensures that at least a portion of the nuclear force is likely to survive any attack and still be capable of mounting a retaliatory strike.

The UK will soon be forced to decide on a successor to the current Trident system. Its ballistic-missile submarines were built between 1986 and 1999, and are expected to reach the end of their service lives starting in the 2020s. Given the long lead times required to design, construct and commission new submarines, serious work will need to begin soon if they are in fact to be replaced.

Coalition Politics

A final decision on what to do as the UK's Trident submarines age out has been purposely put off until 2016, after the next general election. Nevertheless, the positions of the major political parties are already well established. In 2006, Prime Minister Tony Blair's Labour government decided to "maintain our deterrent system beyond the life of the Vanguards with a new generation of ballistic-missile-carrying submarines." Conservative leaders—including current prime minister David Cameron—have similarly advocated "like-for-like" replacement of the existing UK ballistic-missile submarines.

The junior partners in the present ruling coalition—the Liberal Democrats—have taken a different view. They have for some time argued that like-for-like replacement of the current Trident boats would be inordinately expensive. Moreover, they maintain that a continuous at-sea deterrence posture—and thus a four-submarine fleet—is no longer necessary in the post–Cold War security environment.

After the May 2010 general election, the Conservatives and Liberal Democrats struck a compromise of sorts while forming their coalition. They agreed, inter alia, that the new government would remain committed to the maintenance of Britain's nuclear deterrent. (To this end, some initial work on replacing the Vanguard-class submarines has been undertaken and funded.) However, the coalition agreement also stated that "the renewal of Trident should be scrutinised to ensure value for money." Additionally, the Liberal Democrats were explicitly allowed to continue making the case for alternatives.

Last week, the Cabinet Office released the long-awaited results of an internal review on likely alternatives. The written report examines the costs and strategic implications of various weapons systems, including stealthy or supersonic cruise missiles that could be launched from large aircraft, fast

jets, surface ships, or attack submarines. It also addresses various "force postures," ranging from the current practice of having a portion of the force always on full alert to more relaxed levels of readiness.

While the report made no specific recommendations, it clearly makes the case that replacing the current ballistic-missile submarines with new ones would ultimately be the most affordable and most feasible means of preserving an independent nuclear deterrent. In large part, this is because the UK already possesses the infrastructure, expertise and experience for operating ballistic-missile submarines. The UK also benefits enormously from close collaboration with its American ally in sustaining its Trident missiles and their associated equipment. On the other hand, developing an entirely new delivery system, as well as a compatible warhead, from scratch would prove costly, time-consuming, and highly risky.

The political reaction to the report suggests it may have had a subtle, yet discernible impact on the debate. The Conservatives predictably saw the review as validating their current position on like-for-like replacement. As for the opposition, the report bolstered Trident supporters within Labour's ranks and helped facilitate a public reaffirmation of Blair's earlier commitment to a new generation of ballistic-missile submarines. Shadow defense secretary Jim Murphy responded that "Labour has always said that we are committed to the minimum credible independent nuclear deterrent, which we believe is best delivered through a Continuous At Sea Deterrent. It would require a substantial body of evidence for us to change that, but this review does not appear to offer such evidence."

With the prospect of finding more affordable alternatives to Trident now apparently off the table, the Liberal Democrats refocused their talking points to emphasize the financial savings that could be achieved by cutting the number of submarines from four to three, or even two—which of course would spell an end to continuous at-sea deterrence. Austerity measures adopted by the current Government have already hit the British defense establishment hard. The British army faces an approximate 20 percent reduction (from 102,000 to 82,000 regular personnel) over the next five years; the Royal Navy has already lost both personnel and ships, including its sole remaining aircraft carrier, Ark Royal. Nuclear forces have so far largely escaped the budget axe. The Liberal Democrats obviously plan to tout the need to find savings in the nuclear account as well.

Finally, as if differences among the political parties on the future of nuclear deterrence were not enough, regional politics have also entered the mix. Scotland is due to hold a referendum on independence next year. Two major facilities associated with the Trident force—Faslane and Coulport—are located in Scotland. Leaders of the Scottish National Party have vowed that if Scotland does indeed gain independence, the nuclear subs must leave. The options for relocating are limited and the costs of doing so are astronomical.

The debate over the UK's nuclear future will no doubt continue through the next general election. The Liberal Democrats have promised to address the issue at their party conference in September. But with the two major parties still expressing support for an independent nuclear deterrent based on continuous at-sea deterrence, the next British government is likely to make, at most, only modest changes to Britain's nuclear forces. Labour's shadow defence secretary has suggested, for example, that the total number of missile and warheads carried on board submarines could be reduced. As for next year's Scottish referendum, the smart money says that the independence movement will fall short, though more for economic reasons than any concern about the future of the UK's nuclear deterrent.

But if either of the above two assumptions turns out to be wrong, all bets about the UK's nuclear future are off.

The American Connection

The ultimate outcome of the UK domestic debate on Trident replacement also has implications for the United States. Anglo-American cooperation on nuclear weapons has been close ever since British scientists participated in the Manhattan Project during the Second World War. The Kennedy administration's decision to sell Polaris sea-launched ballistic missiles, later updated to include Trident missiles, has been a centerpiece of the U.S.-UK strategic relationship for the past fifty years. If the United Kingdom ultimately proceeds with like-for-like replacement of the existing Trident system, close cooperation with the United States will continue to be essential.

However, according to at least one press account, unnamed senior American officials have quietly expressed doubts about the wisdom of the UK's continued investment in the nuclear forces, especially as the British Army—which has fought alongside US troops in the Balkans, Iraq and Afghanistan—is being pared to the bone. As if to quell any thoughts of waning American support, Secretary of Defense Chuck Hagel, in the presence of visiting UK defense secretary Philip Hammond, recently congratulated the Royal Navy for its "steadfast maintenance of its submarine-based nuclear forces and their continuing round-the-clock patrols." Hagel then added, "I strongly support the United Kingdom's decision to maintain an independent, strategic deterrence."

He was right to do so.

DARPA Is Building a Submarine Mothership to Launch Drones From the Sea
Adam Clark Estes, Gizmodo, Jul 23

Drones are nuts. After all, they're robotic war machines that kill on command. But the mad scientists at DARPA are working on something that's even more nuts: a submarine that can carry an assortment of drones around the sea and launch them into the air. That's nuts.

This drone mothership—that's DARPA's word not ours—is a work in progress. The agency just released a bundle of new details about what they're building, and it sure sounds like quite the machine. The so-called Hydra program will build a submarine that can carry unmanned aerial vehicles (UAVs) and unmanned underwater vehicles (UUVs) covertly into battle zones. Once there, the real magic begins. DARPA explains the plan in a press release:

The air vehicle payload that will be ejected from the mothership, float to the surface, launch, fly a minimum range, and conduct several different types of missions.

Undersea payloads will launch, dock, and recharge from the mothership and collect intelligence information. After their missions they will download information to the mothership, which will communicate it to command authorities.

Sounds kind of like a James Bond movie, doesn't it? Well that's DARPA's specialty. This is the agency that brought us everything from a battery-powered human exoskeleton to the robotic cheetah that can run faster than Usain Bolt. And who could forget Atlas, the humanoid, DARPA-funded robot without a head that can stand on one leg?

China Could Field New Long-Range Missile on Subs in 2014
Global Security Newswire Staff, National Journal, Jul 23

U.S. defense insiders said China appears set in 2014 to begin equipping active-duty submarines with a next-generation, long-range ballistic missile, the Washington Free Beacon reported on Tuesday.

"We are anticipating that combat patrols of submarines carrying the new JL-2 submarine-launched ballistic missile will begin next year," said one unnamed source said with knowledge of intelligence assessments on the matter.

China is now operating three Jin-class ballistic missile submarines, each with a dozen firing tubes, the Washington Free Beacon said. Beijing plans to assemble two more of the vessels before rolling out the future Type 096 ballistic missile submarine, according to a yearly U.S. Defense Department assessment of Chinese armed forces.

The U.S. Navy's top officer, Adm. Jonathan Greenert, in May told lawmakers he intended to monitor these developments but was not concerned by them, saying, "We own the undersea domain," according to the newspaper.

Sunken WWI U-Boats A Bonanza For Historians
Frank Thadeusz, Der Spiegel, Jul 19

On the old game show "What's My Line?" Briton Mark Dunkley might have been described with the following words: "He does what many adventurers around the world can only dream of doing."

Dunkley is an underwater archeologist who dives for lost treasures. His most recent discoveries were anything if not eerie.

On the seafloor along the southern and eastern coasts of the UK, Dunkley and three other divers have found one of the largest graveyards in the world's oceans, with 41 German and three English submarines from World War I. Most of the submarines sank with their crews still on board, causing many sailors to die in horrific ways, either by drowning or suffocating in the cramped and airtight submarines.

Several U-boats with the German Imperial Navy are still considered missing today. Lists provide precise details on which of the U-boats the German naval forces had lost by the time the war ended in November 1918.

But it was completely unclear what had happened, for example, to UB 17, a subway crewed by 21 men under the command of naval Lieutenant Albert Branscheid. Neither was it clear where the 27-member crew of UC 21 – a minelayer commanded by naval Lieutenant Werner von Zerboni di Sposetti – had perished.

Securing British And German Heritage

But now things have changed.

Dunkley and his team of divers found UB 17 off England's east coast, near the county of Suffolk. UC 21 sank nearby. The fate of many other submarines, especially those that had suddenly disappeared in the last two years of the war, can now be considered known.

All of the sunken U-boats are relatively close to the coast, at depths of no more than 15 meters (about 50 feet). The diving archeologists will undoubtedly find the remains of sailors with the German Imperial Navy inside the wrecks. In the language of archeology, such finds are referred to as "disaster samples." In any case, the divers will be searching for signs of the crewmembers that died inside the U-boats.

"We owe it to these people to tell their story," says Dunkley. He works for English Heritage, a public body that is part of the Department for Culture, Media and Sport. Its primary mission is to secure Britain's cultural heritage.

The British could see it as a peculiar irony of history that these measures are now benefiting the heritage of their former enemy. Since the Germans attacked civilian targets in World War I, British propaganda derisively referred to the submarines as "baby killers."

"Many have forgotten how successful the German U-boat fleet was for a time," says Dunkley – an assessment that is by no means intended to glorify the German attacks. In fact, one of the goals of the most recent English Heritage project is to remind people that, although they might be more familiar with submarine warfare from World War II, the ships also caused considerable devastation in the previous world war.

A Slowly Embraced Weapon

Indeed, it had practically vanished from popular memory that the Germans caused great losses to their main enemy, Great Britain, in World War I through targeted torpedo strikes against the royal merchant navy. At the beginning of the war, there were only 28 U-boats under the supreme command of Kaiser Wilhelm II, a tiny number compared to the Allied fleet.

At first, many political decision-makers in Berlin were unclear about exactly how the military devices, which were still novel at the time, could be used. Grand Admiral Alfred von Tirpitz had such a low opinion of the importance of the steel diving vessels that he even referred to them as a "secondary weapon."

An operations order signed by Kaiser Wilhelm on July 30, 1914 also assigned a secondary role to the U-boats at first. Under the order, they were to be used primarily to engage hostile ships in naval battles with the Imperial High Seas Fleet, which had been upgraded at considerable cost.

But after a German U-boat sank three English armored cruisers, an unbridled enthusiasm erupted in the German Empire for this still relatively untested form of naval warfare. A large number of volunteers signed up for submarine duty, even though serving in the cramped cabins was practically a suicide mission at the time, especially in comparison with the types of underwater vessels used in World War II and, even more so, today's submarines.

The conditions inside the boats were claustrophobic and extremely hot. There were cases in which entire crews were wiped out when a torpedo misfired. Likewise, since aiming torpedoes was still such an imprecise science, the submarines had to come dangerously close to enemy warships. And if spotted, they became easy prey: Early submarines moved through the water so slowly that enemy warships could easily take up pursuit and sink the attackers, either with depth charges or by ramming. In fact, some 187, or almost half, of the 380 U-boats used by the German navy in World War I were lost.

A Race Against Time

Dunkley and his colleagues examine the wrecks with ultrasound sonar devices they wear on their wrists like watches. The devices allow them to measure wall thickness and determine the extent to which corrosion has already eaten away at a ship's hull.

Measures to secure the vessels are urgently needed, says Dunkley. Since the U-boat graveyard at sea is gradually disintegrating, time is of the essence for the archeologists. Under the strict guidelines of the UNESCO Convention on the Protection of the Underwater Cultural Heritage, the World War I wrecks sitting on the seafloor are currently not even considered archeological artifacts deserving special protection.

The disintegrating war machines are currently just shy of the 100 years required to attain this status. For this reason, Dunkley's team is trying to wrest as many secrets as possible from the wrecks in the coming months.

In cases where mines or torpedoes have torn large holes into the vessels, the archeologists can even peer inside. When this is not the case, robotic vehicles will cut open the hatches of the steel coffins and go inside.

"We divers only approach the boats with great caution. Venturing inside would definitely be extremely dangerous," Dunkley says.

It is hard to determine how almost a century of lying in place, as well as sedimentary deposits, have changed the structural integrity of the wrecks. If a U-boat turns over as a result of the divers' movements, its narrow corridors could become deathtraps.

The treatment of the crews' remains is also complicated. By law, the sites are considered inviolable gravesites. Nevertheless, the archeologists don't want to miss the opportunity to try to recover other signs of the erstwhile sailors in the underwater crypts. "Perhaps we'll find a cup or a sign with a name on it," Dunkley says.

Attacking And Sinking In Groups

The marine archeologists were struck by the fact that sometimes two or three German U-boats were found lying in close proximity to one another. For historians, this serves as evidence of a certain German combat strategy in an especially drastic phase of the U-boat war.

In February 1917, the Imperial Navy had altered its strategy and was now torpedoing and firing guns at British commercial ships on a large scale. The Royal Navy reacted by providing the freighters with warship escorts, as well as using airships and aircraft to spot enemy submarines from above.

German military strategists devised a plan to break up these massive convoys: attacking the naval convoys with several U-boats at the same time. But the strategy was difficult to implement because it was very difficult to coordinate such complex maneuvers at the time.

Historians are divided over whether the convoy system ultimately saved the United Kingdom from defeat or whether it was the United States' entry into the war on April 6, 1917.

Before then, the British had relied on creativity to fend off U-boats and other enemy ships. The hulls of their own ships were painted with confusing patterns designed by artists at the Royal Academy in London. But there is no historical evidence to prove that this measure saved even a single ship from the German torpedoes.

German Submarines For Poland?
Defense Industry Daily, Jul 22

At the end of May 2013, the German and Polish defense ministers signed a Letter of Intent on naval cooperation. What does that mean for Polish submarine plans?

Poland's current submarine fleet includes 1 Russian Kilo Class boat, ORP Orzel , which was commissioned in 1986. Another 4 modernized U207 Kobben Class pocket submarines of German design were given to Poland by Norway, who added 1 Type 207 used for spares/ training. The tiny 435t Type 207s were commissioned in Norway from 1964 – 1967, which doesn't leave them much of a safe lifespan.

Poland's 2013 – 2022 defense modernization plan expects to finalize specifications for new submarines by the end of 2013. Two would be bought in 2022, and a 3rd in 2030. Poland's shipyards had been expecting to participate, and to receive technology transfer benefits.

A copy of the LoI received by Defense Industry Daily sets out 28 named cooperation domains. They include joint exercises and services, exchange of knowledge and personnel, operational activities together, and the acquisition and maintenance of new equipment.

Procurement projects include include common procurement and operation of Joint Support Ships, and of mission modules for Germany's 6 forthcoming MKS180/ K131 special mission ships. New oilers and tankers are listed as a common development and operation case: Poland operates only ORP Baltyk, and Germany's 2 remaining Walchensee Class coastal tankers were commissioned in 1966.

Submarines are mentioned twice, via generic "cooperation in the field of submarines" (#1), and "Establishment of a DEU-POL submarine operating authority" (#8). The first is normal, but the second is an important step, especially in light of recent events in both Poland and Germany.

Germany's budget has seen steady pressure, leading to planned reductions and sell-offs within a number of major orders. Poland's defense budget, which had defied European trends, is headed for imminent cuts as 2013 government revenues come in below expectations. The MON has stated that it will protect land systems modernization as a top priority, and recent orders for more wheeled Rosomak IFVs seem to reinforce that trend. On the modern battlefield, airpower is the dominant asset, and Poland's planning acknowledges that they need to improve both their aerial fleet and their air & missile defense capabilities. The Polish Navy has generally been the lowest priority for Polish military modernization, and current imperatives show no signs of changing that status.

In that environment, new submarines look to face funding challenges, unless the budgetary environment improves.

Those circumstances are adding plausibility to an unconfirmed report we've received that that the German BWB has proposed leasing 2 of the Deutsche Marine's U212A submarines to Poland, a move that would keep the German fleet at 4 despite planned deliveries. A common operating authority is certainly a good way to tie that kind of arrangement together, and each government has reasons to like the idea. Not only would Germany save on operating expenses by remaining at 4 boats, they would be able to make money doing it, instead of paying for basic maintenance of mothballed boats. Meanwhile, Poland would avoid the huge up-front cost of buying new boats, and might be able to save money by decommissioning the old, maintenance-intensive U207/Kobben Class boats soon after any U212A lease.

Our source says that a deal could be done by the end of 2013.

If true, the EU can be expected to stick its nose in – as they did in 2010 when the Czech Republic bought/ bartered for 4 C-295M light transports from EADS, without opening the deal to EU-wide competition.

Poland's shipyards like Stocznia Remontowa Nauta and Stocznia Marynarki Wojennej, whose owners were hoping to use the submarine deal to modernize their aging infrastructure, would also be out in the cold. The Polish shipbuilding industry is a shadow of what it was in the 1980s, when the Gdansk-centered Solidarity movement began bringing down the Soviet Empire. Then again, neither are they easily dismissed.

SSBN Force Level Requirements: It's Simply A Matter Of Geography
Rear Admiral Richard Breckenridge, Navy Live Blog, Jul 19

There have been recent claims that today's ballistic missile submarine force is operating with excess capacity and, therefore, force reductions to save resources may be in order. As I have noted in response to a recent op-ed, this supposition is untrue – in fact, our lean SSBN force is providing the cornerstone of our national security at a pace that has remained essentially constant since the late 1990s. Even so, questions about the size and capability of our future at-sea deterrence are appropriate to consider as we recapitalize this national asset.

Given past force structure reductions from the "41 for Freedom" SSBN force of the 1960s and 1970s, to the 18 Ohio-class SSBNs of the 1980s and 1990s, to our current force of 14 SSBNs, one might wonder, "What is the minimum number needed for strategic deterrence?" Given advances in technology and the changing scope and complexity of post-Cold War deterrence, is there a way to "do more with less" as we field the next class of SSBNs?

The Mission: Delivering survivable nuclear deterrence from large open-ocean areas

The purpose of the SSBN force is to deter nuclear attack against the United States and against our friends and allies. Our "boomers" do this as part of a nuclear triad. The SSBN role is to provide an assured response capability that is survivable, reliable and robust enough to act as compelling deterrent against a nuclear strike from a foreign power. To make sure our SSBNs are survivable, they are operated from bases giving them access to the broad ocean areas in both the Atlantic and the Pacific. They are stealthy – both in transit and on station. They are operated in a manner that makes their locations unpredictable, while still ensuring that our adversaries know that we have the ability to hold them at risk. This enduring, certain deterrent force acts as an important stabilizer; it is always there and always at the ready.

Our Current and Future SSBN Force: A case study in system optimization

Our SSBN force has been "optimized for leanness" based on more than 50 years and 4,000 patrols of proven performance. The deterrent value we provided with 41 SSBNs we now provide with 14 Ohio-class SSBNs. This 65 percent force reduction is a result of two impressive technological developments – the extended range of the D5 missile and quieting technologies that make our SSBNs that much harder to find, even by a persistent and determined adversary. Our boomers are able to exploit the vast reaches of the Atlantic and Pacific Oceans to patrol silently while within range of key targets to hold an aggressor at risk.

As we return to our question of the leanest force capable of providing this credible and persuasive deterrent, our answer simply comes down to world geography 101 principles. Because the Pacific Ocean is larger, we operate two additional SSBNs in the Pacific to accommodate range and survivability considerations. Six SSBNs in the Pacific and four in the Atlantic is the bare minimum required to provide uninterrupted alert coverage for the combatant commander.

So if 10 SSBNs is our absolute minimum, why do we need 14 today? The reason hinges on the three-year refueling overhaul at the mid-life of each SSBN removing them from strategic service. Today, of our 14 SSBNs, we operate on average 11 to provide vital nuclear deterrence. Based upon other electronic system modernizations, this minimum force level occasionally dips to 10 operational SSBNs. One important historical note is relevant to the refueling overhaul discussion. The Ohio-class core life exceeded the design estimates of 15 years and the Navy was able to postpone mid-life refueling by six years. Naval Sea Systems Command engineers then conducted detailed technical analysis of all other shipboard systems and extended the service life of our Ohio class from 30 to 42 years – a mind-staggering 40 percent life extension. This technological feat saved the country substantial budgetary resources, reaping a greater return from the initial investment in this SSBN class; essentially four less SSBNs will be procured during this century as a result of this achievement.

The good news is that this legacy of lean success is being imprinted in the DNA of the new Ohio replacement SSBN. The engineers at NAVSEA and our partners in industry are designing a new boomer with a 42-year service life and a reactor core that will not require refueling throughout the life of the ship. This will reduce the class mid-life overhaul by one-third and we will be able to deploy our 10 operational SSBNs with a force of just 12 total SSBNs.

The Navy's Underwater Eavesdropper
David Axe, Reuters, Jul 19

No, the U.S. Navy is probably not using a multi-billion dollar submarine to listen in on your phone calls and emails on behalf of the National Security Agency.

But it could.

A long line of secretive Navy spy submarines, most recently a nuclear-powered behemoth named USS Jimmy Carter, have for decades infiltrated remote waters to gather intelligence on rival states' militaries, insurgents and terrorists on behalf of the NSA and other agencies using a range of sophisticated devices, including special equipment for tapping undersea communications cables

Before NSA whistleblower Edward Snowden revealed the agency's phone and Internet monitoring programs targeting U.S. and European citizens, the mainstream press paid little attention to the elusive, subsurface warship. But following Snowden's disclosures last month, several publications including the Huffington Post and the German Der Spiegel speculated that the Jimmy Carter was aiding the NSA's surveillance of citizens' communications in the U.S. and Europe.

"It seems this same submarine," the Huffington Post claimed, "was pressed into service to spy on Europe."

The modified Seawolf-class sub, built by General Dynamics Electric Boat in Connecticut between 1998 and 2004, is almost certainly able to tap the undersea communication cables that carry much of the world's phone and Internet traffic. But just because the warship can tap cables doesn't mean it routinely does.

At the Navy's request, Electric Boat inserted an extension in the middle of Jimmy Carter's hull that added 100 feet to its standard 350-foot length — plus nearly $1 billion to the baseline $2 billion price tag. Commander Christy Hagen, a Navy spokesperson, declined to comment on the warship's modifications.

But Owen Cote, a submarine expert at the Massachusetts Institute of Technology, said Jimmy Carter's hull extension most likely contains a "moon well" — a floodable chamber to allow divers, robots and machinery to move between the sub's interior and the water, retrieving objects off the seafloor or carrying monitoring devices and other surveillance equipment.

With this, Jimmy Carter could, in theory, tap seafloor fiber-optic cables, said Norman Polmar, a naval analyst and author who has advised the government on submarine-building strategy. "You hook something on to the cable," Polmar said, "and come back in a month and remove the tape and take it back and analyze it."

But underwater wiretapping is probably unnecessary. "I don't think you need to use Jimmy Carter to do that," Cote said. "It would be a waste of that asset."

It's far easier for the NSA to monitor Americans' communications on land, Cote pointed out in an interview, with the consent of phone and Internet providers.

But it wasn't long ago that Jimmy Carter's predecessor subs were involved in undersea eavesdropping — against America's Cold War rivals. That espionage took place during a technologically simpler time, when Washington had fewer ways of listening in on communications.

"Fifty, 60 years ago, this was best method of collecting certain intelligence," Polmar says of eavesdropping submarines. Before Jimmy Carter, there were the modified submarines Halibut, Seawolf and Parche, fitted with special equipment for monitoring and accessing objects on the seafloor, including communications cables. Parche, the last of the old breed, was decommissioned in 2004, just as Jimmy Carter was nearing completion.

The subs' secret missions, the subjects of repeated investigations by high-profile reporters including Seymour Hersh in the New York Times, were practically the stuff of fiction.

In 1968, the Pentagon deployed Halibut to the Pacific to search for the wreckage of a sunken Soviet submarine that would later be partially recovered by a CIA team aboard a purpose-built salvage ship. Trailing a four-mile long cable rigged with cameras, Halibut found the Soviet vessel in 16,000 feet of water after just three weeks.

In the 1970s, Seawolf and Parche took risky missions penetrating the Soviet navy's main North Atlantic bastions to tap military communication cables. The two subs sailed under the Arctic at speeds of just a few miles per hour to avoid icebergs, dodging Soviet vessels and excitable seals and walruses that might betray the U.S. ships' locations.

The special subs placed on the cables clamp-like devices that recorded passing signals, giving Washington valuable insight into Soviet naval activities. In 1980, a former NSA employee named Ronald Pelton betrayed the subs' operations to the Soviets in exchange for around $35,000. Pelton was arrested in 1986, tried and convicted. He remains in federal prison.

The Soviets' discovery of the undersea wiretap alerted America's rivals, making such missions much more difficult. "People are now aware that that's a technological capability that we have — and that puts them on guard," Polmar says.

The disclosure, and new technology advances, has led to an apparent shift in the spy subs' tactics. When North Korea shelled a South Korean island base in 2010, Jimmy Carter reportedly surfaced nearby and launched a small, quiet drone spy plane to photograph the damage. Since then Jimmy Carter has undoubtedly stayed busy performing other surveillance missions and, this year, will enter a roughly yearlong period of maintenance at a shipyard in Washington State.

When the submarine returns to the fleet, it will surely resume its secret duties as America's main underwater spy. But the special sub probably won't be listening in on your phone and Internet conversations. Too dangerous against military rivals and unnecessary for domestic surveillance, submarine wiretaps seem to have fallen out of favor.

You're still being spied on — just not by a submarine. Exactly what Jimmy Carter is doing is hard to say.

"I'm sure," Cote laughed, "it's up to no good."

U.S., U.K. To Share Sub Missile Module Construction
Philip Ewing, Politico, Jul 16

The common missile compartment being designed for tomorrow's American and British ballistic missile submarines could include components manufactured both in the U.S. and the United Kingdom, the U.S. Navy says - though those exact details aren't yet clear.

Rear Adm. Richard Breckenridge, the service's director of undersea warfare, told POLITICO that the U.S. and Royal Navies are still designing the missile compartment, but that it likely would not be produced in just one or the other country.

"It'll be a sort of hybrid," he said.

The work will require close collaboration between the U.S. Navy's two submarine-builders, General Dynamics and Huntington-Ingalls Industries, as well as Britain's - BAE Systems - and their many subcontractors. Lockheed Martin maintains the Trident D-5 missile that both American and British submarines carry.

The decision to share the construction of the module illustrates what Breckenridge called the "epitome" of the special relationship between Washington and London - their close collaboration on strategic weapons that goes back to the 1960s. Since then, Great Britain has fielded U.S. missiles aboard its indigenous submarines and "been in lockstep with us," as Breckenridge put it, "in a similar approach to national sovereign protection as a nation."

The British government validated that relationship with a report on Tuesday, which reaffirmed its commitment to replacing its four Vanguard-class ballistic missile submarines with the new ships that will carry the missile compartment developed jointly with the U.S.

In fact, Breckenridge said, because budget pressures have forced the U.S. Navy to delay its Ohio-class replacement submarines by two years, the common missile compartment will likely sail aboard a Royal Navy warship first.

"What we decided as a nation as we absorbed the delay was, because of our close treaty, we've agreed to keep the common missile compartment on schedule," he said. "Even though it'll be ahead of the rest of our ships, it'll be on time for the U.K. That is representative of our close alliance with Great Britain."

Unlike the U.S. - which Defense Secretary Chuck Hagel has said will maintain its nuclear triad of Navy submarines, Air Force bombers and Air Force ballistic missiles - Britain's submarines are its only nuclear deterrent. They are controversial inside the U.K. because of their cost and many Britons' skepticism about whether their country still needs nuclear weapons.

So if London had changed its mind about its submarine program, that might have left the U.S. Navy to bear the cost of the missile module all on its own. The latest details weren't available, but Great Britain is said to have so far contributed the larger share of funding for the module. If the U.S. Navy had to go it alone, it might become another potential source of cost growth for a submarine program that has already drawn intense scrutiny for its projected price tag.

The Government Accountability Office has estimated it could cost more than $93 billion to build 12 new ballistic missile submarines. Critics have worried that sum could grow to consume almost the Navy's entire annual shipbuilding budget.

The Navy argues the U.S. has no choice but to replace its Ohio-class ships: Nuclear submarines' pressure hulls can only last so long, and besides, the fleet's Virginia-class attack sub program is a standout in an otherwise checkered field of defense acquisitions. And today the Navy is building two Virginia-class subs per year ahead of schedule and under budget - efficiency advocates say could be a model for the future missile boat.

Breckenridge also argued that the Navy's plans for its Ohio-replacement mean the U.S. will realize savings over the long term: The Navy's design will mean the Navy can do the job of today's 14 Ohio-class boats with 12 replacements, he said, and the ships themselves will cost less to maintain over their lives.

For example, the Ohio-replacement class will carry a nuclear reactor that will last the entire life of the ship, Breckenridge said, meaning the Navy would not have to take them out of service for a mid-career refueling - as it does with its Ohios.

"That is astronomically mind-staggering - we can put in a reactor that will power this behemoth ship for 42 years and never be refueled," he said. "Do I have confidence we are going to build these submarines for a price that's put under a microscope? Absolutely."

Make Subs a Separate Service?
AustalianConservative.com, Jul 16

Given its strategic importance and role, Family First spokesman Bob Day is asking whether a new submarine warfare capability should remain within the Royal Australian Navy or become a fourth Service in our defence force.

"It could be called the Royal Australian Submarine Corps," said Bob Day. "The RASC would, as in the US, have direct access, to the top levels of government.

"I'm sure the US would welcome Australia pursuing the UK nuclear powered submarine option.

"The US Congress might not support sharing their nuclear submarine technology with us, but I'm sure they'd be happy for us to have a nuclear powered submarine capability."