

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



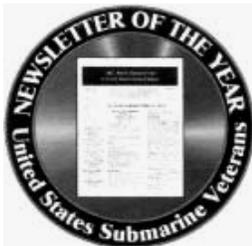
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## *The Silent Sentinel*

*November 2010*



### *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.

***A HAPPY  
THANKSGIVING TO ALL  
US SUBMARINERS AND  
THEIR FAMILIES***

## U.S. Submarine Veterans San Diego Base

**Base Commander**

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

**Membership -- Change of Address**

Ron Gorence  
2563 Roseview Place  
San Diego, CA 92105  
Home--(619)264-6995. Cell: (619)264-3327  
mgorence@yahoo.com

**Treasurer**

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

**Senior Vice Commander**

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

**Newsletter Editor**

Mike HYMAN  
3639 Midway Drive, B-320  
San Diego, CA 92110-5254  
(619)980-0846  
stamps@fortunesofwar.com

**Assistant Editor / Photographer**

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

**Junior Vice Commander**

Jim Bilka  
563 Broadway, Apt 62  
El Cajon, CA  
92021  
619-277-5758  
sashanman@yahoo.com

**Base Storekeeper**

Mike Hyman  
3639 Midway Drive, B-320  
San Diego, CA 92110-5254  
Voice/Fax/Message: (619)980-0846  
stamps@fortunesofwar.com

**Chief of the Boat**

Fred Fomby  
858-735-0026

**Secretary**

Manny Burciaga  
8406 Alado Place  
El Cajon, CA 92021-2003  
619-921-5877  
MannyBurciaga@pointloma.edu

**Chaplain**

CJ Glassford  
4905 Coconino Way  
San Diego, CA 92117-2619  
858-204-8323  
"Cjtmatl@san.rr.com

**Assistant Chaplain**

Chris Strows  
cstrows@gmail.com  
619-708-2675

### The Silent Sentinel via Email

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

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

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY/STATE/ZIP: \_\_\_\_\_

EMAIL: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

Would like the SILENT SENTINEL emailed: YES \_\_\_\_\_ NO \_\_\_\_\_

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

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

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

### ***November Meeting***

Our monthly meetings are held on the second Tuesday of the month at VFW Post 3787, 4370 Twain Ave., San Diego. Our next meeting will be on 9 November, 2010. 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](http://www.ussvisandiego.org)**

### **BINNACLE LIST**

**Al Strunk, back in Sharp  
Hospital for defective Aortic  
Valve Replacement (10/26)**

### ***Submarine Losses in October***

Submitted by C J Glassford



- S – 37 (SS 142) - 43 Men on Board:  
Battery Explosion, on 10 Oct 1923, in the San Pedro Harbor, California : “ 3 MEN LOST “
- O – 5 (SS 66) - 33 Men on Board:  
Rammed and Sunk, on 20 Oct 1923, by the United Fruit Steamer, “ABANGAREZ”, in Limon Bay, Canal Zone:  
“ 3 MEN LOST “
- S – 44 (SS 155) - 56 Men on Board:  
Sunk, on 7 Oct 1943, by a Japanese Destroyer, Northeast of Araitō Island, off Amchitka :  
“ FIFTY FOUR MEN LOST - TWO SURVIVORS “
- WAHOO (SS 238) - 80 Men on Board:  
Sunk, on 11 Oct 1943, by Japanese Naval Aircraft, Submarine Chasers, and Minesweeper, In La Perouse Straits, off Japan :  
“ ALL HANDS LOST “

DORADO (SS 248) - 76 Men on Board:

Sunk, on 13 October 1943, Cause Unknown, Either Accidentally Bombed and Sunk by Friendly Fire of Guantanamo Based Flying Boat, or Sunk by German Submarine Mine, in the West Indies :  
 "ALL HANDS LOST"

SEAWOLF (SS 197) - 99 Men on Board, Plus 17 Army Personnel: Accidentally Sunk, on 3 Oct 1944, by US Naval Aircraft from the USS MIDWAY (CV 63), and USS ROWELL (DE 403), off Morotai Island: "ALL HANDS LOST"

ESCOLAR [ Bell ] (SS 294) - 82 Men on Board:  
 Possibly Sunk, on 17 Oct 1944, by a Japanese Mine in the Yellow Sea:  
 "ALL HANDS LOST"

SHARK #2 [Bell] (SS 314) - 87 Men on Board:  
 Sunk, on 24 Oct 1944, by Japanese Depth Charges, in South China Sea, West of Luzon :  
 "ALL HANDS LOST"

DARTER (SS 227) - 71 Men on Board;  
 Ran Aground, on 24 Oct 1944, on Bombay Shoal, in Palawan Passage. Crew Rescued by USS DACE (SS 247), Later Scuttled by USS NAUTILUS (SS 168), and USS DACE (SS 247):  
 "NO LOSS OF LIFE"

TANG (SS 306) - 78 Men on Board:  
 Accidentally Sunk, on 24 Oct 1944, by Circular Run of It's own Torpedo, in Formosa Strait :  
 "9 POW'S, SURVIVED"



## ***STOREKEEPER NEEDED***

\  
 San Diego Base is still in need of a storekeeper (though we initially had a voluteer, personal challenges--unkown to him before he agreed to take.on the job--have raised their nasty head. Consequently, we are still in need of someone to do the job.

I have tried over the last few years to handle this task; however, I am physically unable to do it--frankly, I was physically unable to do it when I first took the task but since no one else volunteered for it at the time, I did so.

A storekeeper's wares requires visibility. Items should be for sale at each meeting, at breakfasts, and at other events as practical. The job is easy. The record keeping is brainless and there is no heavy lifting. Of course, if it is physically hard to be at meetings and at breakfasts (or if you spend as much time in the hospital as you do at home), then this is not the job for you. Other than this, there is no reason why any number of persons in this organziation could not take on the job.

So, do I have a volunteer?

Mike



## VETERANS WEEK SAN DIEGO 2010 EVENTS

30 Oct - 10:30 am to 12:00 Noon: "Massing of the Colors & Day of Remembrance"  
The Military Order of the World Wars Ceremony, at the Organ Pavilion, Balboa Park

30 Oct - 12:00 Noon: Military Women's Luncheon, MCAS Miramar Officers Club

4 Nov - 12:00 Noon: Association of U.S. Navy Presentation for Veterans  
At the Coronado Island Marriott, 2000 Second Street, Coronado

5 Nov - 11:00 am to 12:30 pm: "Veteran of the Year" Recognition Luncheon  
Veterans Museum & Memorial Center Presentations, at Scottish Rite Center, Mission Valley

6 Nov - 8:30 am: Annual Walk for Veterans Home, with Veterans of Foreign Wars Post 2111  
5K Walk from Chula Vista Veterans Home to Post 2111 at 3<sup>rd</sup> & 'I'

6 Nov - 8:30 am to 2:30 pm: Military Retirees Seminar, Rock Church at Liberty Station

6 Nov - 12:00 Noon to 1:30 pm: Veterans Day Program and Honors Ceremony at Mt. Soledad  
Veterans Memorial atop Mt. Soledad in La Jolla

7 Nov - 10:00 am: Salute to Veterans Judo Contest, Rancho Buena Vista High, Vista

9 Nov - (10:00 am - 3 pm?): 'Honor-A-Hero, Hire-A-Vet' Job & Resource Fair  
At the Double Tree Hotel, 7450 Hazard Center Drive, San Diego. Hosted by EDD

10 Nov - 8:30 am: U.S. Citizenship Oath by 100 Servicemembers, USS Midway Museum

11 Nov - 11:00 am to 1:00 pm: San Diego County Veterans Day Parade  
Parade route on Pacific Highway from Cedar to Harbor Dr.

11 Nov - 1:00 pm: Veterans Museum & Memorial Center Open House  
Balboa Park, 2115 Park Blvd.

11 Nov - 6:00 pm: USS Midway Museum's "Swinging For Freedom" Celebration

11 Nov - (12 Noon - 3 pm?)  
Cal-Diego PVA Veterans Day Events at the stern of the Midway Museum next to Harbor Drive.

14 Nov - 12:00 Noon to 4:00 pm: Artistic Weapons Etching Demonstration  
Veterans Museum & Memorial Center, Balboa Park, 2115 Park Blvd.

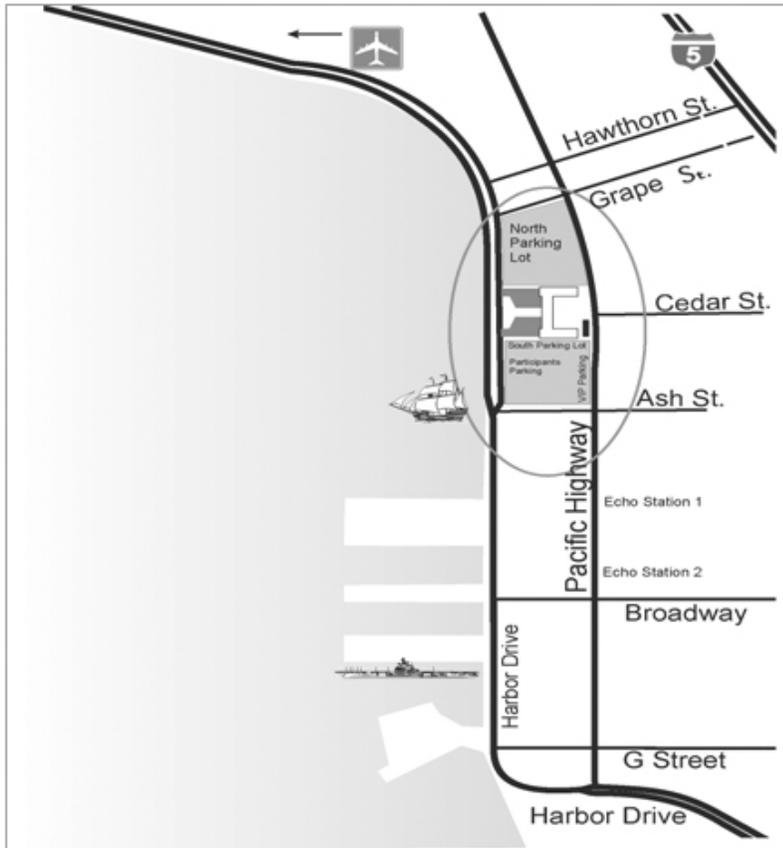
*See details at [www.sdVetParade.org](http://www.sdVetParade.org)*



**THURSDAY, November 11th, 1100 Hours**  
 Muster at 1000 in the North Lot of the County Admin Bldg. (see map below)

Participant Parking Passes for South Lot of County Admin Bldg  
 Available at the November Subvets meeting.

If you need a pass and are unable to attend next meeting contact Jack Kane at:



- Submarine Units Scheduled to Attend**
- San Diego Base Subvets of WWII
  - San Diego Base USSVI
  - Naval Submarine League
  - Naval Base Point Loma (SUBASE)
  - SUBRON 11
  - USS ASHEVILLE (SSN758)



## You Might Be A Submariner If.....

You smell like diesel fuel

You know what "Handle it" means

You can "handle it", even under pressure

You know what "Field day" means

You know what the goat locker is

You know Hogan

You have ever gotten Hogan's goat

You have been as screwed up as Hogan's goat

You have ever found the golden rivet

After finding the golden rivet, you glow in the dark

You glow in the dark, even without finding the golden rivet

You have ever drank bug juice

You have ever slept alongside a "fish"

You know when your bunk feels like a sandy beach, it is time to change the sheets

You know Mattress Back (name)

You have ever been blasted by an air expulsion head

You know Line Locker Louie

You know Lower Level Louie

You know who says, "Just one more, just one more"

You know that no one ever really owned a plank

You know COMSUBLANT means

You know Archibald Assolson

You know when things have gotten out of hand

You know what a "My Wife" chit is

You speak acronym, fluently

You know what Kingston valves are

You know what poppet valves are

You know that bulkhead flappers are not dancers

You know that an ORSE is not an English horse

You know that ping jockeys do not ride pings, or horses

You know what "Ho Ho Ho" means

You know what "Blow and go" means

You know what "going critical" means

You know what "Rig for dive" means

You will go down anytime

You know what a GREEN board is

You know what "AOOOGAH AOOOGAH" means

Your house takes a down angle when someone blows a car horn twice

You know what "Take her down" means

You know what "Blow negative to the mark" means

You still remember the shapes of those handles, even after the lights go out

You know what "Rig for RED" means

You know what "Rig for silent running" means

You don't make any noise that a fish doesn't make

You know what "Rig for deep submergence" means

You do it deeper

You know what "Run silent, run deep" means

You have bored holes throughout the oceans, for months at a time

You have been to the choke point, several times

You found your belt getting shorter during a deployment

You would never commit a SINS

You know what a "familygram" is

You know what "No periscope" means in a birth announcement familygram

You have seen a pack of camels being led through the control room

You have helped cause the evaluating psychiatrists to leave the boat ahead of schedule

Most people wouldn't trust you with a canoe or a rowboat, let alone a submarine

You know what "angles and dangles" mean

You know what a "chicken switch" is

You know that the Tunafish is NOT the chicken of the sea

You know what a horny (toad) towed array is

You know what "To the pole" means

You have ever heard of a retractable whip antenna being used as an ice probe

You know what "Get me up" means

You know how to "Follow the bubble"

You know that there are two kinds of ships, submarines and TARGETS

You are NOT assigned to a "target"

You have ever heard the words "What is the estimated range sonar?"

You have ever heard the words "What is the distance to the track?"

You have ever heard the words "Is it safe to come to periscope"

depth?”

You have ever looked out a periscope and seen nothing but a target's hull

You know what periscope liberty is

You know that periscope liberty generally includes a shower. Thank you Aux

You shoot at things you can't see

You know that a “snapshot” is not a photograph

You know what a “Hot run in the tube” means

You know what “Hot, straight and normal” means. (Submitted to the *Sentinel* by Tom Warner)

## Grounded Nuclear Sub Returns To Base

By John Ross, *The Scotsman*, 26 October 2010

THE nuclear submarine that grounded off Skye last week was back at base yesterday, with no timescale for its return to service HMS Astute arrived at the Faslane naval base on the Clyde having made the journey from Kyle of Lochalsh under her own steam, escorted to the dockside by five tugboats and a minesweeper HMS Shoreham.

The Ministry of Defence said damage to the £1 billion Astute, - the Royal Navy's newest and largest attack submarine - would now be assessed and any necessary repairs carried out.

A spokesman said it was not clear when the vessel could be back in operation.

“The damage, if there is any, was not deemed serious enough to affect her ability to return from Kyle of Lochalsh under her own power,” he said.

“She is back now in a naval base which will allow experts to assess the situation.

“There is no timescale involved in that. They will make their own assessment and it's far too early to say (what that will be].”

An investigation has already been launched into how the 100ft-long submarine ran aground near the Skye bridge outside the marked navigation channel.

The Astute grounded her rudder at about 8am on Friday while transferring crew from the shore to the submarine during sea trials.

The vessel was unable to free herself at first but was refloated with the help of a tug on the first high tide on Friday night at about 6pm.

The MoD said it was a non- nuclear incident and there was no nuclear contamination risk.

No part of Astute's nuclear propulsion system was damaged or in danger of being damaged, it said.

The vessel's commander, Andy Coles, 47, could face disciplinary action and even court martial following the incident.

The submarine is understood to have strayed hundreds of yards outside the safe sea lane marked on Admiralty charts, with sources suggesting the charts it was using were out of date.

Meanwhile, a joint campaign by the Scottish Government and local authorities in the Highlands and Islands will press for the retention of an emergency tug which helped free the Astute.

As the submarine arrived back at Faslane yesterday, the Highlands and Islands Convention meeting in Orkney said the incident highlighted the need for retaining the tug based in Stornoway as well as a sister vessel in the Pentland Firth.

The government has announced four tugs will be axed from next September in a move to save £32.5 million over four years.

Dr Michael Foxley, leader of Highland Council, said the Astute's grounding was an “act of God” to highlight the consequences of not having the tugs available. He added that the tugs played a vital role in the Minch and Pentland Firth.

## Chinese Nukes Move South

StrategyPage.com, 26 October 2010

A Chinese Type 093 class SSN (nuclear attack sub) was recently seen moored at their new naval base on Hainan island. This base, just north of Vietnam, must make the Indians nervous, because more and more Chinese warships are showing up in the Indian Ocean. It was only a year ago that China confirmed, as many suspected, that the first Type 093 boat entered service in December, 2006. Officially, that was a secret, and Chinese nuclear subs don't go to sea at much, so it's difficult to tell if new ones are actually in service, and not just tied up at a pier for further work after launching. But now the 093 boats are obviously being moved south, and maybe into the Indian Ocean as well.

The Type 093 class SSN looks a lot like the three decade old Russian Victor III class SSN design. And the subsequent Type 94 SSBN (ballistic missile carrying nuclear powered boat) looks like a Victor III with a missile compartment added. Taking a SSN design and adding extra compartments to hold the ballistic missiles is an old trick, pioneered by the United States in the 1950s to produce

the first SSBNs. The Chinese appear to have done the same thing with their new SSN, creating a larger SSBN boat of 9,000 tons displacement. Priority was apparently given to construction of the 094, as having nuclear missiles able to reach the United States gives China more diplomatic clout than some new SSNs. The first 094 entered service about a year ago.

Having already sent the first two new, 7,000 ton, 093 class SSNs to sea, China was apparently underwhelmed by their performance. Not much more is expected from the 094s. The 093s are too noisy, and have a long list of more minor defects as well. This may mean 2-3 093s will be built, while more resources will be diverted to the next SSN class; the 095. The Type 093 and Type 094 were both over a decade in development and construction. Work began on the 094 class in the 1990s. For years, all that was known was that the Chinese were having technical problems with the new design. The 094 is a modern SSBN, using technology bought from Russia, plus what was developed by the Chinese in their earlier nuclear submarine building efforts. The Chinese have had a hard time building reliable nuclear subs, but they are determined to acquire the needed skills. You do that by doing it, and eating your mistakes. U.S. intelligence experts believe that China is building a class of five Type 94s.

Google Earth images of China show underground hangers for aircraft at an airport outside the city of Le Dong, on the southern island of Hainan (near Vietnam). For nearly five years now, commercial satellite photos have been revealing details of a military buildup on Hainan. The most obvious example of this is the submarine base that China was building at Yulin, near Sanya. The base has underground docking facilities for nuclear and diesel-electric subs, created by tunneling into coastal hills.

Rumors of such a base began circulating after 2002, apparently once locals began noticing all the construction activity, and the tight security around the site. The underground facilities not only protect the boats from air or sea based attack, but enable maintenance and modifications to be done in secret. Same deal with the airport tunnels, which are also visible to anyone passing by on the ground. But there's nothing as compelling as pictures.

## Smoking Lamp Grows Dim On Submarines

*By Kevin Copeland and Todd Schaffer, Navy News, 22 October 2010*

NORFOLK, Va. — Since Commander, Submarine Forces (COMSUBFOR) announced a policy change which would ban smoking below decks aboard all U.S. Navy submarines effective beginning Dec. 31, the efforts by submarine personnel in meeting that goal early has been outstanding.

All levels of submarine force leadership fleet-wide have provided education and training to Sailors since the announcement on April 8, hoping to meet or better the deadline.

“Based on the input from the enlisted leadership, close to 50 percent of our boats have established cessation dates prior to the end of the year deadline, so we are absolutely headed in the right direction,” said Cmdr. Mark Bourne, Deputy Force Surgeon at COMSUBFOR. “The senior leadership of the submarine force has done an excellent job communicating to our sailors that the deadline is quickly approaching. We’ve provided the training as well as the materials to ensure our sailors are successful in making the smoke-free transition.”

The change in policy resulted after extensive research revealed the significant exposure to second-hand smoke for all hands within the self-contained environment of submarines at sea.

Once the policy was announced to the fleet, members of the SUBFOR Medical Staff traveled to medical training facilities (MTFs) fleet-wide to train and educate personnel on a Tobacco Cessation Program (TCP) developed by them with guidance and cognizance from the Bureau of Medicine.

Once the staff determined that the MTF personnel were well-versed on all training methods and techniques, they turned the TCP over to them and went into the monitoring mode.

The trained MTF personnel then conducted eight-hour TCP training courses with two tobacco facilitators from each submarine. The submarine facilitators, volunteer non-smokers, are currently conducting weekly TCP training sessions to smokers onboard their submarines. The training program incorporates education techniques and nicotine replacement therapy, such as nicotine patches and nicotine gum.

However, trained facilitators on each submarine are not part of their medical division.

“The focus of the independent duty corpsman from each submarine will be implementing and monitoring the Tobacco Cessation program,” said Master Chief Hospital Corpsman (Submarines) George A. Shelton, COMSUBFOR Force Corpsmen. “From lessons learned in previous efforts in tobacco cessation programs, it has been medical’s perspective that the biggest difference makers and best facilitators for these programs are your hard charging first and second class petty officers. These are the Sailors who constantly interact daily with their shipmates on the deckplates while standing watches around the clock.”

While the cessation dates for each submarine are set by the commanding officer, the targeted date for each submarine usually aligns itself with other significant events occurring with the boat, such as deployments or upcoming shipyard maintenance periods. Combining shipboard training along with limited smoking hours and smoke-free days established by submarine leadership, has produced some significant successes.

Considering that 40 percent of the submarine force personnel smoke, and 50 percent uses some form of tobacco product, it is a testament to the training and leadership that 21 submarines force-wide are completely smoke-free.

No TCP was more successful than the one onboard the guided-missile submarine USS Michigan (SSGN 727) (Blue), home ported in Bangor, Wash. The smoking lamp was extinguished nearly six months prior to the deadline - at 7:27 a.m. on July 27th. The date and time were chosen by leadership to honor the ship's hull number.

"The TCP helped me to get over the hump of needing a routine after-watch cigarette," said Sonar Technician 2nd Class (Submarines) Joseph Camerlin, a 12-year smoker. "I feel really good about not smoking."

According to the boat's senior enlisted personnel, the command's plan was for the Sailors to quit while deployed, and then return home with a fresh start and plenty of support from their family and friends.

"As a former smoker for more than 10 years, I understand the challenges of quitting smoking," said CMDCM(SS) Victor Smith, Michigan blue crew's command master chief. "It is extremely hard to stop when you are at sea. We want our Sailors to be successful, so we decided to put the smoking lamp out during this mission cycle. The day we extinguished the smoking lamp onboard was a significant event in the lives of our Sailors. I cannot think of a more appropriate day to start a new and healthier life than 727 day."

The blue crew onboard the guided-missile submarine USS Georgia (SSGN 729), home ported in Kings Bay, Ga., had a similar success. The commanding officer and command master chief had announced for several months that the smoking lamp would be extinguished on an underway period, August 15, 2010.

"Not being able to smoke onboard after December 31st will be difficult for some," said CMDCM(SS) Richard Rose, blue crew master chief. "This change will be hard, but will be for the better in the long run. Promoting and building a healthier submarine force is the right thing to do for the Sailors in the Navy today."

## **Navy Announces First Sub Officer Assignments for Women**

*Defence Talk, 25 October 2010*

WASHINGTON: Two dozen women will begin reporting to four submarines by the end of next year, marking a new milestone in the 110-year history of the submarine force, Navy officials announced today.

Six female officers each will join the crews of the USS Wyoming, USS Georgia, USS Maine and USS Ohio, Navy Submarine Group 10 officials announced in a news release.

Three female officers will be assigned to each of the subs' two crews.

The Wyoming and the Maine are nuclear-powered ballistic missile submarines, and the Georgia and Ohio are nuclear-powered cruise missile submarines. Submarines of these two classes are assigned two full crews, known as blue and gold crews, which rotate between sea and shore duty to maximize the time a submarine can spend in its assigned area.

Two of the women in each crew will be submarine officers, and the third female officer will be a warfare-qualified supply officer. They will be assigned to their first submarine duty station after nuclear power school, prototype training and the Submarine Officer Basic Course. They are expected to report to their assigned submarines beginning in December 2011.

Navy Lt. Rebecca Rebarich, the submarine group's public affairs officer, said today the new submarine officers were commissioned through the U.S. Naval Academy, ROTC programs and Officer Candidate School. All 24 women have been identified and will join their new crews at about the same time, but the Navy is not releasing their names while they undergo training.

"We want them to be able to focus on what they're doing while they're in training," Rebarich explained. "Today's announcement is part of the process of integrating women into submarine crews. This is just another step."

Submarine Group 10 is commanded by Rear Adm. Barry Bruner, who leads the Navy's Women on Submarines Task Force.

The Navy's integration of women into submarine crews has been under way since Defense Secretary Robert M. Gates notified Congress in February the service wanted to add women to its submarine crews. Following a congressional review, Navy officials announced April 29 they would begin accepting women's applications for submarine officer training.

Navy Secretary Ray Mabus, a former Navy surface warfare officer, declared his goal of integrating women into the submarine forces soon after taking office in May 2009. Adm. Gary Roughead, chief of naval operations, seconded Mabus's initiative. The admiral said in a statement released in September 2009 that his experience commanding a mixed-gender surface-combatant ship makes him very comfortable integrating women into the submarine force.

The Navy first allowed women to serve on surface noncombatant ships in 1973 and on surface combatant ships in 1993.

## **SSBN(X) Will Likely Have Smallest Tube Possible For D5 Missile**

*By Cid Standifer, Inside the Navy, 25 October 2010*

In order to minimize costs, the Navy is looking at an 87-inch diameter missile tube for the next generation of ballistic missile submarines, the smallest size necessary to accommodate the D5 missile, according to officials.

Ashton Carter, under secretary of defense for acquisition, technology and logistics, announced in September that the Navy had accomplished a cost reduction of 16 percent in initial SSBN(X) plans with an eventual goal of 27 percent by scaling back requirements. However, Navy Assistant Secretary for Research, Development and Acquisition Sean Stackley told reporters on Sept. 17 that the sea service had no plans to move away from the D5 missile currently used on Ohio-class submarines, despite the urging of some politicians.

Rear Adm. David Johnson, program executive officer for submarines, told Inside the Navy at a Navy Submarine League symposium last week that the service had performed an analysis of alternatives considered using larger missile tubes to allow for the possibility of new payloads in the future, but cost concerns led the service back to the minimum necessary to accomplish the strategic mission.

“Part of our requirement might have been to have different payloads,” Johnson said. “We’re a strategic platform. We’re hosting the D5 missile, so in the end, when you go through the whole analysis loop, the right answer is, use the missile tube that fits the missile, and then that allows us to minimize essentially the change from [the Ohio-class] ship that we have out there today.”

Johnson said the 87-inch missile tubes on the SSBN(X) would likely be identical to the ones in use on Ohio submarines today, thus minimizing the amount of research and development needed.

Rear Adm. Terry Benedict, director for the strategic systems program, said that the analysis of alternatives also considered smaller missiles, but those options were constrained by performance requirements set by U.S. Strategic Command.

“The analysis and the data kept driving us back to keep the D5 and then optimize [the submarine] around that,” Benedict added.

Johnson added that, while initial requirements for the submarine will not officially be set before it hits its first milestone in mid-November, the Navy is also examining the cost savings that could be gained from scaling back the size and capability of the SSBN(X) torpedo room, as well as reducing the number of missile tubes.

“Right now our reference baseline is 16,” Johnson said. “That doesn’t necessarily mean that’s where we’ll end up once it goes through our entire package.”

According to a slide Johnston used in his symposium presentation, there may also be room for tradeoffs in the Ohio replacement’s sensor arrays and sail mast capacity.

## **Officials: VA-Class Debonding Problems Caused By New Hull Treatment**

Problem Solved

*By Cid Standifer, Inside the Navy, 25 October 2010*

The problems with hull coating debonding on Virginia-class submarines were restricted to the first four hulls in the class and never affected more than five percent of the coating on any one hull, according to Navy officials.

Virginia-class program manager Capt. Michael Jabaley acknowledged at a Submarine League conference last week that the first Virginia subs out of the yard had experienced “greater than expected debonding,” due to a hull treating process, but portrayed the problem as being under control.

The problem first came to the attention of program officials in 2006 after a series of in-process tests on the Virginia (SSN-774), Jabaley said.

“We started making some tweaks,” he said. “Then when she came out of [post-shakedown availability] we experienced greater than expected debonding.

“The most important thing to understand though is this is at fairly small levels,” he continued. “We’re talking about, even on the worst ships, about five percent on the first four. Virginia and Texas (SSN-775) are probably two that you’ve seen the pictures [of peeling hull coating]. Those two are worse than Hawaii (SSN-776) and North Carolina (SSN-777).”

Vice Adm. Jay Donnelly, the submarine force senior commander, said the peeling largely resulted from strong hydrodynamic forces that affect the hull as it moves through the water, and some changes were necessary to perfect the coating process.

“I can’t talk specifics about the process,” Jabaley said, “or even why they install it due to the classification, but I will say that Virginia, which has had the most loss of special hull treatment, was the ship that we used for the majority of operational testing and evaluation in the performance of the ship during IOT&E. Even with this concern, she was absolutely fantastic.”

Jabaley added that the class has seen improvements as construction continues to move forward. The Missouri (SSN-780) has been at sea for about 50 days, and Jabaley said pictures taken while the sub was in port in Florida showed no signs of problems.

## **Navy Confident That Substandard Metals Don’t Create Risk For Disaster**

*By Cid Standifer, Inside the Navy, 25 October 2010*

The Navy has had to take some Virginia-class submarines offline for a few days at a time to search for substandard metal that was fraudulently passed off as heat-treated, according to the submarine force’s senior commander, but he said there is little chance of a life-threatening safety breach.

Vice Adm. Jay Donnelly said the service has been able to narrow its search for metal bought from Bristol Alloys, Inc., which recently pleaded guilty to defrauding the U.S. government by falsely certifying metal as heat-treated, because of paper trails indicating which ship systems were built using materials from the batches in question.

“We’ve had to take ships offline for a couple of days to do those detailed surveys, and you have to convince yourself that you’ve surveyed everything, but we keep such detailed records of what materials are used and what application on what ship that it’s really made the inspection regime much easier,” Donnelly told reporters at a Submarine League conference last week.

“Sometimes we have gone in and done acid tests to prove ourselves,” he continued. “You know that there’s a bad lot of fasteners, for example, so you’re able to narrow it to a specific ship, when that lot was used, but not every specific fastener on that ship. You have to go around and do enough tests that you can convince yourself.”

Donnelly said that those detailed inspections have taken longer than a few days on some ships, but post-shakedown availabilities have allowed more time for such tests.

He said he is confident that the ships are still structurally sound and safe, and noted that there would be little increased possibility of an implosion or other catastrophe unless the substandard materials were used in systems exposed to sea pressure, which go through the SUBSAFE quality assurance program, or Level 1 or high-energy systems.

“We’ve looked very, very carefully at all of those,” he said.

He also cited the extensive testing that submarines go through before they are deployed.

“We have very high confidence in the safety of these systems just as a result,” he added.

## **China’s New Submarines and Deployment Patterns: Aimed at South China Sea?**

*By Russell Hsiao, Eurasia Daily Monitor, 23 October 2010*

Images and media reports about new types of submarines appearing in recent months have generated a lot of interest in China’s evolving submarine force. While the magnitude of such developments remains to be seen, since much depends on the submarines’ tested capabilities, these rare glimpses provide important clues about the development of China’s subsurface force structure and its orientation. The reports include the recent deployment of a new Type 093 submarine to Hainan Island in the South China Sea (The Mainichi Daily News [Japan], October 20). Whereas the development and deployment of the Chinese navy’s surface fleet have been prominently displayed in unprecedented scale in recent naval exercises both in the South and East China Sea, the expansion of China’s subsurface fleet appears to have been slowed in recent years. In fact, overall People’s Liberation Army Navy (PLAN) submarine totals remained almost flat from 2007-2010 (rising from 62 to 63 boats) (The Diplomat, September 29). In this context, these reports raise interesting questions about what is known regarding the pace of investments that China has undertaken to increase stealth, missile capacity, survivability and the capability to project its submarine force both regionally and globally.

In early October, a Hong Kong-media ran a story covering a photo image of a new type of Chinese submarine that has been circulating on the web for several weeks. The submarine was developed by the state-owned China Shipbuilding Industry Corporation (CSIC), which is the country’s largest shipbuilder. The company reportedly had double-digit growth in output, revenue and profit in 2009 despite the global recession (People’s Daily Online, February 23). The image of the SSK submarine surfaced several weeks before a CSIC statement, which indicated that the company had successfully launched a ‘new’ conventionally powered attack submarine in early September from its shipyard in Wuhan, central China. While the People’s Liberation Army (PLA) has not officially acknowledged that the ‘new’ ship was a stealth submarine, many military analysts believe that the submarine is such a vessel (South China Morning Post, October 3).

The South China Morning Post noted a September 1 PLA Daily article covering an award ceremony hosted by the PLAN Deputy Political Commissar Xu Jianzhong for Da Lianglong, a professor at the PLA Navy’s Submarine Academy. Professor Da received an award from the Central Military Commission for his successful research on submarine stealth technology (PLA Daily, September 1; South China Morning Post, October 3).

The stealth submarine in question appears to be a modified version of the Type 041 Yuan-class submarine. According to military experts, the Yuan-class’s technology borrows heavily from Russian designs. The Yuan-class is reported to use a new air-independent propulsion (AIP) system based on the concept of the Swedish Stirling engine. Chinese naval research institutes are known to have been investigating fuel cell and exhaust recycling AIP designs similar to the French MESMA (Module d’Energie Sous-Marine Autonome) (Jane’s Defense Weekly, October 7; Wen Wei Po [Hong Kong], October 12).

Chinese academic engineering literature cited by a prominent Western defense magazine supports the fact “that the PLA has also been researching fuel-cell AIP engine technology—with the PLA having benefited via Chinese academics from several conferences with German fuel-cell technology experts” (Jane’s Defense Weekly, October 7). The addition of an AIP system could allow a Chinese submarine to operate underwater for up to 30 days on battery power, and would make the Song and Yuan submarines inaudible to existing U.S. surveillance networks—and U.S. subs.

The PLAN is also reportedly stepping up its deployment of submarines. According to Kanwa’s Asia Defense Review cited by Wen Wei Po, China will finish testing and deploy two additional Yuan-class submarines by the end of 2011 (Wen Wei Po, October 12). If this report is indeed true, it would add fuel to the argument that the apparent slowdown in naval expansion was a transitory phase while the PLAN’s submarine fleet appears set to resume its upward trajectory (The Diplomat, September 29).

These revelations dovetail a recent sighting of a new Type 093 Shang-class nuclear-powered attack submarine docked at a Chinese naval base in Sanya, Hainan Island. The photograph obtained by Japan-based Kyodo News, taken on September 2, shows two nuclear-powered submarines docked at a quay on the base. According to a military expert cited by The Mainichi Daily News, “the photograph marks the first time the whereabouts of the submarine were visually confirmed.” The PLAN is known to have also deployed a Type 094 “Jin-class” ballistic missile submarine capable of loading nuclear missiles at the same base (The Mainichi Daily News, October 20).

The images and reports showcasing China's new submarines and deployments at forward positioned naval bases reflect, to a degree, Beijing's willingness to allow foreign powers to view their activity, which signals a new level of confidence and transparency for Beijing. As PLAN naval exercises increase in sophistication and frequency, so have Chinese submarine patrols in recent years—the PLAN conducted 12 patrols in 2008, twice as many as in 2007 (FAS Strategic Security Blog, February 3, 2009). This trend is consistent with the frequent sightings of Chinese submarines that have been showing up close to Taiwan, Japan and South Korea. Taken together, these recent developments appear to suggest that the PLAN may be deploying some of its newest underwater assets near the South China Sea. Furthermore, the recent actions undertaken by Beijing appear to be further reaffirmations that China perceives the South China Sea within its sphere of influence.

## **New Chinese Subs Raise Questions**

*By J. Michael Cole, Taipei Times, 25 October 2010*

Recent media interest about new types of submarines being developed by the People's Liberation Army Navy (PLAN) could provide important clues about China's naval capabilities and intentions, a specialist on China said in a recent article.

"Whereas the development and deployment of the Chinese navy's surface fleet have been prominently displayed in unprecedented scale in recent naval exercises both in the South and East China Sea, the expansion of China's subsurface fleet appears to have been slowed in recent years," Russell Hsiao, editor of the China Brief, a publication of the US-based Jamestown Foundation, wrote in the publication's latest edition.

From 2007 until this year, he said, the total number of submarines deployed in the PLAN was steady, rising by a single vessel, to 63, Hsiao wrote.

While the scope of the PLAN's development remained to be seen and would depend on tested capabilities rather than media photos and speculation, the increased incidence of reports on new submarines could nevertheless provided important clues about Beijing's strategic outlook, he said.

"In this context, these reports raise interesting questions about what is known regarding the pace of investments that China has undertaken to increase stealth, missile capacity, survivability and the capability to project its submarine force both regionally and globally," he wrote.

Early last month, a Hong Kong-based media ran a story based on a photo of a new conventionally powered attack submarine that had been circulating on the Web for several weeks. The SSK submarine was allegedly developed by state-owned China Shipbuilding Industry Corp, China's largest shipbuilder, the report said.

The People's Liberation Army (PLA) has yet to officially acknowledge reports that the new submarine has stealth capabilities.

"Chinese academic engineering literature cited by a prominent Western defense magazine supports the fact 'that the PLA has also been researching fuel cell AIP engine technology — with the PLA having benefited via Chinese academics from several conferences with German fuel cell technology experts,'" the report said, citing Jane's Defense Weekly.

## **Akula Or No Akula? What's The Story About Russian Subs To India?**

*Views Times, 24 October 2010.*

The Bharati establishment had thumped their chest about acquiring a Russian Nuclear Submarine Akula. It now turns out the "Russia's best friend" has either reneged on the deal or Delhi had exaggerated the claim about the acquisition. IBM Live from Bharat reports:

The Ambassador, however, refused to talk about India getting the Akula-II nuclear-powered submarine from Russia on a 10-year lease."Akula, I do not know anything about it. Lets talk about any other submarine, I do not know anything about this particular submarine. India, I know, is also constructing a (nuclear-powered) submarine. About this submarine (Akula), do not ask me anything, I do not know anything," he said."Delays in Indo-Russian defence projects must be excused" PTI | 02:10 PM, Oct 24, 2010

The lies out of the Delhi Military Industrial Complex have no bounds. They don't just bend the truth, they blatantly lie about it. "If any of you are under the impression that it made contact with water with an actual reactor fitted inside its hull you are mistaken," the scientist told a media service.

The scientist echoes a report in Defence Professionals Daily, a German online publication, which says Arihant "currently is little more than a floating hull" without nuclear propulsion or weapons systems.

The much heralded rust bucket made from a Russian kit was announced as an ingeniously built submarine. It is an Akula class sub whose design is very similar to the Russian Akula class subs. Rust bucket Arihant: Delhi's clunky, noisy Soviet era Charlie class tub assembled from Russian submarine kit

... graphics of the Arihant published in India Today and TOI show a similarity to the Akula. For example, the towed array on the aft sail is like that of a Akula. The Arihant is reported to displace 6,000 tons which is assumed to be the submerged displacement. If it is the surfaced displacement it would match that of the Akula. <http://kuku.sawf.org/Articles/59105.aspx>

There were several articles and a lengthy interview by the head of the Indian Navy who went into considerable detail about how difficult it was to miniaturize the reactor. In another interview with Dr Anil Kakodkar, the Indian scientist told the reporter to listen to the reactor on board—knowing fully well that there was no reactor on the ship. When repeatedly cornered by the Indian journalist, he repeatedly lied about the submarine. He referred to the engine noise and told the reporter how quiet the sub was.

Dr Anil Kakodkar did “admit” that there were Russian consultants and they helped with the reactor. However all this is total nonsense, as the new reports about the Sub show.

Reports of the lies are now permeating the international news media. The Strategy Page reports that the “Nuclear Submarine” was not nuclear at all. The INS Arihant sailed without a Nuclear reactor. The Nuclear Submarine reactor is the first part of the sub that is built. Actually there is no way a nuclear reactor can be installed into a submarine that has already sailed and left the dry-dock.

Sending the Arihant for a retrofit on a nuclear reactor is the most stupid thing anyone has heard. Not to mention the cost. No Marine Engineer or Naval Architect worth his salt would ever think of this sort of nonsense. It simply cannot be done. The assanine engineering of ripping the entire submarine and then putting it back together would be such a waste of time and effort that one might as well build a new submarine.

## **U.K. to Reduce Nuclear Warhead Numbers**

*Global Security Newswire, 20 October 2010*

The United Kingdom intends to curtail its count of nuclear warheads as part of sweeping military austerity cuts announced yesterday, Agence France-Presse reported (see GSN, Oct. 19).

Under the newly released Strategic Defense and Security Review — a comprehensive analysis of British armed forces spending — the current generation of Vanguard-class submarines would each carry 40 warheads rather than today’s 48. That would result in a reduction of the country’s arsenal of operationally ready nuclear weapons from 160 to 120, according to AFP.

The United Kingdom would see its entire strategic arsenal reduced from 225 nuclear weapons to a maximum of 180 warheads by the middle of the next decade.

“We will retain and renew the ultimate insurance policy — our independent nuclear deterrent, which guards this country round the clock, every day of the year,” British Prime Minister David Cameron told lawmakers yesterday (Agence France-Presse/Sydney Morning Herald, Oct. 20).

Cameron also announced he would delay “until around 2016” a final decision on implementing a \$30 billion plan to modernize the nation’s nuclear forces by replacing each of the four Vanguard ballistic missile submarines.

The Conservative Party-led coalition government has been under heavy lobbying from its junior partners, the Liberal Democrats, to postpone, trim, or even throw out the costly submarine replacement plan.

The military spending deductions detailed yesterday — about 8 percent of the nation’s yearly \$59 billion defense budget — were not as severe as once thought. In September, reports circulated that the military would see its budget curtailed by 10 to 20 percent, the New York Times reported (John Burns, New York Times, Oct. 19).

## **Singapore Navy Launches Second Swedish Submarine**

*ScandAsia, 20 October 2010*

Minister for Education and Second Minister for Defence, Dr Ng Eng Hen, officiated at the launch ceremony of the Republic of Singapore Navy’s (RSN) Archer-class submarine RSS Swordsman at the Kockums Shipyard in Karlskrona, Sweden.

The submarine was launched by Mrs Ivy Ng, wife of Dr Ng. RSS Swordsman was the second of the Archer-class submarines that the RSN acquired from the Royal Swedish Navy (RSwN).

Speaking at the ceremony, Dr Ng highlighted that the launch of RSS Swordsman marked another key milestone in the RSN’s drive to develop its submarine capability. “The RSN’s submarines are part of an integrated warfighting system which includes our stealth frigates, naval helicopters, missile corvettes and mine-countermeasure vessels”, he said.

“Together with the Challenger-class submarines, RSS Archer and RSS Swordsman will enable the RSN to better fulfill its mission of protecting Singapore’s sea lines of communication and territorial integrity.” As part of his visit to Karlskrona, Dr Ng also met with Sweden’s Defence Minister, Sten Tolgfors, who attended the launch ceremony for RSS Swordsman.

The launch of RSS Swordsman reflects the strong defence partnership and longstanding friendship between Singapore and Sweden. Both countries share a close defence relationship founded on many shared interests, which stretches back to the 1970s. Over the years, Singapore’s defence relationship with Sweden has matured to encompass wide-ranging interactions and collaborative projects such as the assistance provided by the RSwN to build the RSN’s minecountermeasure force and submarine capability.

Dr Ng earlier visited Stockholm on 18 Oct 2010 to meet with Mr Jan Björklund, Swedish Deputy Prime Minister and Minister for Education, and signed an agreement to encourage further education collaborations between Sweden and Singapore.

## **Unmanned Surface Vessel Able To Track Quiet Enemy Submarines Is Objective Of DARPA Contract**

*Posted by John Keller, Military and Aerospace Electronics, 19 October 2010*

ARLINGTON, Va., 19 Oct. 2010. Anti-submarine warfare (ASW) experts at the U.S. Defense Advanced Research Projects Agency (DARPA) in Arlington want to develop an unmanned surface vessel able to track quiet enemy diesel-electric submarines worldwide in nearly all environmental conditions. They are finding their solution from QinetiQ North America Technology Solutions Group in Waltham, Mass.

DARPA awarded QinetiQ a \$2 million contract late last week for the first phase of the Anti-Submarine Warfare Continuous Trail Unmanned Vessel (ACTUV) program to develop a first-of-its-kind unmanned naval vessel for theater or global independent deployment that is optimized to provide continuous overt trail of threat submarines.

This unmanned ASW surface vessel will operate under a sparse remote supervisory command and control model, with a shore based supervisor providing high level mission objectives and monitoring autonomous performance through an intermittent beyond line of sight communications link.

The ACTUV will be able to navigate safely at sea according to maritime law, as well as to international regulations for avoiding collisions at sea. Not only will the vessel be able to navigate by itself around the world in all kinds of ocean conditions, but it also will be able to employ its sensor suite autonomously and carry out appropriate tactics based on target behavior environmental conditions.

In particular, the ACTUV system will be able to operate on long deployments with no underway human maintenance or repair, unlike current unmanned surface vessels, which are launched and recovered from manned ships, tele-operated from manned ships, and are limited to direct support of manned ship missions.

The program is architected to achieve three primary objectives, DARPA officials say: design, build, and demonstrate an X-ship on which no person steps aboard at any time during operations; show the technical viability of an independently deploying unmanned naval vessel under sparse remote supervisory control; and combine the unmanned surface vessel with a suite of sensors capable of tracking quiet modern diesel electric submarines.

This is the first part of a four-phase program. Phase 2 will involve integrated hardware-in-the-loop testing, phase 3 will fund construction of an integrated prototype vessel and initial sea trials, and phase 4 will involve mission-oriented sea trials.

For more information contact the QinetiQ Technology Solutions Group online at [www.qinetiq-na.com/tsg](http://www.qinetiq-na.com/tsg), or DARPA at [www.darpa.mil](http://www.darpa.mil).

## **Has China Built a New Stealth Submarine?**

*Chosun Ilbo, 17 October 2010*

China's neighbors are worried that the People's Republic may already have produced a stealth submarine, the South China Morning Post in Hong Kong reported Sunday.

Three weeks ago, photos of a new submarine built at a Chinese naval shipyard in Wuhan failed to draw much attention when they were posted on several websites. But that changed last week when the China Shipbuilding Industry Corporation disclosed that the Wuhan shipyard had built a new submarine, as well as more details of the craft.

China has not yet officially announced that this is a stealth sub, but neighboring countries have become nervous as military experts say that is what it is, the paper claimed.

"The talk in our community is that we are seeing the first signs of a completed new design," the daily quoted one Asian military expert as saying. "The question is ... just how quiet have they been able to make it? Stealth is everything when it comes to submarines and at some point China is going to finally crack it."

It also quoted the People's Liberation Army Daily as saying Da Liang Long, a professor at the PLA Navy's Submarine Academy, won an award from the Central Military Commission for his "considerable" work on submarine stealth technology.

"Naval officials in the region say encounters between submarines are increasing. Such encounters will become more frequent as countries such as Japan, Korea, Australia, Vietnam and Indonesia expand and update their submarine fleets in the face of China's rising military strength. The PLA will soon have more submarines than the United States Navy," the daily added.

## **No Matter What It Takes**

*Strategy Page, 12 October 2010*

The latest test of Russia's new Bulava SLBM (Sea Launched Ballistic Missile), the 13th, was a success. This was only the sixth successful test, and several more will be necessary if the missile is to enter service. The last test, ten months ago, was a spectacular failure. That test took place off the northern coast of Russia early on December 10th. The failure resulted in a brilliant light show, in the

pre-dawn sky, that was visible to many in Norway. At first the Russians denied that the spectacular lights had anything to do with them. But within a day, they admitted it was Bulava failing its 12th flight test.

A year ago, Russian political and military leaders became upset (make that VERY upset) at the inept development of the new Bulava missile. This weapon is to arm the new Borei class SSBN (nuclear submarine carrying SLBMs). The Bulava developers were told that they had until the end of the year to make the missile work. Otherwise, the project would be cancelled, heads would roll (OK, people will be fired) and the older R-29RM Sineva SLBM will replace the Bulava. It's already been suggested that the 40 ton R-29RM be used in the new Borei SSBNs. Sineva is the last liquid fuel Russian SLBM in service, and is used in the current Delta class SSBNs.

Apparently the accountants caught wind of this and told the bosses how much such a switch would cost (we're talking several billion dollars, at least). So now, the final decision (for the moment) is that Bulava will be made to work, no matter what it takes. Moreover, an investigative committee determined that most of the problems may have been due to sloppy manufacturing. So the construction of the Bulavas was ordered moved to another factory. That decision was also reversed, after someone did the math. Several senior development officials have already been fired. More jobs are on the line, although the latest successful test has saved several careers.

For a while, switching to the older, but more reliable, Sineva missiles looked like a reasonable move. Liquid fuel missiles are more complex than solid fuel missiles, even though they use fuel that can be stored for long periods inside the missile. Unable, for a long time, to develop the technology for solid fuel rockets, Russia made the most of this, and developed some very effective "storable liquid fuel" rockets. It was only near the end of the Cold War that Russia finally mastered the solid fuel rocket construction techniques. But only one solid fuel SLBM entered service, the huge, 90 ton R-39, for the massive Typhoon SSBNs (which are being retired because they were so expensive to operate).

Many Russian officials believe that the root of all these problems was the flight of so many skilled engineers and scientists from Russian defense industries after the Soviet Union collapsed (and sales promptly dropped over 90 percent). The smart people quickly found lucrative jobs in other industries, and there has been little new blood in the last two decades. The same thing happened on the manufacturing end. During the Soviet period, defense industries had the cash to attract the most skilled manufacturing staff. No more. And the dismal Bulava test performance is yet another result of this brain drain. But it was also noted that some defense plants were better at attracting, and retaining, more capable production people. Thus the suggestion to move to another factory. But in the specialized field of building SLBMs, you have lots of irreplaceable experience at the factory currently building Bulavas.

All this was triggered by Bulava failing so many test launches. Before the spate of failed tests, Russian officials believed that the Bulava would enter service last year, and that there would be five or more test firings to help make that happen. The Russian engineers thought they had identified the source of the problems. But the December, 2009 test failure was in the first (of three) stages of the missile, which was believed to be problem free. That aroused suspicions that there might be manufacturing problems.

The Russians had always been confident in the basic technology of the Bulava. They knew there would be test failures, and believed they were facing no more problems than the two most recent U.S. SLBMs. They were very wrong. The American missiles had had a 13 percent (out of 23 tests of the Trident I) and two percent (49 tests of Trident II) failure rate. So as the Bulava test failure rate rose, doubts began to set in. At present, only six of thirteen tests were a success, which equals a 54 percent failure rate.

What really made many Russians nervous was the fact that the Bulava is replacement for an earlier SLBM that had to be cancelled during development because of too many test failures, and too many design and equipment problems that could not be fixed. Thus the Bulava is basically a navalized version of the successful Topol-M land based ICBM. The reliability of the Topol is the primary reason the Russians moved forward with Bulava, and remain confident that they can make it work, eventually.

The Bulava is to equip the new Borei class SSBN (nuclear powered ballistic missile submarine). The Borei class boats will replace the aging Cold War era Delta class SSBNs, which are being retired because of safety and reliability issues. Nuclear submarines are one area of military spending that did not get cut back sharply after the Soviet Union collapsed in 1991, but there are still limits to the navy budgets, and the Boreis are being built, in part, to be cheaper to operate. But first the Boreis need a reliable missile.

The 45 ton Bulava SLBM is a little shorter than the Topol M, so that it could fit into the sub's missile tubes. Thus Bulava has a shorter range (8,000 kilometers) than Topol. Bulava has three stages and is believed configured to carry ten 150 kiloton warheads.

Russian doubts about Bulava are consistent with long time problems with their submarine launched ballistic missiles. These problems were largely kept secret during the Cold War, but since then, more information has emerged. One Borei boat is already in service, and it's missile tubes are designed to hold the Bulava (which is 12.1 meters long and two meters in diameter.) The only possible replacement, the Sineva, is 14.8 meters long and 1.8 meters in diameter. The additional length will require substantial revisions in the existing Borei, and the two under construction. The existing solid fuel SLBM that works, and is carried in the larger (and being retired as too expensive to operate) Typhoon, is the R-39, and it is huge (16 meters long and 2.4 meters in diameter.) Much too large even for a rebuilt Borei.

As some Russians expected, the final (for now) decision was to just bull ahead, declare the Bulava ready for service and install them. As absurd as that sounds, some of the 16 Bulavas on each Borei will work. And with continued development, the percentage that will work will climb from about 40 percent, to something more respectable (like 70 or 80 percent.) That will take time, and all the Russians have to do in the meantime is avoid a nuclear war.

## Sub skipper firing started with a birthday card

By Sam Fellman - Staff writer Navy Times

Posted : Thursday Oct 21, 2010 9:12:02 EDT

The arrival of a birthday card in the ship's mail addressed to Capt. Ronald Murray Gero, who was turning 56, marked the beginning of the end of his command of the guided-missile submarine Ohio.

The card — from a woman, postmarked June 19 from Hawaii — first landed in the hands of a crew member whose job it was to screen the captain's mail. He opened it, noting that the heart-covered letter was not from the captain's wife of 32 years, and read the message inside: "I dream what it would feel like ... to make love to you."

The card was never delivered. Instead, a crew member kept it as evidence.

Then, he and others began noticing more incriminating evidence: edited e-mails, intimate phone calls and a questionable travel request. Shipmates felt their captain was distracted and sometimes cryptic, behavior that marred his authority. At one point, Gero lost "focus of his mission" during an important transit, an investigation found.

A subsequent command investigation — obtained by Navy Times through a Freedom of Information Act request — found that the relationship bore the hallmarks of an extramarital affair, but acknowledged that the participants likely did not have sex.

"Albeit the number of people on USS Ohio blue who are aware of this relationship is small, but those closest to the CO ... all believe that Capt. Gero may have committed adultery, which is degrading unit cohesion and mission readiness," the report found. "The confidence they have in the personal judgment, veracity and moral compass of the CO is likely irreparably damaged, although they could deal with it."

Gero, a 36-year Navy veteran who previously commanded the attack submarine Buffalo, was taken to mast before Rear Adm. James Caldwell, commander of Submarine Group 9. Gero was fired afterward on Sept. 17. He did not respond to calls seeking comment.

Gero told investigators that he and the woman — whose name, along with others, was redacted in the report — had just been "good friends." The report said she was an active reservist, but did not provide a branch or paygrade. He admitted it was an "unusual friendship" because his wife did not know about it, but said it was important to maintain his relationship with this person as it benefited the Navy.

### **'Inappropriate and weird'**

But the concerns of some in the wardroom about the relationship began a year before the birthday card, when Gero invited her to a wardroom-only event.

In summer 2009, some of the sub's officers gathered at the Officer's Club at Hickam Air Force Base, Hawaii, for a gold dolphin board. Gero arrived late, bringing a fellow commanding officer as well as a guest. The CO from the other command felt odd attending what's normally a ship-specific proceeding, the final test for an officer to qualify as a submarine officer, and left after 15 minutes. But the guest stayed.

At one point, Gero asked his guest if she would like to ask a submarine-related question of the candidate, an offer that chafed other board members. "No one objected, though everyone other than Capt. Gero found it inappropriate and weird that [redacted] would attend, especially someone outside the Navy."

Their relationship began with a chance encounter at Lockwood Hall, an officer's quarters in Pearl Harbor, Hawaii, where they both were staying. Gero was in Hawaii to take over Ohio from the Gold Crew, while she was there on active reserve duty. They arranged a program to bring intelligence specialists aboard the Ohio. Their personal relationship grew quickly.

They played golf, went running and dined at restaurants together that summer and the next, Gero later told investigators. His story clashes with her recollection: She said later that they were too busy to meet after work and never did anything fun "like snorkeling." Most of their time together, she said, was spent poolside at Lockwood Hall.

For the most part, the budding relationship was kept hidden from the crew. But some recalled their captain acting oddly.

First, it was his hours. Normally, Gero left the ship late and was reachable by phone afterward. But when the ship returned to Hawaii this year, he'd leave right at the end of normal working hours. Calls to his cell phone often went unreturned for one to three hours. Duty officers took to calling the executive officer instead. Gero, however, disputed this account to investigators.

Nor did Gero attend wardroom functions in which he, as captain, was typically involved.

Then came the phone calls. During surface transits, Gero sometimes made calls on his government cell phone from the bridge atop the ship's sail, in close proximity to others. They recalled Gero starting conversations with a vague greeting like "Hey you," to avoid saying the person's name, while covering the handset and speaking in a hushed tone. Sometimes, Gero would even say things like, "Our bosses wouldn't be very happy if we did that." This was in marked contrast to conversations with his wife, to whom he spoke in normal tones, shipmates said.

### **Dangerous distraction**

Calls to the woman distracted him July 24 when his vigilance was needed most: a transit out of port, according to phone records and the ship's schedule, which were reviewed by investigators.

“It appears that Capt. Gero also lost focus of his mission on at least one occasion, where he was spending time talking to [name redacted] while piloting the [submarine] through Pearl Harbor’s restricted waters,” their report states.

The last straw, his officers felt, was a planned trip that they suspected he was taking only to see her. Gero had received approval and funding to brief a reserve detachment and attend a dining-in ceremony in October. He coordinated the travel with the woman on his official e-mail account, then forwarded the e-mails to the ship’s administrators to set up his travel.

However, some of these recipients noticed that Gero edited the previous exchanges with his friend. The same exchanges appeared different in later e-mails. Gero denied this, but the investigator found later that he altered e-mails to make them appear more related to her work in the reserve.

An officer was mulling all this over in late August when things came to a head. The training meeting at the Sam Adams Lounge on Naval Base Kitsap-Bremerton, Wash., had wrapped up. It seemed, the officer told his colleagues, like their captain was about to use government funds to visit his girlfriend. Other officers agreed. Something had to be done.

At first they considered hiring a private investigator, but they instead ended up filing a complaint to Submarine Force Pacific’s inspector general. It was referred to Submarine Group 9 for the investigation that found the unusual relationship, and the suspicions it aroused in the wardroom were sufficient grounds for Gero’s removal.

While Gero’s travel request was unusual, the trip never went through and there is no proof that Gero misused government funds, according to the report.

It did reach a conclusion, however.

“Procedures for detachment for cause should be initiated based on his special position of trust as a commanding officer,” the report recommended.

After his relief, Gero was reassigned to group staff. Cmdr. Theodore Schroeder was named interim CO of the Ohio Blue Crew.

*[Am I the only one wondering if Captain Gero carried three little metal balls in his pocket and if he once made the crew search the boat from top to bottom for a missing can of strawberries? Mike Hyman]*