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The Silent Sentinel

December 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.

COME ONE, COME ALL TO THE JOINT SUBVETS CHRISTMAS DINNER

On 17 Dec 2011 at the VFW Post 3787, 4370 Twain Ave.

Starts at 1:30 with dinner being served at 2pm

Please contact Tom Warner @ 619-466-2232 with your info.

Dinner selection of Cornish Hen or Roast Beef. \$20 per person



Please RSVP before the
13th of Dec to Tom
Warner. We will collect
money at the next
meeting or send it to
Tom Warner



U.S. Submarine Veterans San Diego Base

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The Silent Sentinel via Email

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

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

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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*

December 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 13 December, 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

BINNACLE LIST

Al Strunk

Submarine Losses in November

Submitted by C J Glassford



ALBACORE (SS 218) - 86 Men on Board:

Possibly Sunk, on 7 November 1944, by Japanese Mine, Off the Northern Tip of Honshu :
“ALL HANDS LOST“

GROWLER (SS 215) - 85 Men on Board:

Probably Sunk, on 8 November 1944, by Japanese Destroyer, Escort Vessel, and Coastal Defense Vessel, Off Mindoro :
“ALL HANDS LOST“

SCAMP (SS 277) - 83 Men on Board:

Sunk, on 11 November 1944, by Japanese Naval Aircraft, and Coast Defense Vessel, in Tokyo Bay Area :
“ALL HANDS LOST“

CORVINA (SS 226) - 82 Men on Board:

Torpedoed and Sunk, on 16 November 1943, by Japanese Submarine, South of Truk :
“ALL HANDS LOST“

SCULPIN (SS 191) - 63 Men on Board:

Damaged, on 19 November 1943, by Japanese Destroyer, and later Scuttled, North of Truk :
 “21 SURVIVED POW CAMP“

CAPELIN (SS 289) - 78 Men on Board:

Sunk, on 23 November 1943, by unknown Causes, Either by Japanese Aircraft, Minelayer, or Japanese Mine in the Northern Celebes, or perhaps a Hull Defect reported “Prior” to Her Departure from Darwin, Australia :

“ALL HANDS LOST“



Commanders Corner

Dec 2011

Hello All, it's that Holiday Season and time for our Annual Joint Christmas Dinner/Party. I hope to see as many of you & your spouse or special person to come join in the Dinner & fun. The dinner is on the 17th of Dec at the VFW Post we have our meetings at. Doors open at 1-1:30 and Dinner will be served about 2. There will be door prizes & music. You will have a choice between Cornish Hen or Roast Beef. The cost is \$20 per person. Please contact Tom Warner at 619-466-2232 before the 13 Dec, so we have enough food for all. As in the past, folks have donated door prizes and dropped off unwrapped toys for the VFWs Toys 4 Tots Drive.

As this Christmas time comes around, please think about & prayer for our members & their families who are in need or in poor health. For all our service members who are deployed overseas, & our strong Submarine Force. In these trying time, we as Submarine Sailors, come together to help & care for our fellow shipmates & their families. Lets reflect on what we have & how we can take care of our Shipmates. I was talking with the CSS-11 PAO about tours for Dec...but that wasn't going to happen due to the schedule and the holidays. So I'm requesting a tour for the end of Jan or early Feb. Again we have to see what the boats schedules are to see if they can support giving tours. I have some request for the tour and I'm holding on to them. Please send me your request. We only get 25 spots and I set-up for 5 standbys. I will get the word out via email & newsletter.

Other thing we need to talk about at the Dec meeting are how many parades/static displays can we participate in next year, upcoming Annual Dues (see Ron or Ray), any by-law revisions we need, & Kaps 4 Kids Chairman. If you have questions or interested in this position, please contact me because I have a CD about the program & how to run it.

God Bless & Happy Holidays to all & safe travels for all who will be traveling during this time of year.

Sincerely,

Bob Bissonnette

Base Commander

3 Iran Submarines Added To Navy

Online Journal, November 28

Iran's submarine fleet grew Saturday, adding three Ghadir-class vessels, Rear Adm. Habibollah Sayyari, the commander of the navy, said.

At a news conference in Tehran, the admiral said the submarines, like others in the Ghadir class, are of homegrown design, the Fars News Agency reported.

"All parts of these submarines, including their body and their advanced radar equipment and defense systems, have been designed and manufactured by our country's defense experts and with the help of the Defense Ministry," he said.

Military officials said the submarines are armed with both missiles and torpedoes and have equipment enabling them to avoid detection by sonar.

The first Ghadir-class submarines were launched in 2009.

German Defense Exports Rise Sharply

Spiegel Online, November 28

A German government report has found that exports of defense goods made in Germany increased by around 50 percent in 2010. Most of the sales are going to EU and NATO countries, but it is impossible for Berlin to fully control where the country's arms deliveries will ultimately land.

German companies earned more money in 2010 than ever before through the export of weapons and defense products, according to the government's annual Defense Exports Report, the contents of which are to be agreed on by Chancellor Angela Merkel's cabinet on Wednesday.

The report states that Germany exported around •2 billion (\$2.66 billion) in war material, an increase of around 50 percent. In 2009, the country exported •1.34 billion worth of defense products. Most of the products exported were high-value armaments like submarines, warships and tanks.

In addition, German armaments manufacturers sealed contracts in 2010 with a total value of around •5 billion. About two-thirds of the weapons deliveries are to other European Union states or members of the NATO military alliance. Exports were also approved, however, for countries in Africa and in the Persian Gulf region.

German Assault Rifles in Libya

Some of the exports remain controversial because Germany does not have the ability to control with 100 percent certainty whether the defense products then remain in the countries to which they were sold. Earlier this year, German-made Heckler & Koch G-36 assault rifles that had officially been delivered to Egypt were discovered in Libya.

The Public Prosecutor's Office in Stuttgart began investigating the firm in October for possibly violating German defense export laws. At the end of August, rebels took possession of dozens of G-36 assault rifles after storming Tripoli and the Bab al-Azizia military barracks and compound, where former dictator Moammar Gadhafi had lived in a tent. A weapons embargo had been in place against Libya. The company has since admitted that the delivery was from a batch of 608 guns and 500,000 rounds of ammunition that were officially approved by German officials in 2003 and delivered to the Egyptian Defense Ministry. It is unknown how the weapons then made their way to Libya.

New Diesel Sub For The Russian Navy

The Voice of Russia, November 23

The keel of a new diesel submarine has been laid at the "Admiral" shipyard in St. Petersburg. The sub, which is named Rostov on Don is part of the modernization of the Russian navy.

The Russian navy is getting modernized fast. In addition to powerful nuclear submarines, the navy is acquiring the Rostov on Don diesel sub, which is an upgraded version of the third generation of large diesel-electrical missile submarines now under construction at the Admiral shipyard. Rostov on Don will have a deadweight of 2,300 tons, a length of 76 meters and a width of ten meters, and will have a complement of 52 ratings and officers. It will be equipped with 6 forehead torpedo sections with 18 missiles. Rostov on Don will also be fitted with modern navigation and communication systems and powerful rockets. Rostov on Don is a modified version of the submarine 877 project, which has distinguished itself in emergencies and has been christened "Improved Kilo" by foreign military experts. The "Admiral" shipyard is a leading Russian submarine builder, and has produced more than 300 subs, 41 of which are nuclear, discloses Dmitry Kozak, deputy prime minister of Russia.

"Products of the "Admiral" shipyard meet international standards. It is not an accident that in recent years the company has been getting many orders from abroad, thus creating the conditions for a successful functioning of the enterprise. The state has placed orders with the country's shipyards for the construction of merchant and research ships, as well as for naval vessels, worth more than 300 billion rubles (10 billion dollars). The orders are to cover the period from now until 2020" Dmitry Kozak said.

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The laying of the keel of Rostov on Don is an auspicious event for the shipyard and the sailors, says Anatoly Tyukov, vice president of Unified Shipbuilding Corporation.

“Five such ships are to be built, and we must deliver 6 ships to the Black Sea Fleet by 2016. It is a difficult but implementable task. Today is significant in that our company is the first in the country to complete the construction of the flagship and a number of other vessels for the Defense Ministry. I congratulate the sailors of the Black Sea Fleet, who are to man this ship”, said Tyukov.

The “Bester-1” deep sea diving vessel, which can dive down to 1,000 meters, is also being built for the Russian navy in our shipyard. It is for the rescuing of the crews of submarines in distress. It is the main rescue means in the Igor Belausov ship, whose construction will be completed in 2013. Two other conventional ships are also being built at the “Admiral” shipyard, Tyukov disclosed.

Mind The Gap

Ottawa Citizen, November 23

Auditor general warns Canada isn't prepared to handle the ballooning costs of maintaining its defence fleet.

A GROWING budget gap in the cost of maintaining the Canadian Armed Forces threatens to limit the capabilities of the force, says a new report by the federal auditor general.

The report, tabled Tuesday by interim auditor general John Wiersema, says future upgrade costs are not being properly budgeted by the Defence Department. Federal auditors warn that until the problem is addressed, the gap will only continue to grow.

Eventually, the Canadian Forces may have to cut back their capabilities from what they can do today, says the report.

Without proper maintenance tracking, a fleet can go “from being very reliable to one that is struggling to meet operational needs,” it says.

The Defence Department already spends \$2 billion each year in maintenance for its 350 aircraft, 9,000 land vehicles, 30 large ships and four submarines. That number gives only a partial picture because it excludes labour and infrastructure costs.

Last year, auditors found there was a \$550-million gap between what was budgeted for upkeep and the actual demand. In fact, there has been a gap of \$350 million to \$550 million in each of the last five years, according to the report.

That gap is likely to grow. Auditors found that when new technology was introduced, Defence Department accountants factored in the same upkeep costs as the technology that was being replaced, despite trends showing that new technology is more expensive to maintain.

Considering maintenance and repair costs of a piece of military equipment often add up to two or three times the initial purchase price, the gap can balloon quickly. Defence Department staff acknowledge there has been a tendency to lowball estimates.

“National Defence has indicated that it is likely that its long-term investment plan for new equipment has allocated insufficient funds for equipment life-cycle costs,” reads the audit.

Exactly what the impact of the gap is isn't known because auditors found that an absence of reliable information “impedes National Defence's ability to make informed decisions.”

Opposition MPs accused the government of mismanaging the Armed Forces. Defence Minister Julian Fantino responded by saying that his department has accepted all the auditor general's recommendations.

“The department has accepted his recommendations and is already addressing each concern. A comprehensive plan is in place with activities underway,” Fantino said in question period.

The auditors also expressed concern about Canada's shift toward large bulk contracts, similar to the \$9-billion F-35 fighter jet contract or the \$35-billion national shipbuilding procurement strategy.

In the late 1990s, it was decided to consolidate the dozens — sometimes hundreds — of small procurement contracts into a handful of large deals that can last up to 20 years. The policy was supposed to save 15 per cent in procurement costs but auditors found there wasn't enough data to prove what savings, if any, were actually realized.

But Defence Department staff did report other improvements from increased privatization, such as faster turnaround time.

The shift has also been slow to roll out. For many reasons, including resistance from internal staff and private contractors, the system that was supposed to be finalized by 2004 is still several years away from completion, the audit found.

Auditors are concerned that outsourcing such large contracts to the private sector hurts the government's ability to be flexible in future budgets. There are also questions about whether private contractors would increasingly subcontract high-end work like engineering outside Canada.

Defence staffers filed written responses, saying they would implement all of the audit's recommendations.

What Are The Real Reasons Behind Brazil's Interest In A Nuclear Powered Submarine?

Merco Press, November 26

A deal was struck two years ago with the French to build five submarines for Brazil, one of them powered by a nuclear reactor, and all stationed at the Sepetiba sub base in Rio. Authorities in Brasilia have given a wide variety of reasons, over three decades, for wanting to pursue nuclear boat technology, most recently citing protection of the country's valuable oil fields and energy platforms. None has seemed very convincing and now, with work under way and centrifuges soon spinning, a new explanation has taken shape that has more to do with economic competition than undersea warfare.

First, why you don't need a nuclear sub to protect coastline: US experts have thrown cold water on the idea that a nuke is even right for the job.

"Current thinking on coastal defence of undersea infrastructure," said a prominent academic at the US Naval War College, "is being focused on unmanned systems and capabilities that offer persistent surveillance. Nuclear submarines or submarines propelled by more conventional means represent an expensive solution that would require several ships to provide persistent protection." US companies are presently developing underwater drone technology, in principle not unlike the airborne drones that are increasingly important in surface warfare. "In coastal defence," said the US expert, who did not wish to be identified, "surveillance systems ashore and in sufficient quantities at sea would provide a more efficient capability."

Nuclear subs are built, instead, to "project power"—or at least that is how the U.S., Britain and other members of the nuclear-capable club use them. Brazil is now the only BRIC country without nuclear submarines (two years ago India launched one, and has since rented another from Russia) and also the only one without nuclear weapons, Brazil being a belated and some would say reluctant signatory of non-proliferation treaties.

At present, French engineers in Rio de Janeiro are reportedly working on an 11 megawatt reactor as a prototype of what will be used in the ship, to be completed by 2021. A former senior CIA executive, himself ex-Navy—when told of the Brazilian efforts—said that the real reason was probably much more likely prestige than protecting oil fields. That may depend on how "prestige" is defined. In any case, the idea of a nuclear submarine patrolling among the drilling platforms off Rio, in the "pre-salt" regions or even at a chokepoint like the mouth of the Amazon, is probably erroneous.

So what are the Brazilians up to? A clue comes from a US academic.

Wendy Hunter, a University of Texas researcher who writes about the Brazilian military, recalled attending a Navy presentation to the Brazilian Chamber of Deputies in the early 1990s, when the subject of nuclear propulsion was discussed, in which the naval officer testifying said that the acquisition of a nuclear sub (presumably the engineering and logistics) might be more important for Brazil than actually owning one.

This view gained further credence two years ago when the Brazilian government issued a "clarification" of the reasons for pursuing the contract with France. Of the five submarines to be built with French assistance, each in turn will have a greater Brazilian contribution, ending with the fifth vessel, which will be nuclear-powered. "On the contract with France," the Brazilians declared, "the national content index reaches 20%, representing the production in Brazil of more than 36,000 items for the submarine, including complex systems, in addition to the transfer of technology to domestic companies. There are already more than thirty approved Brazilian companies, and several others are in the process of qualification." In the final portion of the Brazilian declaration, the possibility of yet another technological transfer, giving nuclear propulsion to Brazil's civilian fleet, is only hinted at, but seems clear.

"The project will also allow the transfer of vital dual-use technologies which will further increase the competitiveness of Brazilian industry," the statement read, "which is integrated more and more into the national strategy of development." Russia, Britain, the U.S. and Germany have all tried nuclear propulsion in non-military shipping, with limited success. Recently, China's Cosco shipping line has proposed using nuclear propulsion in its vessels. One of the likely routes, according to the industry-supported World Nuclear Association, is South America to Asia.

Which doesn't mean Brazil doesn't have defence needs. A recent paper by Oxford's Centre for Brazilian Studies says that despite a longstanding rivalry with Argentina, Brasilia's military leaders were genuinely shocked by the ease with which Argentina was defeated in the Falklands War. The lesson which the Brazilians apparently took away from the war was the importance of submarines, as evidenced by the British torpedoing of the Argentine warship General Belgrano, and the Argentine's costly use of submarines, as a feint, before launching devastating air attacks against British warships.

Nuclear reactor-powered subs are able to go as long as ten years without re-fuelling, and can stay underwater for weeks or months at a time. While naval experts may describe submarines generally as a "poor man's weapon," providing "a lot of bang for the buck," that may not be the case with the nuclear variety. They are expensive and also complicated to run. In the 1960s the US lost two nuclear subs in five years, the USS Thresher and USS Scorpion, with their entire crews, in underwater explosions that have never been completely

explained. The Russians have also experienced a series of mishaps culminating with the loss eleven years ago of the Kursk and her crew of 118.

An article in Der Spiegel earlier this year described the Brazilian effort to build a nuclear sub as a Trojan horse of a different kind—a cover for the real effort to build a nuclear bomb.

But José Augusto Guilhon Albuquerque, former director of the University of São Paulo Research Centre for International Relations, who has followed Brazilian nuclear ambitions through the years, says Brasilia has made clear time and time again that the South Atlantic should be a Bomb-free zone.

Speaking of any idea of development of a Brazilian nuclear weapon, he said, “It’s unconstitutional, it wouldn’t pass in the Congress, it could be stopped at the Supreme Court, and would be rejected by public opinion.”

General: Prioritize Nuclear Upgrades In Budget

The Washington Times, November 23

U.S. strategic nuclear forces are old, in dire need of modernization and face “draconian” cuts because of the federal budget crisis, the commander of U.S. nuclear forces said Tuesday.

Air Force Gen. C. Robert Kehler, head of U.S. Strategic Command, also said China and Russia are engaged in aggressive nuclear force buildups while the U.S. government is fighting over funding for modernizing its strategic forces.

In an interview with The Washington Times, Gen. Kehler also said cyberattacks are escalating toward “destructive” attacks. He made the comments as investigators are looking for a foreign link to a recent cyberattack on an Illinois water-control system.

On the nuclear buildup by Beijing and Moscow, he said both are committed to modernization programs and are pressing ahead.

“And we are reaching a critical point here where we’ve got to make our own commitment,” Gen. Kehler said.

“The view here in Omaha is that we need to sustain a safe, secure and effective nuclear deterrent,” Gen. Kehler said, echoing a view expressed by the president. The Strategic Command is based in Omaha, Neb.

“I am concerned about the congressional marks in the fiscal year ’12 budget about the [National Nuclear Security Administration] investment in particular.”

Energy and water appropriations committees in the House and Senate have not fully funded the administration’s request for \$7.6 billion for nuclear-arms modernization agreement after debate last year on ratifying the New Strategic Arms Reduction Treaty (START).

Gen. Kehler and Navy Adm. James A. Winnefeld, vice chairman of the Joint Chiefs of Staff, have written to Congress expressing concerns about the funding, said Rep. Michael R. Turner, chairman of the House Armed Services subcommittee on strategic forces.

Mr. Turner, Ohio Republican, stated in a recent letter to the Office of Management and Budget that the military leaders’ letter has been held up for review for several weeks.

Gen. Kehler said nuclear modernization is only one of his worries with the budget slashing.

“I’m concerned about a lot of things here, in addition to the nuclear deterrent,” he said. “I’m concerned about space. I’m concerned about cyber. I’m concerned about missile defense. I’m concerned across the board.”

Ballistic-missile submarines need to be replaced, strategic bombers are old and land-based missiles are aging, the four-star general said.

Strategic Command also is taking part in a White House-led Nuclear Posture Review Implementation Study, Gen. Kehler said. Any nuclear force cuts, whether in a treaty or unilaterally by the United States, should be based on a strategy, he said.

Gen. Kehler said U.S. nuclear weapons and infrastructure are now “aged.”

“We have reached one of those critical points where investment is required to sustain the weapons and performed the necessary life extension on the weapons, as well as to upgrade the complex,” he said. “Getting full funding is definitely critical.”

The triad of nuclear forces - bombers, land-based nuclear missiles and sea-based missiles - remains “robust,” but Gen. Kehler was less confident that it would remain so without a major investment in modernization.

All areas of Strategic Command’s missions - nuclear forces, space defense, cyberwarfare and missile defenses - are being reviewed as part of the Pentagon’s initial 10-year, \$450 billion spending cut.

Now that the congressional supercommittee’s inability to reach a deal is about to trigger another \$600 billion in defense cuts, Gen. Kehler said strategic forces are facing “draconian” reductions, something reflected in a recent letter to Congress from Defense Secretary Leon E. Panetta.

“Realistically, I think as we have watched the budget debates unfold, it isn’t clear to me what’s going to happen,” the general said. “But I can tell you we still stand by the need to make the investment” in strategic forces.

Without fully funding the nuclear-forces upgrade, “we’re not going to be able to execute the program as it’s currently envisioned,” Gen. Kehler said, noting that it would send

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Strategic Command and the Energy Department back to the drawing board.

A critical need, he added, is to conduct a life-extension program on old nuclear warheads.

U.S. nuclear forces face the budget crunch as China and Russia are engaged in a major buildup of strategic nuclear forces - in China's case, one that is being carried out in utmost secrecy.

"Both of their programs are very ambitious," he said. "And we are watching those programs evolve. We are mindful of the capabilities that ... they already have at the table and will bring to the table through their modernization."

Asked about Mr. Panetta's statement to Congress that the coming \$1 trillion cut in defense spending will result in elimination of the land-based intercontinental ballistic missile force, Gen. Kehler said he thinks that keeping all three strategic legs - land-, air- and submarine-fired missiles - is needed.

Strategic Command, the recent nuclear posture review and ratification debate on the New START agreement stressed the importance of "sustaining the triad as the preferred way forward," he said.

"I would also say we have the flexibility within the New START treaty to mix our forces in the way that suits us the best," he said. "We would look very carefully at how we would mix our force if we have to go forward with sequestration numbers."

Sequestration is Congress' term for cutting the additional \$600 billion from defense spending over the next 10 years.

On cyberthreats, Gen. Kehler said investigators are examining whether there is a foreign connection to the cyberdisruption of an Illinois water-control system.

A water-utility in a town near Springfield, Ill., was hacked by people suspected of operating through a server in Russia. They gained access to the system's controls and could have taken steps that would have damaged pumps that control water supplies.

"Our concern is that cyberactivities we have seen have progressed," the general said. "And they go from things that were exploitive in the past, to disruptive, to the potential that they can become destructive."

On space security, another responsibility of Strategic Command, the U.S. military is "aggressively planning our defensive [space] activities," Gen. Kehler said.

"In general terms, we have increased the gain on our ability to protect our space assets," he said.

Increased "resilient architectures" for space systems and cybersystems has boosted deterrence since 2007, he said. Planning the response to space attacks also has improved.

Much of the defenses were upgraded after China's 2007 test of a ground-based direct ascent anti-satellite missile that destroyed a Chinese weather satellite and scattered tens of thousands of pieces of debris in orbits that threaten other satellites.

Bluefin-21 Unmanned Underwater Vehicle (UUV) To Be Heart Of Littoral Combat Ship's Mine-Warfare System

Military and Aerospace Electronics, November 23

QUINCY, Mass., 23 Nov. 2011. Mine warfare experts at the General Dynamics Corp. Advanced Information Systems segment in Fairfax, Va., needed unmanned underwater vehicles (UUVs) for the U.S. Navy Littoral Combat Ship mine warfare mission package. They found their solution from Bluefin Robotics Corp. in Quincy, Mass.

Bluefin won a contract from General Dynamics Advanced Information Systems to design and build the Surface Mine Countermeasure Unmanned Underwater Vehicle (SMCM UUV) to provide mine-hunting capability — particularly to detect and identify buried mines in high-clutter environments, Bluefin officials say. The amount of the contract was not disclosed.

Bid To Check Chinese Naval Power High-Risk Game

The Canberra Times (Australia), November 21

In view of the sycophantic nature of Australia's relationship with the United States over the past 60 years, I guess it was inevitable that Australia, in the absence of tough-minded governments, would eventually come to host a US military base. The North West Cape, Pine Gap and Geraldton communication facilities and joint exercises were incremental steps along that path - not to mention Korea, Vietnam, the Gulf war, Iraq and Afghanistan.

As announcements go relating to major policy change, this one was a shocker. While the rest of the world called it for what it was, the establishment of a US base, Defence Minister Stephen Smith said it was merely an enhancement of joint exercises. We have been told that in mid next year, 250 US marines will arrive on a six-month posting to undertake training. Over five years that commitment will rise to 2500. That figure represents a stripped-down brigade. Also hinted at, alluded to, mumbled about, are B52s and other aircraft, including perhaps fighter aircraft operating out of or based at Tindal for unspecified periods of time, perhaps permanently. Then the most important mumble of all, there will be more US naval visits, including capital ships to Darwin - soon.

The decision to put a US base in the Northern Territory, centred on Darwin, has to do with the containment of China's growing naval power. From around 2001, China embarked on an ambitious ship-building program, including the Type 094 and 093 ballistic missile and nuclear attack submarines, based near Sanya, the most southern city in China. The base and pens have been built underground; 200km north at Zhanjiang is the base of China's South Sea Fleet. Attached to that fleet are two marine brigades. China has 10 nuclear submarines and 50-60 diesel-electric submarines. In September of this year it commissioned into service, after an 18-month refit, a former Russian aircraft carrier. In 2009, China said it intended to construct its own aircraft carriers. This would have taken some time. China apparently decided it was short of time, and time concerns now seem to be driving both China and the US. The US views the expansion and modernisation of the Chinese navy as a matter of deep concern; it believes it is the only power capable of confronting the Chinese, particularly with respect to disputed territorial claims by China over the Spratly and Paracel Islands in the South China Sea. It is said that China is expanding its naval capabilities in order to defend and assert maritime claims, freedom of navigation and protect energy imports from the Persian Gulf. China is particularly worried about taking vital supplies through the choke point of the Straits of Malacca. They fear a US blockade in the event of deteriorating relations. Opening a base in Australia would help the US in that regard. China also seeks - through the use of aid, development projects, and the presence of its navy - to have influence over littoral states that impact or could impact upon its lines of communication. To this end, it is constructing port facilities at Hambantota in Sri Lanka, Gwadar on the south-west coast of Pakistan and at Sittwe in Burma.

All are being constructed as trading and economic facilities but are capable of transformation to naval use. China financially assisted the government of Sri Lanka to defeat the Tamils, in exchange it gained a great deal of influence and the right to develop Hambantota, which will give China a strategic reach into the Indian Ocean and the Gulf. Britain and the US have a joint base on nearby Diego Garcia. Gwadar will provide China with a capacity to monitor and match US naval activity in the Persian Gulf and Indian naval activities, including US/Indian naval co-operation in the Indian Ocean and Arabian Sea.

China is expanding its military/naval capabilities because of perceptions of vulnerability over extended trading routes. It fears being cut off from supplies, in much the same way as the Japanese did in the years leading to World War II. China is expanding its military/naval capabilities to match its economic capabilities and needs, and is doing so because it can; which is bringing it nose to nose with the US, who does not agree that it should.

The pace of change in US policy over recent weeks has been frenetic, partly to position Barack Obama for the presidential race next year, partly to take attention away from the failure of Afghanistan and partly because it seems the US has regained its nerve. Over the past 10 years, while China beavered away making money and rebuilding its navy, the US was spending its money in pursuing terrorists in the deep, dark canyons of Iraq and Afghanistan. Obama now tells us he has had enough of the Middle East and all the action is in the Pacific and Indian oceans. The US wants India on side. Australia has been pressured by the US to sell uranium to India. So we will. The US is not worried about India adding to its stockpile of nuclear weapons. As Pakistan and Afghanistan slide away, they need India, and they need India to help counter Chinese naval power. At the same time Obama was in Australia, US Secretary of State Hillary Clinton, was in the Philippines to sign a Philippine-US Partnership for Growth, but really she was there to urge the Philippines to help facedown China.

Clinton said the US was "updating" the relationship with five treaty-bound allies in the region - Australia, Japan, the Philippines, South Korea and Thailand. She said the 21st Century would be America's Pacific century and "... the world's strategic and economic centre of gravity will be the Asia-Pacific, from the Indian subcontinent to the western shores of the Americas".

The dispatch of marines to Darwin seems a bit of a smoke screen in terms of the gunboat diplomacy the US is building up to wage against the Chinese. It is the port of Darwin that she covets. Basing B-52s in Darwin has the capacity to upset the Chinese. The B-52 has a range of around 15,000km, enough for them to threaten southern and eastern Chinese naval bases, including the submarine pens at Sanya. Will these planes carry nuclear weapons? Will nuclear weapons be stored in Australia? And will the US lobby the NT and federal governments to "enhance" its presence?

What are the rules of this game? Does the US believe it can break the Chinese like it broke the Russians? What is the end game? Both these states need each other. What are the Chinese and the US seeking to achieve? They need to sit down and talk; they need to deploy the hard-talking diplomacy of the Cold War.

Australia, along with other smaller littoral states, stand to gain a lot more in the emerging Great Indo-Pacific Game by oscillating between Beijing, New Delhi and Washington, than by throwing their lot in with anyone of them. By so doing they will or have destroyed their bargaining power.

General Dynamics Awarded \$57 Million From U.S. Navy (GD)

FNNO.com, Nov 21, 2011

General Dynamics Electric Boat (NYSE:GD) recently was awarded two U.S. Navy contracts worth \$56.7 million to perform submarine modernization and maintenance work and develop advanced technologies for current and future undersea platforms.

Under the first award, worth \$41.6 million, Electric Boat will continue operating the New England Maintenance Manpower Initiative at the Naval Submarine Base in Groton.

Under the terms of the second \$15.1 million award, Electric Boat will perform advanced submarine research and development studies in support of a wide range of technology areas including manufacturability, maintainability, survivability, hydrodynamics, acoustics and materials.

General Dynamics (NYSE:GD) has potential upside of 21.7% based on a current price of \$62.67 and an average consensus analyst price target of \$76.28.

General Dynamics is currently above its 50-day moving average (MA) of \$61.49 and should find resistance at its 200-day MA of \$68.88.

In the last five trading sessions, the 50-day MA has climbed 0.71% while the 200-day MA has slid 0.4%.

General Dynamics Corporation is a diversified defense company. The Company offers a broad portfolio of products and services in business aviation, combat vehicles, weapons systems and munitions, shipbuilding design and construction, and information systems, technologies and services.\

Russian Navy Plans To Induct 10 Conventional Subs By 2020

Brahmand.com, Nov 22, 2011

MOSCOW (BNS): Russian Navy plans to induct around 10 conventional submarines in its Baltic Sea and Black Sea fleets by 2020.

“The Russian Navy expects to receive 8-10 diesel submarines by 2020,” Ria Novosti quoted a Navy official as saying.

On Monday, the Admiralteiskie Verfi shipyard began the construction of Project 636.3 Kilo-class submarine.

The Rostov-on-Don diesel-electric submarine will be the first of five such vessels the shipyard will build for the Russian Navy, Verfi’s acting chief Alexander Buzakov said, without giving a timeline of delivery.

The new Kilo-class submarines will have an underwater speed of 20 knots, a cruising range of 400 miles with the ability to patrol for 45 days.

The vessels will be armed with 18 torpedoes and eight surface-to-air missiles.

The modernised Kilo-class subs will also have stealth capability, extended combat range and ability to strike land, surface and underwater targets.

The Russian Navy currently operates 20 diesel-electric submarines.

Big Submarine Program Faces Delays If No Budget Deal

Virginian-Pilot, November 20

If Congress doesn’t get its budget act together, Newport News Shipbuilding may have to wait longer to see whether it gets a slice of the Navy’s next big submarine program.

In letters to two U.S. senators last week, Defense Secretary Leon Panetta spelled out the potential impact of a failure by the congressional supercommittee to meet its Nov. 23 deadline, triggering defense cuts of about \$1 trillion.

Specifically, Panetta said the Navy may delay replacing the Ohio class of ballistic-missile subs and cutting the number of new subs from 12 to 10, saving about \$7 billion. The first purchase is planned for fiscal year 2019.

The Ohio class was built by General Dynamics' Electric Boat in Groton, Conn., but there is an expectation that Newport News Shipbuilding, part of Huntington Ingalls Industries, will have a role in the replacement program.

Citing reports in the defense trade press, the Congressional Research Service last month listed other possible changes that could pinch the Newport News shipyard.

They include delaying procurement of the new aircraft carrier John F. Kennedy by two years and shifting the schedule from one carrier every five years to one every seven. The Navy may also deactivate the carrier George Washington rather than perform a midlife overhaul and refueling of the ship, according to the service's report.

The Navy does hope to maintain funding for two-sub-a-year procurement of Virginia-class attack subs, but the rest is enough to worry shipbuilders and anyone else interested in the health of Hampton Roads' largest employer.

Panetta: Submarines Crucial To Nation's Defense [Video]

Groton Patch, November 19

Secretary of Defense Leon Panetta visited Electric Boat in Groton Friday and told a crowd of more than 200 workers that submarines remain essential to the nation's defense, and he will work to protect this industrial base.

"You, too, are the patriots that I need to depend on," Panetta told a crowd gathered outside the shipbuilding plant. He added that he wants Congress to "suck it up, do what's right for the country," rather than allow the defense budget to be decimated.

"We elect these people to govern. Not just survive in office, but govern," he said.

Panetta visited Electric Boat as the deadline approaches for a congressional "super committee" to agree on a plan to reduce the federal budget deficit. If it fails, the alternative could be billions of cuts in defense spending.

Kenneth DeLaCruz, president of the Metal Trades Council which represents 2,200 workers at Electric Boat, said tradesmen face the constant pain of layoffs. The company notified the state Department of Labor earlier this month that it will lay off 52 people from the Groton plant as of Jan. 6.

This past summer, Electric Boat told 104 employees they would be laid off in September. The layoffs included carpenters, machinists, pipefitters and sheet metal workers.

"We've been going through some tough times, and we're very concerned that if this committee doesn't do what it's supposed to do, we're going to atrophy these skill sets," he told Panetta.

"I share that concern," Panetta replied, adding that submarine construction demands workers with specific abilities. "You can't replicate this stuff," he said.

Panetta toured the submarine the Mississippi, scheduled to be christened Dec. 3. The ship was delivered one year ahead of schedule and \$50 million under its expected cost.

Panetta said that as he looks for efficiencies in the military, he will have two priorities: protecting the men and women who have served in the military and the industrial base that builds what they need.

"I am not going to hollow out this force," Panetta said, adding that he would grandfather in benefits. "We cannot break faith with people who have served in the military," he said.

Congressman Joseph Courtney said Panetta's tour of the Mississippi gave him a first-hand look at the submarine and the technology it holds.

"I think he was just blown away," Courtney said.

<http://ledyard.patch.com/articles/panetta-submarines-crucial-to-nation-s-defense-video>

VETERANS DAY SAN DIEGO









N. Korea Blasts S. Korea's Plan To Hold Submarine Drills With U.S.

The Korean Herald, Dec 11, 2011

North Korea lashed out at South Korea and the United States Sunday for their plan to stage submarine drills twice a year beginning in 2012.

South Korea's Navy said last week the move is designed to strengthen readiness against possible North Korean provocations.

In 2010, the North torpedoed a South Korean warship and shelled a South Korean border island, killing 50 people and driving relations between the sides to their lowest point in decades.

Still, the North's official Korean Central News Agency claimed the planned maneuvers are "aimed at mounting a preemptive attack on" North Korea.

North Korea routinely denounces military drills in the South as a rehearsal for a northward invasion. South Korea rejects the claims, saying its exercises are purely defensive in nature.

About 28,500 U.S. troops are stationed in South Korea, a legacy of the 1950-53 Korean War that ended in an armistice, rather than a peace treaty. (Yonhap News)

Royal Navy Lifts Ban On Women Serving On Subs

North-west Evening Mail, Dec 9, 2011

WOMEN are to be allowed to serve on Royal Navy submarines for the first time, the government has announced.

The first female officers will begin serving on Barrow-built Vanguard class nuclear-powered submarines from late 2013, Defence Secretary Phillip Hammond said yesterday.

They are set to serve on the new Astute class submarines, which are currently being built in Barrow, from 2015.

Mr Hammond made the announcement in the speech to the Royal United Services Institute in London.

He said: "Operational effectiveness has to remain the watchword for everything we do and we will continue to learn from our experience. We will change and adapt with the evidence and the circumstances. We will value our history and tradition – but we will not be slaves to them.

"In that spirit, I can announce that I have accepted the recommendation of the First Sea Lord that women should be allowed to serve in submarines." The decision to lift the ban on women submariners follows an 18-month review by the Royal Navy looking at the legal, operational, health, social, technical, and financial issues.

Women had been excluded from serving on submarines due to concerns that higher levels of carbon dioxide in the on-board atmosphere pose particular risks to female health.

Research by the Institute of Naval Medicine concluded that these risks were unfounded and there were no medical reasons for maintaining the ban.

Terry Spurling, of the Barrow Submariners Association, said although he has no problems with women on board it will be difficult to modify some of the older boats.

He said: "I think in this day and age it was something that was always going to happen, but I can see that there's going to be problems with separation.

"The new design for the Astute class will be designed for women serving on board.

"The problem is trying to adapt the older submarines. It is much easier to adapt the old surface ships, whereas on a submarine it is much more difficult to section off areas."

Chinese Navy Ready For War

Prevada, December 9

China's neighbors are concerned about media reports citing the Chinese leader Hu Jintao, who allegedly ordered the PLA Navy's command to "prepare for a war." According to him, in the coming years the Navy should "complete its modernization, gather all the forces to prepare for a war and strengthen national security." This was said at a meeting of the top military and political leadership of the country on December 6.

For China famous for its wise and prudent policy this is, mildly put, rather strange. However, as pointed out by foreign experts, the statement of the leader of China was reprinted by many Chinese newspapers. However, there is a possibility that journalists made a mistake in the translation. British analysts say that the statement of the Chinese leader can be translated from Chinese both as "armed struggle" or "military conflict", but the essence does not change much.

It is significant that in recent years militaristic ambitions of China increasingly surprised not only its neighbors with most of whom it has unresolved territorial disputes, but the United States as well.

Also read: China does not need Russian arms anymore to attack US

This year, China began its program to build aircraft carriers and is actively working to develop new anti-ship missiles and modernize its Navy. The statement of the Chinese leadership was made on the eve of the annual summit of China and United States, where the parties discussed a solution to the dispute over the archipelago Spratlys in the South China Sea.

In other words, Beijing is openly showing the United States that it intends to address this issue in its own favor. Earlier the Chinese side claimed that the Spratly archipelago (contested, besides China, by Vietnam, the Philippines, Malaysia, Brunei and Taiwan) is an integral part of China. The latter is understandable: first, the major transportation routes from the Indian Ocean to the Pacific run through the South China Sea, and second, large reserves of oil and gas are prospected in the area.

For the growing China the issue of resources is key. However, the abundance of competitors supported by the United States hinders the implementation of the Chinese ambitions for the Spratly archipelago.

The most difficult relations in regard with this issue are between Beijing, the Philippines and Vietnam. Chinese ambitions alarmed Indonesia that begins to develop a major gas field offshore in the vicinity of the disputed islands. Experts point out that the development affects the zone claimed by the Chinese.

The United States that is trying to build a new block of counties that would “restrain the Chinese dragon” is particularly concerned. It is no accident that in November President Obama has made a dramatic expansion of U.S. military presence in Australia, considering it an important base for the subsequent deployment of troops aimed against China.

Also read: Pentagon wants to slay Chinese dragon

However, China provided its response to such deterrence efforts of the U.S via President Hu Jintao’s statement. Will China be gutsy enough to challenge the United States and its satellites? Konstantin Sivkov, Captain of the 1st Rank, the first vice-president of the Academy of Geopolitical Issues, answered this question for “Pravda.Ru”:

“At the moment, in terms of the power of the Navy, China is far behind the United States. For example, it has only one aircraft carrier, while the Americans have 12 active nuclear aircraft carriers alone. Nuclear-powered submarines that China has are too noisy and noticeable for the American systems, and the radius of their ballistic missiles is only 1,700 kilometers, which is clearly insufficient to provide an adequate response.

However, in the next 10 years such imbalance will be reduced significantly. First, the Chinese are preparing to launch several nuclear aircraft carriers. Second, they are qualitatively and quantitatively increasing its nuclear submarine fleet. The existing noisy submarines will be replaced with new nuclear submarines that will be difficult for the Americans to track. In addition, their armament will strengthen significantly.

Now the Chinese are actively working towards creating a new sea-based ballistic missile with a range of eight thousand kilometers, which would dramatically reduce the chances of Americans for a favorable outcome in a possible collision.

Third, the Chinese are preparing to dramatically increase the number of other warships, including destroyers and frigates. All these are not empty promises, and every year it will be increasingly more difficult for the Americans to contain China.

This is a very positive sign for us. China relies on the development of its own Navy, not the Army, which clearly indicates that its expansion in the short and medium term will be extended to the north. However, it is not surprising as it is vital for China to ensure it receives raw materials. It buys oil and gas from Russia at affordable prices.

Yet, this is not enough, considering the growth of its economy. In this regard it is developing its Navy, which will enable China to defend vitally important interests in different parts of the globe. If today it had to “swallow” the fact that it was virtually forced out of Libya, tomorrow, gaining the necessary power, it will stand up for its rights and will have to be reckoned with.”

Iran To Launch Electronic Warfare Gear

A senior Iranian Navy commander announces that the Islamic Republic plans to soon deploy the most up-to-date domestically-built hardware to counter enemy electronic warfare.

Presstv.com, Dec 7, 2011

Iran naval forces will deploy the most modern home-manufactured equipment during a massive military exercise, Velayat 90, in international waters in the near future, said Iran’s Navy Deputy Commander Rear Admiral Gholam Reza Khadem Bigham on Wednesday.

He added that during the drills, the country’s latest defensive equipment would also be deployed, IRNA reported.

The commander stated that a number of domestically-built Ghadir submarines, which have recently joined Iran’s naval fleet, would be used in the maneuvers.

On November 28, three Ghadir submarines joined the country’s naval fleet which are capable of launching torpedoes and operate in shallow waters as well as precision targeting.

Khadem Bigham noted that foreign observers are scheduled to be invited to attend the Velayat 90 drills and added that neighboring and friend countries were present in previous exercises.

The Iranian Navy staged the eight-day “Velayat 89” maneuvers in May 2010. The drills successfully tested various types of destroyers, submarines, anti-submarine torpedoes, mid-range cruise missiles, missile launcher frigates and fighter jets.

Over the past years, Iran has made important breakthroughs in its defense sector and attained self-sufficiency in producing important military equipment and systems.

Iran has repeatedly clarified that its military might is merely based on the nation's defense doctrine of deterrence and poses no threat to other countries.

US Navy Still Eclipses China's Expanded Force: Experts

Channel News Asia, Dec 7, 2011

BEIJING - China's navy has hundreds of vessels at its disposal, among them nuclear submarines and an aircraft carrier, but it still does not come close to the huge naval firepower wielded by the United States.

Chinese President Hu Jintao called Tuesday for the country's navy to "make extended preparations for military combat", further fuelling fears over Beijing's ambitions in the highly strategic maritime area that surrounds it.

The United States, which recently reasserted its role as a Pacific power and said it will post troops in Australia, responded by saying China had the right to develop its military capabilities, but should do so "transparently".

China maintains a high level of secrecy around its People's Liberation Army, the largest armed force in the world with an estimated 2.3 million troops.

Around 300,000 of those are thought to serve in the navy, which comprises three fleets and has around 30 large missile destroyers, half a dozen nuclear-powered attack submarines and a small number of nuclear-powered ballistic missile submarines.

This year it unveiled its first aircraft carrier, a 300-metre-long (990-foot) former Soviet naval vessel that had its first sea trial on August 10.

By contrast, India — another major military power in the region — has around 132 warships, including an aircraft carrier, and 16 submarines, one of which is a nuclear submarine undergoing sea trials.

Earlier this year, the Pentagon warned that the PLA — still primarily a land force — was increasingly focused on its naval power and had invested in high-tech weaponry that would extend its reach in the Pacific and beyond.

Nevertheless, experts say China's naval capability pales in comparison with America's huge and technically highly sophisticated maritime force.

The US Pacific fleet is the country's largest, with 79 ships and submarines off America's west coast, 29 in Hawaii, 19 in Japan and four in the Pacific territory of Guam.

Six of America's 11 aircraft carriers have their base in the Pacific, including the USS George Washington, which is docked at the Yokosuka naval base in Japan. At any given point, there are around 50 US naval ships in the west Pacific.

America's huge naval operations combined with its geopolitical alliances in the region have enabled it to contain China within what is known as a "brown water navy".

Hemmed in by an arc of powerful rivals in South Korea, Japan and Taiwan, China suffers from severely limited access to the oceans that surround it.

"The Chinese are also acutely aware of US military capabilities, as demonstrated in combat actions every year since 1991, and the gap between their capabilities and those of the US and its allies," said Dennis Blasko, a Chinese military expert with the Washington-based Jamestown Foundation think tank.

"The Chinese are conducting their modernisation process with no recent combat experience, no experience in fighting the kind of informationised war they are preparing to fight."

Below the Surface: The Implications of Asia's Submarine Arms Race

By Abraham M. Denmark, World Politics Review, 06 Dec 2011

The sinking of the South Korean corvette Cheonan by a North Korean submarine in March 2010 has already been recognized as a human tragedy and a significant escalation by Pyongyang in its multi-decade confrontation with Seoul. But in the years ahead, the Cheonan incident may come to be remembered more as the inaugural event in a new era of subsurface naval competition and confrontation in the Asia-Pacific region. Asia's rising powers are investing in submarine capabilities at unprecedented levels, and the nature of this investment is fundamentally changing the region's subsurface environment.

While this trend is certainly part of a broader regional investment in naval power writ large, the subsurface aspects of these investments are particularly significant, due to the unique attributes and capabilities of submarines. Whereas surface ships can be used both for traditional and nontraditional purposes — such as peacekeeping, humanitarian assistance and counterpiracy operations — the cost and attributes of submarines make them suited for missions of particular sensitivity: destroying the maritime power of another state, supporting special operations, laying sea mines and covertly collecting intelligence near an adversary's waters.

Having evolved from a Cold War subsurface environment defined by American and Soviet nuclear submarines attempting to track one another as part of a multidecade game of nuclear cat-and-mouse, the subsurface environment emerging in the 21st century is becoming increasingly congested, conventional and contested. The implications of this new environment for America's subsurface community are profound and should drive a re-evaluation of America's subsurface strategy for the century ahead.

Cold War Subsurface Origins

For several decades during the Cold War, subsurface planning was driven by a strategic environment consisting of two dominant, adversarial powers equipped with nuclear-powered submarines whose primary responsibilities were to hold one another at risk of nuclear attack and, in the event of a general conflict between NATO and Warsaw Pact forces, to attack or defend American shipping to Europe. Although that conflict thankfully never came, America's submarine force was fundamentally shaped by these dynamics. Because the Soviet Union's subsurface force was based on nuclear-powered submarines, America's own submarine force was designed to counter subsurface vessels that could sail for long periods of time and move with relative speed, yet could be tracked without counterdetection by America's quieter, more technologically advanced submarine fleet.

The ability of the Soviet Union's nuclear submarine fleet to sail for long periods of time without surfacing or coming into port meant that American nuclear attack submarines also had to be capable of sailing for extended time periods. Moreover, the geography of the submarine competition often forced American attack submarines to sail into the Soviet Union's home waters, driving the development of a submarine force with a significant range. These attributes contributed to America's general strategy of forward defense, whereby forces were stationed overseas near enemy forces, in order to challenge an adversary's warfighting ability and to prevent attacks on the American homeland.

Similarly, the relative size and speed of Soviet nuclear-powered submarines drove the United States Navy to develop fast attack submarines capable of carrying significant payloads. For example, the current backbone of the United States Navy's submarine fleet, the Los Angeles-class nuclear-powered submarine (SSN), is advertised to have a top speed of greater than 25 knots and is capable of carrying advanced Tomahawk cruise missiles and advanced torpedoes.

Moreover, the relative stealth of American submarines, compared to their Soviet counterparts, was a significant structural advantage in Cold War subsurface competition. Indeed, the ability of American submarines to track the Soviet Union's strategic submarines throughout the Cold War was not known by the USSR until the 1980s, when American communications technician-turned-Soviet-spy John Anthony Walker divulged that information to Moscow. The Soviet Union attempted to adapt to these challenges by fielding the quieter Victor III- and Akula-class attack submarines, but never attained the degree of stealth long enjoyed by American submarines.

The Cold War left an indelible imprint on the American subsurface fleet. Through decades of experience improving their craft against their Soviet counterparts, American submarine planners and strategists grew used to an adversary equipped with relatively loud, trackable nuclear-powered submarines capable of moving quickly for long periods of time far from America's shores. For good and ill, the lessons of the second half of the 20th century shaped the approach to subsurface challenges that America takes with it into the early 21st century.

Asia's 21st-Century Subsurface Environment

As the United States focuses on the Asia-Pacific as the most strategically significant region for American interests in the 21st century, the rapidly evolving subsurface security environment presents a radically different set of challenges than what existed during the Cold War. While some aspects of the U.S.-China subsurface balance are somewhat similar to what existed between the U.S. and USSR during the Cold War, the rising number of subsurface actors armed with diesel-electric submarines means that America's approach to subsurface challenges must undergo a fundamental transformation.

Currently, there are only two subsurface nuclear powers in the Asia-Pacific region: China and the United States. (While India is in the process of developing its own fleet of nuclear-powered submarines, they have yet to reach full operational capability.) Taken in isolation, the dynamics between these two nuclear-powered forces are somewhat similar to what existed during the Cold War, in that America's ships are more technologically advanced than those of their counterpart. Further, like the USSR, China also employs rather noisy nuclear-powered attack submarines that, though improving, are known to be rather noisy and trackable. The primary difference between the nuclear forces of the United States and China, compared to the Cold War balance between the U.S. and USSR, is that China's nuclear submarine force is far less developed than its Soviet predecessor. Whereas the Soviet Union's strategic nuclear force was highly capable of threatening the American homeland with advanced submarine-launched ballistic missiles (SLBMs), China's primary ballistic missile nuclear-powered submarine (SSBN), the Type-094 Jin-class, as well as its SLBM, the JL-2, have both reportedly encountered unspecified delays (.pdf). Further, it is unclear whether Beijing plans to operate its future force of SSBNs using a Soviet-style bastion approach or American-style patrols. These lingering unanswered questions add significant uncertainty to U.S.-China military dynamics.

Yet U.S.-China subsurface competition is far more complex than just the interplay between their nuclear-powered strategic forces. Indeed, focusing on nuclear-powered forces misses the most significant developments in U.S. subsurface military balances with China — and with the broader Asia-Pacific region.

Congested

While American subsurface planners in the Cold War could primarily focus on one adversary, their 21st-century contemporaries must account for a wide variety of adversaries, competitors, partners and allies — all with differing interests, objectives, capabilities and approaches to subsurface warfare. Perhaps the most significant feature of the subsurface environment in the Asia-Pacific region is the sheer number of actors already possessing or developing subsurface capabilities. Australia, China, India, Indonesia, Japan, Malaysia, North Korea, Pakistan, Singapore, South Korea and Vietnam all possess subsurface forces, many of them of significant number and capability.

Moreover, the region's subsurface investment splurge is likely to continue. India is set to receive 6-12 Scorpene-class submarines from France in the coming years, while Vietnam is reportedly prepared to receive 6 Kilo-class SS from Russia. South Korea and Japan also plan to field new SS craft in the coming years, and future developments from China and North Korea remain as opaque as ever. Indeed, it

seems that only Bangladesh, Brunei, Burma, Cambodia, New Zealand, the Philippines, Sri Lanka and Thailand lack the interest — or the resources — to develop subsurface capabilities.

For many South and Southeast Asian nations, this development is the combined result of two related trends. The region's significant economic growth, even in the face of continued economic problems in the United States and Europe, has helped several regional governments improve the living standards of their people and establish a greater degree of domestic security. A wealthier and more secure home front has allowed regional leaders to direct their militaries away from domestic security and toward a more outward-focused defensive orientation. Such an orientation has been further driven by concerns over the future course of China's emergence as the dominant regional power. Submarines can therefore be seen as evidence of more-secure countries bent on defending themselves and their interests from external pressure.

This multipolar subsurface environment could challenge the continued stability of Asia's maritime commons. The first half of the Cold War saw several accidental collisions between American and Soviet naval forces, many involving subsurface forces, even though only two primary navies were involved. As the number of incidents increased, both Moscow and Washington grew concerned that an incident could accidentally spark a hostile confrontation, with disastrous possibilities for escalation. These concerns drove both sides to conclude an "Incidents at Sea Agreement" in 1972, which established protocols for operation and communication between the two sides. With the number of subsurface powers expanding rapidly in the Asia-Pacific region, the potential for future incidents at sea is rising to a near certainty (.pdf), even as the diplomatic mechanisms for handling such incidents lags far behind.

Conventional

In addition to an increasingly congested subsurface environment, American naval planners will have to adjust to subsurface challenges in the Asia-Pacific that are of a fundamentally different nature than what existed during the Cold War. From a primarily nuclear-powered adversary, American planners must adjust to a subsurface challenge that is overwhelmingly conventional, as submarines in the Asia-Pacific today are almost entirely diesel-electric.

The operational implications of planning for a region primarily populated by diesel-electric, as opposed to nuclear-powered, submarines are significant. Whereas nuclear-powered submarines are loud, fast and capable of long cruises, conventionally powered submarines are comparatively quiet, slow and of short range. Diesel-electric submarines are therefore well-suited for operations designed to protect a fixed point close to home from surface or subsurface threats — in effect, a defensive, anti-access asset ideal for China's apparent naval security strategy, in which China's submarine forces would lie in wait for their adversary during a conflict. This is equally true for the Asia-Pacific's other conventional subsurface powers, many of which — especially in Southeast Asia — are focused on the defense of their homelands and nearby territorial sea claims.

A potential game-changer for these dynamics is the introduction of air-independent propulsion (AIP), which allows diesel-electric submarines to remain submerged — and thus, stealthy — for weeks, as opposed to days, at a time. Malaysia's Scorpene-class and Singapore's Västergötland-class submarines are known to be equipped with AIP systems, as are China's Yuan-class and Japan's Asashio-class and Soryu-class submarines, to name a few. These innovations would provide diesel-electric submarines with a much greater effective range, making them more useful to protect more-distant interests or to assist in projecting power far from home shores.

Contested

The challenges presented by a subsurface environment that is increasingly congested with conventionally powered submarines are exacerbated by geopolitical and technological trends that make the Asia-Pacific's subsurface spaces increasingly contested. Rising powers in the region are asserting longstanding claims to waterways that are both strategically important, for reasons of geography as well as resources, and hotly contested by other regional powers. Armed with a new array of submarines, states throughout the region are now poised to use more than just words to assert their claims.

Geopolitically, the Asia-Pacific is rife with unresolved territorial disputes, many of them maritime, that could catalyze regional conflict. Paramount among these is the South China Sea, where sovereignty claims are contested by several of Asia's rising subsurface powers, both for the area's geographic significance as well as for the potential treasure trove of unexploited resources that lie beneath its depths (.pdf). As maritime capabilities continue to improve throughout the region, states may attempt to use their newfound subsurface power to enforce disputed claims in these waters, significantly raising the risk of a regional crisis or conflict. Moreover, simple patrolling by regional navies of waters frequented by maritime shipping traffic also risks an incident at sea.

Beyond the South China Sea, several bilateral maritime territorial disputes threaten the Asia-Pacific's stability. Most troubling of these is a festering disagreement between China and Japan over the status of waters surrounding the Japanese-administered Senkaku Islands, claimed by China as the Diaoyu, located in the Sea of Japan (known in China as the East China Sea). Similar to dynamics involving the South China Sea, this dispute is motivated by geographic considerations, elements of national pride and the potential to extract significant offshore resources. Both China and Japan have significant naval capabilities, including subsurface assets, and China regularly uses its maritime power to assert its claims. This dispute already led to a naval incident in 2010, in which the captain of a Chinese fishing boat that entered Japan's claimed maritime territory was arrested and detained, leading to a period of significantly increased tensions between Beijing and Tokyo.

Adding fuel to the potential fire of the Asia-Pacific's festering territorial disputes has been the proliferation of advanced weapons that can be fired from subsurface vessels. Most significant of these has been the introduction of advanced anti-ship cruise missiles, especially Russia's SS-N-27 Sizzler. This supersonic cruise missile is especially dangerous, as there was concern — as recently as 2007 — that the Sizzler may be able to outmaneuver AEGIS, America's most capable sea-based missile-defense system.

Implications for the United States

For American subsurface planners and strategists, these developments are not encouraging. Disputes among the various claimants could quickly escalate into conflict, and the region is quickly arming itself for just such a contingency. As the United States seeks to manage China's rise as a regional and global power, the potential for a crisis that could draw Washington and Beijing into direct conflict is not appealing. On the other hand, the United States would look askance at Chinese attempts to use naval power to establish some degree of dominance over the South China Sea.

A multipolar subsurface environment requires leadership if instability is to be avoided, and the United States is the only regional power capable of providing that leadership. It is incumbent on the United States to engage its allies and partners in a regional subsurface strategy designed to coordinate surface military activities, build allied and partner subsurface capacity. America's efforts to engage partners and allies and harness their newfound subsurface capabilities will be quickly challenged by the limitations of their new weapons. The slow speeds and short distances inherent to conventional diesel-electric submarines make allied and partner forces of limited value to assist in cooperative military operations far from their home ports. As appropriate, efforts to equip America's allies and partners with AIP technology would help address some of these shortcomings. In the meantime, allied and partner submarines could assist in contributing localized subsurface anti-access areas as part of a broader defensive effort.

A congested, conventional and hotly contested subsurface environment is not a favorable recipe for regional stability. The United States should therefore also seek to engage competitors and potential adversaries. In particular, Washington should expand its current strategy of leading diplomatic efforts for a resolution of South China Sea claims and work aggressively to establish a multilateral Incidents at Sea Agreement signed by all of the region's naval powers. Such an agreement would greatly improve the chances of continued regional stability and significantly reduce the chances of accidental miscalculation and regional crisis.

Moreover, as regional subsurface capabilities grow more quiet and more capable, the United States should sustain investments in subsurface technologies that will allow its subsurface fleet to remain effective and capable of dominating the battlespace. Advanced sensor and quieting technologies, unmanned subsurface vessels, and advanced sea-mining technologies will all help the United States remain the dominant subsurface power in the Asia-Pacific region.

Finally, the United States should commit itself to maintaining its anti-submarine warfare (ASW) capabilities, while incorporating the capabilities — and geographies — of its allies as much as possible. ASW is an inherently challenging and expensive capability, but it is also one in which the United States maintains a significant operational advantage. As cuts to the Defense Department budget begin to bite, it is incumbent on the Pentagon to protect the technologies and exercises that keep America's ASW capability robust and relevant for an increasingly challenging and vital security environment.

The United States has officially recognized that the Asia-Pacific will be the world's most strategically significant region for American interests in the 21st century and has rightly announced its intent to shift military resources and political attention accordingly. Regional stability, a top priority for the United States, will be challenged by an increasingly congested, conventional and contested subsurface environment. America's ability to maintain regional stability, defend its allies and promote its interests in the region will require persistent technological innovation and diplomatic skill. During the Cold War, the United States demonstrated a remarkable ability to adapt to challenges presented by the Soviet Union. The time for innovation, adaptation and deft diplomacy has come again.

The author wishes to thank Rear Adm. Michael McDevitt, U.S. Navy (Ret.) for his invaluable insights and guidance. Abraham M. Denmark is an Asia-Pacific security adviser at the Center for Naval Analyses and an SPF nonresident fellow at CSIS-Pacific Forum. He previously worked as a fellow at the Center for a New American Security and served as country director for China Affairs in the Office of the Secretary of Defense.

December 7, 1941 - Heroes Unforgotten

Commander, Submarine Forces Blog, December 7, 2011

Today marks the 70th anniversary of the attack on Pearl Harbor. At 0755 hours on Dec. 7, 1941, CDR Logan Ramsey looked out of a window of the Command Center on Ford Island, and saw a bomb being dropped from a low-flying aircraft. He ordered an uncoded message be sent: AIR RAID ON PEARL HARBOR X THIS IS NOT DRILL. The U.S. was under attack.

In that moment, the world changed - the United States entered World War II.

The attack crippled the Surface Fleet with damage or total loss of 20 ships. Our submarines escaped that morning's attack unscathed – there was no damage to the four submarines in Pearl Harbor and the remaining 18 boats in the Submarines Pacific Fleet were not in homeport at the time. In addition, the Submarines Asiatic Fleet, which operated out of the Philippines, had 39 submarines.

Think about those submariners serving in the Pacific on that day. They were thrust into a world war with the training they had received, the ships they were assigned, and the weapons and sensors that the Navy had bought. They were ready in some aspects, and yet not ready in some very critical areas. That day, the Chief of Naval Operations declared unrestricted war. Previous assumptions about how war would be fought no longer applied; and submarine doctrine and training did not support the task at hand. New tactics needed to be developed by men brave enough to test them in battle. They were a resilient force that adapted and overcame the challenges confronting them – and of that we are extremely proud to this day.

Fleet Admiral Chester Nimitz paid the Submarine Force its greatest compliment when he stated:

“It was to the Submarine Force that I looked to carry the load until our great industrial activity could produce the weapons we so sorely needed to carry the war to the enemy. It is to the everlasting honor and glory of our submarine personnel that they never failed us in our days of great peril.”

And indeed they did not fail. This was a force of hunter-killers. It was a force that created legends the likes of CAPT John Cromwell, CDR Samuel Dealey, RADM Eugene Fluckey, LCDR Howard Gilmore, LCDR Slade Cutter, RADM Richard O’Kane, CAPT George Street and VADM Lawson Ramage. It was up to our boats to take the fight to the enemy and hold the line while the surface fleet repaired.

We know their story well:

- * More than 1,600 war patrols
- * 1,314 enemy ships destroyed – 5.3 million tons sunk
- * 1.6% of the naval strength responsible for 55% of all enemy ships lost
- * 16,000 submariners in the force – unfortunately 3,506 of who paid the ultimate sacrifice.

The world changed for the Submarine Force on December 7, 1941. The bravery demonstrated by those at Pearl Harbor on December 7th and by the submariners who took the fight to the enemy shaped who we are today. We must continue to honor this proud and rich heritage through formal ceremonies and traditions, but also through the embodiment of the warfighting spirit forged in battle, and our daily commitment to be ready! For at some point in the future, at a time and place that we may not be able to decide, one of our submarines will be in a position to execute a mission where success will rely on a single Commanding Officer and his crew. Every submariner must consistently ask themselves: Am I ready to fight?

Rear Admiral Frank Caldwell
Commander, Submarine Force
U.S. Pacific Fleet

Red October For Real: Maps Suggest Soviet Subs Cruised Canadian Arctic

The Canadian Press, December 6

The old Soviet Union may have been just as familiar with Canada’s Arctic waters as Canadians.

Sections of Cold-War-era nautical charts obtained by The Canadian Press suggest that Russian mariners have for decades possessed detailed and accurate knowledge of crucial internal waterways such as the Northwest Passage.

Those charts, which may offer the first documentary proof of the widely held belief that Soviet nuclear submarines routinely patrolled the Canadian Arctic during the Cold War, are still in use by Russian vessels. In some places, they are preferred to current Canadian charts.

“In some cases the Russian charts are more detailed than the Canadian ones and the navigators have them out on the chart table beside the Canadian ones in order to cross-reference any questionable soundings,” said Aaron Lawton of One Ocean Expeditions, an adventure tourism company that charters the Russian-owned ship *Academik Ioffe* for Arctic cruises.

“I have travelled on the *Ioffe* in the Canadian Arctic for (many) seasons and have generally found that the vessel has always cross-referenced the Russian charts,” Lawton said in an email from on board the *Ioffe* off the Antarctic coast.

The *Ioffe* is owned by the Moscow-based P.P. Shirsov Institute of Oceanography. Vladimir Tereschenkov, head of marine operations, said the Russian charts were published by the Russian Hydrographic Service.

The sections seen by The Canadian Press are photographs of charts in current use on the *Ioffe*. Compiled from information gleaned over the years up to 1970, they are clearly marked with Soviet insignia, including the red star and the hammer and sickle.

Both sections are of highly strategic Arctic waterways.

One map is of a section of the Northwest Passage in Barrow Strait, southwest of Resolute. All deepwater vessels navigating the passage, including submarines, must pass through there.

The other section details a choke point on Nares Strait off Cape Isabella between Ellesmere Island and Greenland. Not only does Nares Strait pass the U.S. air base at Thule in Greenland, it links the Arctic and Atlantic oceans and avoids waters east of Greenland that were heavily NATO-patrolled during the Cold War.

Both sections of the charts contain many more depth soundings than corresponding modern Canadian charts.

“That was surprising, especially up in that area,” said Alex MacIntyre, a highly experienced Canadian ice pilot who was advising the captain last summer on board the *Ioffe*. “The thought immediately came to mind, how did they get all those soundings?”

MacIntyre saw the charts one evening last summer on the *Ioffe*’s bridge, where he was joined by passenger Michael Byers, a Canadian academic and Arctic expert who was a guest lecturer on the ship as it cruised the Northwest Passage. Byers was also struck by the detail of the Soviet charts.

“The difference was immediately apparent,” he said. “The density of soundings on the Soviet chart was much greater than on the Canadian one.”

Byers points out that Nares Strait is still choked with thick, hard, multi-year ice and would have been even more so 50 years ago. Both he and MacIntyre believe the only way the Soviet government could have acquired data for the charts is from nuclear submarines secretly patrolling the Arctic.

“It confirms what many of us assumed,” said Byers. “The Soviet navy was extremely capable and also was willing to take considerable risk. Sending submarines into the Canadian archipelago, which was heavily monitored by NATO, thousands of miles away from Soviet assistance, was a perilous thing to do. It was a phenomenal accomplishment.”

Byers said the charts are the first public proof he's seen of that theory. They suggest that the capabilities of the Soviet navy portrayed in movies may not be entirely fiction.

"I can't help but think back to 'The Hunt for Red October,' where Sean Connery plays the captain of a Soviet nuclear missile submarine and relies on the accuracy of Soviet charts to avoid a torpedo that's been shot at his ship," Byers said. "These charts indicate that the Soviets were in fact that competent."

Canadian government sources acknowledge that the Soviet charts seem to incorporate Canadian data, but they have no explanation for the additional information they contain.

"We are not sure yet what to make of the difference in sounding-density," said one.

So-called "field sheets" — records of raw data from Canadian hydrographers — are more detailed than the published Canadian charts. Field sheets are available, but only through application.

Nares Strait has been surveyed three times between 1962 and 2003; the Barrow Strait six times between 1960 and 1989.

Byers said the existence of the Soviet charts doesn't pose a threat to Canadian sovereignty over those waters.

"This Soviet activity was covert," he said. "At no point did the Soviet Union challenge Canada's sovereignty claims."

The charts do, however, present a buying opportunity, he suggested.

"It would seem prudent, for both shipping safety and economic efficiency reasons, for the Canadian government to obtain a complete set of the Soviet charts so as to determine their potential utility. It might also be possible to obtain the Soviet equivalent of field sheets and an effort to do so should certainly be made."

Although Canada is improving its knowledge of the northern oceans, most of that mapping involves High Arctic waters in preparation for an extended continental shelf claim under the United Nations Convention of the Law of the Sea. Sea lanes within the Arctic islands are getting less attention.

"At the current rate of charting, it will take 300 years for the Canadian Hydrographic Service to bring all our charts for the Canadian archipelago to world standards," Byers said.

He points out three ships ran aground in the Arctic last summer.

"Those three groundings focused attention on the inadequacy of our charts. That's where the Soviet charts are most interesting. "This is first and foremost an opportunity for Canada to acquire some very valuable new data.

Report: Israel Released Palestinian Money After German Pressure

Albawaba, December 5

Last week, the Israeli government decided to release US\$100 million from tax collection to the Palestinian Authority. This transfer was approved after Germany exerted pressure on the Israeli leadership, claiming that the money transfer would pave the way for completing the sale of a German submarine, "Dolphin" to Israel, the German newspaper "The Welt am Sonntag" reported on Sunday.

The German newspaper added that Germany informed Israel that it won't be able to continue with the submarine deal, unless Israel releases the Palestinian funds. According to the newspaper, the German parliament approved the deal on Wednesday, only after Israel informed Germany that it is willing to reach a compromise with the Palestinians. On that day, Israeli PM Benjamin Netanyahu announced that the funds, which were frozen will be transferred to the PA.

According to media reports, Berlin has confirmed it had agreed to sell a submarine to Israel for only one third of its original price. The German parliament has approved a payment of 135 million Euro for the submarine, in next year's budget.

Israel already owns 5 submarines of this kind. This submarine is reportedly capable of carrying nuclear weapons. (Source: www.yallafinance.com)

Germany Backs Export of Nuclear-Capable Sub to Israel: Official

GlobalSecurityNewswire.com, Dec 1, 2011

Germany has endorsed plans to export to Israel a sixth nuclear-capable submarine, the Associated Press quoted a high-level German official as saying on Wednesday (see GSN, Oct. 27).

Berlin has designated \$180 million in its upcoming annual funding cycle to cover roughly one-third of the Dolphin-class submarine's expense, the insider said. Berlin footed the full bill for two vessels already delivered to Israel and paid 50 percent of the cost for a third submarine, according to AP. Another two Dolphin-class submarines are being built.

No concrete indications exist to confirm the deployment of nuclear missiles on any of the Israeli submarines. Jerusalem abides by a longstanding policy of neither confirming nor denying it possesses nuclear weapons.

A 2005 bilateral deal laid the groundwork for the latest submarine order, the government source noted (Juergen Baetz, Associated Press/Boston Globe, Nov. 30).

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 3rd 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@usssealion.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
Balao	285	10	410	Dace	247	7	691	Lamprey	372	3	85	S-13	118	4	36	Shark	314	7	777
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	Manta	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	Spkefish	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	Gabilan	252	6	225	Panche	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	Pickrel	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	Ploutfish	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	Guilamo	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
Cabezon	334	1	36	Gumard	254	9	489	Pomfret	391	6	359	Scabbardfish	397	5	223	Torsk	423	2	70
Cabrilla	288	8	368	Hackleback	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
Capitaine	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				