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San Diego, CA 92120-3404

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The Silent Sentinel

JULY 2009

Our Creed

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 towards greater accomplishment and patriotism to the United States of America and its Constitution.

[From Page 16]

"I never dreamed we could find him," Joyce said. "I opened it up, and there he was. I sat at that computer with goosebumps from the top of my head to the bottoms of my feet."

She learned he had an unlisted phone number, so Duane Ticknor wrote a letter to Wichita Falls' chief of police, explaining the situation, in hopes of letting Kuykendall know the family would like to reach him.

The letter arrived at the Wichita Falls Police Department and made it to the hands of the manager of the apartment building where Kuykendall lives.

"'The chief of police was looking for you,'" The manager told Kuykendall when he delivered the letter. "I'm a law-abiding citizen," Kuykendall laughed. "'It has something to do with a submarine,'" the manager told him.

Kuykendall agreed to let the family have his phone number, and Joyce made one of what would turn out to be the first of many calls. There were also exchanges of letters and pictures.

Kuykendall, who was 19 in 1944, didn't know George Ticknor well, but he did remember him and recognized his face in his pictures.

When Joyce asked in March whether she and her siblings could come visit him, he agreed; and they spent several days in town this month, talking with Kuykendall and listening to his memories of the USS Tullibee and his captivity at the hands of the Japanese after he was pulled from the water.

"The only reason they plucked me out of the ocean was for intelligence," he said.

Kuykendall felt at home with the siblings; he had three sisters, himself.

"They brought me up," he said.

After he returned to Wichita Falls and wrote to the families of the 79 men who lost their lives, he heard back from many of the families. In many cases, pictures, introductions and even marriage proposals came back with the replies. Since many of the men were young, their closest relatives were mothers and sisters, not wives and children. Some of the letters were returned unread.

This is only the second visit he has had.

When he was on leave from the hospital in Norman, Okla., in the fall of 1945, the wife of an electrician's mate first class traveled with her aunt to see him and find out about what happened to her husband.

He answered a lot of questions about that over the years. The Japanese forces were the first to want to know, but he didn't tell them what he told the families.

"The Japs never did claim credit for it," Kuykendall said. He said the Japanese forces saw the explosion and asked him about what had happened. He said one of their own torpedoes traveled erratically, making a circle back and striking the boat, which is what they called the submarine.

Early on, Kuykendall used to lie awake at night thinking about the USS Tullibee; after a while, he knew the thoughts would consume him if he didn't force them to the back of his mind, and that's what he had to do.

But the memories of his service haven't disappeared, and he delved into books and pointed out pictures as he talked about his experiences. At 84, he still has vivid memories of his service, which also included a tour in the Korean War.

His memories and stories have been a treasure to Ticknor's family.

"There are quite a few war orphans who still don't know what happened to their dads," Duane Ticknor said.

"In all the services," Kuykendall added.

Kuykendall worked hard to survive so he would be able to come back and share the truth with the other families, Joyce said.

"His memory is just wonderful," Heller said. "It's fabulous, wonderful — what a blessing," she said of meeting him after so many years of hearing his story.

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The Silent Sentinel via Email

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

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

NAME: _____

ADDRESS: _____

CITY/STATE/ZIP: _____

EMAIL: _____

TELEPHONE: _____

Would like the SILENT SENTINEL emailed: YES_____ NO_____

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

July Meeting

Our monthly meetings are held on the second Tuesday of the month at VFW Post 3787, 4370 Twain Ave., San Diego. Our July meeting will be on 14 July, 2009. 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

Art Carter
Dennis Mortenson (Gall Bladder Removal, June 09)
Richard Fullen (recuperating in Santee)
Mike Hyman (Crohn's Disease)
C J Glassford (recuperating at home)
Bob Coates (doing well at home)
Dick Fullen, unfortunately is back in the Nursing Home with Pneumonia. Seems to be doing OK, but is no longer recuperating at home. Can be visited/called at: Villa Monte Vista, 12696 Monte Vista, Poway, Ca 92064, 858-487-6242, Room 119. Dick's wife said he'd be pleased to see/hear from any of us.
Tom Warner's wife Sherry is finally back home recuperating after being seriously injured in a car accident. Tom and Sherry both thank you for the calls and get well wishes.

Submitted by Mike Hyman

Submarine Losses in June

Submitted by C J Glassford

O – 9 (SS 70) - 33 Men on Board :
Foundered, on 20 Jun 1942, During Deep Submergence Tests, off the Coast of New London, Connecticut :
" ALL HANDS LOST "

S -27 (SS 132) - 50 Men on Board :
Grounded on Shoals off Amchitka Island, on 19 Jun 1942, Crew Abandoned Ship, Swam to the Island, and were Rescued by PBY's from Dutch Harbor, Six Days Later :
" NO LOSS OF LIFE "

R – 12 (SS 89) - 48 Men on Board :

Foundered, on 12 Jun 1943, After Battery Flooded, while off Key West Florida : "ALL HANDS LOST "

HERRING [Bell} (SS 233) - 84 Men on Board:
Sunk, on 1 Jun 1944, by Japanese Army Shore Battery. Off Matsuwa Island, in the Kuriles :
" ALL HANDS LOST "

S – 28 [Bell} (SS 133) - 50 Men on Board:
Sunk, on 4 Jun 1944, During ASW Exercises Off the Hawaiian Islands : " ALL HANDS LOST "GOLET (SS 361) - 82 Men on Board:
Probably Sunk, on 14 June 1944, by Japanese Guard Boat, Auxiliary
Submarine Chaser, and Naval Aircraft Attack, Off Northern Honshu, Japan : " ALL HANDS LOST "

BONEFISH (SS 223) - 85 Men on Board :
Sunk, on 18 Jun 1945, by Combined Efforts of Destroyer Escort, and 4 Coastal Defense Vessels, off the Southern Coast of Honshu, Japan : " ALL HANDS LOST "

SARGO [Bell} (SSN 583) - 95 Men on Board :
Oxygen Feeder Line Fire and Explosion, on 14 Jun 1960, in After Torpedo Room, Blaze Extinguished by Submerging at Pier in Pearl Harbor, with Compartment Sealed, and After Torpedo Room Hatch Open :
" 1 MAN LOST "

Base Commander's Corner

July 2009

Hello everyone! It's summer time again and I hope everyone is thinking about summer time safety. If your going traveling, camping, swimming, BBQ, around the house, or whatever you might be doing this time of the year. Be Safe!!! The Silent Auction went pretty good considering there were about 30-35 folks there enjoying the event. I'm very disappointed in the LACK of participation from both bases; San Diego & Scamp. This was a major fundraiser for the convention. I hope we are all working on bring in some sponsors to support our convention. Okay, I will get off my soapbox.

I would like to Thanks everyone who did come out for the evening and I would like to THANK the following for their donations to support the Silent Auction and Convention: Jim Allen, Russ Filbeck, Phil Richardson, Ron & Maryann Gorence, Mike Hyman, David Ball, Mr. Pursell, Larry LaFoe, George Bisharat, Mike Williamson (Bonefish Base Commander), Kent Weekly (Trieste Base Commander), Len Heiselt (Scamp Base Commander), Mike & Tracy Hacking, Mike Marmon, James Northrop & family, The Joe McGrievy Family, John Fox, Robert Farrell, Ray Beckett, The San Diego Chargers, The San Diego Pardres, The Lemon Grove Starbucks, Dean Entertainment, Don Anderson, Chuck George, and everyone else that made a donation that I didn't mention (sorry if I forgot you) for the event. I would like to especially thank Jodie Langhamner from the Holiday Inn Bayside and her great staff for all the support for the Silent Auction. Thank you all!

Our next event we will be hosting with the help of SubVets WWII and Scamp Base is our Annual SubVets Picnic on Sub Base. In past years, there has been about 90-100 people that showed up and had a great day in the park. It will be on the 19th of July (Sunday) from 10am – 4pm (or when people deside to leave). I'm working on getting 2 tours on a boat there and we will have games and door prizes. All I'm requesting is you bring a small side dish or dessert. Come on out and bring the family for a day in the sun and lots of fun!

Well folks, I think thats all for now. Remember the convention is right around the corner and we still need some folks to help out at the convention. If you can, see Mike Hacking to find out where you can help. If you haven't registered yet, please do so soon. Again I would like to thank everyone who has supported an event we have held this year!!

Sincerely Your Base Commander,
Bob Bissonnette

Upcoming Events

04 Jul - Julian 4th of JULY Parade meet at 0900 in HS parking lot
14 Jul - Monthly E-Board MTG 6pm & monthly Business MTG 7pm
19 Jul - 3rd Annual SubVets Picnic at Sub Base Park

Wheelchairs for Veterans

Tom Warner, one of our members and also a member of *Knights of Columbus* wants us to know that as a Knight, he has access to some wheelchairs for veteranss. The caveat is that the chairs have to go to veterans who need them for non military reasons (the VA will take care of them if it is military related injury).

If you or any other veteran has a need such as this, please do not hesistate to let Tom know. He may be reached at 619-884-8471.

Base Checking Account

Balance @ 4/30/2009			**4,812.91**
INCOME for MAY 2009			
40/30/30 Base	**44.00**		
Holland Club			
Breakfast -			
Booster Club			
Midrats			
Ship's Store	**20.00**		
Subtotal		**64.00**	
Membership	**511.00**	**511.00**	
Scholarship from 40/30/30	**43.00**		
Other Scholarship Income			
Scholarship Income for May		**43.00**	
Total Income for May (per Bank Stmt)			**618.00**
EXPENSES for MAY 2009			
Membership	**20.00**		
Imaging Technologies - S.S. Printing	**51.53**		
Silent Sentinal Postage	**189.94**		
Silent Auction Site Deposit	**1,000.00**		
		1,261.47	
Total Expenses for April (per Bank Stmt)			**1,261.47**
Checking Account Balance @ 05/28/2009			**4,169.44**
ASSETS			
Base Checking (05/28/09)		**4,169.44**	
Scholarship Fund Included in Base Checking	**3,440.24**		
Base Savings (05/29/09)		**9,325.56**	
Convention Account (05/29/09)		**57,207.89**	
TOTAL ASSETS			**$70,702.89**

Minutes of the San Diego Base Submarine Veterans Meeting, July 9, 2009.

1905 – Monthly meeting called to order by Base Commander, Bob Bissonnette.
Conducted opening exercises:
Reading of the Creed:
Pledge of Allegiance:
Base Chaplin lead in opening Prayer and Tolling of the Boats for June.
USS HERRING (SS 233) 1 JUNE 1944
USS R-12 (SS89) 12 JUNE 1943
USS GOLET (SS361) 14 JUNE 1944
USS BONEFISH (SS 223) 19 JUNE 1945
USS S-27 (SS 132) 19 JUNE 1942
USS O-9 (SS 70) 20 JUNE 1941
USS RUNNER (SS 275) BETWEEN 26 JUNE & 4 JULY 1943
ALL HANDS OBSERVED A MOMENT OF SILENCE.

Secretary's report: Sailing list indicates 33 members present and two Guests.
Guests are: Max Schell and Rod Stark both members of Scamp Base.
One E-board members not Present.
Chaplain's report: No additional individual have been added to the binnacle list.
Parade committee: Member Jack Kane discussed the qualifications for entry into
The Mother Goose Parade, this parade is held in El Cajon on Sunday, 22 November.
Jack asked the membership if our group wanted to participate in this parade.
A motion was made to put in an application and enter this parade. (motion made and second)
Discussion: Our group would fall under special category and be required to purchase a 300 thousand insurance policy for the event. It will be about a 3 mile walk, but the Submarine Float will sit about 15-20 people. This will be good advertisement for the organization. The Parade is an international event and is on television. Further discussions were made about the cost and the fact that the floated need repair and it was a long walk for some of the members.
A vote was called to participate in the Mother Goose Parade. In favor… Ayes, opposed…. Nay.
Base Commander determined the Nays have it. Our base will not participate in the parade.
Members report: No new members this month.
Scholarship committee: We have one new application for the Scholarship fund; however we need a couple of volunteers to review the application. We also need a volunteer to take over
the chairmanship of the Scholarship fund. If you are interested please contact me. (Charlie Marin).
Convention committee: We have at this time 580 people who have registered for the convention.
We need you to register if you would like to help during the convention. You can sign up tonight
or go on-line and sign up. We need as many folks as possible to fill the jobs during the convention. We have patches for 5 dollars. We need more sponsors to sign up, so if you know
of any business or you would like to help sponsor check the web site for the information. We are
planning a dinner cruise and need 350 people, at the moment we have 275 signed up, so if you would like to go on a dinner cruise we need you to sign up.
Store keepers report: We can order vests and I have embroidery available for the vests. See me
after the meeting.
Breakfast committee: We sold 124 breakfasts and made 400 dollars. This money will go into Scholarship fund. The next breakfast will be 30 August, just before the convention.
1930 – Meeting call to break.
1940 Meeting called to order by Base Commander.
The Base Commander, Bob Bissonnette, presented a slide show on APLIS 2009.
Unfinished business:
This Friday we will have a silent auction at the Harbor Holiday Inn, in San Diego.
We have tickets available tonight. Admission is 20 dollars and we will have refreshments and a no host bar. Base Commander listed what prizes are available. Many items for auction have been donated by business and members.
Base commander gave a recap of the Memorial Day service held at the Submarine Base. He announced that CD was available to anyone who would like one.
We are planning another Picnic to be held on Sub Base this July 19, from 10am to 4pm. Plan to come.
New business:
Caps for kids, we have the opportunity to participate and pass out caps at a cancer ward.
T-shirts – The LA-Pasadena base has submarine shirts for sale we plan to purchase some and you can order them from the ships store.

Fund raiser for the convention: Rod stark (Scamp base) gave presentation how he would like to take pictures at the convention and share part of his profit for the convention fund. His photos are taken with a green screen and computerized so the individual can select any available background. Plus for addition charge you can by the copy on a DVD for your own use. This is an excellent way to have professional photos taken at the convention. This is a great memento for people attending the convention.
Good of the order:
There will be a Parade on the 4th July in Fontana, Ca. It will be at the auto speed way. They plan to have a car show, parade and a cruise starting at 5pm.
Tom Warner looking for information on Harper Author Warner any information you have would be appreciated. Base commander recommended he contact Pearl Harbor Submarine Memorial and the Navy Museum at Washington DC.
Frank Walker stated that the Submarine Float needs repair. The trailer needs brakes and it is unsafe to tow. A complete overhaul of the braking system is needed. Since we have just purchase the float from the Scamp Base we should ask them to share the cost in getting the trailer repaired.
2048 – Meeting adjourned.

Sailing list:

FRED FOMBY	JOE ACAY	BILL EARL
FRANK WALKER	W. JOHNSTON	ED WELCH
DAVID BALL	BOB OBERTING	DENNIS MCCREIGHT
CJ GLASSFORD	JOEL EIKAM	MICHAEL HYMAN
CHARLIE MARIN	JACK KANE	MATT BAUMANN
BOB BIXXONNETTE	DICK WOLZ	JIM WADE
ROD STARK	CHRIS STROWS J	IM TREGRENTHA
TOM POLEN	TOM WARNER	DAN EBERHARDT
MANNY BURCIAGA	JIM MALDON	MIKE HACKING
BOB WELCH	RON GORENCE	BOB FARRELL
BOB COATES	RAY FERBRACHE	MAX SCHELL
NIHIL D SMITH	MIKE MURPHY	

A Fourth of July Message

M. Hyman

Japan haa already enslaved China, Manchuria, and Korea. In a few months, Italy will seize Albania--Ethiopia is already under its dictatorial control. Having swallowed up Saar, Rhineland, Austria, and Czeckoslovakia, Germany will soon march again—this time on Poland—bringing civilization into a struggle for its very survival.

The date is December 15, 1938. The *New York Times* runs an editorial, describing it as "our answer to the challenge of upstart dictatorships." The Times opines: "Here, in fewer than 500 words, is affirmed the whole American doctrine that the State is made for man, and not man for the State; that the rights of free people are superior to the powers of their Government. Here is the time-honored statement of our high regard for individual opinion and the dignitiy of human life. . . ." The bulk of their editorial follows below:

The Bill of Rights

Amendment I

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

Amendment II

A well regulated Militia, being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

Amendment III

No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

Amendment IV

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Amendment V

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a

witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

Amendment VI

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence.

Amendment VII

In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise re-examined in any Court of the United States, than according to the rules of the common law.

Amendment VIII

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

Amendment IX

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

Amendment X

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

Submarine Related News

China acknowledges incident between submarine, US Navy ship, gives few details
By Christopher Bodeen, Associated Press, June 16, 2009

BEIJING – China's Foreign Ministry acknowledged for the first time Tuesday a collision last week between a Chinese submarine and a sonar being towed by a U.S. Navy destroyer.

The incident occurred Thursday, spokesman Qin Gang said, while giving no details.

The U.S. Navy has had little comment on the incident, other than to say that the USS John S. McCain's towed sonar had been damaged. There have been no reports of injuries or damage to either vessel.

While analysts said the collision appeared to be an accident, they have warned of a growing pattern of incidents and confrontations arising from China's growing naval power and willingness to assert territorial claims in waters off its coast.

"What we're seeing are the initial stages of a growing military competition between the United States and China with naval forces rubbing up against each other in a dangerous and largely unregulated posturing for alliances and natural resources in the region," said Hans M. Kristensen, a researcher with the Federation of American Scientists in Washington, D.C.

The incident reportedly occurred in international waters northwest of the former U.S. naval base at Subic Bay in the Philippines. Beijing considers the area its territorial waters as part of its claim to the entire South China Sea and opposes U.S. military operations and data gathering there.

Russia to give India nuke sub where 20 died: report
Agence France-Presse, June 17, 2009

MOSCOW – A Russian nuclear submarine in which 20 people died after a toxic gas accident will be leased to India later this year, a Russian defence official was quoted as saying on Wednesday.

"On June 20 the vessel should finish all its tests. We are planning to hand the nuclear submarine over to India by the end of this year," Deputy Defence Minister Vladimir Popovkin said, quoted by Interfax news agency.

Popovkin was referring to the the Nerpa, an Akula-class attack submarine that was the site of the one of the Russian navy's worst tragedies in recent years, Interfax reported.

The Nerpa was undergoing trials in the Sea of Japan last November when its fire-fighting system went off by accident, filling the submarine with a toxic gas that killed 20 sailors and shipyard workers.

Media reports said at the time that the Nerpa was to be delivered to India, under a deal in which New Delhi would pay Moscow two billion dollars for two submarines with an option to buy them when the lease runs out.

House committee OKs new submarine
By John E. Mulligan, Providence Journal, June 18, 2009

WASHINGTON, D.C. – The House Armed Services Committee has produced a $680.4-billion defense spending blueprint for next year that would pinch Navy programs but treat the New England shipbuilding industry relatively well.

Most significantly for Electric Boat's shipyards at Groton and Quonset Point, the House authorization bill accepts the Navy's request to buy a new Virginia-class attack submarine – locking in longstanding efforts to accelerate that program to a procurement rate of one submarine per year. The authorization also includes money to research and develop a new line of ballistic missile-firing

subs to replace the aging Ohio class. EB, a division of General Dynamics, is the only remaining American shipyard capable of building "boomers."

A new DDG-51 class destroyer, to be built at another General Dynamics yard, Bath Iron Works in Maine, is also among the eight new warships in the Navy authorization for next year. The revival of production of these destroyers - known as the Arleigh Burke class - was precipitated by the early cancellation of the DDG-1000, an ambitious new destroyer design troubled by delays and rising costs.
The defense blueprint is scheduled to go to the House floor next week. The Senate Armed Services Committee is still considering its version of the defense bill. Rep. James R. Langevin and Sen. Jack Reed, both Rhode Island Democrats, sit on the military panels in their respective houses.

Unmanned and Under Way
Progress in unmanned maritime systems
By J.R. Wilson, The Year in Defense – Naval Edition

Unmanned aerial vehicles (UAVs) initially gained credence with the U.S. military during the first Gulf War, continued to prove themselves in the Balkans, and finally came into their own as an indispensable asset for air, land, and sea forces at all levels during post-September 11 operations in Afghanistan and Iraq.

They also solidified the foundation for greater research and development of unmanned surface vehicles (USVs) and unmanned underwater vehicles (UUVs), which are substantially behind UAVs in technology development, integration into maritime concepts of operations and acceptance by potential users. But just as UAVs have reduced the number of pilots needed to fly dangerous intelligence, surveillance, and reconnaissance (ISR) missions or penetrate enemy air defenses early in a conflict, so are unmanned maritime systems (UMS) seen as a combination force multiplier and safety enhancement at sea.

That applies to both deep water and littoral (comparatively shallow water regions within a few miles of shore) missions.

"To meet future challenges in littoral and mine warfare, we must understand the operational capabilities resident in technologies such as unmanned vehicles. Furthermore, we must embrace advanced technology and its promises to pace the threat in this very complex world in which we live," according to Program Executive Officer for Littoral and Mine Warfare (PEO LMW) E. Anne Sandel at the U.S. Naval Sea Systems Command (NAVSEA). "Our single most important job in PEO LMW is to deliver state-of-the-art warfighting capability to the men and women who defend our freedom. Developing technology into operational capability like UMVs is one of the ways we accomplish our mission.

"Unmanned vehicle programs will continue to evolve and play an integral part in tomorrow's battlespace. I am very excited about how these initiatives are using COTS [commercial off-the-shelf technologies], advanced technology solutions, small business innovation, and open architecture principles to build dependable and affordable unmanned systems. We in PEO LMW are committed to developing UMVs that will engage the enemy at range and ensure tactical advantages in the littoral warfighting environment."

The U.S. Navy currently has no plans to employ UUVs or USVs for surface warfare operations, although the prospects for UAVs in that arena are growing, and a future role for UUVs and USVs remains open to development. For anti-mine and anti submarine warfare, however, those two platforms increasingly are seen as valuable extensions of existing capabilities.

"We didn't see a need for them with the surface warfare missions assigned and their requirements," Capt. Mike Good, NAVSEA's program manager for Littoral Combat Ship Mission Packages, explained. "For the other areas, there was a very clear operational contribution the unmanned vehicles could make." While the Navy is an obvious candidate for UUV and USV applications, the U.S. Army – which has more small boats than the Navy, mostly "brown water" (rivers) and near-shore littoral – also is looking into the new technology. The same is true for the Marine Corps – although their requirements will be met, for the most part, by Navy owned and operated assets – the U.S. Coast Guard, and various other federal investigative and law enforcement agencies.

UUVs and USVs are included in the Militarily Critical Technologies List (MCTL) prepared by the Under Secretary of Defense for Acquisition, Technology and Logistics. The MCTL is described in the report's executive summary as identifying "technologies crucial to weapons development and has been a key element in evaluating U.S. and worldwide technological capabilities. … The [Militarily Critical Technologies Program] process is a continuous analytical and information-gathering process that refines data and updates existing technology lists to provide thorough and complete technical information. It covers the worldwide technology spectrum and provides a systematic, ongoing assessment and analysis of technologies and determines values and parameters for these technologies."

USVs and UUVs, according to the report, "may have high-leverage, asymmetric impact on U.S. and allied naval forces."

"Unmanned maritime vehicles (underwater and surface), both commercial and military, are a growing dimension of marine capability. Technologies for their handling, operations, and mission support (underwater data transmission, vision, and lighting) can improve the military utility of the UUVs in the hands of potential adversaries."

The report also described unmanned maritime vehicles' potential for direct attack, operations in dangerous waters, and as vehicles to enhance swimmers' endurance and range. The report went on to say that technologies listed to "enhance the military utility of UMVs include:

- launch and recovery from host platforms;
- stored energy density;
- capability for autonomous navigation, operations and networking;
- underwater TV cameras and light sources;
- acoustic and fiber optic data retrieval systems; and
- capability for automated target recognition and action."

Key concerns for UMVs include propulsion and power systems and magnetic and electronic signatures – especially with regard to reducing both noise and visibility to enhance detection avoidance – and communications.

"[Future technology] is a continuing concern of mine in two areas. First is energy, which is key to allowing off-board vehicles to extend the reach of the host platform and allow the flexibility and independence of manned naval platforms to execute their missions without worrying about recovery and refueling," said Capt. Paul Siegrist, NAVSEA's program manager for Unmanned Maritime Vehicle Systems.

"Second, while extended length missions and longer endurance require more energy, they also increase levels of autonomy to operate the vehicle for longer periods of time away from the host. In both areas, we maintain our awareness on a lot of developing commercial technologies."

Both types of platforms can be tethered to their host ship, using that cable to receive controls from a human operator and to return sensor data, or operate autonomously, with no physical connection to the host ship and, typically, following a pre-programmed mission plan, although an acoustic link can be used to enable remote control or modify the mission. A fully autonomous platform can operate at greater ranges and with less potential for detection.

While the launch of either a UUV or USV from a surface ship or submarine is a relatively standard procedure, generally utilizing torpedo launch tubes for UUVs, recovery is far more challenging. For submarines, it requires a homing device to return the UUV to the boat's launch and recovery system, a device to couple the vehicle to that system and a mechanism to reposition the UUV in the submarine's torpedo tube. While seemingly less complex an operation for surface ships, which typically use winches or cranes to lift the vehicle from the water, during an ongoing military operation that may need to be done while the host ship is under way to reduce its potential as a stationary target.

Military missions for UUVs include ISR, mine countermeasures (MCM), antisubmarine warfare (ASW), identification and inspection of underwater objects, oceanographic reconnaissance, and underwater mapping. For ISR, ASW, and MCM missions, that also means the ability to detect, assess, avoid or, with more advanced systems, engage potential threats.

"In the area of mine warfare, what the Navy is trying to do is take the sailor out of the minefield. In order to do that, our unmanned vehicle systems provide a tremendous capability," Siegrist said. "We have man-portable UUVs that provide mine warfare sensing, larger systems [12 3/4-inch realm], and larger onboard systems, such as the Remote Minehunting System, that can extend the detection range significantly.

"In the UUV world, as you increase the volume and size of the vehicle, your range generally is extended. In all cases, we are trying to detect mines at greater distances and take action necessary to neutralize or avoid those mines to accomplish the mission. So it is absolutely an extension of onboard sensors and the field of regard."

USVs, under the widest definition, have been part of the military arsenal since at least World War II and, as with their aerial counterparts, cover a wider size range than current UUV models, from as small as a miniature torpedo to as large as a Cigarette (a medium-sized speed boat). They can be fitted with explosives for direct-attack missions or with sensor packages for long duration or high-threat environment operations where the use of a manned vessel would be unacceptable (i.e., areas contaminated by nuclear, biological, or chemical agents or where an overt U.S. military presence is prohibited).

"Since unmanned ground vehicles (UGVs) and USVs operate in an essentially two-dimensional world (they cannot fly or submerge), they may share some propulsion and mission system technologies," the MCTL report noted. "By operating on the water's surface, a USV can operate on conventional power sources, such as diesel or gas turbine, rather than more exotic and limiting power supplies, such as batteries or fuel cells. A USV could communicate in the three mediums of interest – undersea, air, and space – relaying information from submerged submarines or UUVs to any combination of surface vessels, aircraft, or satellites and vice versa."

A September 2008 market analysis by Frost & Sullivan forecast that military spending on UAVs and UGVs will be relatively flat through 2016, but both UUVs and USVs will see a steady and consistent year-to-year rise in spending, with the USN dominating the market with a more than 84 percent share. The report also predicts spending on UUVs will be about double that for USVs, but both combined will only total about one-third the expected budget for UGVs, which in turn is dwarfed by UAV expenditures.

Pulling data from both military and industry sources, Frost & Sullivan also predicted the following growth path for UUV/USV mission capabilities through 2030 as follows: 2007-2015: UUVs will be used for reconnaissance, underwater inspection, autonomous mapping, mine neutralization and mine countermeasures; USVs for maritime surveillance and interdiction and ASW;

2015-2025: UUVs will add enhanced oceanography, communications and ISR capabilities; USVs surface warfare and expanded MCM; and

2025-2030: UUVs will expand to ship-deployed communications, submarine tracking and information operations; USVs to armed ASW.

Since September 2007, Good's Littoral Combat Ship Mission Packages program has delivered the first of each mission package – counter-mine, surface, and antisubmarine warfare – for integration and testing, leading to planned installation on the first of the new class of ships – LCS 1 Freedom – sometime in 2009.

For the mine countermeasures mission, that package included both a mine-sweeping USV and a UUV – the Battlespace Preparation Autonomous Underwater Vehicle (BPAUV).

"For LCS, surface warfare is focused on engaging and defeating small boats; minesweeping and minehunting is a mine countermeasures function, as hunting and defeating subs is an ASW function," he said. "ASW has two USVs with a variety of sensor payloads; the only work ongoing is not a pure underwater vehicle. There is an effort to adapt the Remote Minehunting Vehicle to do ASW; in this case, they would work together cooperatively, with one towing a medium frequency sonar source [currently in development] and the second a passive hydrophone towed array to receive sonar signals from the other system. That has not yet been fielded.

"In the MCM package, there are two snorkeling unmanned vehicles – the Remote Minehunting Vehicle – which has a sidescan sonar [AQS-20A]. They don't operate together; we have two in order to have the capacity to cover the water space. Each of those packages incorporates a manned helicopter and an unmanned VTOL [vertical takeoff and landing] UAV. I don't procure those, but am responsible for integration with them and work very closely with the NAVAIR [Naval Air Systems Command] PMs and their offices in PMA-266 for VTUAV and PMA-299 for the H-60 helicopters."

The designs of the two different unmanned vehicles designated for MCM and ASW missions are driven by requirements for speed, power and endurance, as well as sea-keeping in the different environments in which they operate. The ASW USV is built by General Dynamics and the MCM USV by Oregon Iron Works, with systems integration on both largely done by the Naval Warfare Center.

"We're preparing to do end-to-end sensor testing in the water," Cook added. "Until now, the USV testing has largely been performed by PMS-403 [Unmanned Maritime Vehicle Systems]; as they complete their qualification effort on the USV itself, it will transition to the module level, where my team will take the MCM and ASW USVs and some of the other systems that make up a mission package or set of mission modules and perform an end-to-end test to verify all of the integration requirements have been successfully met. Subsequently, we will test each of the two LCS seaframes.

"At this stage, we're really locking down configuration so it is very clear exactly what we're testing. As we identify any issues, we'll look at how to resolve those. But so far, the testing that has been conducted under PMS-403 shows the USVs are maturing very nicely."

At PMS-403, Siegrist is working to provide UUV and USV platforms across a range of naval warfare areas. While his office is not directly involved with UAVs or UGVs, they keep a close eye on developments on those platforms because some elements – such as sensors, communications, power – may be applicable across the various regimes, as also is the case between UUVs and USVs.

"Unmanned maritime vehicles are in various stages of integration into different platforms and operational forces," he said. "We have both UUVs and USVs supporting surface ships, especially the Littoral Combat Ship. At this point, those are primarily engineering development models that will give us lessons learned and allow us to more precisely define requirements and proceed with formal acquisitions in the future.

"For submarine-based UUVs, we recently decided to more aggressively pursue large diameter systems. Within the context of the Navy's 2004 UUV Master Plan, there are four classes of vehicles: Small manportable, lightweight [12 3/4 inches in diameter], heavyweight [21 inches], and large [anything larger than 36 inches]. We had been concentrating on 21-inch, but now have turned to large. The previous systems used torpedo tubes for ocean interface, but going with larger vehicles will allow incorporation onto SSGNs [converted Ohio-class cruise missile submarines] and their larger payload tubes, as well as the larger bow tubes incorporated into the Flight 3 Virginia-class submarine."

There also are studies under way into the technological feasibility of weaponizing UUVs, but any acquisition program for direct attack platforms is considered to be several years away.

"All current systems are autonomous, not tethered, although the degree of autonomy varies from fairly complex to simple to operator monitored systems," Siegrist said. "The degree of autonomy really varies with the mission of the vehicle. It is relatively complex when you are operating underwater, out of communication for a long time, less so when you are near the surface and can send back frequent reports. But freeing your operators from continuous monitoring also has benefits; it just depends on the vehicle and its mission.

"The No. 1 mission for UUVs – ISR – remains valid, but we're also looking at MCM, ASW, inspection and identification – which would be helpful in harbor security – payload delivery in support of forces ashore, time critical strike, and information operations. For USVs, mine warfare and ASW are the priorities, but maritime security is an area of interest. We do have a couple of vehicles we are looking to develop in that area, specifically smaller vehicles for basic maritime security functions. Surface warfare and special ops support also are possibilities, as is interdiction support."

Longer term, as maritime systems evolve to the extent UAVs already have, their application may expand even beyond what was predicted in the Frost & Sullivan report, including acting as permanently deployed extensions of a submarine's traditional sensors or operating in tandem or in swarms.

"No reason you couldn't use a USV to support sub operations, although the nature of a USV would be more complex with regard to launching and retrieving. But if an unmanned vehicle is out there, a submarine certainly could leverage information it is providing," Siegrist said. "In reality, what unmanned vehicles do is extend the field of regard and influence for any of our naval platforms.

"Integrating unmanned capability into some networked system would be clearly advantageous in some scenarios. While some preliminary work has been conducted, in terms of basic science and technology of a UUV and USV or multiple UMVs working together, at this point it is an area of investigation rather than implementation."

At the Association for Unmanned Vehicle Systems International's (AUVSI) Unmanned Systems Program Review 2009 in February, Navy officials termed the growing introduction of unmanned systems a paradigm shift for naval operations. Their impact, AUVSI members were told, ranges from the ongoing war on terrorism to the Navy's role in battling drug smuggling at sea to anti-piracy missions and whatever new conflicts may arise in the future.

Rear Adm. Mark W. Kenny, director of the new Navy Irregular Warfare Office (stood up in July 2008), told the conference the problem for the Navy is balancing growing budget constraints with a need to more quickly develop and adapt unmanned technology to meet both current and emerging threats. For now, he added, that means surface rather than submarine launch because the former requires less complex launch systems needing less development time and money. At the same time, the Navy expects UMVs to actually reduce both costs and the need to use valuable manned assets – including SEAL teams, which have had to meet increasing demands from commanders and politicians in recent years. That is one of the reasons behind the new emphasis on large diameter UUVs, which can be outfitted with more sensors and expand from mine countermeasures to littoral ISR, such as near-shore signals intelligence.

"Ideally, we could have a series of them to cover ports or hotbeds of activity and they collate that [UUV data] on the ship," Kenny said. "What we're doing is responding to needs from the front."

Although evolving quickly, UUVs and USVs are still in their infancy in naval operations, not only by the United States, but across the world. But just as happened with UAVs in the past two decades, the number and variety of unmanned maritime systems and their missions are expected to grow rapidly in the decade to come. "This is an area of emerging capability for the Navy, one in which there is tremendous potential to assist and augment the capabilities of our manned platforms across all areas – submarine, surface, and air," Siegrist said. "And an area in which we will continue to put forward the best capability possible to assist our sailors in executing their missions."

German submarines for Pakistan?
United Press International, June 18, 2009

Germany has generally agreed to export three submarines to Pakistan, but the sale is being delayed because of the country's political instability.

For Germany, it's an economically promising but politically risky deal: the sale of three U-214 submarines built by German ThyssenKrupp Marine Systems to Pakistan for an estimated $2 billion.

In 2006 the German government gave its general approval after Pakistan and the company requested the sale. Berlin even granted federal export credit guarantees worth nearly $1.4 billion.

That was before Pakistan became infested with al-Qaida and Taliban insurgents who went on to destabilize the government and launch attacks into neighboring Afghanistan. Pakistan's political instability has caused Germany to delay the deal.

Contract negotiations have been dragging on for years. A delivery of the three subs to Pakistan would require the approval from Germany's national security council, and it has repeatedly postponed a decision on the deal. But that doesn't mean the sale is off the table: The Frankfurter Allgemeine Zeitung newspaper reports negotiations are still ongoing.

Pakistan's defense minister recently visited Berlin and a top Pakistani general will arrive in the German capital next week – it's likely that the Siemens-engine-powered U-214 subs, which are able to run underwater at reduced speeds for up to three weeks, were and will be on the discussion agenda.

Observers say a final decision on the deal won't be made until shortly after the German federal elections in late September. The period in between two governments is often used to push through politically controversial deals.

Several German lawmakers oppose the sale, mainly because of Pakistan's instability and the region's overall volatility.

Berlin says it doesn't sell arms into politically unstable countries, but numbers prove otherwise.

German companies in 2007 sold weapons for $221 million to Pakistan, according to a government report.

Globally, Germany proves a successful export of high-tech weapons and weapons parts. According to the Stockholm International Peace Research Institute, Germany exported conventional weapons – such as submarines, tanks or helicopters – worth some $12 billion between 2004 and 2008. (Small arms and weapons parts amount to roughly the same amount.)
Compared with 1999-2003, German arms exports increased by 70 percent, SIPRI says. The country is now No. 3 in the global market, trumped only by Russia and the United States, which leads the world in arms exports.

U.S. Robot Sub Dives Into Ocean's Deepest Spot
All Headline News, June 20, 2009

WASHINGTON, D.C. – A remotely-controlled U.S. submarine has dived in the deepest part of the ocean paving way for scientists to explore and survey 100 percent of the ocean floor.

The Nereus, developed and operated by Woods Hole Oceanographic Institution of Massachusetts, dove to 6.7 miles (10,902 meters) in the Challenger Deep of the Mariana Trench near Guam on May 31, said Andy Bowen, project manager for the Nereus Robot Development Program, according to Voanews.com.

Existing underwater research vehicles can operate only at a maximum depth of 3.7 miles (6,000 meters).

"Nereus is a tool which we hope the scientific community will use to make important discoveries about that final 4,000 meters of the ocean," Bowen told Voanews.com.

Weighing three tons and measuring four meters long, the Nereus can be operated by pilots aboard the research vessel Kilo Moana through a lightweight fiber-optic tether. It can also operate by itself without the tether.

The robot is equipped with 4,000 lithium ion batteries for power, propellers for maneuvering, and a sonar and digital camera for mapping the sea floor in fine detail. It has ballasts used for diving but the weights are released and left in the sea floor when ascending back to the surface.

Prior to Nereus, there were only two submarines that reached the bottom of the Challenger Deep. In January 1960, the spherical bathyscaphe Trieste carrying Jacques Piccard and Don Walsh reached 6.8 miles (10,916 meters) deep and stayed at the crushing depth for 20 minutes.
In 1998, the Japanese robot submarine Kaiko dove to similar depths (10,911 meters) taking samples of sediments and taking pictures of a sea cucumber, a worm and a shrimp. The Kaiko was lost during a dive in 2003.

Don't Ignore Growing Threat From China
Joe Buff, The Day, June 28, 2009

A Chinese Navy nuclear-powered submarine sails during an international fleet review to celebrate the 60th anniversary of the founding of People's Liberation Army Navy April 23 off Qingdao, China.

Some pundits use current force comparisons between the two countries to reason that China would have to be crazy to ever intentionally start a war with the United States: If they did, they would certainly lose, very quickly and badly. But sloughing over or garbling the differences between the time frames of the data ("current"), and of the conclusion ("ever"), produces an analysis that is seductive yet potentially flawed.

Military power compilations for 2009 do not necessarily accurately predict relative strengths and weaknesses between 2025 and 2040. This is especially true when the year-to-year moving parts of those compilations could propel cash-rich China and budget-strapped America in opposite directions when it comes to military spending. China's aggregate table of organization and equipment may very well swell impressively in years to come, while America's could hold steady or even decline.

Those who believe that Beijing's intentions are and will always remain non-aggressive should take note of the Pentagon's "Annual Report to Congress on the Military Power of the People's Republic of China, 2009." As this report makes clear, the danger of a war breaking out inadvertantly, rather than by desire or design, due to a "misunderstanding or miscalculation," is real, significant, and increasing.

To try to minimize this risk simply by America disarming unilaterally would raise the probability that Beijing could be tempted to wage war on purpose. Washington needs to rely on a flexible blend of engagement through diplomatic dialogue and deterrence through robust defense, not blind optimism and fudged numbers.

I grew concerned recently when evidence that China is unlikely to have an operational supercarrier before 2016 was used to imply that America's long-term, steady-state 11-ship supercarrier fleet will always be numerically superior to China's. This ignores the possibility that China's carrier fleet could grow constantly starting in 2017.

I also encountered a downplaying of Chinese submarine capabilities based on a muddled time horizon. That argument pointed to the small number of operational patrols in 2009 (reportedly 12), but ignored the exponential growth of this undersea activity compared to levels earlier in the decade – very few, if any, reported Chinese sub patrols each year. The analysis also discounted China's announced plans for buying or building more diesel and nuclear subs.

Taking a snapshot in time approach to Chinese submarine activity is not a sound way to quantify how many submarines the U.S. Navy will need in the 2030s. Adequate preparation demands ongoing funding and construction of two Virginia fast-attacks a year, beginning now.

The United States must strike the proper balance between today's "Long War on Terror" and adequate preparation to dissuade or, if necessary, win a hypothetical future "Big War" with China or Russia, or whomever. The U.S. Navy's New Maritime Strategy explicitly recognizes that such a big war would be severely destructive, and thus deserves to be planned against now.

The doctrine for striking this now-versus-later balance is at present in a formative stage and making the right choices depends on avoiding wrong assumptions or outright rhetorical blunders.

America's 2010 fiscal-year Pentagon budget, to be finalized by Congress later this year, will set a lasting tone regarding two critical things. One is how much money America will be spending soon on defense. The other, much more fundamental, is how rationally or irrationally we will develop our annual national security budgets for a generation to come. This hard work needs to be driven by top-down global strategy, not bottom-up partisan bean-counting, with an emphasis on crisp intellectual rigor.

(Joe Buff is an author who has written extensively about submarine warfare in novels and non-fiction. He lives in Milan, N.Y. His Web site is JoeBuff.com.)

Implications of China's Naval Modernization for the United States
Testimony before the U.S. – China Economic and Security Review Commission
By Richard Fisher, Jr., Strategy Center, June 20, 2009

Editor's Note: This is just a portion of a much-longer report. The complete text can be found at http://www.strategycenter.net/research/pubID.199/pub_detail.asp.

Submarines

The PLAN's traditional emphasis on submarines stems from early People's War doctrines that stressed coastal defense and sea denial to counter sea-borne invasion. PLAN non-nuclear submarines are expected to comprise about 50-60 modern to still-useful non-nuclear submarines (SSKs) by the middle of the next decade. The PLAN is expected to retain for some time most of the 19 or so Type 035 Ming class SSKs built mainly during the early 1990s, for secondary decoy, mining and Special Forces transport missions. But the 1990s saw a greatly increased investment by the PLA in both non-nuclear and nuclear powered submarines.

To achieve a rapid technology upgrade the PLAN has turned to Russia, for new non-nuclear submarines and technology, and technology for nuclear submarines. But Israel and perhaps others have provided submarine technology. However, the PLA has also made considerable strides in developing acoustic signature reduction technologies like advanced skewed propellers, engine isolation systems and anechoic hull coverings. In addition, academic technical literature suggests the PLA has been developing multiple air independent propulsion (AIP) systems to include Sterling engines, fuel cells (with German inputs) and close cycle diesel engines similar to the French MESMA. These hold the potential for increasing submerged periods from one to two weeks, greatly increasing the tactical utility of SSKs.

To accelerate its modernization, in 1993 the PLAN ordered two Russian Project 877EMK Kilo class submarines, and two more advanced Project 636 Kilos. When the U.S. announced its intention in early 2001 to sell eight new SSKs to Taiwan, the PLAN responded in early 2002 by ordering eight more advanced Project 636M subs, armed with the Novator Club system of anti-ship, land-attack and anti-submarine cruise missiles. The anti-ship and land attack variants have a 200+km range, and the unique 3M54 variant uses a supersonic second stage to defeat CIWS defenses. Whereas Taipei and Washington have yet to begin construction of the first new SSK for Taiwan, the PLAN's eight new 636M Kilos were delivered by 2006. The PLAN's 12 Kilos, deployed to the East Sea and South Sea Fleets, now constitute a formidable, quiet, survivable (twin-hull construction) and well armed open-ocean capable SSK force.

After solving some developmental challenges by the late 1990s, by 2004 the PLAN had launched 13 of its Type 039 Song SSKs, similar in size and configuration to the 1980s level French Agosta SSK. The Type 039 marks a generational advance over the Type 035 by its greater use of digital ship control and combat systems, and its far better better sonar, weapons, and acoustic levels. While perhaps not quite as good as the Kilo, in late 2006 a Song SSK was now famously able to sneak up on the U.S.S. Kitty Hawk during an exercise near Japan. While reports contended the U.S. Navy was not watching for PLAN submarines, it is also well known that for decades, lesser capable but still quiet and well-captained SSKs have been able to penetrate U.S. carrier group defenses, highlighting a growing threat from PLAN SSKs.

Then in 2004 the PLAN reportedly caught U.S. intelligence services by surprise with the launch of the first Yuan (possibly Type 041) class SSK. So far about four have been launched, though the 2009 Department of Defense PLA report estimates up to 15 will be built. This SSK shows a dimensional similarity to the Kilo but differs in the placement of its forward hull horizontal fins. The Yuan may also incorporate double-hull construction and may be the first PLAN SSK class to use an AIP system. It features a cleaner hull form than the Song, and may also have better sonar and combat systems. There are also unconfirmed rumors that the PLAN has developed an additional SSK class which shows some similarity to the German Type 212 SSK class.

SSNs: The PLAN is expected to operate the three first generation Type 091 Han class that were updated between 1998 and 2002, perhaps increasingly for secondary and training missions. The 2002 launch of the first Type 093 Shang followed nearly a decade of great effort, followed by a second in 2003. There is some unconfirmed reporting that four more have been launched, for a total of six. Should such reports be false, then the production hiatus may be explained by preparations for a successor class, usually referred to as the Type 095. Chinese source images of the Type 093 indicate that it is a measured development the first generation 091, with a more hydrodynamic hull form, though the presence of air vents may generate some noise. Earlier estimates by the U.S. Office of Naval Intelligence compared the performance of the Type 093 to the late Soviet era Russian Victor-III SSN. If true, this would constitute a steep advance for PLAN SSNs, bringing them to a level comparable to early U.S. Los Angeles class SSNs, but not as capable of the latest U.S., Russian and British SSN. This potential gap in performance may help explain a possible low production for the Type 093. The ultimate number of SSNs the PLA plans to build is not known, but might be determined by the size of the PLAN's SSBN and carrier forces.

SSBNs: In 2004 the PLAN launched its first Type 094 Jin class second generation SSBN. The 094's development extends back to the 1960s and several Chinese internet images show that it not a radical departure from the design of the solitary Type 091 Xia first generation SSBN. It is reasonable to expect it features improved sonar, combat and quieting systems. In 2007 the Department of Defense PLA report estimated the PLA would build up to five 094s, though Chinese sources sometimes note the total number may be six—the PLA has not disclosed its planned construction. Again, the hiatus in SSBN production may indicate the PLA is developing an improved version. Chinese internet commentary sometimes raises the possibility that future versions may have 16 submarine launched ballistic missiles (SLBMs) vice the current 12.

While the first Type 094 may not be operational until 2010, the expected service entry of the second generation JL-2 SLBM, it has been deployed to its likely new base near Sanya, including one 2008 visit to this base by PLA and Communist Party leader Hu Jintao. Some Asian sources have commented that the JL-2 has yet to overcome some developmental issues, but Chinese CCTV television coverage in late April 2009 indicated the JL-2 was "cold launched" from a Type 094 in 2005.

China's possible adoption of a "bastion" strategy for its new SSBNs may depend in part on success in extending the range of the JL-2. The U.S. intelligence community reports a current range of 7,200+km. From Hainan this is enough to reach Moscow and Canberra, but the 094 would have launch near Shanghai in order to reach Anchorage, Alaska. Chinese internet commentary sometimes mentions the possibility of a future 12,000km range JL-2, which would be sufficient to reach Seattle and Los Angeles from just east of Hainan Island, or Chicago if launched near Shanghai. NASIC has reported that the JL-2 may currently be armed with a single warhead, though Asian military sources have noted to the author that it may eventually carry 3 to 4 warheads. The 2005 "cold launch" image of the JL-2 shows that it has a blunt nosecone shape, which would be consistent with multiple warhead carriage.

Future issues: If current estimates hold, the PLAN could have about twice the number of SSKs as are in both the South Korean and Japanese navies, or over three times that in the Japanese or the Australian Navy. The high likelihood that later Yuan or successor classes of SSKs will feature an AIP system points to an increased ability of PLAN SSKs to conduct offensive as well as defensive missions in higher threat environments. A very quiet AIP powered SSK will also pose an increased risk to U.S. and Russian SSNs.

The future number of PLAN SSNs and SSBNs is a critical issue as it may affect other aspects of fleet size and the degree of aggressiveness that China may show in asserting control over some disputed maritime territories. Based on available open sources this analyst estimates tentatively that the PLA may be seeking a rough division in the number of long range nuclear missiles that it assigns to the Second Artillery and to the PLAN. If one assumes that a notional size for a land-based ICBM type will be about "20," and that Type 094s will continue to have 12-16 SLBMs, that points to a potential early nuclear missile force increase to about 60-70+ missile each for ICBMs and SLBMs.

Should this estimate prove plausible, it would then follow that the PLAN would seek to justify greater resources and political considerations in order to protect the critical SSBNs. This would be increasingly necessary if the Type 094 suffers from an acoustic disadvantage compared to U.S., Indian and Russian SSNs. As such it is possible that the PLAN would seek to be able to deploy multiple SSN escorts for its SSBNs, and there may be a considerable difference in consideration between 5 and 6 SSBNs, as it has been suggested that the 6 SSBNs may enable simultaneous patrols by two SSBNs. The latter might serve to justify a new minimum force of 12 SSNs, though carrier battle group escort missions might increase this number from to between 15 and 20.

If the U.S. decides to pursue PLAN SSBNs with missiles targeted against the United States, as the U.S. Navy did versus Soviet SSBNs during the Cold War, then China may react by seeking to increase the capability and number of its SSNs to an even greater level. This would spur a new undersea technology competition, especially if China also responded by starting to pursue U.S. SSBNs.

Secret of the swamps: Colombia's cocaine submarines

Mangrove boatyards build to order for traffickers supplying US market

By Sibylla Brodzinsky, The Guardian (United Kingdom), June 21, 2009

Slicing through milky green waters, a Colombian navy patrol wove through the maze of mangroves in the remote Sanquianga national park on the Pacific coast, following a tip.

After eight days, the search paid off. Hidden deep within the boa-infested swampland, the patrol came upon a 60ft hull propped up on a scaffold under a tin-roofed hangar. This was no ordinary shipyard, and it was no ordinary vessel.

Shipbuilders had been putting the finishing fibreglass touches to the hull of what is known here as a narco-sub. Had they finished, the vessel would have been loaded with as much as four tonnes of cocaine and put to sea, headed north, to the US market.

It has been a triumphant month for Colombian navy patrols trying to make a dent in what has become a booming cottage industry: narco-sub shipbuilding. Four narco-subs were discovered in the Sanquianga park operation alone and another two were found on the Caribbean coast.

"This means our intelligence is getting better," boasts vice-admiral Jesús Bejarano, commander of Colombia's Pacific fleet.

But it could also mean that the production and use of the subs is on the rise. Eleven have been seized or destroyed so far this year, one quarter of all the narco-subs detected since the first one was caught in 1993.

Traffickers shipping cocaine from South America are resorting to ever more ingenious methods: last week, drugs were found in a haul of frozen shark carcasses.

But it is narco-subs that carry the greatest tonnage – possibly as much as a third of all Colombia's cocaine exports, estimated at 600 tonnes a year.

They are designed to ride low, with only about a foot of the vessel above water so the captain can see where he's going through Plexiglas windows. The hulls are shaped to cause minimum wake and the exhaust pipes snake out from the engine room and down into the water to minimize the thermal signature.

"Once the semi-subs are out at sea it's 98% impossible to detect them," says Major Raúl Donado of Colombia's marines, based in the southern Pacific coast city of Tumaco.

On the rare occasions they are detected at sea, crews typically open an emergency valve built into the subs to scuttle the vessels and their cargo.

With the evidence of cocaine at the bottom of the sea, officials are obliged by international law to treat the crew as castaways, since the vessels themselves are not illegal in Colombia.

"If we don't find drugs or evidence of drugs in the seizure there is no crime," says Bejarano. "The judges have to let the criminals walk." Last year, 21 people captured in connection with drug subs were released.

That may change, however, with a bill passed in the Colombian congress last week that makes it illegal to build, transport or possess unregistered semi-submersible vessels.

Another US law, passed last year, outlaws unregistered submersible or semi-submersibles in international waters. Colombian and US authorities hope the threat of prison will help to deter crews from agreeing to embark on the gruelling journey to transport the drugs.

But Miguel Angel Montoya, a former drug trafficker who says he met more than a dozen crews before they set off on their journey, says the new law will probably have little effect.

"I don't think anything will change, because the organisations take advantage of the poverty in Colombia to lure crew members to make the trip for $10,000 or $20,000," says Montoya, a Mexican who was involved with the Colombian and Mexican drug cartels until 2004. Captains are better paid at about $50,000-$60,000.

Montoya says the four– or five-man crews he met in the jungle-covered shipyards went through a ritual the night before they set off. "They would pray to the Divine Child and to the Virgin, they would be given a hearty meal. It was like they were on death row," he says, adding that many crews were lost at sea.

The crews often refer to the subs as "the can" or "the tube". Coastguard lieutenant Oscar Calderón calls them coffins. "The crew members must be desperate to climb into one of those," he says.

The cabins of the subs measure about six square metres, where usually four men make the two-week journey: a captain, a machinist, a navigator and a cargo representative who makes sure the cocaine reaches the buyer at the other end.

For the duration of the trip they eat canned sausages and tuna and drink Gatorade and Red Bull energy drinks.

To relieve themselves they have to climb out of the cabin and tie themselves to the sub so they do not fall into the sea. The crew alternate sleeping in two bunk spaces on either side of the cabin. Despite exhaust systems, the cabins often fill with diesel fumes.

Since 2007 the sub makers appear to have settled on one standard design and production has begun en masse, controlled by four competing organisations that sell the vessels to the traffickers.

A single sub that slips through the defences can carry as much as 10 tonnes of cocaine. At a price of about $25,000 a kilo wholesale in the US, that means the subs can end up carrying as much as $250m-worth of merchandise at a time.

"We make this huge effort to seize four, but with one that gets through, the drug traffickers make up their losses," says Calderón. "That's what makes our job so frustrating."

When submarines were built in Bridgeport

ConnPost.com, June 24, 2009

BRIDGEPORT – Nearly 100 years ago one of the big draws along the East Side of the city's harbor was the regular launch of a submarine at the Lake Torpedo Boat Co.

Opened in 1912, inventor Simon Lake's state-of-the-art facility along Seaview Avenue often drew hundreds to watch his subs slide into the gentle harbor. The factory thrived until 1924 when it closed shop.

"They all came, all the citizenry," said Mary Witkowski, the city's historian and manager of the library's historical collection.

"Sometimes Simon Lake would take someone out in his sub for lunch so they could say they ate in a submarine," Witkowski said.

Always a dreamer, Lake came from a family of inventors, and even named his son after Thomas Edison. His grandfather invented a seed planting machine, his father a window-shade roller and his cousin a telephone.

Inspired by Jules Verne's 1870 book, "Twenty Thousand Leagues Under the Sea," Lake invented and launched America's first successful submarine in 1897.

In 1918, Lake began to build R-21 submarines under government contract, joining in the World War I munitions activities with the rest of the local factories.

But despite his ability to build 500- and 800-ton subs, Lake's company did not survive the competition from Electric Boat in Groton and the Portsmouth Naval Yard in New Hampshire. Still, Lake's company at one point employed a staff of 1,800 skilled managers and workers on the city's industrial East Side.

Russia may export up to 40 diesel submarines by 2015

By David Moir, Novosti, June 24, 2009

ST. PETERSBURG – Russia could sell up to 40 fourth-generation diesel-electric submarines to foreign customers by 2015, state-run arms exporter Rosoboronexport said on Wednesday.

"Russia's export potential in this market sector is very high thanks to Project 636 and Amur-1650 class submarines equipped with the Club-S integrated missile systems," Rosoboronexport said in a press release.

The Project 636 Kilo-class submarine is thought to be one of the most silent submarine classes in the world. It has been specifically designed for anti-shipping and anti-submarine operations in relatively shallow waters.

Russia has built Kilo-class submarines for India, China and Iran.

The Project-677, or Lada-class, diesel submarine, whose export version is known as the Amur 1650, features a new anti-sonar coating for its hull, an extended cruising range, and advanced anti-ship and anti-submarine weaponry.

Both submarines are equipped with highly-acclaimed Club-S integrated missile systems.

The Club-S submarine cruise missile family includes the 3M-54E1 anti-ship missile and the 3M-14E land-attack versions, with a flight range of 275km (about 170 miles). The missile can be launched from standard torpedo tubes from a depth of 35 to 40 meters (130 feet).

Overall, naval equipment constitutes about 10% of the total portfolio of orders of Rosoboronexport, which is estimated at about $30 billion.

"By 2010, the share of naval equipment in Russia's arms exports will reach 15%, and by 2011 it will total 20%," said Oleg Azizov, head of Rosoboronexport's delegation at the International Naval Show-2009 in St. Petersburg.

India, China, Algeria, Vietnam and Indonesia remain key buyers of Russia's naval armaments.

India and China have purchased submarines, frigates and destroyers. Vietnam has ordered Svetlyak-class fast attack boats and frigates, while Indonesia will receive corvettes built in Russia in cooperation with Spanish firms.

Electronic Charting Reaches Milestone on Submarines
From Naval Surface Warfare Center Port Hueneme Public Affairs, NAVSEA News Wire, June 25, 2009

VIRGINIA BEACH, Va. – The Navy's Chief of Naval Operations (CNO) certified June 9 a significant milestone in the submarine force's transition to electronic charting by approving version 8.3 of the Voyage Management System (VMS) for use aboard attack and guided missile submarines.

For submarine installations VMS is tested and certified by engineers from Naval Surface Warfare Center (NSWC) Port Hueneme, Virginia Beach detachment. This latest software version enhances submarines' abilities to navigate in extreme northern latitudes and conduct under-the-ice operations.

"This event marks a significant achievement in submarine charting tool technology," said Jack McKee, VMS test, evaluation and operations team lead from the NSWC Port Hueneme, Virginia Beach detachment. "The first VMS electronic navigation systems were approved by the CNO for fleet navigation in May 2005."

VMS automatically plots and displays the ship's position, course, heading, speed and depth over a Digital Nautical Chart, providing the operator with an instantaneous navigation picture. The VMS also provides the operators with voyage planning and monitoring tools to assist in planning and executing missions. The VMS' automated functions significantly reduce the workload of the operators, allowing for more timely decisions that are critical to the ship's safety and mission.

"The VMS in-service engineers have dedicated thousands of man-hours to the, evaluation ... and testing of this software, including coordination of testing during many underway shipboard events.... The effort has resulted in safer, more efficient and increased capabilities in submarine navigation," said Mike Bibbo, VMS team lead.

A Naval Sea Systems Command field activity, NSWC Port Hueneme, through its Virginia Beach detachment, is responsible for testing and evaluation, in-service engineering, and integrated logistics support for surveillance radar systems, system interface and radar design improvement.

In The Words Of A Sole Survivor

By Jessica Langdon, Times Record News, June 30, 2009

The four "Ticknor Kids" are now grown up and have spread out across the county, but this week, they came together in Wichita Falls to meet a man they have always considered a hero.

They never imagined they would get to know the long-ago gunner's mate whose own story is the only reason they know their father's fate.

The four grew up hearing stories their mother, Marvel, told about Clifford Kuykendall, the only sailor aboard the 80-man USS Tullibee who survived when an erratic torpedo — one of their own, he said — circled back and struck the boat, sinking it in the Pacific Ocean in late March, 1944.

The children's father, George Oran Ticknor, was chief electrician's mate, making him a chief petty officer on the USS Tullibee. He was on board that fateful day. He was 33, older than many of the crew members. He had built his career in the Navy.

His widow, Marvel, and their four children, Duane, Rosemary, Joie and Ruthie, would never have known what happened had it not been for a letter that arrived in a Christmas card from Kuykendall, who lives in Wichita Falls.

Kuykendall remembers sitting down at his sister's kitchen table after he returned from the World War II. He wrote letters to 79 families, telling them what happened to the crew of the Tullibee.

"That's the least I could do," Kuykendall said Saturday, sitting at a table surrounded by George Ticknor's children, Duane Ticknor of Otis, Ore., Rosemary Snyder of Ft. Collins, Colo., Joie Heller of Glendale, Ariz., and Ruthie Joyce of Philadelphia, Penn.

Decades ago when he sat down to write, he had a list of the crew members and their next of kin, and made sure each family knew the story.

"I'd write them, and fold them, and put them in an envelope," he said. At 3 cents a stamp back then, "I could afford that."

The letter meant the difference between knowing the truth and a lifetime of mystery for the Ticknor family.

"For our mother, he was a hero," Ruthie Joyce said. "Otherwise, she wouldn't have known what happened."

Throughout their lives, Marvel Ticknor, who never remarried after the death of her husband, talked to the children about "Cliff."

Only Rosemary, the oldest, who was 8 when their father died, really remembers George Ticknor.

She remembered him coming home on his last furlough.

"He was just real happy," she said. "We were just thrilled to death to get to see him."

He planned to put in his 20 years in the Navy, and he and his wife dreamed of buying a ranch together in Montana.

They know he got to meet Duane, but he never saw Ruthie, the baby. She was born in December 1943 and was only a few months old when the Tullibee went down.

Each of the siblings has been part of the American WWII Orphans Network. When Joyce got a suggestion that she do a Google search of Kuykendall's name, she entered the information and was stunned when she came across a July 2008 Times Record News article on his service and his memories of the USS Tullibee.

[Continued on front page]

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Is There Any Good News In This State?
Laurie Roberts' Columns & Blog
AZCentral.com, July 1, 2009

OK, so you got out of bed this morning and went racing out to the driveway (or to your computer) to get the latest news.

Unemployment: up.

Demand on local food banks: up

Legislative insanity: way up.

Prospects that this is going to be a good day: definitely not up.

If life was baseball, this would be the fifth inning in Sunday's Dbacks-Angels game. (If you didn't see it, trust me you don't want to know.)

Everywhere you turn these days, it seems like news is a four-letter word.

A year ago, the Dow ended June at 11,350, and that was considered a bad thing.

A year ago, people were altering their commutes because of the price of gas – not because they didn't have any place to go.

A year ago, Old Spice named Phoenix the nation's sweatiest city. Who knew we were trend setters?

These days, everybody's sweating.

"There just isn't much good news is there," a reader, Nancy Toler of Chandler, said in an e-mail over the weekend, responding to a column on the sorry state of the state budget.

Actually, there is good news all around us. You just have to look for it.

Why, just last week I went with a group of homeless veterans to tour the YWCA. You might wonder why a group of homeless men would be touring YWCA digs. It's because Dana Campbell Saylor, CEO of YWCA Maricopa County, and her executive assistant, Sue Bice, read a story about these men who have formed the Madison Street Veterans Association, in the hope of bettering their lives and the lives of other homeless vets.

Well, it just so happens that the YWCA has 10,500 square feet of space it's not using so they've offered it to the MSVA to transform into a sorely needed shelter just for homeless vets.

On the tour, the Y ladies were apologetic about the shabby state of the space, which includes 19 bedrooms, a kitchen and communal dining room and access to a computer lab. To the men, who bunk down each night in makeshift warehouse, it looked like paradise.

"We could get so many guys in here," Bruce Roberts told me, as he looked around. "It would give them a place that's not just concrete and a mat. It's civilized."

It'll take some money to get this place up and running – utilities are estimated at $7,000 a month – which means the group will need a grant to make this happen. But great things quietly happen in this community all the time.

Why, just Sunday, 30 seriously ill children and their families were treated to a day of fun, courtesy of the Starlight Children's Foundation. Every month, Starlight gives them a special day, a few precious hours away from the worries about illness and finances. This month, it was building remote cars at Ridemakerz, then lunch at Johnny Rockets with Cold Stone ice cream to finish it off.

Many of these kids have cancer. Some may not get the chance to grow up. But they had a good time on Sunday and that is no small thing, to bring joy into someone's life.

"Even if it's for an hour," said Jo Ann Yeo, Starlight's community development officer. "When you're going through something so devastating and difficult it's important … to bring back the joy."

It's also important to remember those who sacrificed to allow such joyful moments. One such man was Seaman First Class Frank Robert Nystrom. He was 20 years old when his submarine, the USS Albacore, was sunk by a mine off the coast of northern Japan. The date was Nov. 7, 1944. All hands died that day, 85 brave men.

Marilyn Munkachy of Tempe was 15 or 16 when her brother died. Today, she's 81.

"You never stop missing them," she told me. "I think about how old he would be. Would he have had children? You just, you keep them in your heart forever. He was my big brother."

This afternoon, 64 years after the Albacore went down, Seaman Bob Nystrom will be awarded the Purple Heart. Rep. Harry Mitchell will present it to Marilyn, along with an assortment of other medals and commendations, including a Presidential Unit Citation.

They're a little late in coming. Seaman Nystrom's parents are long gone. Only a sister who long ago lost her big brother will be there to receive them. "They would be so happy to know that he wasn't forgotten," Marilyn told me. "Even after all these years."

Fortunately, there is no expiration date on honor. And any day we pay tribute to a brave man is a good day. A very good day.

New Russian Boomer Is Ready, Again
StrategyPage.com, July 1, 2009

For the first time since the end of the Cold War in 1991, Russia has completed a nuclear submarine that began construction after the Cold War. This is the Yuri Dolgoruky, the first of a new class of SSBN (ballistic missile carrying boats). To get this sub completed, after sixteen years of planning and construction, 40 percent of the 2007 weapons budget was devoted to it. Money shortages, and technical issues, had slowed progress from the beginning. Meanwhile, some other nuclear subs were launched, but only because construction began before the Cold War ended.

The Yuri Dolgoruky, was first launched over a year ago, and was to have begun sea trials late last year, then in January of this year, then by the end of May. It still hasn't happened. Instead, it was moved back to a dry dock for more work. One of the reasons for this additional work was an accident on a new Akula SSN last November. There, a sailor hit the wrong switch and accidently triggered a fire suppressant system in a compartment where several dozen people were sleeping, killing twenty of them. The safety system was poorly designed, making it too easy for someone to do what the sailor did. Such design problems are common in Russian ships, and the additional months of inspections and modifications for the Borei is another attempt to eliminate such problems. There were also some problems with welds on the hull, and the nuclear power plant.

The first of three new Borei Class boats will be based in the Pacific, sometime early in the next decade. During the Cold War, most of Russias SSBNs were based in the north, at several bases east of the Norwegian border, and facing the Arctic ocean. But now Russia is spending over $350 million to expand and improve its submarine base on Kamchatka island. This will enable its new SSBNs to threaten China, as well as the United States.

This is the first new Russian boomer to enter service in 18 years. The second ship in the class, the Alexander Nevsky, is also nearing completion. Construction on the third, the Vladimir Monomakh, began two years ago.

The Boreis are closer in design to the Delta IVs, than to the more recent, and much larger, Typhoon boats. The Boreis are 558 feet long and 44 feet wide. Surface displacement is 15,000 tons, and twelve Bulava SLBMs (Sea Launched Ballistic Missile) are carried. Work on the Yuri Dolgoruky was delayed for several years because the first missile being designed for it did not work out. A successful land based missile, the Topol-M, was quickly modified for submarine use. The Bulava was a larger missile, cutting the Boreis capacity from twenty to twelve missiles. The boat also has four torpedo tubes, and twelve torpedoes or torpedo tube launched missiles. The Borei also sports a huge sonar dome in the bow.

The Boreis have a crew of 107, with half of them being officers (a common Russian practice when it comes to high tech ships like nuclear subs). Each of these boats will cost at least two billion dollars. This high cost, by Russian standards, is partly because many factories that supplied parts for Russian subs were in parts of the Soviet Union that are not now within the borders of present day Russia. So new factories had to be built. All components of the Boreis, and their missiles, will be built in Russia. A dozen (or eight) of these boats probably won't be completed for at least a decade.

Another problem is the reliability of the new Bulava missile, which failed too many of its test launches. The Bulava is believed to be fundamentally sound, but it could be another year, or more, before all the kinks are worked out. The Yuri Dolgoruky might be ready before its ballistic missiles are, which is not unusual for a new class of SSBN, carrying a new missile.
Russia wants to have about a dozen of the new Borei class boats, to replace the current Delta IV class SSBNs. The Delta IVs are getting old, and have only about a decade of useful service left. Only eight of the twelve existing Russian Delta IV SSBNs (ballistic missile nuclear subs, or "boomers") are available for service. Currently, it appears that the navy will get at eight Boreis. These new boats are expensive, and the navy wants to build some aircraft carriers as well.

Turkey Orders Class 214 Submarines From Germany
Defence Talk, July 6, 2009

Yesterday, a contract was signed by Howaldtswerke-Deutsche Werft GmbH (HDW), Kiel, a company of ThyssenKrupp Technologies, and MarineForce International LLP (MFI), London, for the delivery of six material packages for the construction of Class 214 submarines to Turkey.

The six submarines to be equipped with an air independent propulsion system based on the HDW fuel-cell technology will be built by Gölçük Naval Shipyards (GNSY) near Izmit. The shipyard has already built 11 Class 209 submarines for the Turkish Navy.

By placing this order, Turkey is another country to equip her navy with this at present most modern air independent submarine type. There will then be 36 submarines with HDW fuel cell propulsion systems in operation world-wide.

Dr. Olaf Berlien underlines the importance of the new major order: "HDW's position as world market leader in the sector of non-nuclear submarines will be further strengthened. The contract safeguards not only jobs at HDW, but also several hundred jobs at subcontractors all over Germany for some time to come."

The contract was signed in Ankara in the presence of the Turkish Defence Minister Mehmet Vecdi Gönül, the Chairman of the Executive Board of ThyssenKrupp Technologies AG Dr. Olaf Berlien, the Executive Board Member of ThyssenKrupp Technologies AG Dr. Hans Christoph Atzpodien, the Parliamentary State Secretary at the German Ministry of Defence Thomas Kossendey and the Chief of Naval Staff Vice-Admiral Wolfgang E. Nolting.

ThyssenKrupp Technologies is an international manufacturer of high-tech plant and machinery. On the basis of world-leading market positions and innovative system and engineering capabilities, it supplies systems, facilities, specialized machinery and components together with associated services.

Israeli Sub Sails Suez, Signaling Reach To Iran
By Dan Williams, Reuters, July 3, 2009

JERUSALEM - An Israeli submarine sailed the Suez Canal to the Red Sea as part of a naval drill last month, defense sources said on Friday, describing the unusual maneuver as a show of strategic reach in the face of Iran.

Israel long kept its three Dolphin-class submarines, which are widely assumed to carry nuclear missiles, away from Suez so as not to expose them to the gaze of Egyptian harbormasters.

It was unclear when last month the vessel left the Mediterranean. One source said the voyage was planned for months and so was not related to unrest after the June 12 re-election of President Mahmoud Ahmadinejad, whom the Israelis see as promoting the pursuit of nuclear weapons to threaten them.

Sailing to the Gulf without using Suez would oblige the diesel-fueled Israeli submarines, normally based in the Mediterranean, to circumnavigate Africa — a weeks-long voyage. That would have limited use in signaling Israel's readiness to retaliate should it ever come under an Iranian nuclear attack.

Shorter-term, the submarines' conventional missiles could also be deployed in any Israeli strikes on Iran's atomic sites, which Tehran insists have only civilian energy purposes.

A defense source said the Israeli navy held an exercise off Eilat last month and that a Dolphin took part, having traveled to the Red Sea port though Suez. Israel has a naval base at Eilat, a 10-km (6-mile) strip of coast between Egypt and Jordan, but officials say it has no submarine dock there.

"This was definitely a departure from policy," said the source, who declined to give further details on the drill or say whether the Dolphin had undergone Egyptian inspections in the canal, through which the submarine sailed unsubmerged.

A military spokeswoman had no immediate comment on the voyage, first reported on Friday by the Jerusalem Post.

EGYPTIAN POSITION

Egyptian officials at Suez said they would neither confirm nor deny reports regarding military movements. One official said that if there was such a passage by Israelis in the canal, it would not be problematic as Egypt and Israel are not at war.

Egypt is one of only two Arab states to have signed a peace treaty with Israel, but relations remain cool. However, Arab states that are allies of the United States appear to share some of Israel's concerns about non-Arab Iran's nuclear program.

Israel is assumed to have the Middle East's only atomic arsenal, but does not discuss this under an "ambiguity" policy billed as deterring its enemies while avoiding provocations.

Another Israeli defense source with extensive naval experience said the drill "showed that we can far more easily access the Indian Ocean, and the Gulf, than before."

But the source added: "If indeed our subs are capable of doing to Iran what they are believed to be capable of doing, then surely this is a capability that can be put into action from the Mediterranean?"

Each German-made Dolphin has 10 torpedo tubes, four of them widened at Israel's request — to accommodate, some independent analysts believe, nuclear-tipped cruise missiles. But there have been questions about whether these would have the 1,500-km (1,000-mile) range needed to hit Iran from the Mediterranean.

Israel plans to acquire two more Dolphins early next decade. Naval analysts say this could allow it to set up a rotation whereby some of the submarines patrol distant shores while others secure the Israeli coast or dock to undergo maintenance.

FAU Student-Built Submarine Wins National Race
By Luisa Yanez, The Miami Herald, July 7, 2009

Traveling 6.298 knots, a submarine build by Florida Atlantic University students came in first at the 10th International Submarine Race in Maryland.

Talon 1, the school's one-man propeller-driven submarine, reached a final speed of just over 7 mph, making it the fastest sub in any category and earning it the ''Absolute Speed'' award last month.

The FAU team placed second in the overall competition, winning $1,250 in prize money to use toward building its next submarine.

''The win puts FAU in the limelight again in the ocean community,'' said Manhar Dhanak, chairman of the FAU department of ocean engineering. ``The faculty and staff at FAU are so proud of the team's achievement.''

The eight-person team was made up of ocean-engineering students George Valdes, Joe Alderton, Skyler Bryan, Jason McCullough, Danielle Kolber, Charlotte George and Everett Jones and mechanical engineer Shawn Wilt.

The team was aided by Dr. Edgar An, professor of ocean engineering and alumni Justin Stewart and Tony Lavigne.

''Building a submarine takes a lot of dedication,'' said Valdes, a team captain.

"However, it takes a lot of heart to make a successful team, and I think our team this year had that heart and the drive to push through the competition and succeed."

The 21-team competition at the U.S. Naval Surface Warfare Center in Bethesda, Md., included submarines from Texas A&M University, Virginia Tech, University of Maine, University of Maryland, University of Washington and University Michigan, as well as teams from Canada, England, Venezuela and private sponsors.

Teams consist of student athlete/engineers who wear scuba gear as the subs are filled with water and run submerged along a 100-meter course for the best time.

The goal is to design an underwater vehicle that can be powered successfully by scuba-clad teams without malfunctioning, crashing into the bottom, popping to the surface or simply failing to move through the water.

The races were originally launched in 1989 by FAU Ocean Engineering off Florida's Riviera Beach coast.
Later, the competition moved to the Maryland site.

High Winds Damage Sub Base In Georgia
By Andrew Scutro , Navy Times, July 7, 2009

A violent blast of high wind during a June 22 thunderstorm did more than $1 million worth of damage at Naval Submarine Base Kings Bay, Ga., the East Coast homeport for ballistic missile submarines.

None of the nuclear weapon systems was affected during the early evening microburst, said Ed Buczek, base spokesman.

"There was no damage to the submarines and no injuries," he said. "There was no danger to the weapon systems or the boats."

The storm, however, did damage other facilities, including a pier where nuclear weapons are handled.

"The wind damaged our cranes, buildings, government and personal vehicles, light poles and multiple fences," he said.

Also, a 60-foot section of roof was torn from a building at Explosives Handling Pier 2.

Buczek did not have a cost estimate of the damage but it was listed as a Class A mishap, which requires $1 million in damage or loss of life.
Microbursts are characterized by high wind downdrafts lasting a short duration during thunderstorms.

'Transshelf' Vessel Arrives With Two Submarines On Board
Vostok Media, July 8, 2009

VLADIVOSTOK – 'Transshelf' transport vessel with two Shchuka class nuclear-power submarines on board arrives to Zvezda Far Eastern Shipyard (Closed Territorial-Administrative Facility Bolshoy Kamen) from Kamchatka on July 10. This is a unique unparallel operation.

The two decommissioned submarines will arrive on board of Dutch heavy lift vessel for subsequent utilization at the Far Eastern Shipyard, reported press service of the shipyard.

Back in 2006 Russian Northern Fleet was the 1st in the world to try a new way of transporting a nuclear powered submarine. The nuke traveled neither under its own power nor on tow. In fact, it got a piggyback ride on a self-loading vessel.

The new technology will be further developed in the Russian Far East. By July 10 'Transshelf' will cover 2,500 kilometer on the route from Kamchatka, where the submarines are stationed at the present, to Bolshoy Kamen. The vessel will carry two 106-meter long nuclear-power submarines on its board.
Transportation of these submarines is implemented in the framework of the 'Global Partnership' programme – assistance in utilizing of nuclear-power submarines.

Navy Goes High-Tech To Attract Submariners
By Ari Sharp, Brisbane Times, July 8, 2009

There is no shortage of challenges to recruiting and retaining people to serve in Australia's navy submarines: months away from home, life in a confined space and now the pall of sexism that hangs over the service in the wake of recent allegations.

The navy is trying to combat some of those perceptions with a new high-tech recruiting tool that aims to give potential recruits a glimpse of life in a submarine.

Called Ocean Recon, the interactive computer program seeks to demystify the submarine division, dubbed the "secret service", by showing among other things that officers on board can enjoy many of the creature comforts they have on-shore, including gym, internet and study options.

The program, targeted at 16- to 24-year-olds, is the latest tool being used to recruit the 70 to 80 new officers required to meet the needs of the West Australian-based submarine division.

Speaking at the launch yesterday, the navy's people and retention chief, Rear Admiral Steve Gilmore, acknowledged the extent of the challenge as the navy seeks to attract an extra 700 people funded by the Defence white paper released earlier this year. "Recruiting continues to be a challenge for the Royal Australian Navy and submarine service in particular," he said.

While the Australian Defence Force has experienced a 39 per cent increase in recruitment inquiries as rising unemployment forces many people to seek new opportunities, so far it has not led to additional enlistments.

Last year the navy reached only 74 per cent of its recruitment target, which the Defence Force's recruiting director-general, Commodore Tim Barrett, yesterday said was due to a lack of understanding of life in the navy.

"There are elements where you can conduct a normal life: you can still play your music; you can still get fit; you can still do all those other things," he said.

A review last year into submarine staffing made 29 recommendations, which the navy have pledged to implement.

Already the navy has cut the number of sailors required to keep watch when submarines are in port, boosted crew sizes by 25 per cent to ease the workload, broadened internet access on-board and improved on-shore accommodation.
But with the resources sector offering attractive packages to many submariners, the navy has launched a retention bonus for people with key skills and now offer $60,000 payments for an 18-month commitment to serve.

All Set For A Quiet Launch Of India's First Indigenous N-Sub
By Amitav Ranjan , Indian Express, July 8, 2009

New Delhi : More than two decades after it was conceived, India's first indigenously built nuclear submarine, for long called the Advanced Technology Vehicle project, is set for a quiet launch towards the end of this month. Christened INS Chakra after the Charlie class nuclear submarine taken on lease from the Soviet Union in 1988 for three years, it will be put out in the waters of the Bay of Bengal in Visakhapatnam harbour for sea trials.

Top government sources told The Indian Express that the Navy has been cleared for two more 7,000 tonne-Chakra class submarines with an in-principle clearance for another two of the same class. Completing the nuclear triad as envisaged in the Indian nuclear doctrine, INS Chakra will carry intermediate range submarine-launched missiles that have already been tested twice on the eastern coast.

The submarine was scheduled to be launched on July 26 but the date has now been changed because it also happens to be Kargil Victory Day and the government has no intention of sending any message to the neighbourhood. As of now, the plan is to quietly launch the submarine without fanfare or overt publicity. Even Defence Minister A K Antony is not expected to be present for the launch.

It will be nearly a year before the Chakra class submarine can take to the sea as the nuclear engine and its super structure will undergo rigorous tests in a special enclosure in the Vizag shipyard. For now, it will be put out in the waters, checked, fitted with parts and then put through tests in the waters. The tests and fitments over, it will be formally commissioned towards the end of next year.

Launched in the mid-1980s, the ATV project is now headed by Vice Admiral B Kanan whose wife Nirmala, incidentally, is the younger sister of Indian Ambassador to China and Foreign Secretary-designate Nirupama Rao. The submarine is going to be tested on India's eastern seaboard and earlier plans of moving it to Karwar in Goa have been shelved for the time being. Instead, the first of the two Russian Akula class nuclear submarines that India is taking on lease will be deployed on the western seaboard.

The Chakra class submarine bridges a key gap in India's minimum nuclear deterrence as the armed forces already have platforms for nuclear weapon delivery from sky and land through proven intermediate range nuclear missiles and aircraft-borne bombs.
The need for a nuclear submarine was felt by New Delhi as Beijing is moving towards a sea-based doctrine and already has one Xia class and two Jin class nuclear submarines with JL-1 and 2 series submarine-launched nuclear missiles. Each of these submarines carries up to 12 JL-1 or 2 strategic missiles. Even Pakistan has eight tactical submarines that have deep sea diving capability with advanced air propulsion and Harpoon missiles.

Indonesian Redtape Torpedoes Sub Sale Bid
By Kim Hyun-cheol, Korea Times, July 7, 2009

Following a failed attempt to sell the T-50 supersonic trainer jet to Iraq earlier this year, Korea's attempts to sell submarines are also being torpedoed.

Daewoo International, a Korean trading firm, said Tuesday its bid to export two domestic submarines to Indonesia has not been successful.

The company joined bidding for the deal, estimated to be worth about $1.2 billion, to supply two 1,400-ton diesel-powered Type-209 submarines to the Indonesian Navy. The subs are made by Daewoo Shipbuilding and Marine Engineering.

Three more companies from Russia, Germany and France competed for the deal. But sources said the Indonesian Navy demanded unacceptable terms so Daewoo and the German and French firms dropped out. Only the Russian firm remained, forcing Indonesia to instigate a second round of bidding.

The modified version of the "Chang Bogo" class is currently in service in the Korean Navy, which operates nine domestically built submarines designed by Germany's Howaldtswerke-Deutsche Werft.

Daewoo International said technical specifications requested from Jakarta were overly demanding.

Russia is considered its major competitor, since it is backed by well-established political ties with Indonesia and an offer of a $1-billion loan. In another negative sign, the incumbent Indonesian defense minister is said to be pro-Russian.

In the end, the second bid is likely to be a duel between Korea and Russia, according to informed officials, with the other two bidding countries skeptical about Jakarta's request on price cuts.

This is not the first time of the year that Korea has staggered in such a bid. In February, the Korea Aerospace Industries, Korea's only aerospace firm, lost in a competition to supply next-generation military jet trainers to the United Arab Emirates. The Middle Eastern country selected the M-346 by Italy's Alenia Aermacchi as the preferred bidder in the $1.3 billion deal.

Daewoo is planning to enter the second round of bidding for the subs, hoping to take advantage of ties cultivated since the establishment of its Indonesian unit in 1976.

Some say that the sub sale is not worth the effort.

"The government seems to believe the defense industry can be a lucrative field, but that's a myth when the whole world is absorbed in contracting related budgets," military critic Kim Seong-jeon said.

"The T-50 and the Chang Bogo, the problem is just the same. As long as we don't have enough core technologies in the business in comparison with many other advanced countries, exporting them is no better than just exporting a workforce."

Repairs To Collision Sub To Cost Another $21.6 Million

Marine Log, July 8, 2009

General Dynamics, Electric Boat Corp., Groton, Conn., is being awarded a $21,600,000 modification to previously awarded delivery order N00024-08-G-6321 for off-hull fabrication of the port retractable bow plane, and material procurement and off-hull fabrication of the sail for the nuclear submarine USS Hartford (SSN 768). Work will be performed in Groton, Conn., (30 percent) and Quonset Point, R.I., (70 percent), and is expected to be completed by January 2010. Contract funds in the amount of $21,600,000 will expire at the end of the current fiscal year. The Naval Sea Systems Command, Washington Navy Yard, D.C., is the contracting activity.

The Hartford was damaged in a collision with the USS New Orleans (LPD 18) in the Strait of Hormuz on March 19.

Prior to the modification announced today, the contract for the repairs to the submarine was a $15,800,000 cost-plus-fixed-fee contract.

Senate Panel Oks $9.1m For Shipyard

Foster's Daily Democrat, July 8, 2009

WASHINGTON, D.C. – U.S. Sens. Judd Gregg, R-N.H., Olympia J. Snowe, R-Maine, Susan Collins, R-Maine, and Jeanne Shaheen, D-N.H., announced Tuesday that the Senate Appropriations Committee has approved $9.1 million in funding for construction and repairs at the Portsmouth Naval Shipyard.

The funds are included in the fiscal year 2010 Military Construction and Veterans Affairs Appropriations spending bill. The bill must now be considered by the full Senate.

Specifically, the bill calls for $7.1 million to be used for security improvements at PNSY's Gate 2. These improvements include new, antiterrorism and force protection measures at the guard house which will improve security for the facility and its personnel. In addition, the bill also budgets $2 million for the planning and design for consolidation and modernization of structural shops at PNSY.

"This funding is critical to maintain the Portsmouth Naval Shipyard and ensure that it can carry out its work safely and effectively. This funding will help also improve the lives of nearly 4,000 journeymen, engineers and support personnel who work at Portsmouth Naval Shipyard. In addition, it will help boost our local economy by creating jobs and improving our defense infrastructure," said Gregg, Snowe, Collins, and Shaheen in a joint statement.

Britain could cut nuclear warheads as part of global deal

By James Kirkup in L'Aquila, Daily Telegraph, July 9, 2009

The Prime Minister said US-brokered talks next year could pave the way for the UK to reduce its 160-warhead arsenal in return for proof from would-be nuclear states they had stopped their weapons programmes.

Speaking at a G8 summit in Italy, Mr Brown insisted there was no question of abandoning plans to replace the Trident weapons system.

He said: "What we need is collective action by the nuclear weapons powers to say that we are prepared to reduce our nuclear weapons, but we need assurances also that other countries will not proliferate them."

Barack Obama, the US president, has invited as many as 30 nations to nuclear talks in Washington next March. The White House said the talks would focus on preventing the spread of nuclear material to rogue states and terrorist groups.

But Mr Brown said the meeting could also help draw up a replacement to the international Nuclear Non-Proliferation Treaty.

He said: "The whole point of a non-proliferation treaty is those who have weapons will be looking at reducing them as far as possible."

Speaking in L'Aquila, Italy, Mr Brown gave no details on the scale of any cuts in the British deterrent.

However, a 2006 Government White Paper on replacing Trident committed Britain to reducing the number of warheads to fewer than 160.

The Government has never specified what the new number will be, and precise figures have been kept confidential.

However, Britain's operational nuclear deterrent is routinely based on fewer than 50 warheads.

A Vanguard-class submarine sails with a maximum of 48 warheads. There is normally only one submarine deployed on operational duty at any given time.

The Royal Navy has four Vanguard-class submarines able to carry Trident nuclear missiles. The Ministry of Defence is considering plans to cut that number to three when the Vanguards are replaced.

In exchange for the cuts, Mr Brown suggested that aspiring nuclear states would have to accept new requirements on non-proliferation, possibly including international inspections.

"The onus will be on countries that do not have nuclear weapons to prove they do not have nuclear weapons," Mr Brown told reporters in L'Aquila, Italy.

As an incentive, Mr Brown suggested countries like Iran could be given Western assistance in developing civil nuclear energy.

He said: "There is a possibility of a nuclear deal that we will help countries that are non-nuclear gain access to civil nuclear power and to do it in a way that is safe for the whole of the world, but we want them to agree to tight conditions about non-proliferation of nuclear weapons. "

Bob Ainsworth, the Defence Secretary this week announced that Labour, like the Conservatives, would hold a full Strategic Defence Review after the next election.

That raised doubts about the Trident replacement, but Mr Brown made clear he was not prepared to consider getting rid of all of Britain's nuclear weapons, saying they remained vital to national security.

He said: "Iran is attempting to build a nuclear weapon. North Korea is attempting to build a nuclear weapon. Unilateral action by the United Kingdom would not be seen as the best way."

The House of Commons voted to approve the building of a replacement for Trident. However, political and economic background to the new deterrent have since shifted significantly.

Mr Brown's political position has been weakened by dismal poll ratings and election results, forcing him to ditch policies unpopular with Labour MPs including Royal Mail privatisation. Many of his MPs also oppose replacing Trident.

The public finances have also dramatically worsened, putting economic pressure on the Government over expensive defence programmes. The Government says replacing Trident could cost up to £25 billion, but independent estimates put the figure as high as £76 billion.

The international situation has also altered. Russia and the US – which hold 90 per cent of the world's warheads – last week made a preliminary agreement to cut their arsenals by as much as a third.

The Conservatives have also signalled they could cut the number of Britain's nuclear-armed submarines to three. Liam Fox, the Shadow Defence Secretary, has pledged that a Tory Government would retain the nuclear deterrent, although some senior Tories are privately arguing against him.

Russia resumes pre-delivery trials of nuclear sub for India

The Times of India, July 10, 2009

MOSCOW: Russia on Friday resumed sea trials of its Akula class nuclear attack submarine to be leased to the Indian Navy, months after they were halted following an accident that killed 20 crew and staff members.

The Akula II class submarine was cleared for final sea trials before being commissioned with the Russian Navy and leased to the Indian Navy by end of 2009.

The submarine is to be leased to India for 10 years under a secret clause of the larger Gorshkov package signed in 2004.

"The sea trials of the Nerpa nuclear submarine will continue for two weeks. All damage on the vessel found during the investigation of the accident has been repaired," a defence official was quoted as saying by RIA Novosti.

The trials were halted after 20 crew members and technical staff of the shipyard were killed and 17 injured in the accidental triggering of fire suppression system filled with highly toxic Freon gas in the sleeping quarters on November 8, while the submarine was in the Sea of Japan.

India reportedly paid $650 million for a 10-year lease of the 12,000-ton K-152 Nerpa, considered the quietest and deadliest of all Russian nuclear-powered attack submarines.

'Human error' was identified as the cause of the worst accident on Russian submarines since the sinking of the Kursk in August 2000, in which 118 crew members were killed after a blast in the torpedo room.

Malaysia's First Submarine Begins Journey Home from France

Bernama, July 9, 2009

KUALA LUMPUR – Malaysia's first submarine KD Tunku Abdul Rahman left Toulon, France on its historical maiden journey to Malaysia at 11 am Thursday.

The Embassy of Malaysia in Paris in a statement sent here, said the submarine was waved off by Malaysia's Ambassador to France Datuk S. Thanarajasingam.

Also present at the ceremony were Defence Attache Captain Khairuddin Mohd Ariff and officials from Malaysia's submarine project team as well as French senior navy officials led by Admiral Yann Tainguy.

The submarine consisting of 35 crew members was commanded by Commander Zulhelmy Ithnain of the Royal Malaysian Navy.

The submarine is expected to stop at Lumut and Port Klang for a few days before continuing the journey to Sepanggar Naval Base in Sabah.

It will also transit at major ports such as Jeddah, Djibouti and Cochin, before reaching Malaysia.

The submarine project started when Malaysia signed a deal to purchase two submarines in 2002.
The first submarine was finally completed with the departure of KD Tunku Abdul Rahman, which is expected to reach its Malaysian home in Sepanggar by early September.

Peruvian Sub Departs San Diego after Strengthening Partnership
Navy News, July 10, 2009

SAN DIEGO – The Peruvian submarine BAP (Buque Armada Peruana) Arica (SS-36) departed for Peru from Naval Base Point Loma July 10, after taking part in the Diesel Electric Submarine Initiative (DESI) with the U.S. Navy.

During its three-month deployment to Commander, U.S. Third Fleet's Area of Responsibility, Arica conducted training with both surface and air units.

Arica acted as the primary opposing submarine force for the USS Nimitz Carrier Strike Group's Composite Unit Training Exercise (COMPTUEX) and Joint Task Force Exercise (JTFEX). They also conducted training with more than 40 helicopters and patrol aircraft during the Helicopter Maritime Strike Weapons School Pacific's Antisubmarine Warfare Exercise (ASWEX).

The ASWEX took place for six days and is the largest scale ASW (antisubmarine warfare) exercise for unit level training on the west coast.

Arica provided the most realistic ASW training possible for U.S. forces said 3rd Fleet's Deputy Assistant Chief of Staff for Training, Cmdr. John Doney.

"Diesel subs are the most difficult to track, and Arica proved to be a formidable target throughout the training exercises." Doney said.

"The training was individualized per crew and provided invaluable instruction for our Sailors. This is important because diesel subs are the greatest threat to our Navy," said Doney.

DESI is a partnership that allows the United States and other partner navies to work together to train and test underwater warfare capabilities through engagement tactics, weapon system tests and close encounter operations. This particular training evolution helps the American and Peruvian navies to train their crews and test capabilities while helping foster bilateral cooperation and further improve joint interoperability.

BAP Arica Commanding Officer, Cmdr. Manuel Rivadeneira said this is the first time a Peruvian submarine has worked with 3rd Fleet in Southern California since Peru began participating in DESI eight years ago.

"The DESI program is a great opportunity to strengthen the interoperability between the U.S. and Peruvian navies," he added.

While in San Diego, the Peruvian sailors and officers stayed with their U.S. counterparts at Naval Base San Diego bachelor enlisted and officer quarters. They also had the opportunity to explore the San Diego area and spend time with U.S. Sailors during events hosted in their honor.

"It was my first time in San Diego," said Master Chief Louis Blas, technical supervisor, BAP Arica, "It's very beautiful, and the people are very diverse. It was wonderful for our Sailors to be able to work with such a fine navy. It opened their eyes." The DESI program increases partnerships and encourages cooperation between partner nations, furthering the core capabilities of the maritime strategy.

Why We Don't Want a Nuclear-Free World
The former defense secretary on the U.S. deterrent and the terrorist threat.
By Melanie Kirkpatrick, The Wall Street Journal, July 13, 2009

'Nuclear weapons are used every day." So says former Defense Secretary James Schlesinger, speaking last month at his office in a wooded enclave of Maclean, Va. It's a serene setting for Doomsday talk, and Mr. Schlesinger's matter-of-fact tone belies the enormity of the concepts he's explaining – concepts that were seemingly ignored in this week's Moscow summit between Presidents Barack Obama and Dmitry Medvedev.

We use nuclear weapons every day, Mr. Schlesinger goes on to explain, "to deter our potential foes and provide reassurance to the allies to whom we offer protection."

Mr. Obama likes to talk about his vision of a nuclear-free world, and in Moscow he and Mr. Medvedev signed an agreement setting targets for sweeping reductions in the world's largest nuclear arsenals. Reflecting on the hour I spent with Mr. Schlesinger, I can't help but think: Do we really want to do this?

For nuclear strategists, Mr. Schlesinger is Yoda, the master of their universe. In addition to being a former defense secretary (Nixon and Ford), he is a former energy secretary (Carter) and former director of central intelligence (Nixon). He has been studying the

U.S. nuclear posture since the early 1960s, when he was at the RAND Corporation, a California think tank that often does research for the U.S. government. He's the expert whom Defense Secretary Robert Gates called on last year to lead an investigation into the Air Force's mishandling of nuclear weapons after nuclear-armed cruise missiles were mistakenly flown across the country on a B-52 and nuclear fuses were accidently shipped to Taiwan. Most recently, he's vice chairman of a bipartisan congressional commission that in May issued an urgent warning about the need to maintain a strong U.S. deterrent.

But above all, Mr. Schlesinger is a nuclear realist. Are we heading toward a nuclear-free world anytime soon? He shoots back a one-word answer: "No." I keep silent, hoping he will go on. "We will need a strong deterrent," he finally says, "and that is measured at least in decades – in my judgment, in fact, more or less in perpetuity. The notion that we can abolish nuclear weapons reflects on a combination of American utopianism and American parochialism.... It's like the [1929] Kellogg-Briand Pact renouncing war as an instrument of national policy.... It's not based upon an understanding of reality."

In other words: Go ahead and wish for a nuclear-free world, but pray that you don't get what you wish for. A world without nukes would be even more dangerous than a world with them, Mr. Schlesinger argues.

"If, by some miracle, we were able to eliminate nuclear weapons," he says, "what we would have is a number of countries sitting around with breakout capabilities or rumors of breakout capabilities – for intimidation purposes.... and finally, probably, a number of small clandestine stockpiles." This would make the U.S. more vulnerable.

Mr. Schlesinger makes the case for a strong U.S. deterrent. Yes, the Cold War has ended and, yes, while "we worry about Russia's nuclear posture to some degree, it is not just as prominent as it once was." The U.S. still needs to deter Russia, which has the largest nuclear capability of any potential adversary, and the Chinese, who have a modest (and growing) capability. The U.S. nuclear deterrent has no influence on North Korea or Iran, he says, or on nonstate actors. "They're not going to be deterred by the possibility of a nuclear response to actions that they might take," he says.

Mr. Schlesinger refers to the unanimous conclusion of the bipartisan Congressional Commission on the Strategic Posture of the United States, which he co-led with Chairman William Perry. The commission "strongly" recommended that further discussions with the Russians on arms control are "desirable," he says, and that "we should proceed with negotiations on an extension of the START Treaty." That's what Mr. Obama set in motion in Moscow this week. The pact – whose full name is the Strategic Arms Reduction Treaty – expires in December. But what's the hurry? Mr. Schlesinger warns about rushing to agree on cuts. "The treaty ... can be extended for five years. And, if need be, I would extend it for five years."

There's another compelling reason for a strong U.S. deterrent: the U.S. nuclear umbrella, which protects more than 30 allies world-wide. "If we were only protecting the North American continent," he says, "we could do so with far fewer weapons than we have at present in the stockpile." But a principal aim of the U.S. nuclear deterrent is "to provide the necessary reassurance to our allies, both in Asia and in Europe." That includes "our new NATO allies such as Poland and the Baltic States," which, he notes dryly, continue to be concerned about their Russian neighbor. "Indeed, they inform us regularly that they understand the Russians far better than do we."

The congressional commission warned of a coming "tipping point" in proliferation, when more nations might decide to go nuclear if they were to lose confidence in the U.S. deterrent, or in Washington's will to use it. If U.S. allies lose confidence in Washington's ability to protect them, they'll kick off a new nuclear arms race.

That's a reason Mr. Schlesinger wants to bring Japan into the nuclear conversation. "One of the recommendations of the commission is that we start to have a dialogue with the Japanese about strategic capabilities in order both to help enlighten them and to provide reassurance that they will be protected by the U.S. nuclear umbrella. In the past, that has not been the case. Japan never was seriously threatened by Soviet capabilities and that the Soviets looked westward largely is a threat against Western Europe. But now that the Chinese forces have been growing into the many hundreds of weapons, we think that it's necessary to talk to the Japanese in the same way that we have talked to the Europeans over the years."

He reminds me of the comment of Japanese political leader Ichiro Ozawa, who said in 2002 that it would be "easy" for Japan to make nuclear warheads and that it had enough plutonium to make several thousand weapons. "When one contemplates a number like that," Mr. Schlesinger says, "one sees that a substantial role in nonproliferation has been the U.S. nuclear umbrella. Without that, some and perhaps a fair number of our allies would feel the necessity of having their own nuclear capabilities."

He worries about "contagion" in the Middle East, whereby countries will decide to go nuclear if Iran does. "We've long talked about Iran as a tipping point," he says, "in that it might induce Turkey, which has long been protected under NATO, Egypt [and] Saudi Arabia to respond in kind ... There has been talk about extending the nuclear umbrella to the Middle East in the event that the Iranians are successful in developing that capacity."

Mr. Schlesinger expresses concerns, too, about the safety and reliability of U.S. nuclear weapons, all of which are more than 20 years old. "I am worried about the reliability of the weapons ... as time passes. Not this year, not next year, but as time passes and the stockpile ages." There is a worry, too, about the "intellectual infrastructure," he says, as Americans who know how to make nuclear weapons either retire or die. And he notes that the "physical infrastructure" is now "well over 60 years" old. Some of it "comes out of the Manhattan Project."

The U.S. is the only major nuclear power that is not modernizing its weapons. "The Russians have a shelf life for their weapons of about 10 years so they are continually replacing" them. The British and the French "stay up to date." And the Chinese and the Indians "continue to add to their stockpiles." But in the U.S., Congress won't even so much as fund R&D for the Reliable Replacement Warhead. "The RRW has become a toxic term on Capitol Hill," Mr. Schlesinger says. Give it a new name, he seems to be

suggesting, and try again to get Congress to fund it. "We need to be much more vigorous about life-extension programs" for the weapons.

Finally, we chat about Mr. Schlesinger's nearly half-century as a nuclear strategist. Are we living in a world where the use of nuclear weapons is more likely than it was back then? "The likelihood of a nuclear exchange has substantially gone away," he says. That's the good news. "However, the likelihood of a nuclear terrorist attack on the United States" is greater.

During his RAND years, in the 1960s, Mr. Schlesinger recalls that "we were working on mitigating the possible effects [of a nuclear attack] through civil defense, which, may I say parenthetically, we should be working on now with respect, certainly, to the possibility of a terrorist weapon used against the United States.... We should have a much more rapid response capability.... We're not as well organized as we should be to respond."

Mr. Schlesinger sees another difference between now and when he started in this business: "Public interest in our strategic posture has faded over the decades," he says. "In the Cold War, it was a most prominent subject. Now, much of the public is barely interested in it. And that has been true of the Congress as well," creating what he delicately refers to as "something of a stalemate in expenditures."

He's raising the alarm. Congress, the administration and Americans ignore it at their peril.

Analysts: Pact Would Shift More Russian Nukes To Subs

By Nabi Abdullaev, Defense News, July 13, 2009

MOSCOW – Russia's missile sub-marines would become the country's pre-eminent nuclear platform under the preliminary agreement on strategic arms reduction with the United States, analysts here said.

Announced July 6 during U.S. President Barack Obama's visit to his Russian counterpart Dmitry Medvedev, the preliminary agreement calls for each country to shrink its nuclear arsenal to between 1,500 and 1,675 warheads and between 500 and 1,100 delivery vehicles. The two sides intend to wrap up work by year's end on the new treaty, which would remain in force for 10 years, according to a joint statement published on the Kremlin's Web site.

As of January, Russia had 2,787 nuclear warheads on 620 launchers; the United States had 2,202 atop 791, according to the Stockholm International Peace Research Institute.

But Russia will have a hard time even maintaining 500 warheads at current replacement rates, said Alexander Khramchikhin, a researcher with the Institute for Political and Military Analysis, a think tank here.

Within five to 10 years, Russia will have to decommission most of its RS-20 (SS-18 Satan), RS-18 (SS-19 Stiletto) and Topol (SS-25 Sick-le) intercontinental ballistic missiles, all produced in the 1980s, said independent military analyst Alexander Goltz.

The 68 Satan carry 10 warheads; the 72 Stilettos, six apiece. But they are being replaced each year by a handful of Topol-M ICBMs that each carry just one warhead.

By contrast, the United States can easily extend its launchers' service through 2035, the Russian analysts said.

The easiest way for Russia to buoy the number of deployable war-heads is to put most of them on sub-launched missiles, said Vladimir Yevseyev, a security analyst with the Institute of Global Economy and International Relations.

"Only by boosting the naval component of the nuclear forces, Russia will be able to maintain the agreed levels," Yevseyev said. "It would not be possible to do with the land component."

Russia has 11 deployable subs that can carry 576 warheads on 160 launchers.

Three new Borei-class (Project 955) submarines are under construction at the Severodvinsk-based Sevmash shipyard. One of them, Yuri Dolgoruky, which completed naval tests July 10, is designed to carry 12 Bulava naval ICBMs. Two others slated to be completed next year – Alexander Nevsky and Vladimir Monomakh – will carry 16 ICBMs each.

But the Bulava, designed to carry up to 10 individually targeted war-heads, has failed in five of 12 test launches, including the most recent one in December. Russian Rocket Forces plan to conduct four or five Bulava tests and usher the missile into service by year's end, Russian Navy Chief Commander Vladimir Vysotsky said in late June.

In the United States, subs carry just over half of the deployed war-heads: 1,152 of 2,202, the analysts said.

Russia would still have the world's second-largest nuclear arsenal if it slips below 500 launchers.

But analysts said its leaders still cling to the notion that its international prestige depends on such weaponry, and therefore will not allow the country to lag behind the Americans beyond the formally fixed limits.

"Otherwise, they think in the Kremlin: 'Americans will not treat Russia seriously,'" Yevseyev said. The summit also saw:

- Russia agrees to allow the transit of U.S. military cargo, subject to Russian inspection, over its territory to Afghanistan, analysts said.
- The two sides remain at odds over the prospective NATO admission of Georgia and Ukraine.
- Moscow fail to get any commitment that Obama would halt U.S. plans to deploy elements of a missile shield in Europe.

Medvedev touted a clause linking strategic defensive and offensive weapons in the nuclear arms agreement as a foundation for a possible breakthrough, but analysts said the clause does not necessarily oblige the United States to abandon its missile defense plans.

Obama reiterated at a July 6 news conference with Medvedev that the missile shield was not meant to undermine Russia's strategic security but to intercept a possible missile from Iran.

For his part, Obama got no promises from Moscow on cooperation in easing the nuclear threat from Iran. The U.S. and Russia agreed to work to create ways to alert each other of possible missile launches.

Ships Ending Search For Air France Black Boxes
By Bradley Brooks, Associated Press, July 11, 2009

RIO DE JANEIRO – Two ships using U.S. listening devices to search for the black boxes of Air France Flight 447 were ending their hunt Friday, an American commander said.

A French nuclear submarine, however, will continue to look.

U.S. Air Force Col. Willie Berges, the Brazil-based commander of American military forces supporting the effort, said one ship towing a U.S. Navy listening device had already stopped searching.

"The last ship will be departing the search area today," Berges said. He didn't know what time the final ship would leave the search area.

Flight 447 crashed into the Atlantic Ocean, more than 900 miles (1,450 kilometers) off Brazil's northeastern coast, on June 1. All 228 people aboard died. Investigators have said without the black boxes, it may be impossible to know with certainty what caused the crash.

Berges said the ships, which have been searching for the cockpit voice and flight data recorders since June 15, had "no success – nothing was tracked."

The commander said a French nuclear submarine would continue trying to pick up emergency signals from the black boxes, but he didn't know for how long.

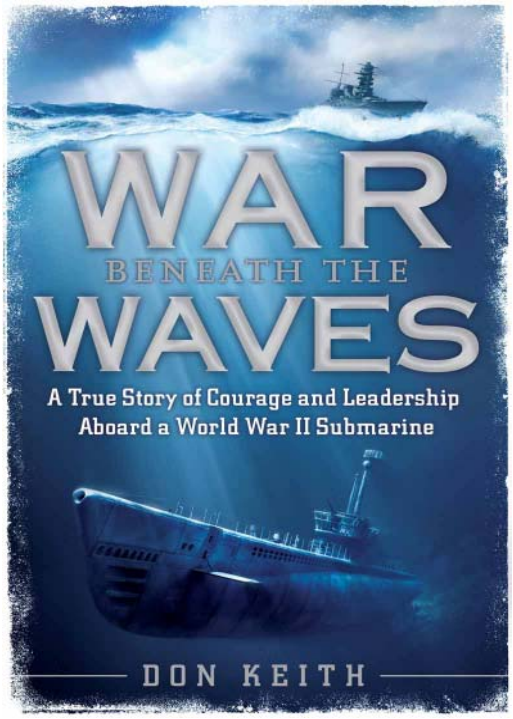
The black boxes are built to emit emergency "pings" for about 30 days, and then slowly fade away.

Two teams of American personnel were operating the U.S. Navy pinger locators that were towed by French-contracted ships. A French nuclear submarine is still scouring a search area with a radius of 50 miles (80 kilometers) in the area where the plane is thought to have crashed.

French investigators say 640 parts of the plane - including a nearly intact tail, an engine cover, uninflated life jackets, seats and kitchen items - have been plucked from the Atlantic Ocean, some of them huge pieces that had to be handled by cranes.

The debris was initially held in the Brazilian city of Recife, but the material is aboard a ship en route to France, where investigators will search for clues.

French crash investigators last week issued a preliminary report into the crash, finding that problems with the plane's speed sensors were one of several factors in the crash. It said the plane hit the ocean intact and belly first at a high rate of speed. Experts have found no signs of an explosion or terrorist act.



WAR BENEATH THE WAVES is the story of USS *Billfish* and a 15-hour depth charge attack she endured on Armistice Day, 1943, in the Makassar Strait. During that attack, the skipper lost it, the XO was overcome by bad air, and the third in command lost it even worse and had to be sedated. That left the fourth senior officer aboard Lt. Charlie Rush in charge. With the help of a couple of chiefs and the rest of the crew, he was able to get the boat out of that mess with some very daring and innovative maneuvers. The story of cowardice and courage is one of the most amazing I have yet run across, and was untold until 2002. That was when Rush was attempting to get recognition for the two chiefs, and the former officer who was writing those citations did one for Rush to receive the Navy Cross.

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4

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Silver or Gold
measure 48" x 13"
contact: SLOSUBVETS SK
Pete Gallagher..
petegallagher@charter.net

$120.00 (free S&H)

USSVI CONVENTION SPONSOR INFORMATION

2009 United States Submarine Veterans, Inc.
National Convention

Contact:
Mike Hacking

2009 USSVI Convention
P.O. Box 420159
San Diego, CA 92142-0159

(858) 495-0562

mrhacking@san.rr.com

September 8 – 12, 2009
Town & Country Resort and Convention Center
San Diego, CA

The 2009 convention in San Diego is being hosted by the San Diego Base and the USS Scamp Base of the United States Submarine Veterans, Inc. (USSVI). USSVI is a fraternal veteran's association whose creed is:

> *"To perpetuate the memory of our shipmates who gave their lives in the pursuit of 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 Government."*

Joining USSVI in San Diego will be members of the International Submariners Association (who will be holding their 46th International Congress), U.S. World War II Submarine Veterans, and veterans from the Canadian Submariners Association. With the participation of the local military community this convention will be one of the largest gatherings of submariners in history!

We are seeking your support to make this a truly historic occasion. Your donation to the 2009 USSVI Convention will benefit all Submarine Veterans and their families who will be attending this gathering of Submarine Veterans from around the world.



Website: www.ussvisandiego.org/Convention2009/index.htm

The United States Submarine Veterans, Inc. (USSVI - our national organization), the San Diego Base and the USS Scamp Base (hosts of the convention) are 501(c)19 veteran organizations, as designated by the Internal Revenue Service.

LEVELS OF SPONSOR PARTICIPATION

2009 United States Submarine Veterans, Inc.
National Convention

September 8 – 12, 2009
Town & Country Resort and Convention Center
San Diego, CA

Levels	Contribution Level
Admiral	$ 25,000
Full-page ad in the Convention Program*	
Full-page ad in each of the quarterly publications of the American Submariner leading up to the Convention ($6,000 value)*	
Recognition in the Convention Program as Admiral level sponsor	
Seating for 16 (2 Reserved Tables for 8 each) at the Annual Awards Banquet	
Banner advertising in conventions halls and / convention lobby	
Captain	$ 15,000
Half-page ad in the Convention Program*	
Half-page ad in each of the quarterly publications of the American Submariner leading up to the Convention ($4,000 value)*	
Recognition in the Convention Program as Captain level sponsor	
Seating for 8 at the Annual Awards Banquet	
Banner advertising in conventions halls and / convention lobby	
Commander	$ 10,000
Quarter-page ad in the Convention Program*	
Quarter-page ad in each of the quarterly publications of the American Submariner leading up to the Convention ($2,800 value)*	
Recognition in the Convention Program as Commander level sponsor	
Seating for 4 at the Annual Awards Banquet	
Banner advertising in conventions halls and / convention lobby	
Lieutenant	$ 5,000
Quarter-page ad in the Convention Program*	
One-Sixth-page ad in each of the quarterly publications of the American Submariner leading up to the Convention ($1,600 value)*	
Recognition in the Convention Program as Lieutenant level sponsor	
Seating for 2 at the Annual Awards Banquet	
Ensign	$ 1,000
Quarter-page ad in the Convention Program*	
Recognition in the Convention Program as Ensign level sponsor	
Warrant	$ 500
Recognition in the Convention Program as Warrant level sponsor	
Chief Petty Officer	$ 250
Recognition in the Convention Program as Chief Petty Officer level sponsor	
Petty Officer	$ 100
Recognition in the Convention Program as Petty Officer level sponsor	
Seaman	$ 25
Recognition in the Convention Program as Seaman level sponsor	

Note: **To support preparation of Convention Program and recognition items the deadline for all donations is May 1, 2009. American Submariner publication deadlines are: Oct 1, 2008; Dec 15, 2008; Apr 1, 2009; and Jun 15, 2009.**

* Sponsor responsible for providing camera-ready artwork for Convention Program and / or American Submariner Magazine.

Website: www.ussvisandiego.org/Convention2009/index.htm

SPONSOR REGISTRATION

2009 United States Submarine Veterans, Inc.
National Convention

September 8 – 12, 2009
Town & Country Resort and Convention Center
San Diego, CA

Name of Company / Organization _____

Contact Name _____

Address _____

City _____ State _____ ZIP Code _____

Phone _____ Email _____

☐	$ _____	Admiral Sponsor	$ 25,000 Level
☐	$ _____	Captain Sponsor	$ 15,000 Level
☐	$ _____	Commander Sponsor	$ 10,000 Level
☐	$ _____	Lieutenant Sponsor	$ 5,000 Level
☐	$ _____	Ensign Sponsor	$ 1,000 Level
☐	$ _____	Warrant Sponsor	$ 500 Level
☐	$ _____	CPO Sponsor	$ 250 Level
☐	$ _____	Petty Officer Sponsor	$ 100 Level
☐	$ _____	Seaman Sponsor	$ 25 Level

Make checks payable to: "2009 USSVI Convention"

Mail to:

2009 USSVI Convention
P.O. Box 420159
San Diego, CA 92142-0159

For Credit Card payments – contact us!

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