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## *The Silent Sentinel*

*October 2011*



### *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.

*The Silent Sentinel would like to wish our  
Jewish readers L'Shana Tova.*

*A Happy and Healthy New Year, 5772.*

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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: \_\_\_\_\_

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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

### October 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 11 October, 2011. 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

None Reported

## Submarine Losses in September

Submitted by C J Glassford



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

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



Submarine Veterans Inc., San Diego base minutes for September 13, 2011.

1902 – Meeting was called to order by the Base Commander, Bob Bissonnette.

Conducted opening exercises:

Reading of our creed:

Pledge of Allegiance lead by Fred Fomby:

Conducted Tolling of the Boats for the month of September:

|                     |              |                 |
|---------------------|--------------|-----------------|
| USS S-5(SS110)      | 1 SEPT 1920  | NO LOSS OF LIFE |
| USS S-51(SS162)     | 25 SEPT 1925 | ALL HANDS LOST  |
| USS GRAYLING(SS209) | 09 SEPT 1943 | ALL HAND LOST   |
| USS CISCO (SS290)   | 28 SEPT 1943 | ALL HAND LOST   |

A moment of Silent Prayer observed for our shipmates.

E-Board members, VIP's and greeting of new members and honored guests.

Secretary report: 34 guests and members.

Treasurer's report: The Convention account has been closed and the amount of two thousand dollars has been placed in the savings account. To date we have 2956.00 in checking and 17237.00 in savings.

The minutes of the last months meeting has been published in Sentinel.

Call for Committee reports:

Chaplains Binnacle List:

CJ Glassford is scheduled for Hernia operation.

Al Strunk – no update

Bob Medina is present but still recovering.

We have lost this month shipmate Captain Cox.

Parade committee:

Last parade was last Saturday in Poway.

Next parade will be October 22, at 1000 in Borrego Springs Desert Festival. It is a long drive about 90 miles from San Diego. So if you are planning to go leave early or stay over night.

November 11 is the San Diego Memorial Day Parade. The parade starts at 1100. Parking may be a problem this year so come early I suggest 0830 or 0900.

Membership Committee:

Dues are due soon if you have question please contact Ron.

Scholarship: We are done for the year.

Store keepers report:

We have lots of new items in the back, check it out.

Breakfast committee: Next breakfast is 30 October at 0830 to 1200. We still need volunteers to help serve. You will need to attend a food handler's class which will be held right here at the VFW on 01 October.

Eagle Scot program: We are waiting for final approval from the district to start the program.

1920 Break.... Conducted the 50/50 drawing:

1935 Meeting called to order by base commander

Base Commander gave a brief on this years Convention.

Dues and ideas for retention were discussed.

USSVI will be having professional Convention managers to assist any base holding a national convention. This will start in 2014. The National will sign contracts and assume liability relieving the local bases from this responsibility. National will provide online training for Base Commanders giving them tools to recruit new members. Base Commanders were encouraged

to have the base more involved with the community. Using guest speakers at local meetings. Base Commanders should have a fixed agenda for monthly meetings. Getting the ladies more involved in meeting and base functions.

Members should be encouraged to attend funerals of fallen shipmates.

Chaplains need to be trained to know how to deal with members of the family and the death of base member.

List and update personnel information on USSVI data base web page.

Publish a newsletter and sending them out to other bases letting them know what you are doing and finding out what other bases are doing to reach their community. This can be done by linking to other bases.

Associate members- Associate members require a sponsor to become a member of a base. The base must remain within a certain percentage of members and associate members. This is needed because the IRS requires this since we are a non-profit organization. For your info Tax forms can be found on the website.

Unfinished Business:

Kaps for Kids- we are attempting to get into Balboa Hospital for this program, but we need a person who can lead this program and help get it started.

New Business:

We need liability insurance for the float. Parades are now asking that the base have insurance that covers the float during parades. If you have any contacts or know of someone who can assist us with insurance contact me asap. The E-board will decide what we need and the base members can vote on the proposal next month.

Good of the Order:

4 November 2011 will be the Submarine Fall reception the time is 1800 to 2000.

Attire is casual.

01 October 2011 Scamp Base will be holding their 5<sup>th</sup> annual Food Fest it is open to the public and all are welcomed.

Location: American Legion Post #149  
230 E. Park Ave. (just of Broadway)  
Escondido, Ca

Time: 12 Noon

Bill of fare: Lemon Pepper Alaskan Salmon

Prime Rib au jus

Donations Appreciated

Dave- Please check the Website for some interesting pictures of the S-51.

USS TUNNY is having their reunion at the Holiday Inn on Harbor drive and have asked us to pass the word to any WWII veterans who would like to attend the opening exercises and participate in the reunion.

2005 Meeting adjourned by Base Commander.

#### SAILING LIST

|                  |                 |                  |
|------------------|-----------------|------------------|
| FRED FOMBY       | BOB FARRELL     | BUD ROLLISON     |
| JIM BILKA        | JIM HARER       | PAUL HITCHCOCK   |
| JACK KANE        | MIKE HYMAN      | MANNY BURCIAGA   |
| DAVID BALL       | DOC COATES      | BOB MEDINA       |
| MERT WELTZIEN    | DON MATHIOWETZ  | BOB WELCH        |
| DAVID KAUPPINEN  | TOM WARNER      | TONY DACK        |
| PHILLIP RICHESON | ROY BANNACH     | ED WELCH         |
| RAY FERBRACHE    | TOM POLEN       | DENNIS MORTENSEN |
| BOB OBERTING     | KURT GREINEN    | HARRY MCGILL     |
| ED FARLEY        | BOB BISSONNETTE | GLENN GERBRAND   |
| JACK ADDINGTON   | JOHN LYNCH      | PHILL RICHESON   |
| MIKE COSGROVE    |                 |                  |

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### For The First Time In Decades The Navy Is Building Two Nuclear Submarines Simultaneously

*Business Insider, September 12*

General Dynamics Friday announced it has begun construction on its second Virginia-class ballistic-missile attack submarine in 2011.

For the first time in 22-years the Navy has started building two subs of the same class in the same year, naval officials say the dual construction process will save time and money.

When complete the SSN-788 and SSN-789, will bring the total number of Virginias in the American fleet to 13.

The nuclear subs carry 40 weapons, special operations forces, unmanned undersea vehicles, and contain an Advanced SEAL Delivery System (ASDS).

Aviation Week pegs the new boats at \$1.2 billion, while previous vessels ran at \$1.8 billion apiece.

The new procurement strategy is the Navy's way of trying to lower costs of its next generation submarine commanders hope will replace its Virginia fleet.

Submarines ranked the third highest military expense between 1998 and 2008 with — \$16.2 billion spent on contracts and modifications.

This amount does not include the amount spent on the nuclear reactors propelling the subs.

### U.S. Military Cuts Could Shelve This \$7 Billion China Containment Sub

*Business Insider, September 12*

As military budget cuts loom, there are a handful of large projects most likely to hit the chopping block.

With their bloated price tags and immense upkeep, submarines are a natural choice.

In defense of subs, the Navy will surely point out China's expanding anti-access and area denial (A2/AD) systems.

A2/AD technologies create a secure defense to detect and stop an incoming enemy attack.

With the majority of America's forces un-stealthy, and vulnerable to detection, our ability to attack Chinese defenses would be limited to second or third wave attacks after the A2/AD forces were disabled.

The U.S. military has two systems that are known to the public that it's hoping will help.

The Navy is crossing its fingers for the SSBN-X ballistic submarine and hoping to arm it with 16 Submarine Launched Ballistic Missiles (SLBMs) that will knock out Chinese missile batteries and allow non-stealthy forces to attack.

Based on the Ohio-class platform, but completely stealthy, Congressional Research Services reports that the projected cost of each sub will be about \$7 billion.

The Navy is looking to acquire 12 SSBN-Xs for \$84 billion, and hoping to sail them in 2029 when the current generation of Ohio-class subs retire.

Procurement officers are hoping to bring the price down with alternate development methods like those being used for new Virginia-class submarines in 2011.

### Descendants Honour Missing WWI Sub Crew

*By Chi Tranter and Stephen Johnson, smh.com.au, Sept 13, 2011*

Robert Smail was just 16 when he went to sea.

Less than 10 years later he was among 35 men who lost their lives when Australia's first submarine disappeared off the northeast coast of Papua New Guinea during WWI.

The young Scotsman had joined the newly-formed Royal Australian Navy in 1908 and was serving on board submarine AE1 when it disappeared on September 14, 1914.

Ninety-seven years later, descendants of the crew gathered at the Garden Island naval base in Sydney for the unveiling of a plaque to commemorate the loss.

"It's a very important day," said Robert Smail's nephew Jim.

"It was lovely to see the loss recognised ... and we are hoping that this will now lead to more interest (and that the submarine) will be found."

Mr Smail, who spent time in submarines during his 30 years in the navy, said submariners deserve respect for a "very dangerous existence, it's a tough job".

"It's flying under water," he said.

"(And) it's so beautifully quiet because the engines are all electric, you can't run diesels down below."

Governor General Quentin Bryce, who spoke at the ceremony, described the AE1 as a "shining symbol of an empowered Australian navy" and the men lost as "35 of our finest".

“We yearn for the day when the navy family and the families of the navy can close the book on this sad chapter,” she told those gathered at the memorial.

President of the AE1 Incorporated, an organisation dedicated to searching for the lost submarine, said the memorial was the first formal recognition of the lives lost.

“We may never know with certainty what fate befell the AE1 but finding her is surely an important step in the journey of understanding,” Dr Michael White QC told the gathering.

Mr White, who was himself a submariner in the 1960s, said the underwater crews have always been viewed as “a little different”.

“Partly because of our living conditions and that unique smell which we all carried of diesel oil, cooking fat, battery acid and body odour,” he said.

“Whenever we burst alongside a spick and span surface ship the air of disdain was palpable.”

He said the reputation of submariners has since improved, to the point where they are “almost as pampered as the airforce.”

Defence Minister Stephen Smith said he supported finding the AE1.

“When a ship or submarine is lost ... the descendants of the personnel concerned - the children, the grandchildren and sometimes the great-grandchildren just want to have closure so they know where their father or grandfather or great-grandfather is lying or is entombed,” he told reporters on Wednesday.

The government has announced it will give tax deductions for any donation, of more than \$2, made to AE1 Incorporated.

The disappearance of the AE1, which had been dispatched from Sydney to support military operations against German forces on New Britain just days after Australia declared war on Germany in August 1914, was the country’s first major WWI loss.

### **Trades Jobs At Electric Boat Likely To Remain Unstable For Four More Years**

*By Jennifer McDermott, The Day, Sept 19, 2011*

Groton - Electric Boat is now building two submarines a year, but it will be four more years before the extra work helps put an end to the cycle of layoffs and recalls at the shipyard.

And while the shipyard will hire hundreds at its Quonset Point, R.I., facility, the headcount for the trades workers in Groton is not expected to increase significantly from its peak this year.

Earlier this month, EB began working on the 13th Virginia-class submarine, the unnamed SSN787. It is the first time in 22 years that construction has begun on two submarines of the same class in the same year, according to the Navy.

It will take four years for jobs to increase in Groton because EB shares responsibility for building the submarines with Newport News Shipbuilding in Virginia. The manufacturers take turns delivering the boats to the Navy, and Newport News is responsible for the SSN787 after the modules are built at Quonset Point.

John Holmader, EB’s vice president who manages the Virginia-class program, said the shipyard in Groton will see a “valley” in its workload from 2012 to 2013, after it finishes the ninth Virginia-class submarine, the Mississippi (SSN782).

And he expects less work at the shipyard again from 2014 to 2015, since it takes three years to build the submarine modules at Quonset Point before they can be shipped to Groton or Virginia.

From late 2015 or early 2016 forward, EB will have a steady amount of work as long as the Navy buys two submarines a year, Holmader said. The Navy’s shipbuilding plan calls for two submarines annually through 2017, but only one in 2018 because of budget constraints.

Thus far this year, as submarine construction and repair work rose and fell, EB notified roughly 250 employees that they would be laid off. Some notices were later rescinded or delayed because more work became available.

EB plans to hire 300 to 400 people at Quonset Point over the next two to three years as production ramps up, Holmader said. But the numbers in the trades won’t change in Groton because EB quickened the pace at which it builds the submarines, creating work for employees who otherwise may have been laid off, he added. Those employees will now work on the new submarines.

The benefit for Groton, Holmader said, is that “we avoid those layoffs and those valleys.”

Almost half of the workforce at EB - about 5,000 employees - work on the Virginia-class program. It took EB 87 months to build the first ship of the class. The goal is to deliver the Mississippi in March, at 61 months, and then build future submarines in five years.

Even with new submarines entering the fleet, the total number will fall below the required 48 in the late 2020s because many of the older Los Angeles-class submarines are retiring.

“Building two submarines a year and delivering them ahead of schedule is the best way to reduce that shortfall,” said the Navy’s Virginia-class program manager, Michael Jabaley, who has been selected for promotion to rear admiral.

Building a second submarine in 2018 also would help address the problem because that submarine would be in service for every year during the shortfall, Jabaley said. But, he added, the country and the Navy are facing significant financial troubles.

Progress on the second submarine, the SSN787, was in jeopardy when Congress didn’t pass a budget last fall. It took until April for the Navy to award EB the money for the work.

Both Holmader and Jabaley said the Virginia-class program should be fine this year even if Congress passes another continuing resolution, because now the level of funding is set for two submarines.

Jabaley said that he and his staff felt “undeniably a great sense of satisfaction” when construction on the SSN787 began Sept. 2, but they didn’t stop to celebrate.

“We just delivered the California (SSN781) last month and we’re only six or so months away from delivering the Mississippi,” he said. “It is full steam ahead.”

The Navy and EB are starting work on the contract for the next group of Virginia-class submarines. The Navy plans to buy 30 in total. Seven have been commissioned so far.

Both sides are also trying to figure out how to modify the Virginia-class design to accommodate women, as well as bring down the cost of each submarine.

Virginia-class submarines are smaller than the ballistic-missile and guided-missile submarines to which the first female submariners will report later this year. Jabaley said the Navy told EB to study design possibilities and constraints for a mixed-gender crew and report back with cost estimates in the spring.

The long-stated goal for both EB and the Navy is to get the price of each submarine down to \$2 billion each, in fiscal 2005 dollars, by next year - about \$2.6 billion in 2012 dollars. The Navy will save about 10 percent of the cost of each submarine by buying two at a time because the manufacturers can buy parts in bulk at a cheaper price, Jabaley said.

Mississippi is currently \$52 million under budget, Holmander said, and EB employees have thought of ways to reduce the cost of each submarine by another \$30 million. EB already has redesigned the submarines, sped up construction and invested in more efficient equipment to save money.

And the company spent \$125 million to get its facilities ready to build two submarines a year, Holmander said. Executives from EB and Newport News meet monthly at a "two per year readiness breakfast club" to review their efforts.

"The two per year milestone is very, very important to the Groton facility," Holmander said. It means the shipyard will have the "stability that hasn't really been seen here for quite some years."

### Recycle The Past Into Modern Weapons

Strategy Page, September 17, 2011

Iran recently announced several new weapons (designed and produced in Iran). One was a cruise missile with a 200 kilometer range and the other was a submarine torpedo designed for shallow coastal waters. A bit earlier in the year, a new 73mm missile was announced. This appeared to be a small, unguided rocket, albeit with a good press agent. All of this was stuff was fluff, with a bit of recycled reality to back it up. If you go back and look at the many Iranian announcements of newly developed, high tech, weapons, all you find is a photo op for a prototype. Production versions of these weapons rarely show up. It's all feel-good propaganda for the religious dictatorship that runs Iran, and its supporters.

But Iran has managed to develop some locally made weapons over the last three decades of sanctions and arms embargoes. For example, earlier this year Iran announced that it had test fired U.S. made Hawk anti-aircraft missiles. Unlike most weapons announcements from Iran, this one was probably not propaganda. Iran, like many American allies, bought American Hawk anti-aircraft missile systems in the 1970s (the current religious government took over in 1979). Although 1950s technology, the Hawk, with a range of 25-45 kilometers, is reliable and quite effective against targets lacking a lot of countermeasures.

The Iranians had the 1970 version, but further improvements were made in the 80s and 90s. Iran had bought 150 launchers, and nearly a thousand missiles and other gear, sufficient to equip 16 Hawk battalions. While much of the original equipment has died of old age, there have been ample opportunities to keep Iranian Hawks alive. That's because there are still several countries using Hawk. Over 40,000 missiles were manufactured since Hawk entered service in 1960, and the U.S. only stopped using it in 2002. Since the Cold War ended in 1991, a lot of Hawk equipment has been retired. While the U.S. tried to prevent Iran from getting hold of the Cold War surplus stuff, they were not always successful. Moreover, while Hawk was cutting edge fifty years ago, that means the tech needed to keep Hawk batteries (each with six, three missile, launchers) operational today is easier to get, or make locally. The big problem for Iran is obtaining the technology that enables Hawk to handle modern electronic-countermeasures. This was a frequent cause for Hawk upgrades over the last 40 years. Iran, in the meantime, has developed ways to keep up.

Iran likes to recycle 1950 military tech. For example, last year it announced that it had developed an armed UAV, with a range of 1,000 kilometers. Pictures of this new weapon showed what appeared to be a copy of 1950s era American cruise missile, or target drone. These, in turn, were based on a similar weapon, the German V-1 "buzz bomb" that was used extensively in World War II to bomb London. The Iranian "Karar" UAV had the benefit of more efficient jet engines, more effective flight control hardware and software, and GPS navigation. Karar is not a wonder weapon, but the Iranians are depending on a clueless international mass media, and their own citizens, to believe it is.

In the last few years Iran has announced many similar weapons, many of them originally conceived in the 1950s. There was, for example, a domestically designed and manufactured, helicopter gunship and another UAV with a range of 2,000 kilometers. Recently, there have also been revelations of heavily armed speed boats, miniature submarines, new artillery rockets and much more. Three years ago they showed off a new Iranian made jet fighter, which appeared to be a make-work project for unemployed engineers. It was a bunch of rearranged parts on an old U.S. made F-5 (which was roughly equivalent to a 1950s era MiG-21). The new fighter, like so many other Iranian weapons projects, was more for PR than for improving military power.

### N. Korea Steps Up Submarine Drills: Seoul Ministry

Channel News Asia, Sep 19, 2011

SEOUL, September 19, 2011 (AFP) - North Korea has started submarine exercises earlier than usual this year and South Korea and the US are drawing up a plan to hit back at any fresh attacks, Seoul's defence ministry said Monday.

"Depending on changes to strategic situations, North Korea may possibly carry out provocations of varying forms," the ministry said in a report to parliament.

The drills, it said, began earlier than normal in both the Sea of Japan (East Sea) and the Yellow Sea, where the disputed maritime border has been a frequent flashpoint.

Seoul says a North Korean submarine torpedoed a South Korean warship near the contested Yellow Sea border in March 2010 with the loss of 46 lives.

The North denied involvement in the sinking but killed four people in a bombardment of a South Korean frontier island last November. There were also deadly naval clashes in the Yellow Sea in 1999, 2002 and 2009.

Some analysts believe last year's incidents aimed to burnish the military credentials of Kim Jong-Un, youngest son and heir apparent to leader Kim Jong-Il.

It remains unclear when the son will be formally named as successor but the defence ministry said he is already actively involved in state affairs.

"Kim Jong-Un has consistently involved himself in politics and policymaking," its report said.

A member of parliament's defence committee said separately that while the sub drills have increased, the South's navy failed to detect many of the craft taking part.

Opposition party legislator Shin Hak-Yong, quoted by Yonhap news agency, said there were 50 North Korean submarine drills in the Yellow Sea through the end of August compared to 28 drills over the first eight months of 2010.

But in the first and fourth quarters of last year, the South's patrol boats and frigates detected only about a third of the submarines taking part in drills, he said. The defence ministry declined comment.

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In its report, the ministry said South Korea and the United States have agreed to complete by year-end a joint military operational plan to prepare against potential North Korean provocations.

The US stations 28,500 troops in the South. The ministry said the plan would specify different steps in response to varying degrees of provocation.

Defence Minister Kim Kwan-Jin told legislators the allies are also discussing revising an accord which limits the range of the South's ballistic missiles to 300 kilometres (186 miles) as well as their payload weight.

"We're having technical negotiations so that the range will cover the entire Korean peninsula," he said without elaborating.

### **Subpar Sub Fleet**

13 years after the purchase, not one is operational

*The Windsor Star September 19, 2011*

When the Liberal government was getting ready to pay Britain \$800 million for four used submarines in 1998, the deal was portrayed as a way to fill a huge vacuum in the military and to bolster Canada's ability to patrol its vast coastline.

At the time, Defence minister Art Eggleton said even though the subs were second-hand, they were a great deal for the country.

"Sure we're looking for bargains, but I'm not in the used equipment business," said Eggleton. "I'm in the best equipment business."

The Royal Canadian Navy's Lt.-Cmdr. Peter Southern called the Upholder-class, diesel-electric subs sophisticated war machines that could easily wipe out a small country. He added that the beauty of the subs was their "quiet."

On the last point, there is absolutely no argument. The subs are so quiet at this moment that not one is operational.

The Globe and Mail recently reported that, in addition to the initial cost, the government has spent an extra \$1.5 billion on maintenance and support. Not a single sub is weapon-ready and, in fact, won't be able to fire a torpedo for another two years.

Here's the disabled sub list: HMCS Corner Brook was damaged when it hit the ocean floor during a training accident and won't be back in operation until 2016. HMCS Victoria - the only one in the water - has undergone a major overhaul and could be back in early 2012. A small fire broke out in the sub's communication mast on Sept. 6. HMCS Chicoutimi caught fire on its voyage from Britain in 2004 and won't be ready for service until 2013. HMCS Windsor - named with great fanfare by the Chrétien government after our city - has rusted badly and rests in dry dock.

It's difficult to imagine now, but the navy said it thoroughly examined the subs before signing the deal. But there were problems right from the start - everything from cracks in some of the valves, high-pressure welds that needed repairing and steel piping that needed to be replaced because the subs were stored in Britain with water in their tanks.

Defence analyst Martin Shadwick recently told Postmedia News that the future survival of the submarine force could be put in jeopardy if the problems continue. "All the arguments the navy made for having submarines 10 or 15 years ago are still fundamentally valid, but they haven't been actually able to provide the politicians with specific concrete examples because the subs are not available all that much," explained Shadwick, a York University professor. "That makes the subs a lot more vulnerable to budget cutters in the department and outside of it."

In fact, at a time when the Harper government is looking at cost-saving proposals to trim at least five per cent from every departmental budget, it would seem that the submarine program would be a good place to start finding annual savings. Defence is supposed to come up with around \$1 billion in cuts.

At the very least, it's time for a full review of the submarine program - including a full accounting of all additional costs that are expected as well as an analysis of the actual, if any, benefits that can now be expected from a fleet that's nearly halfway through its expected 30 years of service.

### **S.Korean Navy Fails to Spot N.Korean Subs**

*The Chosun, Sept 20, 2011*

South Korean patrol boats and corvettes are able to detect a mere 30 percent of submarines at a time when North Korea is increasing the frequency of submarine infiltration drills.

According to data the Joint Chiefs of Staff and the Defense Intelligence Agency submitted to Democratic Party lawmaker Shin Hak-yong of the National Assembly's Defense Committee, North Korean submarine infiltration drills in the West Sea increased to 28 between January and August 2010, from a mere two in the same period in 2008 and only five in 2009.

In the same period this year, North Korea raised the number of infiltration drills to 50.

Infiltration exercises using semi-submersible craft also rose from 14 in the first eight months last year to 22 this year. The number of submarine exercises in the East Sea soared from 25 in the January-August period last year to 39 this year.

This year's submarine exercises in the West Sea were reportedly concentrated between June and August. "There's a likelihood that the North will seek a chance for provocation as a lot of North Korean and Chinese fishing boats are busy in the West Sea during the blue crab harvest season" that began in early September, Shin said.

But South Korean patrol boats and corvettes tasked with defending the coasts lack the capacity to detect subs. Some navy patrol boats including the one plying waters near Baeknyeong Island when the Navy corvette Cheonan was attacked in March last year failed to spot any enemy subs at all during an anti-sub exercise in August the same year.

Corvettes of the Second Navy Fleet detected a mere 28 percent of the submarines taking part in exercises in the first quarter last year. "The military needs to step up vigilance around the northwesternmost islands until the blue crab season comes to an end," Shin said. "It needs extra surveillance equipment, including up-to-date destroyers that have excellent submarine detection capabilities."

### **Cyber-Attack Hits Japan's Largest Defence Contractor**

*by Fahmida Y Rashid, E Week Europe, Sept, 20, 2011*

Mitsubishi Heavy Industries weapons systems targeted by at least eight different types of malware

A major Japanese defence contractor discovered cyber-attackers had breached its computer network in August. The company says it is not clear yet what has been compromised.

Approximately 45 servers and 38 computers were infected with malware at ten facilities located throughout Japan and its Yokohama headquarters, Mitsubishi Heavy Industries told Reuters. Japan's largest defence contractor discovered at least eight different pieces of malware, including data-stealing Trojans, were used in the 11 August attack.

Attacks Focus On Warships

Affected facilities included Kobe Shipyard & Machinery Works, a manufacturing plant in southwest Japan which builds submarines and components to build nuclear power stations, Nagasaki Shipyard & Machinery Works, which makes escort ships, a shipbuilding yard for destroyers in Nagoya, located in central Japan, and the Nagoya Guidance & Propulsion System Works, which makes engine parts for missiles.

“There is no possibility of any leakage of defence-related information at this point,” a Mitsubishi Heavy spokesperson told Reuters. The news agency said major Japanese newspaper Yomiuri is reporting that some information was moved around on Mitsubishi’s computers which contained information on the company’s nuclear power plant, submarine and missile businesses.

“We’ve found out that some system information such as IP addresses have been leaked and that’s creepy enough,” the spokesperson told Reuters.

After an employee noticed abnormalities in an infected system, outside experts were brought in to investigate, according to Mitsubishi. The company did not know who was responsible for the attack, but an in-depth report on the incident is expected by 30 September, the spokesperson said. Mitsubishi has reported the incident to police and is proceeding with an in-house investigation.

“With over 80 computers compromised, the Mitsubishi Heavy Industries attacks show that once compromised, the internal network can become a playground for sophisticated attackers,” Adam Powers, CTO of Lancope, told eWEEK. Once the attackers are inside the network, detection and remediation becomes more difficult, he said.

#### Defence Industry Targeted

Mitsubishi Heavy Industries makes warships, submarines and other-defence related equipment. The Japanese constitution prohibits the company from exporting weapons, but there are exemptions for companies who are working with other countries on joint research and development of anti-missile defence systems. The contractor works with Raytheon to make weapons such as surface-to-air Patriot missiles and AIM-7 Sparrow air-to-air missiles, and with Boeing to supply parts for 787 Dreamliner jets and F15J fighter jets.

In May, several defence contractors in the United States were hit by cyber-attackers, including Lockheed Martin, L-3 Communications and Northrop Grumman. It appears that some classified information about a top-secret weapons system had been stolen. US Deputy Defence Secretary William Lynn has stated publicly that a foreign intelligence agency had been behind the attacks on defence contractors.

The attack on Lockheed Martin has been confirmed to have used the information about SecurID two-factor authentication technology that had been stolen earlier in the year from EMC’s RSA Security.

“Cyber-criminals, whether state-sponsored or not, are interested in stealing sensitive information which could have more than a financial value,” Graham Cluley, senior technology consultant at Sophos, wrote on the Naked Security blog. Organisations would be “foolish” to ignore these threats, Cluley added.

#### New Pin For Sailors Guarding Nuclear Arms

*By Mark D. Faram, Navy Times, Sept 26, 2011*

More than 900 sailors could soon rate a new qualification insignia and designator, thanks to a pin approved last month by the Uniform Board and announced in NAVADMIN 260/11.

The nuclear weapons security breast insignia will be available only to those in the 9,200-sailor strong master-at-arms rating — and they can only qualify by serving at one of two commands.

The badge is in production and expected to hit Navy uniform stores in August 2012.

“This pin was developed as an incentive to encourage sailors to take an assignment at one of the two strategic weapons facilities,” said Lt. Cmdr. Manny Arcelona, master-at-arms community manager.

Other incentives for those who take orders to a SWF are \$75 monthly special duty assignment pay, accelerated advancement to E-3 for junior sailors and sea duty credit for a shore duty job.

“Guarding our nation’s strategic nuclear assets is arduous duty, and we feel this will give recognition to those who attain and maintain their qualification in this duty,” Arcelona said.

Those who serve at the Navy’s Strategic Weapons Facility Atlantic at Kings Bay, Ga., or SWF Pacific in Bangor, Wash., will be allowed to qualify. Both are co-located with ballistic-missile submarines.

Sailors who guard strategic nuclear weapons at these facilities work along-side a Marine Corps security battalion; only those filling billets working with Marines can qualify.

In addition, sailors must be qualified in the senior post or watch station associated with their paygrades, Arcelona said.

The badge’s criteria were approved in May and outlined in Military Personnel Manual article 1220-061. While the article doesn’t specifically limit the badge to masters-at-arms — it leaves the door open to “enlisted members” — Arcelona said the way it’s written will make it difficult for other sailors assigned to those commands to qualify. Right now, 905 master-at-arms billets at these commands will allow sailors to meet the full requirements.

“Though we have corpsmen and admin support personnel at these commands, only those sailors who do the [strategic weapons-related] missions will be able to qualify,” he said.

Because the job relates to nuclear weapons, sailors must be certified in and remain qualified for the Nuclear Weapon Personnel Reliability Program for at least 12 months. That qualification is outlined in Secretary of the Navy Instruction 5510.35B.

There’s no provision allowing sailors who previously served at either of these commands to qualify retroactively. Those sailors would have to return for another tour to rate the pin and designator.

The 1¼- by-1-inch insignia is similar to the rating badge worn by masters-at-arms. Both metal and embroidered versions will be produced for wear on dress uniforms and the blue camouflage Navy working uniform. It won’t be allowed on the desert or woodland NWU.

It can be worn alone or with other warfare insignia.

Those who get the badge can continue to wear it once they transfer to another command, unless their eligibility for the Nuclear Weapons Personnel Reliability Program is revoked because of misconduct.

Those with the badge who become disqualified for reasons not related to misconduct can continue to wear the badge if their commanding officer agrees.

The pin wasn’t actually what the community wanted, though, Arcelona said.

“Our proposal and the package submitted was to simply get the SWF into the Expeditionary Warfare Specialist Program,” he said. “But leadership decided the program rated its own special badge and qualification, and we are very satisfied with that outcome.”

## **India And China In Deep Water Over Sovereignty**

*Vietnamnet.vn, Sept 21, 2011*

The Indian warship was completing a scheduled port call in Vietnam and was in international waters. Although the Indian navy promptly denied that a Chinese warship had confronted its assault vessel, it did not completely deny the factual basis of the report.

The Sino-Indian strategic relationship is rapidly evolving and tensions are building up as was underlined in an incident in 2009 when an Indian kilo-class submarine and Chinese warships, on their way to the Gulf of Aden to patrol the pirate-infested waters, reportedly engaged in rounds of maneuvering as they tried to test for weaknesses in each others sonar systems. The Chinese media reported that its warships forced the Indian submarine to the surface, which was strongly denied by the Indian navy.

China's military growth over the last decade has exceeded most forecasts with the Chinese military fielding an operational anti-ship ballistic missile, completing a prototype of its first stealth fighter jet and launching its first aircraft carrier for a maiden run over the course of last one year itself. Chinese capabilities are rapidly growing to where it can challenge the status quo in the Pacific.

The latest Pentagon report on the modernization of Chinese military warns India about the rapid advances Beijing is making in improving infrastructure near the border areas with India and in strengthening its deterrence posture by replacing liquid-fueled nuclear capable CSS-2 IRBMs with more advanced and survivable solid-fueled CSS-5 MRBM systems. The PLA navy will be building several additional aircraft carriers to enhance its naval fleet in addition to the Kuznetsov-class carrier (Varyag).

It is likely that Beijing will have its first indigenous carrier achieving "operational capability" as early as 2015. The United States has also suggested that China's aircraft-carrier-killing ballistic missile, the DF-21D, has reached initial operational capability.

In response to the latest Sino-Indian naval incident, the U.S. called for a collaborative diplomatic process on resolving the disputes related to the East Sea, underlining its desire to recognize the right of passage through international waters in the South China Sea. Last year, the U.S. Secretary of State had suggested that the East Sea was of strategic importance to the U.S. and offered to act as a mediator.

India, too, is within its rights to transit through the international waters of East Sea, and Beijing has no right to question the passage though these waters. Of course, China claims the East Sea in its entirety but its confrontational posture and rhetoric could easily escalate to a major conflict.

The East Sea is now one of Asia's critical strategic flashpoints with some even suggesting that it will be the "military frontline" of China in coming years.

Fears have been rising in Asia that China is seeking to use its growing maritime might to dominate not only the hydrocarbon-rich waters of the East Sea but also its crucial shipping lanes, the lifeline of regional economies. The U.S. Secretary of State, Hillary Clinton, used her visit to Asia last year to signal unequivocally that the U.S. was unwilling to accept China's push for regional hegemony.

When Beijing claimed the East Sea as a "core interest," Clinton retorted by proposing that the U.S. help establish an international mechanism to mediate the overlapping claims of sovereignty between China and four Southeast Asian countries.

This new U.S. assertiveness vis-à-vis Beijing has been widely welcomed in the region. The other members of the Association of Southeast Asian Nations (ASEAN) strongly endorsed Clinton's call for multilateral commitment to a code of conduct for the East Sea rather than China's preferred bilateral approach.

China has collided with Vietnam and Philippines in recent months over issues related to the exploitation of East Sea for mineral resources and oil. For the past several decades, the common interests of the sea had been under American guardianship. Now China wants a new system — one that only works for Beijing and does not deal with the provision of public goods or common resources.

India, too, has an interest in protecting the sea lanes of communication that cross the East Sea to Northeast Asia and the U.S. As India's profile rises in East and Southeast Asia, it will have to assert its legitimate interests in the East Asian waters.

While the U.S. remains distracted by economic woes and the challenges of the Arab Spring in the Middle East, Japan is proving unable to tackle its political inertia and emerge as a credible balancer in the region. Thus the regional environment is conducive for assertion by Beijing. India is right to forcefully reject Chinese claims of sovereignty over the entire East Sea. It should now build credible strategic partnerships with other regional states to prevent a Chinese regional dominance that will undermine Indian and regional security interests.

## **Japan Worries About China Nukes**

*Daily News Channels, September 22, 2011*

TOKYO – Never mind natural resources or national pride.

China's rapid military modernization and aggressive territorial claims are rooted in the calculus of nuclear deterrence, according to defense analysts in Japan.

China has claimed virtually all of the South China Sea and is developing aircraft carriers and stealth fighter planes largely to secure a haven for ballistic missile submarines.

This would allow China to strike back if the US or other opponent were to destroy China's land-based missiles in a first strike. China's shallow coastal waters currently leave little room for nuclear submarines to hide.

China wants to become a military superpower. To do that, it has to acquire a second-strike capability, and they are eager to grow that capability. That is the reason they want to control all of the South China Sea.

In recent years, China increasingly has sent its navy and armed patrol ships into surrounding waters to assert control over territory variously claimed by Japan, Vietnam, the Philippines and others.

A particular flashpoint has been the South China Sea, which China claims virtually in its entirety.

One-third of the world's shipping passes through that waterway, including 90 percent of Japan's imported oil. It is rich in commercial fishing resources and is believed to hold large deposits of oil and gas.

In July, Vietnam and the Philippines conducted live-fire military exercises to protest the intrusion of Chinese warships into parts of the South China Sea that each country claims.

Earlier, a Chinese helicopter buzzed a Japanese destroyer in disputed waters near Japan. And in 2009 Chinese warships attempted to destroy equipment operated by the US Navy surveillance ship Impeccable.

China is building a submarine base on Hainan Island in the South China Sea and plans to introduce up to five Type 094, or Jin-class, submarines outfitted with new JL-2 missiles. Those missiles have an estimated range of 8,000 kilometers – enough to strike US bases in Asia and Hawaii.

"Possessing a credible sea-based nuclear deterrent is a priority for China's military strategy", During the Cold War, the Soviet Pacific Fleet deployed some 100 attack submarines and 140 surface warships and strengthened its land defenses to create a similar safe haven for ballistic submarines in the Sea of Okhotsk, north of Japan.

China currently has a small arsenal of land-based nuclear missiles that could reach the continental United States, and a handful of submarines armed with relatively short-range missiles.

China's stated policy is to never use nuclear weapons preemptively, and for defensive purposes only.

China's first aircraft carrier, a refurbished model purchased from the Ukraine, finished its maiden sea trials last month, and officials have announced the construction of a second carrier. In January, China began test flights of its first warplane with stealth technology.

China would need a decade or more to build enough carriers and escort ships to challenge the US on the open seas, one or two carriers operating with support from land-based warplanes could provide critical protection for nuclear-equipped submarines.

"It's a very dangerous situation for us," Kawamura – a retired admiral in Japan's maritime self-defense forces – aka, the Japanese Navy, says "We don't want China to become an equal nuclear power with the United States."

### **Dual-Use Nuclear Subs 'A Game-Changer'**

*Defence Management, September 21*

The possibility of using dual-use nuclear submarines for Britain's strategic nuclear deterrent could be a "game-changer" in the debate on the renewal of Trident, Armed Forces Minister Nick Harvey has said.

Harvey told a Liberal Democrat conference fringe audience that combining flexible attack and nuclear deterrent capabilities in one class of submarine could provide "food for thought" for those who supported the like-for-like renewal of Trident indefinitely.

An ongoing Cabinet Office study into alternatives to the planned replacement of the existing Trident system was providing a "genuinely fresh analysis" of alternatives, he said.

The current review, due to report in late 2012, will explore the viability of a more flexible nuclear arsenal, including a possible end to Continuous At-Sea Deterrence (CASD), although it will not consider the option of total nuclear disarmament.

It will also include a "critical" study of the potential of dual-use submarines, which Harvey said could allow governments to scale up or scale down the level of nuclear deterrence based on international security conditions.

"There are very different ways of thinking about this issue from those that have prevailed in the past," he said.

"...At the moment we have a once per generation mega-decision as to whether to expend a vast sum of money on a fleet of submarines that do nothing other than provide a nuclear deterrent.

"If we had dual use of submarines for tactical purposes as well as for the nuclear deterrent, then if at any point in the future a future government concluded they could scale down the nuclear deterrent there would be other valid uses to which the submarines could be put and you wouldn't be tearing up that vast amount of expenditure. You would just be putting assets to different uses.

"What the Americans have done with their Ohio class of submarine is very interesting. They have found other uses for those submarines."

Speaking to *Defencemanagement.com* after the event, Harvey said that the dual-use submarine aspect of the study was "absolutely critical" in cutting through existing arguments against changes to the deterrent.

"Whether it's the dual use of an Astute or an adapted Astute submarine or if that's too expensive - which it might prove to be - dual use of the planned successor in similar ways to what the Americans have done, it's a game-changer. I'm absolutely convinced it's a game changer," he said.

### **Iran To Start Submarine Simulation Technology**

*Trend, September 21*

Iran is operating on submarine simulation technology which will be launch by the end of current solar year (started on March 20, 2011), IRIB reported quoting research assistant of navy Capitan Maghsoodlou as saying.

"A few surface and subsurface ships are under construction in navy and we have completed design of heavy ships and construction of middle class surface ship," he said.

He said the naval army has increased the connection rate in subsurface ships and is currently designing a special air defense missile which can be installed on surface ships.

### **Drunken Fishermen Ram Atomic Submarine**

*The Moscow Times, September 22*

A fishing boat full of drunken sailors accidentally rammed a nuclear submarine off the coast of Kamchatka early Thursday, Interfax reported, citing Navy sources.

The crew of the Svyatoi Georgy, or St. George, which had surfaced and had its navigation lights turned on, saw the fishing boat coming, but attempts to contact its crew via radio or get their attention with flares proved unsuccessful, likely because the captain was not at the bridge, and the entire crew was drunk, the report said.

Both ships suffered minor damage as a result of the collision, which caused no injuries. There was no radiation leak, but the submarine is undergoing repairs.

The collision is the latest in a summer of maritime debacles in Russia. In late July, an overloaded party boat rammed into a moored barge on the Moscow River, sinking on the spot and killing nine people. Earlier that month, the Bulgaria riverboat capsized and sank, claiming the lives of 122.

### **Israel Positions Nuclear Subs Off Iran**

*American Free Press, September 23*

Israel's submarine fleet is by far the most secretive of its strategic long-range manned arsenals. Unlike the Jewish state's other seafaring crafts, these subsmeribles never dock in any ports except their own, and their missions are such highly guarded secrets that only a few, even on board, are privy to what their assignment is and where it will next take them.

"Nobody knows where you are except for your crew and your direct commanders," said a former "Lt. Col. Oded" in a recent interview with Israel's Ynet news service. "Even your family doesn't know. They don't know what you're doing or when you'll be back. They know nothing."

Oded says he served 20 years in the Israeli navy and was commander of the Leviathan, one of two state-of-the-art 800-class Dolphin submarines that were donated to Israel by the German government. The Israelis later bought a third Dolphin for \$350 million under an agreement in which German taxpayers would absorb 50 percent of the cost.

Though the whereabouts of these mobile doomsday machines are generally kept under wraps, the Israelis occasionally make their presence known. When that happens, the message is clear that they mean business and are prepared to strike at any given moment. That's precisely what happened in July 2009 when Israel sent one of its Dolphins on a high-profile cruise of the Suez Canal. Although the official line out of Israel was that they were merely conducting standard naval drills, it was clear to all that the real purpose of their presence was to flaunt their strategic reach in Iran's face.

In June 2010, all three of Israel's Dolphins arrived off the coast of the vilified Persian nation. The Sunday Times reported, "The submarines of Flotilla 7—Dolphin, Tekuma and Leviathan—[were] sent in response to Israeli fears that ballistic missiles developed by Iran, Syria and Hezbollah, a political and military organization in Lebanon, could hit sites in Israel, including air bases and missile launchers."

The article added, "The deployment is designed to act as a deterrent, gather intelligence and potentially to land Mossad agents."

It's widely believed that these three submarines are often rotated, with only one maintaining a constant vigil in the region for any extended period.

According to a recent UPI article, "Five Dolphins is considered the minimum number required to keep two boats on patrol off Iran at all times."

That's why, to bring the fleet up to their desired quota, two more Dolphins are being constructed for Israel under a deal reached in 2006 whereby the German government agreed to absorb one-third of a total \$1.27 billion price tag.

In July 2011, a deal was finalized for a sixth Dolphin submarine that will again be subsidized by Germany under the same arrangement. According to Der Spiegel, the subsidy was being offered to Israel as part of reparations for the "Holocaust." The first of the three is slated for delivery to Israel by 2012.

Unlike Iran, Israel is not a signatory to the Nuclear Non-Proliferation Treaty and has illicitly pursued a weapons program that, by some estimates, has put more than 600 nuclear-tipped warheads at its disposal.

### **Butler Native Named Chief Of Naval Operations**

*Pittsburgh Tribune-Review, September 25*

The son of a seamstress and a steel mill worker from Butler has become the nation's highest-ranking naval officer.

Adm. Jonathan Greenert, a 1975 graduate of the Naval Academy and a 1971 graduate of Butler Area High School, is the 30th chief of naval operations. He serves as the principal naval adviser to President Obama and as a member of the Joint Chiefs of Staff. He replaces Adm. Gary Roughead.

"It is just overwhelming when you think about it. Who would have thought that he could have gone this far. He talked in his remarks about coming from Butler, what it did for him and the work ethic the town gave him," said Robert Paserba, Greenert's brother-in-law and the superintendent of Catholic Schools for the Diocese of Pittsburgh. He attended the installation ceremony on Friday with his wife, Henrietta, who is Greenert's sister.

Greenert, 58, served most recently as vice chief of naval operations.

"We've got to remain ready to meet the current challenges today, we've got to build a relevant and capable future fleet, and we have got to continue to care for our sailors, our civilians and their families, and recruit and nurture a motivated, relevant and diverse force," Greenert said during the installation ceremony at the Naval Academy in Annapolis, Md.

Though Greenert left Western Pennsylvania decades ago, he has close ties with the area, where his four sisters and their families live.

"He was here in August for his 40th high school reunion and in June for my son's wedding," Robert Paserba said. "He's here several times a year. With this job, he might not get away quite as much."

Greenert's father, Patrick Henry Greenert, was an Army tailgunner who flew over Germany during World War II. The elder Greenert worked for decades in the mill shop at Armco Steel in Butler.

A swimmer and baseball player in high school, Jonathan Greenert was a strong student and determined worker — for years, he had both morning and afternoon newspaper routes, his family said. He received appointments to both West Point and the Naval Academy and was offered a full scholarship to the University of Pennsylvania.

"He was always a disciplined guy. I think he still gets up at about 5 a.m.," said Henrietta Paserba of Butler.

At the Naval Academy, Greenert completed studies in nuclear power for service as a submarine officer.

In his naval career, Greenert has served in fleet support and financial management positions, including deputy chief of Naval Operations for Integration of Capabilities and Resources, deputy commander of Pacific Fleet; chief of staff, 7th Fleet; head, Navy Programming Branch and director, Operations Division Navy Comptroller.

Greenert has spoken several times in the Pittsburgh area about subjects related to the military. Three years ago, he spoke at the Duquesne Club and to students at Butler Area High School.

What most impresses Robert Paserba about his brother-in-law is his devotion to the members of the Navy.

"When you hear him talk, everything is about the people he oversees, the importance he places on them and the respect he has for them," he said.

### **Veteran's Home Receives \$10,000 Check**

*KNDO (Kennewick, Washington), September 24*

The U.S. Submarine Veterans gave a check for more than \$10,000 to the Wagenaar-Pfister veteran's transitional home.

The home was opened to homeless veterans a few years ago. It gives them a place to stay while they get back on their feet. Recipients for the award were shocked with how much money they received.

Rodney Bluechel of Columbia Basin Veterans Inc. says after receiving the check "I'm pretty elated right now. We're building a building in the back of the house here that will be used to store various goods, clothing, appliances, etc."

The money that was raised came from a golf tournament that was held earlier this year. The submarine group is already planning on doing another fundraiser for veterans that need homes.

### **Colombia Seizes 2 Narco-Submarines In A Week**

*In Sight, September 26*

Colombian police have reported finding two drug-smuggling submarines close to the country's Pacific coast in under a week, both of which they claim belonged to the FARC rebel group.

The first vessel (in photo, above), found in the southwest Valle del Cauca department on Friday, had the capacity to hold 10 tons of cocaine and was equipped with navigation equipment and a GPS system, according to the police (see video below).

Luis Alvarado, director of the Anti-Narcotics Police, said that intelligence work led to the discovery of the submarine, which was being guarded by 30 guerrillas who fled upon the arrival of troops. Press agency EFE reported that, according to experts, the 16 by 1.8 meter vessel could have traveled to Central America, and perhaps Mexico, without problems.

A second submarine, which authorities also said belonged to the Revolutionary Armed Forces of Colombia (FARC), was found north of the first, in the province of Choco, police announced Monday.

Police said that both vessels belonged to Jorge Neftali Umenza Velasco, alias "Mincho," head of the 30th Front of the rebel group, according to some reports.

Submersible and semi-submersible vessels are increasingly popular with Colombian drug trafficking groups, as they can transport large amounts of narcotics undetected under the surface of the ocean.

However, it is not likely that the FARC actually made or owned the vessel, as this would be a significant departure from the organization's usual modus operandi. The group occupies itself with producing cocaine rather than with shipping it out of the country, and it is forced to be constantly mobile, under pressure from the security forces, so would be unlikely to invest in a large item like a submarine.

### **Russia's Submarine Woes**

*The Diplomat, September 26*

It took nearly two decades, but the first of a new class of nuclear-powered attack submarines has launched in Russia. Severodvinsk, displacing 12,000 tons, is now on sea trials.

The \$1-billion vessel's launch heralds a modest recovery for Russia's decrepit undersea fleet.

Construction of Severodvinsk began in 1993 at the Sevmash shipyard in northwest Russia, but was repeatedly interrupted. 'They ran out of money multiple times,' Owen Cote, Jr., a Massachusetts Institute of Technology professor and undersea warfare analyst, told *The Diplomat*.

Moscow plans to build up to nine more submarines of the Graney class over the next couple of decades, alongside 10 new ballistic-missile submarines of the Borei class. As submarines last only as long as their nuclear cores, few serve longer than 40 years. Life limitations and the slow build rate mean that Russia's submarine fleet could decline to fewer than 20 operational vessels within the next few years, compared to around 60 active US submarines.

'It's on the upturn,' Cote said of the Russian submarine force, 'but it's on the ropes – a disaster by our (US) standards.'

Quality is also a problem, Cote said. 'The (US) Office of Naval Intelligence said a few years ago that Severodvinsk would be the most quiet nuclear submarine in the Russian or Chinese inventory. That's not saying much in current terms.'

### **Iran Says It Could Deploy Submarines Near U.S. Coast**

*sanfranciscosentinel.com, Sept 27, 2011*

Iran on Tuesday raised the prospect of sending military ships close to the United States' Atlantic coast, in what would be a major escalation of tensions between the long-standing adversaries.

"Like the arrogant powers that are present near our marine borders, we will also have a powerful presence close to American marine borders," Navy Chief Rear Admiral Habibollah Sayyari said, according to the official IRNA news agency.

Speaking at a ceremony marking the 31st anniversary of the start of Iran's 1980-1988 war with Iraq, Sayyari gave no details of when such a deployment could happen or the number or type of vessels to be used.

The declaration comes just weeks after Turkey said it would host a NATO early warning radar system which will help spot missile threats from outside Europe, including potentially from Iran. The decision has angered Tehran which had enjoyed close relations with Ankara.

And it comes a few months after Iran sent warships through the Suez Canal, after the fall of former Egyptian President Hosni Mubarak, the first time the Islamic Republic had deployed navy vessels in the Mediterranean.

The United States and Israel have not ruled out military action against Iran if diplomacy fails to stop it getting nuclear weapons. Tehran denies it is developing nuclear arms, saying its atomic program is for purely peaceful purposes.

Iran has dismissed the threats, warning that it will respond by hitting US interests in the Gulf and Israel if any such attack happened.

Analysts say Tehran could retaliate by launching hit-and-run strikes in the Gulf and by closing the Strait of Hormuz, the waterway where about 40% of all traded oil passes.

The Islamic state often launches military drills in the country to display its military capabilities amid persistent speculation about a possible US or Israeli strike on Iran's nuclear facilities.

### **The Last Accident Of Soviet Nuclear Fleet**

*By Andrei Mikhailov, Pravda.Ru, Sept 28, 2011*

This accident was the latest in the nuclear submarine fleet of the USSR and took place immediately after the coup, exactly 20 years ago. Nearly all the years since the accident there was not public information about it. Even the almighty Internet has no specific details. "Pravda.ru" tried to reconstruct the events with a member of the Supreme Council who Ruslan Khasbulatov ordered to investigate the accident.

"On September 27, 1991, during a training launch in the White Sea at the "TK-17" "Arkhangelsk," a training missile exploded and burned in the silo. The blast took off the silo roof, and the missile was thrown into the sea. During the incident the crew was not injured. The boat had to undergo a small repair ... " this is the only phrase that pops up in all the search engines when trying to find more information about the accident.

"TK-17" is the fifth of the six heavy nuclear-powered submarines of Project 941 "Typhoon" produced in the Soviet Union (this project is also called "Shark"). These are the largest submarines in the world. The author of these lines a few years ago happened to hear about that accident firsthand. Rear Admiral Vitaly Fedorin, who at the time of the accident was at a supporting vessel, said:

"I saw everything that happened from outside. During a prelaunch a ballistic missile exploded. The cover of the silo flew to an unknown destination, and the rubber coating of the outer hull of the boat was burning. The commander of the "Shark," Captain of the 1st Rank Grishko, acted professionally. He promptly countersunk the giant submarine to a periscope depth, knocked down the flames and flushed away the remaining solid rocket fuel that can burn in the water from the boat. Fortunately, none of the sailors were injured.

Later the silo was welded and has never been used, but the boat has long remained in battle formation. It was the only accident with missiles on ships on such a project. It did not cause any damage to durable and lightweight housing, and there were no casualties. The submariners paid tribute to the designers - Severodvinsk Shipyard Sevmash - for the safety features they designed for the ship."

That accident had no adverse environmental, economic or any other consequences. According to a member of the Supreme Council of the RSFSR Albert Butorin who now resides in Severodvinsk, Arkhangelsk region, a real catastrophe was prevented by the dedication of the nuclear submarine commander:

“In 199-1993, Arkhangelsk region was the area of my responsibility as a member of the Supreme Council of Russia. On October 1, 1991 I was summoned by the chairman of the Supreme Council Ruslan Khasbulatov: “I have been told that in the White Sea an explosion of a submarine with nuclear weapons on board was miraculously prevented. Now the boat is stationed in Severodvinsk, where deputy commander of the Northern Fleet Vice-Admiral Poroshin has arrived. You need to analyze the situation together and report to me urgently. Please go there immediately!”

Heavy nuclear submarine “TK-17” was built in Severodvinsk at Sevmash and handed to the Navy on December 15, 1987. Its main armament was 20 intercontinental ballistic solid propellant missiles. In Severodvinsk the nuclear submarine damage was surrounded by such secrecy that even the then Mayor Lyskov was not allowed on board. Together with Poroshin we walked through all sections of “TK-17”, chatted with the crew and their physician Pugachev, inspected the damage to the upper deck, covered by melted missiles.

The commander of the “TK-17” Captain of First Rank Igor Grishkov was completely exhausted in those days. He reported that on September 27, 1991 at the site in the White Sea, when a training missile was launched there was an explosion in the silo whose cover flew far out to the sea. The boat surfaced, and when he saw a fireball over the deck, Grishkov shot down the flame by dipping into a mass of sea water, and then surfaced again. This maneuver saved an underwater nuclear-powered ship from a nuclear weapon explosion with hellish consequences.

Then I offered Grishkov’s candidacy for the title of a Hero of the Soviet Union, but the country’s leadership and the Navy chose to hush up the accident in order to ensure the secrecy surrounding the terrible consequences of a possible catastrophe. Back in Moscow, I reported everything to Khasbulatov and persuaded him not to raise the debate about this state of emergency at a session of the Supreme Council, because it could have led to a massive scandal, radio-phobia, capture of the security forces of the USSR by Yeltsin, the proclamation of the Russian North “a nuclear-free zone,” shutdown of the nuclear test site on Novaya Zemlya and the main facilities in Severodvinsk, and the removal of a number of senior officers of the Navy from office, including the leaders of the USSR Ministry of Atomic Energy.

The case was limited by a promise of a Navy Commander Vladimir Chernavin that henceforth no ballistic missiles will be launched from the White Sea. The commander of “TK-17” Grishkov who saved the submarine from death and all the White Sea from an environmental disaster has never received the title of a Hero due to certain national interests and political considerations. However, his act was indeed heroic.”

In fact, this was not the last incident with the explosion of missiles experienced by an atomic submarine “Archangelsk.” In February of 2004, under the program of large-scale trainings the Northern Fleet submarine “Novomoskovsk” (“K-407”) was to launch an intercontinental ballistic missile. The launch has failed. The missile has crashed, and exploded after the release from the missile silo.

Not far from the “Novomoskovsk” on board the nuclear submarine “Archangel” there was then-Russian President Vladimir Putin who observed the exercises. He personally saw the failed launch. The Navy failed to brag a successful launch for the President to see, but the world’s press displayed the famous photograph of Vladimir Putin in a black submarine hat taken on board “Archangelsk.”

A few weeks later, on April 29, 2004, due to lack of ammunition submarine TK-17 “Archangelsk” was put in reserve. Currently the ship is waiting for a decision regarding either disposal or modernization under project 941U. It sits in the naval port of Severodvinsk, rusting and coming into disrepair. Yet, this is another story.

### **Narco Subs May Become Trend In Caribbean, Coast Guard Says**

*KXLY.com, Sept 28, 2011*

CNN — The U.S. Coast Guard says it believes narco subs, semi-submersible vessels used to transport illegal drugs, may become a trend in the Caribbean Sea after it intercepted a second such vessel there.

The crew of the Coast Guard Cutter Mohawk stopped a cocaine-smuggling, self-propelled sub and detained the sub’s crew in the western Caribbean Sea on September 17, the service said.

The other instance of the Coast Guard stopping a drug-smuggling sub in the Caribbean happened July 13. Until this summer, all the semi-submersibles that had been seized recently were stopped off Central America’s Pacific coast.

“It seems maybe the drug trafficking organizations are changing their tactics a little bit and trying to move massive amounts of narcotics not just through the eastern Pacific, but also through the Caribbean using these (self-propelled semi-submersibles),” said the Mohawk’s commanding officer, Coast Guard Cmdr. Mark J. Fedor.

The Mohawk was patrolling the Caribbean on September 17 when a Coast Guard airplane spotted a suspicious vessel in the water. After the Mohawk intercepted the vessel, its crew detained the sub’s crew.

Before they were detained, the sub’s crew members scuttled their vessel, sinking it in deep water. The Mohawk’s crew was unable to recover the cargo except for two bales of cocaine that floated, the Coast Guard said.

A typical narco sub is built in a jungle or other remote area of South America, is less than 100 feet in length, has up to five crew members and carries illicit cargo for up to 5,000 miles, according to the Coast Guard.

It is believed that smugglers use the subs to deliver illegal drugs to Mexico, and that the drugs are then transported by land to the United States, Fedor said.

Narco-sub smugglers may be increasingly tempted to use the Caribbean as a shortcut to Mexico.

“In (the) eastern Pacific, those vessels have to travel a long, long way to get up to Mexico or anywhere close to Mexico,” Fedor said.

The main targets of counternarcotics patrols in the western Caribbean Sea — conducted by aircraft and vessels from the Coast Guard, U.S. Navy, U.S. Customs and Border Protection and partner nations — have been “go-fast boats,” which are nondescript vessels with unusually powerful engines. With September’s interception of a narco sub, that focus will change.

“Not only are (narco subs) more stealthy and harder to detect, but they can carry up to 6 tons of cocaine, so you’re talking a significant amount more of drugs on these than you will get on a traditional go-fast vessel,” Fedor said.

The sub that was intercepted in July also was scuttled by its crew, but the vessel was in shallow water, so FBI divers were able to access the cargo. About 15,000 pounds of cocaine, worth about \$180 million, were found in the cargo hold, the Coast Guard said.

## Surviving Deep Sea Disasters

*The Asian Age, Sept 29, 2011*

Russian nuclear submarine (SSGN), Kursk, with its entire 118-man crew on August 12, 2000, at comparatively shallow depths of 108 metres. The Kursk sank due to explosion of “three to four” of its combat torpedoes with about three tonnes of high explosives, in the foremost (No. 1) compartment (this explosion destroyed the forward half of the submarine, killing most of the crew, and destroying the “integral rescue sphere” meant to enable entire crew escape). It is believed that 23 crew members survived for a few days (in the last or No. 9 compartment), awaiting rescue, which never came, and finally when rescuers entered the submarine on August 20, 2000, they found no survivors.

In 2003, the Chinese Navy made a rare admission, that on April 16, 2003 its conventional Ming-class submarine Great Wall (pennant number 361), was found at sea, with its entire 70-man crew dead, possibly due to oxygen starvation, or carbon monoxide or chlorine gas poisoning. Four senior Chinese Navy admirals were demoted and sacked after this incident.

Today, over 35 nations operate submarines of various types. Very strict standard operating procedures, which vary from nation to nation, are followed for operating submarines and for carrying out search and rescue in case of a DISSUB incident.

When a submarine sinks due to an accident, its crew has the following options available: Depending on the DISSUB depth on the ocean floor and the conditions inside (presence of poisonous gases, heavy flooding, temperatures, injuries, compartment pressure etc), the survivors can carry out the difficult “individual escape” option by donning an escape suit. Some navies that operate Western-origin submarines prefer the Submarine Escape Immersion Equipment (SEIE) Mk 10 for escape from depths up to 183 metres. Other navies that operate Russian-origin submarines (such as Russia, China, India and Iran) use a Russian-origin escape suit which permits escape from 120 metres (though newer versions permit escape from 140 to 180 metres). The survivors, on reaching the surface, require a ship to not only transport them back to harbour but also to provide first aid for any injuries and also high pressure air Recompression Chambers (RCCs) to counter potentially fatal “decompression sickness” which results in nitrogen bubbles forming in the blood when human beings escape from great depths under high pressures. Another potentially fatal injury can be lung damage due to expanding air in the lungs during escape. Individual submarine escape is difficult and requires not only good initial training ashore in 30-metre-high, water-filled “escape towers” but a refresher course every three to five years. The Indian Navy has such an escape tower facility at Visakhapatnam.

A few submarines (for example, the four Indian SSK German-origin submarines), have an integral rescue sphere, in which the entire crew of the DISSUB can escape to the surface, where they embark a rescue ship. However, in case of an explosion (as happened to Kursk) or collision, this rescue sphere may not be available due to damage or inability to “disengage” from the DISSUB, due to hull distortions.

A more viable rescue system is to have a submarine rescue ship (SRS), which ideally needs to arrive the earliest at the accident site to carry out “dry rescue” of the submariners. This SRS, has RCCs, a mini-hospital, a set of trained deep-sea divers, an unmanned remotely operated vehicle (ROV), which can be used to relay video images of the DISSUB, and an underwater telephone for communications with the DISSUB. For the actual rescue, the SRS has one of the two systems available.

The first option is the “Rescue Bell”, which can rescue about 10 men at a time and is lowered from the SRS by wires to the DISSUB. This system is generally limited to 200-metre depth and is also known as the McCann bell. It was first used in 1939 to rescue 33 survivors of the sunken US submarine USS Squalus, from 80 metres depth. Incidentally, the Indian Navy uses a Russian version of this McCann bell on its solitary SRS, INS Neerakshak.

A Deep Submergence Rescue Vessel (DSRV), which can rescue 10 to 20 men at a time, is the present-day choice of most navies. That is because this DSRV, after being lowered into the water from the SRS, can dive independently of the SRS mother ship, to great depths, which depending on the type selected can vary from 300 metres to over 600 metres. Unfortunately, the Indian Navy, which operates 14 conventional submarines and is in the process of inducting nuclear submarines, has no such DSRV-type capability.

The other option available is air transportable DSRVs flown in from a base to the port nearest to the submarine accident site, and then load this DSRV along with RCCs and ROVs on any suitable civilian ship that has been previously checked out and earmarked. The US Navy also has the capability of airlifting a DSRV to any global airport, and diverting one of its four dozen nuclear SSNs to a suitable port, where it can carry the DSRV “piggy back” and then proceed to the DISSUB site. Media reports say that an Indo-US agreement provides this option to India in the event of a DISSUB incident, albeit with a time penalty, which may become unacceptable in some cases.

The Indian Navy, with a solitary vintage submarine rescue system, urgently needs at least two SRSs with two DSRVs (one for each coast, to avoid a cross-coast transit time of four days). Indeed, to cater for maintenance, three such systems would be ideal. The SRS’ should be built in India while the DSRVs, RCCs and ROVs could be “built in India” or imported.

In the complex world of submarine escape and rescue, fortune favours not only the brave but also those who are trained, ready and properly equipped. Our submarine crews patrolling the ocean depths deserve a viable rescue capability.

The writer is a Vice-Admiral who retired as Flag Officer Commanding-in-Chief of the Eastern Naval Command, Visakhapatnam Submarines, whether conventional or nuclear-powered, operate in a very difficult and unforgiving environment beneath the waves, where every 10-metre increase of depth results in a pressure increase of one bar or one kg per centimetre square. This pressure further complicates any attempts at submarine escape or rescue from a sunken or disabled submarine (DISSUB).

Since the time the world’s first operational submarine was commissioned into the US Navy in 1900, there have been over 136 peacetime submarine accidents resulting in loss of life. In addition, hundreds of submarines have been lost in various wars, with the majority having been lost in the two world wars.

In recent years, loss of submarines, with their crew, has resulted in national outrage and sacking of senior naval functionaries, as was witnessed after the loss of the 16,000-tonne 144-metre-long

## REUNION: USS Tunny SS/ SSG/LPSS 282 and SSN 682

**The USS Tunny SS/ SSG/LPSS 282 and SSN 682 is holding its reunion Oct 19 - 23 here in San Diego. Unfortunately our own WWII vets will not be able to attend. In an effort to maintain our links with Tunny’s WWII history we are extending an invitation to all WW-II Submarine Veterans to join us for our Welcome Aboard dinner on Wednesday Oct 19, 2011 at the Holiday Inn Bayside in San Diego. We would be pleased to host you at our dinner if you would like to attend. We’ll do our best to arrange transportation to and from the hotel or, if you prefer, let us know if you have a family member or friend who can join you as our guest.**

**If you would like to attend, please contact: Murdock Weltzien at Hm. 858-384-7874 or Cell 858-204-9788**

## Teledyne Leads As U.S. Navy Seals Seek Next-Generation Mini-Subs

Bloomberg Government (*bgov.com*), September 29, 2011

The U.S. Special Operations Command is trying again, after almost two decades of failure, to buy new mini-submarines that can carry U.S. Navy SEALs clandestinely from sea to shore.

The Navy's last try — an \$885 million investment in one 65-foot long, battery-powered sub — went up in flames in 2008. The vessel caught fire as its batteries were charging at Pearl Harbor in Hawaii and the program was scrapped.

Now the command is seeking to persuade Congress that it can successfully develop a series of vessels to replace its current SEAL Delivery Vehicle, which has its origins in the 1970s.

“Our underwater mobility is very important to us,” Admiral William McRaven, the commander of the U.S. Special Operations Command, said in an interview Sept. 22.

Teledyne Technologies Inc., based in Thousand Oaks, California, this year won a contract valued at \$383 million to develop a replacement for the current SEAL delivery vehicle.

Other companies, such as Huntington Ingalls Industries, Inc. of Newport News, Virginia; Electric Boat Corp., a unit of General Dynamics Corp. of Falls Church, Va.; Lockheed Martin Corp. of Bethesda, Maryland, and L-3 Services Inc., a unit of L-3 Communications Holdings Inc. of New York, may compete for the design and development of more advanced clandestine vessels.

Even as U.S. commandos win praise for operations against al-Qaeda, including the SEALs' killing of leader Osama bin Laden, their budget faces congressional scrutiny.

“It is up to Congress to investigate whether, in fact, they are purchasing the correct platforms or not,” said Representative Jeff Miller, a Florida Republican who is a member of the House Armed Services sub-panel overseeing special operations.

The Special Operations Command has requested an annual budget of \$10.5 billion for 2012, about 1.6 percent of the Defense Department's total, according to McRaven. The command requested about \$92 million for fiscal 2012 to develop new submersibles and related equipment.

Special Operations command has had a series of setbacks in trying to develop a clandestine mini-sub that can carry SEALs and keep them dry. Their current submersibles, which are launched off large Navy submarines, pull the SEALs through the water in their scuba gear.

In 1994, the Navy, which at the time managed the program, awarded a \$70 million contract for the Advanced SEAL Delivery System to Westinghouse Electric Corp.'s oceanic division in Annapolis, Maryland. Two years later, Northrop Grumman Corp. of Falls Church, Virginia, assumed control of the contract to design and produce the 65-foot-long, battery-powered sub that would carry as many as 16 SEALs and a two-person crew.

The SEALs were supposed to have their first mini-sub by 1997. By 2007, they had the one. Its cost reached about \$885 million, according to the Government Accountability Office. After the 2008 fire damaged the submersible as it was recharging its lithium-ion batteries in Pearl Harbor, Hawaii, Special Operations Command scrapped the project for which it had paid out of its budget.

“ASDS was a total disaster,” said Norman Polmar, a naval analyst and author. “It was proven with the delays, the cost overruns and finally with its demise.”

A follow-on project to develop another mini-sub called the joint multi-mission submersible also was canceled.

The new plan calls for 10 new wet submersibles, which don't keep the SEALs dry during the trip to shore, six light versions of a “dry” submersible, and four medium versions of the subs that also would keep the SEALs dry.

“All undersea mobility platforms support a wide assortment of SOF missions,” Special Operations spokesman Ken McGraw said in an e-mailed statement, referring to special operations forces. “Which specific platform is used depends on its ability to meet the mission requirements.”

Both House and Senate armed services committees have flagged the Special Operations underwater mobility plan in their versions of the 2012 defense authorization bill, which sets military policy and spending targets for the fiscal year that starts Oct. 1. Congress has yet to approve the final version of that bill.

The House Armed Services Committee calls for “continued communication” to ensure program success and “prevent previous program shortfalls.” The Senate Armed Services Committee would require direct oversight by the Pentagon's acquisition chief to control costs based on “potential risks” and “past history.”

Teledyne in July won a contract valued at \$383 million to develop the Shallow Water Combat Submersible, a next generation of the current SEAL delivery vehicle. Teledyne Brown Engineering, a unit based in Huntsville, Alabama, developed a full-scale interior mock-up, provided hullform models and a functionality demonstration, according to a July 11 company release. The Columbia Group Inc., a Washington-based technical services company, also works on the program.

The Teledyne-led program must address a “wide range of operational challenges including the growing ability of hostile nations to detect, identify and target” special operations forces conducting undersea missions, according to government specifications issued to industry.

The vehicle must clandestinely transport special operations forces and equipment in “a wet environment” to shorelines and harbors. Like its predecessor SEAL delivery vehicle, it does not keep the operators dry under water.

The submarine is a modern version of the SEAL delivery vehicle that now carries two crew members and four passengers. It is supposed to have “increased crew and cargo capacities,” according to government specifications.

The current SEAL delivery vehicle, known as the Mark 8 Mod 1, is a torpedo-shaped craft that is launched from a shelter fitted on a nuclear-powered submarine. The new shallow-water mini-sub must also be able to launch from surface ships.

Special Operations Command budgeted \$13.9 million for shallow-water submarines this year and requested \$29.6 million for fiscal 2012, according to data provided to Bloomberg News by the Special Operations Command.

The next step, after the shallow water combat submersible, would be the Dry Combat Submersible Light, for which the government issued a restricted announcement to industry to gauge technical capability and company interest for a concept design.

Companies that answered as “interested vendors” to the announcement include Huntington Ingalls, Electric Boat, Lockheed Martin and L-3 Services, according to the government’s federal business opportunities website.

The Special Operations Command plans to spend \$19.2 million for the dry submersible prototype design and construction and to buy up to six vessels, according to a presentation given by Stephen Armstrong, the command’s program manager for undersea systems, at the special operations forces industry conference on May 19, 2011. That conference was organized by the National Defense Industrial Association.

The Special Operations Command will tap into “existing technology” used by the commercial and research submersible industry, he said.

The dry submersible must be no longer than 24 feet and weigh at most 30,000 pounds. It would carry a crew of two (pilot and co-pilot) and four to eight commandos, according to Armstrong’s presentation. The mini-sub would be powered by silver-zinc or lead-acid batteries and travel at a top speed of at least five knots.

The Dry Combat Submersible Medium would have a “greater passenger, cargo and battery capacity” than its light version, according to Armstrong. It would be operated from host ships and possibly from future submarine shelters. The medium sub would be about 38 feet long, according to government solicitation information. Other specifications were not made public. Many of the technical details for the programs are classified.

The efforts to develop both the light and the medium mini- submersible are still in preliminary phases. A decision about full development is not scheduled until fiscal 2014.

## Some Fear Cuts May Hurt U.S. Defense Industry Base

*Reuters, September 30*

When the British Royal Navy decided to build a new class of nuclear attack submarines in 1997, it wasted years before discovering its shipbuilding industry no longer had the design and production skills to finish the job.

Prime contractor BAE Systems ultimately turned to the U.S. Navy’s main submarine builder, General Dynamics Electric Boat, to provide the expertise the United Kingdom had lost due to Cold War defense cuts and changing technologies.

Some analysts see the story of the HMS Astute, which was formally commissioned one year ago, as a cautionary tale about what could happen to the Pentagon unless the U.S. government protects critical elements of the defense industry as it begins to cut hundreds of billions in spending over the next decade.

“If we end up in this situation ... exactly who are we going to go to? The Chinese? The Russians?” asked Barry Watts, a defense analyst at the Center for Strategic and Budgetary Assessments think tank. “You don’t want to end up here.”

It is not an empty concern. Even before President Barack Obama and Congress agreed on a deal that could reduce defense spending by as much as \$1 trillion over 10 years, the United States already had lost some significant capabilities.

Back in 2008, then-Defense Secretary Robert Gates and his Energy Department counterpart, Samuel Bodman, said the United States could no longer make nuclear bombs.

“While the service lives of existing warhead types are being extended through refurbishment, at present the United States does not have the ability to produce new nuclear weapons,” they wrote in a paper on the U.S. nuclear deterrent.

The loss of that capacity was one issue that drove Republican demands for more U.S. nuclear modernization funding during last December’s debate over the New START nuclear weapons treaty with Russia.

Other U.S. capabilities are on the edge. Cutbacks at NASA have put U.S. production of solid fuel rocket engines at risk, said Tom Captain, head of the aerospace and defense unit Deloitte LLP. The dwindling number of military jet projects is threatening competition in the engine market, he said.

### WHAT WILL BUDGET CUTS BRING?

In today’s budget climate, the health of the defense industrial base is suddenly in the spotlight. But some are skeptical of the dire warnings, seeing them as an excuse for sparing defense budgets that have expanded enormously in the last decade.

“To my mind there’s just a fantastic amount of hyperventilating about this issue,” said Gordon Adams, an American University professor who oversaw defense budgets at the White House during the post-Cold War military build-down.

“Every time, people come out of the woodwork and start tearing their hair and rending their garments. And every time, at the end of a build-down we end up with the world’s dominant military force and technology that is generations ahead of anybody else,” he said. “So it’s kind of like crying wolf.”

Adams said only the top six or seven U.S. defense contractors, like Lockheed, Raytheon and Northrop Grumman, are dependent on the U.S. Defense Department for 75 percent or more of their revenues. The second- and third-tier firms, he said, are well-diversified between defense and commercial work.

Critical engineering and design skills would be fairly safe at smaller firms because they can switch from defense to commercial work in lean times, he said.

“Anybody who says \$1 trillion (in spending reductions) is the end of Western civilization doesn’t understand that \$1 trillion is just 16 percent of (the Defense Department’s) projected resources,” Adams said. “Properly managed, it’s a cake walk.”

So far Obama and Congress have approved \$350 billion in reductions to national security spending. If a congressional “super committee” fails to reach a deficit deal by year-end, automatic across-the-board cuts could take another \$600 billion from security spending.

Those cuts, analysts said, could lead to a loss of capabilities. Once the skill and know-how to produce a sophisticated defense system is lost, it is difficult and expensive to reconstitute.

While it is “technically and physically” possible to rebuild part of the industrial base once it has been allowed to die, outgoing Joint Chiefs of Staff Chairman Admiral Mike Mullen said, the reality is “it doesn’t come back.”

“People go away, skills go away and the enormity of the investment to bring it back if you’ve got that wrong, it’s not going to be there,” Mullen told a business group.

Given the potential size of the coming defense spending cuts, some analysts say the United States could lose strategically important people and technologies unless it effectively manages the build-down.

#### **JOBLOSSES**

Captain estimated that if the Pentagon is forced to implement the full \$1 trillion in spending cuts, then the defense industry could see the loss of some 160,000 jobs.

“By reducing the defense budget, it’s actually cutting jobs, a very significant number of high-paying jobs,” he said.

But in the current economic climate, with unemployment over 9 percent and U.S. budget deficits running at some \$1.3 trillion annually, there is little public sympathy for going deeper in the hole just to keep big defense contractors flush with new projects so they can retain their engineers.

That’s not what the industry wants or expects, said Mark Valerio, who deals with space and satellite technologies as vice president of Lockheed Martin Surveillance and Navigation Systems.

“We fully understand the current budget environment and would not advocate for government funding solely for the purpose of keeping an engineering workforce engaged,” he said in an email.

In an era of few new satellite and space projects, there are still things the government can do to help industry, such as upgrading products and stabilizing project spending so that it does not fluctuate widely from year to year.

But Watts, and his CSBA colleague Todd Harrison, said companies would ultimately have difficulty justifying continued spending on high-priced assets — like a cadre of top engineers — if they are not regularly engaged in new programs.

Watts said when he worked at Northrop Grumman in the late 1990s the company determined that it cost about \$100 million annually to maintain a state-of-the-art design team for advanced combat aircraft.

“If you’re not getting most of that money from a program say like the JSF (Joint Strike Fighter) or a future bomber program ... the inclination from a business standpoint is to divest yourself of that expense,” Watts said.

## **Red October No More: Russia Scraps Cold War-Era Typhoon Submarine**

*The Telegraph (UK), September 30*

Russia is to definitively scrap its legendary typhoon class nuclear-powered submarine, the deadly Soviet-era vessel that inspired the Hollywood blockbuster *The Hunt for Red October*. The decision, which was disclosed by military sources in the daily *Izvestia* newspaper, marks the end of an era that will see the three remaining Typhoon class submarines that remain in service in Russia’s Northern Fleet cut up and turned into scrap metal by 2014.

The giant Typhoon-class submarine was a fixture of the Cold War and at 562 feet long and 80 foot wide was the biggest submarine ever built.

It was also one of the deadliest and was able to launch up to twenty intercontinental ballistic missiles carrying as many as two hundred independently targeted warheads (ten warheads per missile).

But in recent years, the underfunded Russian navy has struggled to keep the three remaining submarines fully operational with only one of the three said to routinely be carrying nuclear weapons, while the other two are said to carry conventional weapons only.

US author Tom Clancy based his 1984 book ‘*The Hunt for Red October*’ on the giant vessel (six of which were ever built) with good reason however. It was the first Soviet nuclear submarine to have the capacity to launch a missile from beneath the polar ice sheet without being detected on satellite and its engines were much quieter than its predecessors, making it much tougher to track.

In the 1990 Hollywood film based on the book, Sean Connery plays a Soviet submarine commander who defects to the United States in a submarine similar to the Typhoon-class, arguing that it is wrong for the USSR alone to possess such a powerful first strike weapon.

The legendary submarine appears to have become a victim of post Cold-War realities however. Three have already been scrapped to comply with nuclear disarmament commitments, and Russian navy chiefs now believe that the three remaining vessels are no longer needed either. The main reason is that a new smaller generation of nuclear submarine is in the process of being rolled out (the *Borei*) which is considered to have superseded the giant Soviet-era vessel.

The new subs are cheaper to run, require far fewer crew, and have been specially designed to carry Russia’s new generation of *Bulava* sea-launched nuclear missiles. In contrast, two of the three older Typhoon-class subs need to undergo expensive conversion work before they can even fire the new missiles.

The old subs are also said to cost at least £6 million a year in running costs which is deemed too high. Under the so-called new START nuclear arms reduction treaty that Russia and the United States signed last year, Moscow is only able to deploy a maximum of 1,550 nuclear warheads anyway. The three ageing Soviet-eras are capable of carrying 600 warheads between them and Russia is said to be keen to use other more modern launch vehicles to fill its quota (including silo-based ICBMs and strategic bombers).

## Israeli Firm Honored For Sub Trainers

*UPI, September 29*

GIVAT SHMUEL, Israel, Sept. 29 (UPI) — DSIT of Israel has received multiple honors for its submarine tactical trainer.

The STT simulator provides a full representation of the spectrum of submarine weapon systems, sonar sensors and command-and-control application used on the Israeli navy's Dolphin submarines.

"The high level of realism, technology and precision displayed in all of the STT modules are chief among the many features that have led to its recognition by so many important sources," said Dan Ben-Dov, DSIT's vice president of sales and marketing.

"We believe that this level of recognition provides a strong message to navies and fleets around the world that may be looking to procure similar systems or derivatives of this simulator.

"Our sonar simulators represent one branch of a growing family of advanced sonar and acoustic projects that DSIT has completed for the Israeli navy, including the supply of a Portable Deep Water Acoustic Range, Hull Mounted Sonar system and others."

DSIT completed an \$8 million project several months ago and since then the simulator has been operating around the clock to train submarine crews.

Satisfaction with the simulator has made it an integral part of the navy's training for all levels of tactical submarine operators and led to its recognition by various prestigious bodies.

The Israeli military's Communications and Computer Corps awarded DSIT's Submarine Simulator Project with its 2011 "Prize for Excellence and Creative Thinking." The company also received the highly valued "Chief Naval Officer Award" given by the commander of the navy.

In addition, the professional journal "People and Computers," which conducts a yearly competition for special projects, has recognized DSIT's project for its technological excellence.

## Navy Explores Longer Sub Deployments

*AP, September 30*

The Navy is considering lengthening the standard deployment of attack submarines beyond six months as it faces rising demands with a fleet that has been shrinking since the end of the Cold War, the commander of American submarine forces told The Associated Press in an interview.

Already, attack submarines are at times asked to stay out longer than six months — extensions that can be trying for sailors who serve in tightly confined spaces with limited outside communication as members of the "silent service."

Vice Adm. John Richardson told the AP this week that keeping subs out longer is one of several options the Navy is considering as the number of attack subs is projected to continue dropping in the next decade and beyond.

"I think we're looking at all the options," he said. "As you try and maintain the same presence with fewer hulls, there are all sorts of variables in that equation. One would be extending deployment lengths. So that's certainly on the table."

Submariners are not alone in seeing deployments extended periodically, as two wars and evolving threats strain the entire U.S. military. A spokeswoman for the admiral, Navy Cmdr. Monica Rousselow, said it is impossible to say how long sub deployments might become because so many factors are involved.

Extending deployments permanently would save resources because the Navy could complete more missions with the nuclear-powered submarines that it has available. The fast-attack subs travel to far-flung corners of the globe for missions including intelligence gathering and firing missiles, but they can maintain a presence only for so long before making the time-consuming journey back to U.S. bases.

Navy contractors began stepping up submarine production this year, but pressure on the defense budget has raised uncertainty about future procurement. While some critics describe the multibillion-dollar vessels as costly relics of a different era, Richardson says submarines remain integral to America's nuclear deterrence strategy and the security of a nation that conducts the vast majority of its trade by maritime channels.

Enlisted crew members on the attack subs sleep six to a room, stacked in bunks areas barely larger than a closet, and navigate corridors so narrow only one person can pass at a time. The deployments are typically broken up by port calls, but they can remain at sea for weeks or months at a time. The bigger, roomier ballistic missile subs generally stay closer to their home ports and have shorter deployments.

Sailors in the elite, all-volunteer submarine force go through psychological screening to make sure they can cope with the tight quarters and extended time beneath the ocean's surface. Nobody with claustrophobic tendencies is allowed on board.

But retired submariners say the time at sea does take a physical and emotional toll, particularly when a mission is suddenly extended.

"You establish a battle rhythm in your mind where 'Six months is how long I'll be' and then, if it becomes seven months, you have to shift your mind a bit," said retired Rear Adm. John Padgett III, who remembers a particularly grueling 7 1/2-month submarine deployment during the Vietnam War. "You get a little tired of it."

Deployments longer than six months are unlikely to cause problems for specially trained sailors, but they would probably entail challenges for their families, said Army Col. Tom Kolditz, a psychologist at the U.S. Military Academy at West Point.

“You can probably find business decisions in the community based on that six-month cycle. You can find various kinds of financial planning done on that six-month cycle. If you take something like that that people are used to and change it, it can create problems,” said Kolditz, director of the military academy’s Department of Behavioral Sciences and Leadership.

At Naval Submarine Base New London in Groton, support services are available to help sailors’ families deal with prolonged deployments, said Beth Darius, a services facilitator for the base’s Fleet and Family Support Center.

“We honestly try to tell them, ‘Yes, you have a fixed date, but remember that date can always change,’” she said. “We try to help them not cement that date, but I personally know how easy it is to get that date and count down, and then have it change on you.”

Richardson said in the interview Wednesday that constraints on communication are part of the nature of submarining, but that the Navy is working to improve bandwidth on the vessels. He said sailors will be able to communicate with family members more than ever, although e-mail will remain available only when it can be sent without the risk of giving up the sub’s location.

Beyond the strain on sailors and their families, U.S. Rep. Joe Courtney said, the longer deployments reflect an increasingly acute security problem. Although Navy contractors received approval this year to double production of Virginia-class attack subs to two a year, he said that will only slow the decline in the size of the fleet and will not fully replace older ships as they are taken out of commission.

The number of nuclear-powered attack submarines in the U.S. force has fallen from a peak of 98 in the late 1980s to 53 at the end of fiscal year 2010, a decline that roughly matches a drop in the overall size of the Navy since the end of the Cold War. Each Virginia-class attack submarine costs about \$2.6 billion and carries a crew of roughly 135 officers and sailors.

Courtney, who is pushing for an increase in attack sub procurement, said they are unmatched in their ability to deliver firepower and do surveillance without being detected.

“Look at Libya. When President Obama said ‘unique capabilities,’ what he was really referring to was the USS Scranton, the Providence and the Florida, which in a matter of an hour obliterated Gadhafi’s air defenses,” said Courtney, a Democrat whose eastern Connecticut district includes the sub base and the Groton headquarters of the Navy’s primary submarine contractor, General Dynamics’ Electric Boat.

Currently, the submarine force can accommodate only about half the support requests from combatant commanders, according to Richardson, who said sub deployments are currently extended a month or more to meet demands on a case-by-case basis. He noted that surface ships also face extended deployments, as all branches of the military contend with increased demands.

As the Navy deals with rising security demands and budget pressures, he said, the force is also looking into repositioning submarines around the globe to reduce transit times and pressing builders to reduce maintenance periods and wring more deployments from aging vessels.

## **Submarine Developments In Asia**

*Ottawa Citizen, October 2*

There’s been some recent developments in the submarine world in Asia.

First, the Bangkok Post is reporting that Royal Thai Navy’s plans to purchase six used German submarines has been recently rejected by the country’s Defence Minister after an oversight committee recommended that the navy reexamine the cost-effectiveness of the project.

The previous Thai government approved the creation of a submarine force which has so far been fully manned, though does not currently possess any boats. The six U206A diesel-electric submarines proposed for purchase were introduced into German service in 1971, and were decommissioned in 2010, according to the report. Similar plans by Indonesia to purchase the subs fell through in the late 1990s, as did later interest on the part of the Greek navy. Thai officials say that if their current plans to buy the German boats fail, they will seek the purchase of other submarines, either new or used, from a defence committee list that includes boats from Russia, China, and South Korea.

Meanwhile, Channel News Asia and the Yonhap News are reporting that North Korea is increasing its submarine exercises in the Yellow Sea and East Sea.

South Korea’s Defence Ministry pointed out the North Korean drills in the Yellow Sea began a month in advance this year and increased from 28 to 50 in the first eight months of 2010 compared to 2009, while the number of North Korean submarine drills in the East Sea went up from 25 to 39 over the past year.

## **Britain’s Nuclear Spending Soars Amid Defence Cuts**

*The Guardian, October 1*

Government spending on Britain’s nuclear weapons programme is defying the swingeing budget cuts being experienced across Whitehall.

As the Ministry of Defence cuts frontline positions in the military, a previously confidential report reveals that the taxpayer is committed to paying almost £750m for the construction of a new enriched-uranium facility at the Atomic Weapons Establishment in Berkshire.

The 32-page MoD report, Defence Equipment & Support . . . UK Enriched Uranium (EU) Capability Investment Appraisal, spells out the taxpayer’s commitment to funding Project Pegasus, which will replace the enriched-uranium facility built at the site in the 1950s.

The report, marked “Secret UK Eyes Only”, was published in heavily redacted form earlier this year following freedom of information requests. The Information Commissioner recently ruled that the redaction, hiding the full £747m investment cost of the project, should now be made public.

The huge sum, signed off with little parliamentary scrutiny, has raised questions over the accountability of AWE to the taxpayer and the MoD's priorities. Last week, after announcing that 1,100 naval positions would be cut, the defence secretary Liam Fox attacked how the previous government had run the MoD, allowing "a department of that size to operate without controls on its spending". However, while all armed forces are suffering cuts, the UK's nuclear weapons programme is benefiting from significant increases in spending, even before the government makes a decision on replacing Trident, the ballistic nuclear missile system.

The investment in AWE will benefit AWE Management, the private-sector consortium that has a 25-year non-revokable contract to run the base and comprises US operators Lockheed Martin and Jacobs and the UK's Serco.

The money being spent on Project Pegasus is in addition to the £500m allocated for Project Mensa at nearby AWE Burghfield that will improve its warhead assembly facilities. But there are concerns about how the money is being spent. The MoD's annual report recently revealed that the government has written off £120m spent on Project Hydrus, a plan to build a new hydrodynamics research facility at AWE Aldermaston. The project received planning permission in September 2010 but was cancelled shortly afterwards when the UK and France signed a joint treaty to construct a shared research facility.

The accounts also revealed that the MoD has written off a further £16m following cancellation of a project to construct a "Systems Engineering Facility". Total expenditure at AWE between 2008 and 2011 is about £2.6bn.

The MoD believes the reinvestment programme at AWE is vital to maintain the safety and effectiveness of the current Trident warhead stockpile without recourse to nuclear testing, in compliance with the comprehensive nuclear test ban treaty.

But the costs associated with the various construction projects give an insight into the scale of the "behind the scenes" spending that will be needed to replace Trident.

The initial business case for Trident, published by the government earlier this year, gave a price for replacing the submarines of £25bn. But this does not include the costs of paying for the missiles, warheads, infrastructure or decommissioning costs. Neither does it include the continuing year-on-year costs of operating the system. Greenpeace estimates a "cradle-to-grave" operating cost for the Trident replacement project of £97bn. MoD spending on "big ticket" items came in for criticism last week by the respected defence thinktank, Rusi. It warned that there continues to be a risk the MoD's budget plans could be "blown off course" if the cost of major programmes increases more sharply than planned.

"The costs of major projects remain a major source of potential instability, with particular concerns over the looming costs of Trident renewal," the report's author, Professor Malcolm Chalmers, claimed. "Pressures to bear down on unit costs will continue to be difficult to reconcile with a diminishing number of front-line capabilities, each of which involves significant overhead expenditure."

Peter Burt of the Nuclear Information Service said the huge sums being spent on secretive projects at AWE bases should be a concern to the taxpayer: "The inescapable conclusion is that the Atomic Weapons Establishment has not been delivering value for money to taxpayers in years past."

But an MoD spokeswoman defended the investment at AWE: "This funding, which includes Project Pegasus, was announced six years ago and will ensure we maintain our commitment to providing our vital nuclear deterrent. It is necessary to invest in the facilities at AWE, which will provide assurance that the existing Trident warhead stockpile is reliable and safe."

## Submariners Sacked At Sea Despite MOD Promise

*The Telegraph (UK), October 4*

Swathes of sailors on submarines have been sacked at sea despite Ministry of Defence promises that no servicemen would be made redundant. A fifth of submarine medics serving on board Trident nuclear deterrent and hunter killer submarines have been axed, including one who cared for the wounded on the HMS Astute after a crewman went on the rampage.

It is understood that several sailors were told they were losing their jobs while conducting covert operations after their captains received a signal at sea from the Ministry of Defence.

The Navy sacked the personnel despite a previous promise that no-one from the overstretched and undermanned Submarine Service would be among the 5,000 sailors being made redundant.

Senior officers have condemned the MoD as "cack handed" for sacking the sailors while they were serving at sea.

Medical Assistants (Submariners), known as MASMs, play a key role as they have to give both primary and secondary care to personnel on board when the boats are many miles from land.

They also provide the main radiation checks and radiological safety on the Navy's 11 nuclear powered submarines.

Their role is so important that if there are less than two on a Vanguard nuclear deterrent boat it cannot sail.

One of the medics sacked among the first tranche of 1,020 sailors axed on Friday was due to board a Vanguard-class boat at high readiness to sail from Faslane in Scotland.

Another is in training on a Trafalgar class boat that is about to deploy on sensitive operations for the next three or four months east of the Suez Canal.

One of the medics has served for more than 10 years and was about to be promoted to petty officer, the equivalent of an Army sergeant.

Colleagues said the sailor, who has young children, was "completely and utterly devastated".

"The whole point is that they are getting rid of people who in a few years will be vital to keep the service going," said a Navy source.

“If you are short of petty officer medics you simply cannot deploy the submarine. The Navy is shooting itself in the foot by making them redundant.”

The Government ring-fenced those troops in receipt of the operational allowance from redundancy which applies to troops in Afghanistan and over Libya.

But despite having almost 70 per cent of its sailors on operations the Navy has not received this protection.

Submarines are seen as particularly operational as they are either manning the Trident or snooping in foreign waters in an eavesdropping role or on special forces missions.

“We were told that the Submarine Service was protected from cuts but now medics have fallen into the bracket which is absurd,” one submariner told *The Daily Telegraph*. “Submarine medics are sought after but we are losing almost a quarter of our quota of available medics.”

It is understood that between 15 and 25 out of 100 deployable medics have been sacked.

The medics receive two years intensive training, including NHS placements, and train intensively on dealing with radiological illness and exposure. On special missions a doctor will join them on board.

A Royal Navy spokesman said: “There will be no shortage of medical personnel on our submarines. Redundancies are only being made in surplus areas.”

## **New Shipyard Building Will Support Ramp-Up In Submarine Production**

*By Peter Frost, The Daily Press, October 5, 2011*

NEWPORT NEWS — Down in the waterfront assembly facilities at the Newport News shipyard, the pace is quickening, the workload is increasing and space is getting tight.

For the first time in more than two decades, the U.S. Navy this year started buying two Virginia class subs a year, doubling the production rate of the \$2.5 billion vessels built in a partnership between Huntington Ingalls Industries Inc.’s Newport News yard and General Dynamics Electric Boat in Groton, Conn.

Portions of five submarines are under construction in Newport News, and there’s little relief in sight. Under the Navy’s 30-year shipbuilding plan, the service is scheduled to buy two subs per year in 11 of the next 12 years.

To accommodate the ramp-up in construction, the Newport News shipyard is spending \$100 million to expand its submarine-building capacity.

The yard on Thursday will celebrate the “topping out” of its new 74,000 square-foot manufacturing center, signifying that the steel-framed structure is reaching its maximum height of 139 feet.

Dubbed the Supplemental Modular Outfitting Facility, or SMOF, the structure is a smaller cousin to the adjacent 200,000 square-foot Modular Outfitting Facility, where subs are built and assembled today.

The building includes 65,000 square feet of construction space and a 9,000 square-foot office tower that will accommodate more than 400 supervisors, planners, designers and engineers who oversee the sub-building program.

Once the building opens next summer, the shipyard will shift the construction of the sub’s bow modules there, providing “a great opportunity to continue to drive down” costs and construction time, said Chris Miner, the shipyard’s program director for Virginia class submarines.

“It will enable us to better leverage our repetitive work teams and drive efficiencies in the construction process,” Miner said. “It’s a visual reflection that we’re in the 2-per-year production cycle and puts us in a position to support that going forward. We’re excited about it.”

Shipbuilders in Newport News build the sub’s bow, stern and weapons modules. Other submarine portions are built by Electric Boat. The two yards take turns on final assembly and delivery.

The building is part of a host of capital investments the yard is making to accommodate the doubling of production, said Matt Mulherin, president of Newport News Shipbuilding.

“There are a whole litany of things we’re doing to prepare. We’ve got the SMOF, we’ve ordered new machines for the machine shops and, as you know, we’re moving more people there,” Mulherin said.

As part of the expansion, the yard plans to add about 1,000 workers to the submarine program over the next three years through a combination of shifting workers from other projects and new hires.

## **New Domestically-Manufactured Submarine To Join Navy Fleet**

*Tehran Times, Oct 6, 2011*

TEHRAN - The newest domestically manufactured submarine called Fateh will join Iran’s Navy in the near future.

The 600-ton submarine is of the semi-heavy class, which will be used in protecting the maritime borders, the Fars News Agency reported.

The submarine, equipped with various equipment including torpedoes, can operate in the depth of 200 meters beneath the water surface for almost 5 weeks.

Light, semi-heavy, and heavy submarines are very important in protecting Iran’s interests in international waters.

Four light Qadir submarines joined the Navy last month. Younes submarine has carried out operations in the Red Sea.

## *MPUAV: The Cormorant Story*

<http://www.lockheedmartin.com/cgi-bin/pfv.pl>

*Submitted to the Sentinel by Phil Richardson*

It can rise out of the depths from a nuclear-powered submarine, spread its wings and fly above the sea.

Nuclear-armed submarines, once a cornerstone of the Cold war deterrent, may soon find a new 21st century mission. Lockheed Martin is developing an unmanned aircraft that can be released from the ballistic missile tube of a Trident Submarine — 150 feet underwater. Floating to the surface, its wings unfold, booster rockets fire, and it is airborne.

Called the Cormorant, this jet-powered autonomous aircraft could act as a spy plane or deliver firepower in a surgical strike. When the mission is over, the Cormorant receives computer signals from the submarine that can direct it to a rendezvous point.

Landing back in the sea, a tether is connected to the Cormorant by a robotic underwater vehicle and the aircraft can be reeled in to the submarine that is loitering just below the surface.

Made of titanium and other advanced materials, the Cormorant weighs about four tons. To compensate for underwater pressures that are three times greater than the maximum pressure that a typical aircraft can withstand, the inside of the Cormorant will be pressurized with inert gas or air. Smart, stealthy, and fast, the Cormorant's gull-like wings can fold and unfold around the body of the aircraft.

Two Lockheed Martin companies were partnered with the Defense Advanced Research Projects Agency in designing and conducting submerged recovery testing of this unique, reusable, unmanned aircraft.

Lockheed Martin Aeronautics brings a legacy of designing the most advanced and stealthy aircraft in the world - manned and unmanned. Lockheed Martin Maritime Systems & Sensors delivers its prodigious capabilities in cutting-edge ship design and naval weapons systems.

Whether equipped with cameras for surveillance or smart bombs for precision strike against coastal or seaborne targets, the Cormorant will help keep U.S. and allied forces a safe distance from enemy combatants.

The Cormorant also provides our Trident submarine force with a mission that adapts well to current conditions, such as the war on terror.

## **WWII German U-Boat Discovered**

<http://www.ocean-news.com/news-archives/product-news/1119-wwii-german-u-boat-discovered>

*Submitted to the Sentinel by Ray*

The remains of the German submarine U-513 were recently discovered off the coast of Brazil. The sub was sunk by bombs dropped from an American plane in July 1943. Only 7 of the 53 men on board survived the attack. One survivor reported, suddenly the bombs began to fall, one fell off the starboard side, and 3 fell right in front, then exploded.

Although Brazil had been technically neutral at the beginning of the war, it allowed the US to Establish air bases from which it could launch attacks on submarines that were becoming a serious threat to allied shipping. As a result, Brazilian ships became a prime target for the U-boats. During the first half of 1942, German subs sank 13 Brazilian merchant vessels. In August, the U-507 sank 5 Brazilian ships in 2 days killing more than 600 people. In all, 21 German and two Italian submarines were responsible for the sinking of 36 Brazilian merchant ships, causing 1,691 drownings and 1,079 other casualties. The sinkings were a major reason the Brazilian government ultimately declared war against the Axis

# Digitizing Our U.S. Submarine WWII War Patrol Reports

## Forward:

"This effort by EMC (SS) John Clear USN (Ret) is truly remarkable. For over 40 years, although declassified, the remarkable exploits of the U. S. Submarine Force during WWII sat on microfilm in a few museums and files, essentially untouched. His initiative revealed factual accounts of each U. S. submarine war patrol during WWII. In my view, that delay in publication was a travesty which should not have occurred for our WWII submarine veterans.

The Cold War is over. It should not take four decades before the importance of U. S. Submarine efforts during that period are made public."

Very Respectfully, VADM Roger F. Bacon, USN (Ret)

## Digitizing Our U.S. Submarine WWII War Patrol Reports

I first became acquainted with the WWII U.S. Submarine War Patrol Reports microfilm collection at the Naval Undersea Museum, Keyport, WA in the summer of 2006, while volunteering as a docent at the museum. This little known and very infrequently used collection is housed within the 3<sup>rd</sup> floor, non-lending library of this outstanding facility which is one of only a small hand full in our nation where these reports can be viewed.

Being a retired SubLant and SubPac Chief, whose naval career had included tours of duty on three of these WWII veteran submarines, I was interested in their war time history and achievements. With help from the museum's staff (in particular Jennifer Heinzelman, Collections Manager), I soon became well versed with the library's microfilm reader as to how to set-up and peruse the film rolls of the 255 U.S. submarine's war patrol records. These numerous microfilm rolls are housed in large collection drawers there within the library.

What immediately struck me in reading these histories from the microfilm copies of the original paper reports was the succinct manner in which these histories had been recorded at the time of and where these events occurred. Some of these reports were almost "casual" in their presentation of these awesome events. As an example: one of my previous tours of duty was on the USS Sealion SS-315 which just happened to be the only submarine in history to sink an enemy battleship in wartime. To read the pertinent pages from within this particular report of this patrol one would think that this type of occurrence was rather commonplace and not of such monumental importance as it had been. Well known submarines and individual heroes of these times seem to be "alive" in their patrol report depictions. The officers making the input and the yeomen that typed up these multi-copy reports on their old Underwood typewriters did so with an almost clinical detachment, ultimately providing an insight as no other form of written historical log or book has given us.

Again with the aid of the staff I was able to print out some of these pages but it was a very slow and cumbersome chore. It wasn't until I was able to reconnect the microfilm reader's output directly to a computer and hence save pages in a digital format that this effort began to come together and make sense. From my research I had found that nearly half of these microfilmed reports were photographed in 16mm and the rest in 35mm, in that, again, I found another problem. The 16 mm pages were an easy and direct "save to" on the p.c., but the 35mm had to be worked on with an average of three shots and then laboriously "stitched" together with the computers software. To say that this slowed down the procedure is an understatement. Fast calculations showed that I had about 5 years of 8 hour days ahead of me at the rate that I was preceding.

By the fall of the year I had been hooked on this project. One day while talking with an active duty LCDR and Jennifer, I decided that this project had to be taken on in earnest in order to more easily share these historic times with the many rather than just the few that had access to these microfilm libraries. I wanted to get these stories out while we still had some of our WWII submarine veterans with us, whose stories were told within these pages.

Further research found that recent technology had been developed that could now take on this conversion in a manner that would not require the manual, laborious efforts thus far expended. This newer technology was basically a huge machine that could read and convert these microfilm rolls faster than I ever could hope to accomplish. Two major companies were queried as to cost. The pricing, while fair (quoted at over six thousand dollars), was not something that the museum, nor its supporting foundation, would be able to fund. With the help of a long time friend, Dan Martini EMCM (SS), USN Ret., a partnership was formed and registered in Jefferson County of Washington State

with the express purpose of handling this project. The museum agreed to lend out the microfilm rolls (some 255) to the company that we had agreed upon and the partnership would pay the cost of the conversion process.

It was at about this time that Vice Admiral Roger Bacon, of the museums foundation, had heard of our project and wanted to help make the project move into reality. Admiral Bacon's father had been a highly respected WWII submarine Commanding Officer and thus Admiral Bacon's interest in these reports had been in mind for many years.

The initial run received from the conversion company came down to 28 full DVDs containing all of the 1,600+ war patrol reports of the 255 submarines involved. We were provided with two master copies, one in .jpg (picture) format and the other in .pdf (Adobe Reader) format. These reports were assembled in hull number sequence, oldest to the newest of the participating WWII subs. As per SubPacs instructions, the vast majority of the war patrol reports were written within the require guidelines as follows;

- |   |  |
|---|--|
| (A) Prologue                                    | (M) Radar  |
| (B) Narrative (date & time)                     | (N) Sound gear & conditions                        |
| (C) Weather                                     | (O) Density Layers                                 |
| (D) Tidal information                           | (P) Health, food & habitability                    |
| (E) Navigational aids                           | (Q) Personnel                                      |
| (F) Ship Contacts                               | (R) Miles steamed, fuel used                       |
| (G) Aircraft                                    | (S) Duration                                       |
| (H) Attacks                                     | (T) Factors of endurance remaining                 |
| (I) Mines                                       | (U) Communication, radar and sonar countermeasures |
| (J) Anti-submarine measures and evasive tactics | (V) Remarks  |
| (K) Major defects                               |  |
| (L) Radio                                       |  |

It was also at this point that we registered our newly converted war patrol reports and were issued an ISBN number of 13: 978-0-615-17769-4. together with an intellectual copyright being filed (to protect the digital conversion).

By early 2007 we had the final masters on hand and began further production from these sets. Admiral Bacon (as our mentor) financed the first (costly) five sets and donated these to the Newport, RI and Monterey, CA Naval War College libraries, the St. Mary's, Georgia Museum, USS Nautilus Museum, Groton, CN and the USS Bowfin Museum, Honolulu, HI. The partnership in turn provided a master set to the Naval Undersea Museum and to some eight submarines stationed at Bangor Submarine Base, WA during our quarterly NSL NW meetings.

Later that year, during the 2007 USSVI Alaskan Cruise Convention, these patrol reports were first introduced, in their new user friendly digital format to the submarine community at large. We also posted this information on the internet at the same time. It was the partnership's agreement, to provide at no cost, any copy of any submarine reports to any WWII sub vet or his immediate family, several hundred individual boat's patrol reports were thus sent out. Many submarine authors, (Tom Clancy, et al), researchers, and historians were among the initial purchasers.

By 2009 it was decided to make these reports available for free viewing to the general public directly on the internet. Rich Pekelney of the Historic Naval Ships Association, (HNSA), was contacted and uploaded all of the reports onto their website with a bravo zulu sent back to the partnership and our mentor Admiral Bacon. While able to view the reports for free via the internet, these pages are not easily copied or printed out.

In quick order further improvements in computer software allowed the reports to be further converted to a "compressed pdf" format greatly reducing the production time and lowering the overall cost to less than 1/10 of the initial offering. The total of the reports including all of the appendices (which include some fifteen cross references, by boat, C.O. etc.) are now on just 4 DVD's in this compressed .pdf format.

We have archived the initial run in the .jpeg format to allow for further "cleaning up" (in time) of some of the reports that were either too light, dark, smudged or had any other problems in their reading quality.

The outcome of this effort has provided an easy to use reference of the thousands of pages that if printed out on single sided paper, would be a book at over 22 feet across, a massive work!

The company, (now a corporation), has continued to provide these reports at an extremely low cost to a world wide audience. Our initial desire to acknowledge our WWII Submarine Veterans still alive has been well met and we will continue in our stated efforts through Submarine Memorabilia, Inc...

John Clear EMC(SS) USN Ret.  
Submarine Memorabilia, Inc.  
180 Robin Lane  
Port Ludlow, WA 98365-9522  
webmaster@ussealion.com

# Listing of all U.S. Submarines in WWII (Pacific) by Name (alpha), Hull Number (i.e. SS-218), Number of Patrols Made & Total Pages Within War Patrol Reports.

|            |     |    |     |            |     |    |     |             |     |    |     |              |     |    |     |             |     |    |     |
|------------|-----|----|-----|------------|-----|----|-----|-------------|-----|----|-----|--------------|-----|----|-----|-------------|-----|----|-----|
| Albacore   | 218 | 10 | 551 | Cero       | 225 | 8  | 485 | Herring     | 233 | 7  | 156 | Razorback    | 394 | 5  | 275 | Seadragon   | 194 | 12 | 468 |
| Amberjack  | 219 | 3  | 82  | Charr      | 328 | 3  | 114 | Hoe         | 258 | 8  | 320 | Redfin       | 272 | 7  | 290 | Seahorse    | 304 | 8  | 439 |
| Angler     | 240 | 7  | 338 | Chub       | 329 | 3  | 138 | Icefish     | 367 | 5  | 177 | Redfish      | 395 | 2  | 201 | Seal        | 183 | 12 | 557 |
| Apogon     | 308 | 8  | 253 | Cobia      | 245 | 6  | 269 | Jack        | 259 | 9  | 304 | Robalo       | 273 | 3  | 143 | Sealion     | 315 | 6  | 330 |
| Archerfish | 311 | 7  | 223 | Cod        | 224 | 7  | 466 | Jallao      | 368 | 4  | 127 | Rock         | 274 | 6  | 67  | Searaven    | 196 | 13 | 594 |
| Argonaut   | 166 | 2  | 82  | Crevalle   | 291 | 7  | 506 | Kete        | 369 | 2  | 36  | Ronquill     | 396 | 5  | 251 | Segundo     | 398 | 5  | 236 |
| Argonaut   | 475 | 1  | 78  | Croaker    | 246 | 6  | 266 | Kingfish    | 234 | 12 | 522 | Runner       | 275 | 3  | 94  | Sennet      | 408 | 4  | 146 |
| Aspro      | 309 | 7  | 286 | Cutlass    | 478 | 1  | 21  | Kraken      | 370 | 4  | 144 | Runner       | 476 | 1  | 77  | Shad        | 235 | 11 | 362 |
| Atule      | 403 | 4  | 190 | Cuttiefish | 171 | 3  | 92  | Lagarto     | 371 | 2  | 43  | S-11         | 116 | 6  | 40  | Shark       | 174 | 3  | 201 |
| Bafao      | 285 | 10 | 410 | Dace       | 247 | 7  | 691 | Lamprey     | 372 | 3  | 85  | S-13         | 118 | 4  | 36  | Shark       | 314 | ?  | ??? |
| Bang       | 385 | 6  | 235 | Darter     | 227 | 4  | 290 | Lapon       | 260 | 8  | 325 | S-15         | 120 | 3  | 25  | Silversides | 236 | 14 | 467 |
| Barb       | 220 | 12 | 503 | Dentuda    | 335 | 1  | 47  | Lionfish    | 298 | 2  | 74  | S-17         | 122 | 6  | 63  | Skate       | 305 | 7  | 108 |
| Barbel     | 316 | 4  | 139 | Devilfish  | 292 | 4  | 97  | Lizardfish  | 373 | 2  | 101 | S-18         | 123 | 7  | 72  | Skipjack    | 184 | 10 | 391 |
| Barbero    | 317 | 2  | 100 | Diablo     | 479 | 2  | 17  | Loggerhead  | 374 | 2  | 59  | S-23         | 128 | 7  | 61  | Snapper     | 185 | 11 | 371 |
| Barracuda  | 163 | 6  | 36  | Dolphin    | 169 | 3  | 61  | Macabi      | 375 | 1  | 32  | S-26         | 131 | 2  | 120 | Snook       | 279 | 9  | 334 |
| Bashaw     | 241 | 6  | 312 | Dragonet   | 293 | 3  | 117 | Manita      | 299 | 1  | 37  | S-27         | 132 | 1  | 107 | Spadefish   | 411 | 5  | 308 |
| Bass       | 164 | 4  | 47  | Drum       | 228 | 13 | 350 | Mingo       | 261 | 7  | 257 | S-28         | 133 | 7  | 451 | Spearfish   | 190 | 12 | 495 |
| Batfish    | 310 | 6  | 331 | Entemedor  | 340 | 1  | 26  | Moray       | 300 | 1  | 29  | S-30         | 135 | 9  | 152 | Spikefish   | 404 | 4  | 113 |
| Baya       | 318 | 5  | 229 | Finback    | 230 | 12 | 417 | Muskellunge | 262 | 7  | 250 | S-31         | 136 | 8  | 152 | Spot        | 413 | 3  | 189 |
| Becuna     | 319 | 5  | 200 | Flasher    | 249 | 6  | 265 | Narwhal     | 167 | 16 | 357 | S-32         | 137 | 8  | 120 | Springer    | 414 | 3  | 86  |
| Bergall    | 320 | 5  | 175 | Flier      | 250 | 2  | 130 | Nautilus    | 168 | 15 | 452 | S-33         | 138 | 8  | 128 | Steelhead   | 280 | 7  | 308 |
| Besugo     | 321 | 5  | 268 | Flounder   | 251 | 6  | 278 | Paddle      | 263 | 8  | 381 | S-34         | 139 | 7  | 92  | Sterlet     | 392 | 5  | 237 |
| Billfish   | 286 | 8  | 285 | Flyingfish | 229 | 12 | 555 | Pampanito   | 383 | 6  | 240 | S-35         | 140 | 8  | 143 | Stickleback | 415 | 1  | 33  |
| Blackfin   | 322 | 5  | 60  | Gablian    | 252 | 6  | 225 | Parche      | 384 | 6  | 274 | S-36         | 141 | 2  | 87  | Stingray    | 186 | 16 | 470 |
| Blackfish  | 221 | 12 | 432 | Gar        | 206 | 15 | 347 | Pargo       | 264 | 8  | 482 | S-37         | 142 | 7  | 173 | Sturgeon    | 187 | 11 | 315 |
| Blenny     | 324 | 4  | 495 | Gato       | 212 | 13 | 552 | Perch       | 176 | 2  | 349 | S-38         | 143 | 9  | 40  | Sunfish     | 281 | 11 | 459 |
| Blower     | 325 | 3  | 123 | Golet      | 361 | 2  | 27  | Permit      | 178 | 14 | 598 | S-39         | 144 | 5  | 117 | Swordfish   | 193 | 13 | 422 |
| Blueback   | 326 | 3  | 267 | Grampus    | 207 | 6  | 243 | Peto        | 265 | 10 | 380 | S-40         | 145 | 9  | 146 | Tambor      | 198 | 12 | 461 |
| Bluefish   | 222 | 9  | 402 | Grayback   | 208 | 10 | 477 | Pickerenl   | 177 | 7  | 254 | S-41         | 146 | 8  | 160 | Tang        | 306 | 5  | 206 |
| Bluegill   | 242 | 6  | 389 | Grayling   | 209 | 8  | 143 | Picuda      | 382 | 6  | 291 | S-43         | 154 | 3  | 107 | Tarpon      | 175 | 12 | 393 |
| Boarfish   | 327 | 4  | 154 | Greenling  | 213 | 12 | 427 | Pike        | 173 | 8  | 219 | S-44         | 155 | 4  | 99  | Tautog      | 199 | 13 | 653 |
| Bonefish   | 223 | 8  | 508 | Grenadier  | 210 | 6  | 199 | Pilotfish   | 386 | 6  | 203 | S-45         | 156 | 4  | 95  | Tench       | 417 | 3  | 125 |
| Bonita     | 165 | 7  | 43  | Grouper    | 214 | 12 | 311 | Pintado     | 387 | 6  | 236 | S-46         | 157 | 5  | 133 | Thornback   | 418 | 1  | 76  |
| Bowfin     | 287 | 9  | 524 | Growler    | 215 | 11 | 404 | Pipefish    | 388 | 6  | 248 | S-47         | 158 | 7  | 186 | Threadfin   | 410 | 3  | 146 |
| Bream      | 243 | 6  | 365 | Grunion    | 216 | 1  | 30  | Piper       | 409 | 3  | 111 | Sailfish     | 192 | 12 | 366 | Thresher    | 200 | 15 | 120 |
| Brill      | 330 | 3  | 89  | Guardfish  | 217 | 12 | 590 | Piranha     | 389 | 5  | 227 | Salmon       | 182 | 11 | 431 | Tigrone     | 419 | 3  | 200 |
| Bugara     | 331 | 3  | 62  | Guavina    | 362 | 6  | 242 | Plaice      | 390 | 6  | 354 | Sand Lance   | 381 | 5  | 168 | Tilefish    | 307 | 6  | 257 |
| Bullhead   | 332 | 3  | 75  | Gudgeon    | 211 | 12 | 566 | Plunger     | 179 | 12 | 357 | Sargo        | 188 | 12 | 447 | Tinosa      | 283 | 11 | 521 |
| Bumper     | 333 | 2  | 82  | Guitarro   | 363 | 5  | 300 | Pogy        | 266 | 10 | 334 | Saury        | 189 | 11 | 431 | Tirante     | 420 | 2  | 131 |
| Burnfish   | 312 | 6  | 297 | Gunnel     | 253 | 8  | 352 | Pollack     | 180 | 11 | 372 | Sawfish      | 276 | 10 | 364 | Toro        | 422 | 2  | 51  |
| Cabazon    | 334 | 1  | 36  | Gumard     | 254 | 9  | 489 | Pomfret     | 391 | 6  | 359 | Scabbardfish | 397 | 5  | 223 | Torsk       | 423 | 2  | 70  |
| Cabrilla   | 288 | 8  | 368 | Hackieback | 295 | 2  | 95  | Pompano     | 181 | 7  | 182 | Scamp        | 277 | 8  | 229 | Trepang     | 412 | 5  | 326 |
| Cachalot   | 170 | 3  | 52  | Haddo      | 255 | 10 | 384 | Pompon      | 267 | 9  | 227 | Scorpion     | 278 | 4  | 102 | Trigger     | 237 | 12 | 381 |
| Caiman     | 323 | 4  | 117 | Haddock    | 231 | 13 | 334 | Porpoise    | 172 | 6  | 213 | Sculpin      | 191 | 9  | 285 | Triton      | 201 | 6  | 205 |
| Capelin    | 289 | 1  | 64  | Hake       | 256 | 9  | 320 | Puffer      | 268 | 9  | 483 | Sea Cat      | 399 | 4  | 155 | Trout       | 202 | 11 | 289 |
| Captaine   | 336 | 1  | 61  | Hailbut    | 232 | 10 | 357 | Queenfish   | 393 | 5  | 248 | Sea Devil    | 400 | 4  | 228 | Trutta      | 421 | 2  | 154 |
| Carbonero  | 337 | 2  | 50  | Hammerhead | 364 | 7  | 283 | Quilback    | 424 | 1  | 63  | Sea Dog      | 401 | 4  | 199 | Tullibee    | 284 | 4  | 125 |
| Carp       | 338 | 1  | 56  | Harder     | 257 | 6  | 325 | Rasher      | 269 | 8  | 543 | Sea Fox      | 402 | 4  | 148 | Tuna        | 203 | 13 | 497 |
| Catfish    | 339 | 1  | 38  | Hardhead   | 365 | 6  | 314 | Raton       | 270 | 8  | 317 | Sea Owl      | 405 | 3  | 184 | Tunny       | 282 | 9  | 472 |
| Cavalla    | 244 | 6  | 323 | Hawkbill   | 366 | 5  | 250 | Ray         | 271 | 8  | 399 | Sea Poacher  | 406 | 4  | 193 | Wahoo       | 238 | 7  | 165 |
|            |     |    |     |            |     |    |     |             |     |    |     | Sea Robin    | 407 | 3  | 177 | Whale       | 239 | 8  | 427 |
|            |     |    |     |            |     |    |     |             |     |    |     | Sea Wolf     | 197 | 15 | 590 |             |     |    |     |