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

The Silent Sentinel

MAY 2013

Our Creed and Purpose

To perpetuate the memory of our shipmates who gave their lives in the pursuit of their duties while serving their country. That their dedication, deeds, and supreme sacrifice be a constant source of motivation toward greater accomplishments. Pledge loyalty and patriotism to the United States of America and its Constitution.

In addition to perpetuating the memory of departed shipmates, we shall provide a way for all Submariners to gather for the mutual benefit and enjoyment. Our common heritage as Submariners shall be Strengthened by camaraderie. We support a strong U.S. Submarine Force.

The organization will engage in various projects and deeds that will bring about the perpetual remembrance of those shipmates who have given the supreme sacrifice. The organization will also endeavor to educate all third parties it comes in contact with about the services our submarine brothers performed and how their sacrifices made possible the freedom and lifestyle we enjoy today.

LINDA VISTA PARADE

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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: _____

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Would like the SILENT SENTINEL emailed: YES_____ NO_____

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

May Meeting

Our monthly meeting is held on the second Tuesday of the month at VFW Post 3787, 4370 Twain Ave., San Diego. Our next meeting will be on May 14, 2013. The post is located one-half block West of Mission Gorge Road, just north of I-8. The meeting begins at 7 p.m. The E-Board meets one hour earlier at 6 p.m.

Check us out on the World Wide Web
www.ussvisandiego.org

BINNACLE LIST
Al Strunk

Submarine Losses in April

Originally Compiled by C J Glassford

S – 49 Battery Explosion, on 20 Apr 1926, at Submarine Base, New London, Connecticut : " 4 MEN LOST "

PICKEREL (SS 177) - 74 Men on Board :
Sunk, on 3 Apr 1943, by Japanese Minelayer and Auxiliary Sub Chaser, Off Northern Honshu, Japan :
" ALL HANDS LOST "

GRENADIER (SS 210) - 80 Men on Board :
Scuttled, on 22 Apr 1943, after Japanese Seaplane Attacks Damaged the Boat the previous day, off Penang, Malasia :
" 4 MEN LOST - 76 MEN SURVIVED POW CAMP "

GUDGEON (SS 211) - 78 Men on Board :
Probably Sunk, on 18 Apr 1944, By Japanese Naval Aircraft, Southwest of Iwo Jima :
" ALL HANDS LOST "

SNOOK (SS 279) - 84 Men on Board:
Probably Sunk, on 9 April 1945, by a combination of Japanese Naval Aircraft, Escort Vessel, Coast Defense Vessels, and/or Japanese Submarine, In the Nansei Soto Area:
" ALL HANDS LOST "

THRESHER (SSN 593) - 129 Men on Board:
Sunk,on10 April1 963,after a possible Pipeing Failure during
Deep Submergence Tests, Off the New England Coast
" ALL HANDS LOST "

BONEFISH (SS 582) - 77 Men on Board:
Battery Fire and Explosion. on 24 April 1988, While operating off the Florida Coast :
" 3 MEN LOST "

Minutes for Submarine Veterans San Diego, 9 April, 2013.

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

Conducted Opening Exercises:

Reading of Our Creed:
Pledge of Allegiance: Lead by David Ball:
Chaplain Jack Lester Lead in Prayer:
Conducted Tolling of the Boats for April:
Observed a moment of Silent Prayer:

Base Commander recognized past E-Board members, Past Officers and guests.
Secretary Ferguson announced 35 members and 2 guests present.
Treasurer David Ball reported $642 in checking and $17,239 in savings.
The Minutes of the 12 March 2013 have been published in the SILENT SENTINEL and were approved. It was confirmed that Manny Buciaga received the oath of office as Junior Vice Commander at last months meeting.

Call for Committee reports:

Chaplain Binnacle List: Tommy Cox, Al Strunk and Jim Harer. Chaplain Lester announced that Frederick B. Owens, Robert Oswald and Tim VeArd were on eternal patrol.
Parade Committee: Jack Kane presented the list of parades for 2013.
April 27, Saturday, Linda Vista Multicultural Parade at 1100, muster 1000-1030 on Levant Street.
May 18, Saturday, Ramona Rodeo Days Parade at 1000, muster 0900.
June 1st, Saturday, La Mesa Flag Day at 1000, muster 0900-1000 at University and Pine.
June 29, Saturday, Oceanside at 1000, muster 0900-1000, muster to be determined.
July 4, Thursday, Julian 4th of July at Noon, float judging 1000, muster at 1100.
September 14, (tentative) Could be 21st, Poway Days Parade 0900, muster at 0800.
October 26, (tentative), Borrego Springs at 1000, muster at 0900.
November 11, Veterans Day San Diego at 1100, muster at 1000.
Jack Kane announced that Joel Eicam will be assuming Parade Chair duties and was thanked for his lengthy service as Parade Chair.

Membership Committee: Ray Ferbrache announced that 14 members will be eligible for Holland Club this year.
Scholarship Committee: No applications to date but one will be submitted before the deadline expires April 15th.
Storekeeper Report: Phill Richeson reported that anyone wanting items can order by email to him.
Breakfast Committee: Next breakfast June 30th at 0800 and Base Commander encouraged members volunteering as food handlers to attend the handlers session April 25th at 6PM.
1923 - Base Commander called for a Break.
1941 - Base Commander called meeting to order.
Mrs. Rita McCrerey, representing "Donate Life" organization, provided information on organ donations. She reminded us that older persons organs are just as important as younger persons and in some cases even of more use. The hospitals have no say in the use of the organs donated as they report their availability to the Donor Registry who then selects the recipients. There are over 120,000 patients presently on the list for organs.

Unfinished Business:

David Kauppinen confirmed that the new float was finished on budget and ready for first parade. Seating available for 10 on permanent chairs and a few more can be added.
Base Commander announced that 5 or 6 Subvets attended the Submarine Ball and the Old Timers Luncheon was a success. There will be some changes to next years Ball regarding pricing.
2013 National Convention August 25-September 1, 2013 in Rochester MN.

New Business:

A discussion followed regarding an award of some kind to Wayne Stani, Owner of Tek Assist that provided his Companies space, expertise, tools and 3 sons Donald, Eric, and Greg to build the new float. A few ideas were presented by various members with much discussion. The subject was tabled until the next E-Board meeting.

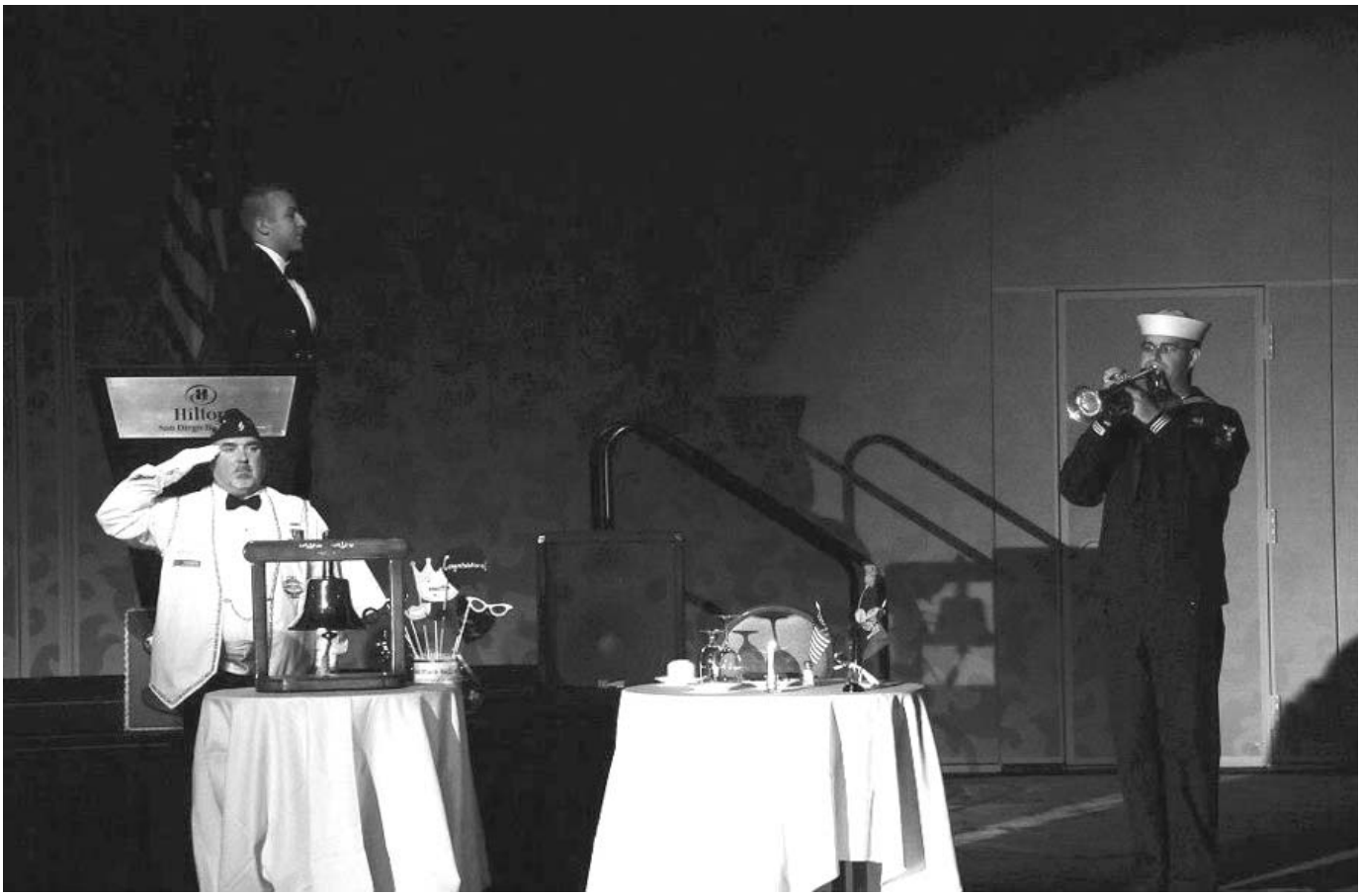
Good of the Order:

The Base Commander has provided a few articles on the back table regarding Submarine History that the members may enjoy.
We were reminded of the USS Thresher Memorial on 10 April at 0930.
The VFW will be closed for painting on April 26th.
Dennis Mortensen related a story of a police officer that provided organs for 5 persons that are alive today.
Secretary Ferguson asked that any committee members giving reports provide him a copy of the report for accuracy of minutes and that members provide their names clearly during Good of the Order discussion.
Base Commander Bissonnette adjourned the meeting at 2020.

Jack Ferguson, Secretary.

Sailing List for April 9, 2013

Jack Ferguson
David Ball
David Kauppinen
Ed Farley
Jack L. Addington
Robert Chapman
Bob (Doc) Coates
Cliff Britt
Dennis Mortensen
Peter Lary
Larry Dore
Ray Ferbrache
Jack Lester
Phillip Richeson
Mert Weltzien
Richard A. Smith
Tom Polen
Mitch Allmaras
Bud Rollison
Russ Mohedano
Charlie Marin
Glenn Gerbrand
Joel Eicam
Warren Branges
Bill Earl
Phill Richeson
Bob Farrell
John Fox
Nihil D. Smith
Bob Oberting
Larry Kendall
Gino Rillamas
Bob Bissonnette
Jack Kane
Ron Gorence



SUBMARINE BIRTHDAY BALL

Join us for Memorial Day services, Monday morning, May 27, on Subase in front of the Roncador. Attendees should arrive NLT 0930.

Current News

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

DOD outlines scope of China's anti-access, area-denial capabilities
InsideDefense.com, May 6

A new Pentagon report sent to Congress today provides the most detailed government account of capabilities China is developing to thwart U.S. forces — so-called anti-access, area-denial weapon systems that include two stealth fighter aircraft programs, an unmanned combat air vehicle, anti-satellite capabilities, a ballistic missile defense "umbrella" and cyberwarfare.

These dimensions of China's military modernization efforts are of keen interest to Pentagon policy makers who are contemplating steps needed to refocus the U.S. military posture after the war in Afghanistan to the Asia-Pacific region.

"China is pursuing a variety of air, sea, undersea, space and counter-space, and information warfare systems and operational concepts to achieve this capability, moving toward an array of overlapping, multilayered offensive capabilities extending from China's coast into the western Pacific," states the "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2013

The 92-page report, required by Congress and released today by the Pentagon, outlines for the first time some of the scope of the anti-access, area-denial challenges that China's modernization efforts present to U.S. military planners. The 2013 Defense Authorization Act expressly directed the Pentagon to provide a description of these capabilities along with a handful of other issues, including developments in China's nuclear programs and progress with precision-guided weaponry.

The report, which says cyberwarfare capabilities could serve China's military operations, claims a series of 2012 cyber attacks against Defense Department computer systems — aimed at "exfiltrating" information — "appear to be attributable directly to the Chinese government and military."

The Pentagon report suggests that China's fifth-generation fighter aircraft — one that could rival the Air Force's F-22 — remains on track to be operational by 2018, a date U.S. intelligence experts publicly predicted for the first time in 2010.

"Key characteristics of fifth-generation fighters include high maneuverability, lack of visibility on radar due to very low observable stealth shaping, and an internal weapons bay," the report states. "Other key features of these aircraft are modern avionics and sensors that offer more timely situational awareness for operations in network-centric combat environments, radars with advanced targeting capabilities and protection against enemy electronic countermeasures, and integrated electronic warfare systems with advanced communication and GPS navigation functions." The Pentagon report also cautions that China "faces numerous challenges" in its attempts to reach full operational capability with its J-20 stealth fighter, "including developing high-performance jet engines."

The Peoples Liberation Army Air Force is pursuing updates to its bomber fleet that "may provide" new, longer-range cruise missiles, according to the report. "Similarly, the acquisition and development of longer-range unmanned aerial vehicles, including the BZK-005, and unmanned combat aerial vehicles, will increase China's ability to conduct long-range reconnaissance and strike operations," the report states.

China is working to shield itself not only against aircraft and cruise missiles; the country also aims to develop a ballistic missile defense capability "in order to provide further protection of China's mainland and strategic assets," according to the report.

"China is proceeding with the research and development of a missile defense umbrella consisting of kinetic energy intercept at exo-atmospheric altitudes (>80km), as well as intercepts of ballistic missiles and other aerospace vehicles within the upper atmosphere," the report states. China has conducted two successful mid-course ballistic-missile intercepts, including one in January, according to the report.

China's navy is at the "forefront" of Beijing's efforts to develop anti-access, area-denial capabilities, according to the report. "In a near-term conflict, PLA Navy operations would likely begin in the offshore and coastal areas with attacks by coastal defense cruise missiles, maritime strike aircraft, and smaller combatants, and extend as far as the second island chain and Strait of Malacca using large surface ships and submarines," the report states.

The Pentagon expects that as China's navy acquires experience and more advanced capabilities and more ships, "it will expand the depth of these operations further into the Western Pacific." In addition, the Defense Department expects China to develop a new ship-launched cruise missile capable of striking land-targets.

"China views long-range anti-ship cruise missiles as a key weapon in this type of operation and is developing multiple advanced types and the platforms to employ them for this purpose," the report states. These platforms include conventional and nuclear-powered submarines, surface combatants and maritime strike aircraft, according to DOD.

The Pentagon report argues that China's military puts a priority on challenging U.S. space-based military capabilities as a way to disrupt communications as well as the effectiveness of American precision-guided weapons. "Although PLA doctrine does not appear to address space operations as a unique operational 'campaign,' space operations form an integral component of other PLA campaigns and would serve a key role in enabling A2/AD operations," the report states.

Teenage Thomas Edison builds submarine for Lake Hopatcong
www.nj.com, May 6

At age 12, he built the "Cleaning Car," a remote-control vehicle that could mop and vacuum the floor.

When his sixth-grade science teacher mused about how nice it would be to have a device that got people to hush or clap on cue, he arrived at school the next day with a homemade quiet/applause sign with lights.

Two years later, he created "Head Entertainment," a helmet gizmo that allowed users to watch close-up videos without ever having to crane their necks.

Over the years, Justin Beckerman, now a junior at West Morris Mendham High School, has designed a miniature boat with lights, a remote-control car with airsoft gun and an "Amusement Ride," a beach chair dangling from wires.

This time, the teenage Thomas Edison has outdone himself, building a one-man submarine he floats under Lake Hopatcong.

Co-existing with Jet Skis and fishing boats in the picturesque West Jersey lake is Justin's latest invention — complete with lights, paddles, ballasts, air compressors, 2,000 feet of wire and a Plexiglas dome top that looks like the head of Star Wars robot R2-D2.

Justin, who turned 18 last weekend, spent a month designing and five months building his 9-foot-long submarine, into which he can fit.

"By far, the longest project I've ever worked on," he said. "The previous one to that was about three weeks, when I built a tree fort."

Why a submarine?

Because it allows him to combine his two loves: Water and making things.

Building a submarine allowed him to integrate all the systems and knowledge he has amassed.

Previously, Justin built a remote-control submarine that was able to dive 30 feet in Lake Hopatcong.

"I saw tons of fish. I even picked up a crowbar and an old light fixture," said Justin, who plans to study engineering in college. "Just learning from experiences like that, I was able to eventually come to this."

White ballast tanks fill with air and water, controlling the height in the water. The submarine, air and pressure-tested, is designed to go 30 feet deep.

It has a motor on back, regulators and valves from an old soda machine, three battery systems, float sensors that can tell when tanks are full or empty, a horn, a CB radio to communicate with people on the surface, and 1,400 watts of lights plus a strobe light.

"When you go down a few feet, it starts to go darker and darker, and when you get to about 10 feet, it can be virtually no light," Justin said.

The submarine has a PA system with speakers and a camera to broadcast a signal from the buoy to a TV screen, allowing people to watch on the surface. Sandbags are used to distribute weight.

The body of the submarine is a drain pipe, capped at the ends. He used a reciprocating saw to line up the corrugated materials, then sealed the plastic with marine-grade epoxy glue.

The invention has set him back about $950, including parts that were used for previous inventions, then disassembled.

It wasn't his first attempt to build a submarine.

"When I was little, I tried to build something, just for fun," he said. "I took some corrugated plastic and some tape and built a box with little windows and was hoping maybe that would sink. It acted more like a boat."

Neighbors and relatives have learned that "can't" is not in Justin's vocabulary.

Instead of making a regular paper airplane, he wants his to resemble a real plane.

He has worked on his submarine with a single-mindedness in the waking hours after crew team practice and homework.

"He doesn't give up," said Jean Scrocco, a next-door neighbor at the Beckerman family's summer home in Hopatcong. "He gets an idea in his head and he keeps going until he gets it to work."

Scrocco once was working in her upstairs office when she heard what sounded like an explosion.

She rushed out to the top deck, expecting to see a neighbor's house blown up. Instead, she found only Justin experimenting with a model boat, having put two D model rocket engines on it to see how fast he could make it go.

"Call us next time," the bemused neighbor said.

The polite Justin is hardly a Dennis the Menace to his neighbors. He is a teenage handyman who can fix TVs and Jet Skis.

"There's a whole new thing that occurs in your life when the Beckermans move in next door," Scrocco said. "We never throw out anything electric ever again before you ask Justin first: 'Are there any parts you need?' "

French ballistic missile test launch fails
Seattle Post Intelligence, May 5

PARIS (AP) — A French ballistic missile test has ended in failure after the missile destroyed itself just minutes after its launch from a nuclear submarine off the coast of Brittany.

The French Defense Ministry said in a statement that, as usual, the M51 missile was not armed with a nuclear warhead during the test Sunday. Debris from
the missile fell in an area that was closed to sea and air traffic.

The ministry said it was investigating why the test failed. Sunday's was the first failure in the six tests of the M51 so far. The ministry began testing the missile in 2006.

Russian SSBN Fleet: Modernizing But Not Sailing Much
Federation of American Scientists Strategic Security Blog, May 3

The Russian ballistic missile submarine fleet is being modernized but conducting so few deterrent patrols that each submarine crew cannot be certain to get out of port even once a year.

During 2012, according to data obtained from U.S. Naval Intelligence under the Freedom of Information Act, the entire Russian fleet of nine ballistic missile submarines only sailed on five deterrent patrols.

The patrol level is barely enough to maintain one missile submarine on patrol at any given time.

The ballistic missile submarine force is in the middle of an important modernization. Over the next decade or so, all remaining Soviet-era ballistic missile submarines and their two types of sea-launched ballistic missiles will be replaced with a new submarine armed with a new missile (see also our latest Nuclear Notebook on Russian nuclear forces).

The new fleet will carry more nuclear warheads than the one it replaces, however, because the Russian military is trying to maintain parity with the larger U.S. nuclear arsenal.

Sluggish Deterrent Patrols

The operational tempo of the Russian SSBN fleet – measured in the number of deterrent patrol conducted each year – has declined significantly – actually plummeted – since the end of the Cold War.

At their peak in 1984 – the year after the Russian military became convinced that the NATO exercise Able Archer was in fact disguised preparations for a nuclear first strike against the Soviet Union, Russian SSBNs carried out 102 patrols. Under Mikhail Gorbachev, operations quickly declined in the second half of the 1980s. But even as the Warsaw Pact collapsed and the Berlin Wall fell in 1989, the fleet was able to muster a slight comeback in 1990.

As the Cold War officially ended in 1990, the Soviet Union dissolved and Russia descended into financial recession, the SSBN force increasingly stayed in port until in 2002, when no deterrent patrols were conducted all.

Since then, the performance has been a mixed bag. After a slight whiff of new life with 10 patrols in 2008 (up from 3 in 2007), the number of SSBN patrols has declined again to around five in 2012.

The recent decline contrasts with the Russian Navy's declaration last year that it would resume continuous deterrent patrols from mid-2012. Assuming the five patrols occurred throughout the year and not just in the last six months, the fleet would have had a hard time maintaining a continuous at-sea presence with only five patrols. Theoretically, it could be done if each patrol lasted an average of 73 days. That is how long a U.S. SSBN deploys on a good day. But Russian SSBNs are thought to do shorter patrols, probably 40-60 days each, in which case most of the five patrols would have had to occur between July and December to maintain continuous patrol from mid-2012.

Even if the navy were able to squeeze a more or less continuous at-sea presence out of the five patrols, it would at best have consisted of a single SSBN – not much for a fleet of nine submarines or demonstrating a convincing secure retaliatory capability.

Perhaps more significantly, the five deterrent patrols conducted in 2012 are not enough for each SSBN in the fleet to be able to conduct even one patrol a year. The five patrols by nine SSBNs indicate that only five or less submarines are active. That means that submarine crews do not get much hands-on training in how to operate the SSBNs so they actually have a chance to survive and provide a secure retaliatory strike capability in a crisis. Crews probably compensate for this by practicing alert operations at pier-side at their bases.

Unlike U.S. SSBNs, which can patrol essentially with impunity in the open oceans, Russian deterrent patrols are thought to take place in "strategic bastions" relatively close to Russia where the SSBNs can be protected by the Russian navy against the U.S. and British attack submarines that probably occasionally monitor their potential targets.

The Russian navy remembers all too well the 1980s when the aggressive U.S. Maritime Strategy envisioned using attack submarines to hunt down and destroy Soviet SSBNs early on in a conflict, a highly controversial strategy [see here and here] that could likely have triggered escalation to strategic nuclear war. Hunting Russian SSBNs is no longer a primary mission for U.S. attack submarines, but it is probably still part of the mission package and one that Russian planners cannot afford to ignore. As a result, Russian SSBNs probably continue to patrol in the areas used in the late-1980s and early-1990s (see map) to provide maximum protection.

Force Structure

Russia currently operates 10 ballistic missile submarines (SSBNs), of which three Delta IIIs based in the Pacific are outdated and six Delta IVs based in the Barents Sea have recently been refurbished to serve for another decade or so. The 10th SSBN added in January 2013 is the first of a new type of Borei-class SSBNs that are scheduled to replace all Deltas by the mid/late-2020s.

The first Borei-class (Project 955) SSBN, Yuri Dolgoruki, entered service after more than 15 years of design and construction, marking the first time in 25 years that the Russian Navy had commissioned a new SSBN. A second Borei has been launched and a third is under construction. Russia has announced plans to build a total of eight Boreis. Each Borei is equipped with 16 SS-N-32 (Bulava) SLBMs, a missile that Russia has declared can carry up to six warheads.

The fourth and subsequent Borei-class SSBNs will be of an improved design, known as Borei-II or Project 955A). Russian news media is full of rumors that the improved Boreis will be equipped with 20 SLBMs instead of 16 on each of the first three boats. Some Russian officials dispute that, saying all Boreis will be equipped with 16 missiles.

This force structure plan has implications for Russia's nuclear posture and strategic priorities. The replacement of the Delta SSBNs with eight Borei SSBNs will reduce the size of the Russian SSBN fleet and the number of SLBMs, but result in a 23-percent increase in the number of sea-based warheads because the SS-N-32 carries more warheads than the SS-N-18 and SS-N-23 SLBMs it replaces.

In other words, Russia will be placing more eggs in fewer baskets at sea, which increases the importance of each SSBN – something strategists say is bad for crisis stability.

Conclusions and Implications

The Russian SSBN force is in the middle of a transition from Soviet-era weapons to a smaller but more warhead-heavy fleet of new submarines.

This means that the SSBN fleet will carry a growing portion of Russia's strategic missile warheads – up from about a third today to nearly half by the mid-2020s.

The trend of increased warhead loading on sea-launched ballistic missiles is similar to the development on land where reduction of the Russian ICBM force will result in a greater portion of the remaining force being equipped with multiple warheads.

This is perhaps the most dominant trend of Russia's nuclear forces today: fewer launchers but each carrying more warheads. Not that Russia will have more total nuclear warheads than before (their arsenal is declining), but that military planners have fallen for the temptation to place more nuclear eggs in each basket.

They appear to do so to compensate againt the larger U.S. nuclear missile force and its significant reserve of additional warheads. But it would be helpful if the Russian government would declare how many Borei-class SSBNs it plans to build in total and limit the number of missiles on each to 16.

The Russian modernization is motivating Cold Warriors in the U.S. Congress to argue that the United States should not reduce but modernize its nuclear forces. They are wrong for many reasons, not least because the two postures are very different.

The U.S. SSBN fleet is more modern with another 15 service years left in it, and it carries many more missiles that are much more reliable with more warheads. The U.S. could in fact easily reduce its SSBN fleet to ten boats, perhaps fewer.

Moreover, in contrast with U.S. SSBN operations, where each operational submarine conducts an average of 2-3 patrols each year, Russian SSBN crews do not get a lot of operational training with an average of less than one patrol per submarine per year.

Rather than opposing further reductions, U.S. lawmakers should support limitations on the growing asymmetry between U.S. and Russian strategic nuclear forces – an asymmetry that is significantly in the U.S. advantage – to help limit further concentration of nuclear warheads on Russia's declining numbers of strategic missiles. That would actually help the national security interests of all.

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Could New SSBN Program "Sink" U.S. Navy?
Thediplomat.com, May 3

The immense cost of the Ohio-class replacement program to build the United States' next generation ballistic missile submarines (SSBNs) threatens to jeopardize the rest of the fleet, Navy leaders and lawmakers are warning.

The program envisions replacing the current 14 Ohio-class submarines with 12 new SSBNs that will have reactor cores that will last the entire service life of the vessels, meaning each submarine will spend less time in maintenance.

Still at a cost of anywhere between US$4-6 billion a ship, the expense of this program will be an immense burden on the Navy's shipbuilding budget. Indeed, although the procurement phase of the program isn't scheduled to begin until FY 2021, the Pentagon's proposal for its FY 2014 budget already calls for appropriating US$1 billion for R&D purposes.

At an industry breakfast last week, Vice Adm. William Burke, the outgoing deputy chief of Naval Operations Warfare Systems, said the cost of the program would undermine the Navy's ability to field a 300-ship fleet during the procurement phase that stretches from FY2021 through FY2035.

"If we buy the SSBN [the planned 12 replacement strategic submarines for the current 14 Ohio class now in service] within existing funds, we will not reach 300 ships. In fact, we'll find ourselves closer to 250. At these numbers, our global presence will be reduced such that we'll only be able to visit some areas of the world episodically," Vice Adm. Burke said, the Washington Post reported.

Vice Adm. Allen Myers, deputy chief of naval operations for integration of capabilities and resources echoed Burke during a Congressional hearing on April 24: "It's an understatement to say that that's going to challenge us…. It challenges our shipbuilding account, and it challenges us when you look at that time frame."

At the same hearing Sean Stackley, assistant secretary of the Navy for research, development and acquisition, went into greater detail when, in reference to the Ohio-replacement program, Stackley said, "Clearly, that program, which in then-year dollars, when you consider the R&D [research and development] investment and procurement dollars, we're talking about $100 billion, roughly, over about a 12- to 15-year period."

While Stackley assured lawmakers the service was seeking to further reduce the costs of the submarines, he warned them that "all of our efforts to improve affordability of that boat program will not be sufficient to bring our shipbuilding requirement during that period down to within our historical budget."

The U.S. is not the only country struggling with the enormous costs of maintaining a nuclear arsenal, of course. Still, this strikes at the very core of the USN's twin missions of being both the holder of the most survivable leg of the U.S. nuclear triad, and a global navy capable of projecting force across the world.

In light of this, some lawmakers are proposing that the nuclear submarines be funded at least in part outside the Navy's normal shipbuilding fund, while the Navy is considering purchasing some ships earlier than currently scheduled to leave the shipbuilding fund open during the Ohio-replacement program's procurement period.

But some, like Hans M. Kristensen of the Federation of American Scientists, questions whether there is even a need to build so many SSBNs at all. As he recently pointed out on his Strategic Security Blog:

"The number of deterrent patrols the U.S. SSBN fleet conducts each year has declined by more than 56 percent from 64 patrols in 1999 to 28 in 2012. The decline has reduced the number of annual patrols to the lowest level since 1962."

Kirstensen also notes: "Each SSBN now spends less than half of the year on deterrent patrol – the purpose for which it was built – compared with 60-70 percent a decade ago. The decline means that each submarine today conducts an average of 2.3 deterrence patrols per year, down from 4.1 a decade ago. In fact, today's patrol rate is the lowest ever for the Ohio-class SSBNs."

Whether the Navy can reduce the number of SSBNs all depends on the outcome of the nuclear policy review the Obama administration is reportedly conducting.

U.K. Sends Underwater Drones To Gulf For Anti-Mines Exercise
U.S. leader of exercise involving up to 40 nations says it is not a provocative gesture towards Iran
The Guardian, May 2

Nineteen underwater drones, some of them from the UK, have been sent to the Gulf as part of a naval operation designed to deter mine-laying amid continuing tensions between the west and Iran over Tehran's nuclear programme.

Up to 40 nations will take part in the three-week exercise starting next week, the biggest ever undertaken in the region. The U.S. navy vice-admiral in overall charge of the exercise, John Miller, said it was not a provocative gesture towards Iran.

In an interview with the Guardian, Miller said the importance of the Gulf's sea lanes to the global economy made it essential to deter states as well as terrorists from attempts to mine waters through which 20% of the world's oil supply travels each day.

"Mine counter-measure activity is an inherently defensive exercise, there cannot be a misinterpretation that it's an offensive exercise in any way," said Miller, head of the U.S. 5th Fleet based in Bahrain.

"It assures [everyone] that if someone puts mines in the water that a large number of nations from across the globe will respond. So if you have nearly 40 nations that are willing to just practice, just imagine how many nations would participate if someone put mines in the water? If you are thinking about putting mines in the water you pay the price for it in terms of world opinion and in relatively rapid fashion those mines are going to be taken out of the water.

"Japan gets about 75% of their oil from the Gulf, China gets about 70%, so imagine the effect on China's economy if oil stops suddenly stops flowing. The effect would be immediate. It is important to the whole world those water ways are free-flowing."

Though some are shy of admitting it, most of the countries around the Gulf are sending ships or providing support for the exercise, and Miller said he expected the Iranian navy would be watching closely.

"We don't invite them but we know they are going to come," he said. "This exercise takes place in international waters and they have the same rights as we do. The Gulf is a relatively constrained water space, they are there and we are there. Every day we talk to each other – not on a government level but on a bridge-to-bridge level. It is a professional relationship, we get an outlier from time to time but we can deal with that."

He said the imperative was to ensure the navies "don't miscalculate each others' intentions and unnecessarily have a tactical accident that leads to strategic consequences."

Miller said unmanned underwater vehicles (UUVs) provided by the U.S. and the UK, including the Seafox, would be a critical part of the exercise and for future efforts to keep the sea lanes open around the Gulf, particularly the choke points of the Suez Canal, the Strait of Hormuz and the Strait of Bab el-Mandeb. The mini-subs can hunt and destroy mines that are on the seabed or floating, and can stay in the water for much longer than divers.

"We really are in the midst of a revolution in mine counter-measure technology," said Miller. "More unmanned, more automated. I think that we will see over the next couple of years a much stronger unmanned presence. If you can imagine mid-May in the Gulf when temperatures already pressing 100 degrees and having people up on flight decks or on small craft, you can only work them so long.

"You can work a UUV for longer than that and you can turn it around more quickly, you don't have to rest it, you download the data and off it goes again."

UUVs were first deployed in the Gulf last year, and they now formed part of the U.S. and Britain's permanent presence in the region, he said.

"Last year we had about five hours of experience [on UUVs]. They were brand new to us. Now we have 500 hours. Last year the U.S. sent eight counter-mine ships to the region, but based on what we learned about UUVs, we have sent two of them back to the U.S.

"That capability and capacity has been replaced by unmanned technologies, and I foresee more of that in the future. We are rapidly approaching a period where we take Sailors out of the minefield, but we don't take Sailors out of the process. Data still needs to be evaluated, decisions still need to be made."

Miller's second-in-command is a Royal Navy officer, Commodore Simon Ancona, who will have direct command of 35 counter-mine and other warships during the exercise, as well as the UUVs and more than 100 divers.

Ancona, brother of the comedian Ronni Ancona, said the exercise would allow the navy to practise skills "that are among those that define its role … to deal with threats to freedom of navigation at sea, wherever in the world they might occur."

One country that is not contributing to the exercise is China, the only one of the five members of the UN security council to choose not to get involved.

Israeli Submarine Named in German Shipyard
www.marinelink.com, May 1

'INS Rahav', the Israeli Navy's 5th Dolphin-class submarine, inaugurated at Thyssen-Krupp Marine Systems in Kiel, Germany.

The new submarine was unveiled at a special ceremony attended by Commander in Chief of the Israeli Navy Rear Adm. Ram Rothberg, Director-General of the Ministry of Defense Maj. Gen. (Res.) Ehud Shani and a delegation of Israeli and German officials.

The INS Rahav was purchased after an extensive development and acquisition process led by the Ministry of Defense's Procurement and Production Directorate in cooperation with the Israeli Navy.

The INS Rahav is scheduled to arrive in Israel in the coming year, upon completion of the installation of all of its operational systems. This class of vessel is considered to be one of the most advanced submarines in the world, and is the most expensive piece of machinery that the Ministry of Defense has procured for the IDF.

The Dolphin-class is a versatile vessel, possessing a wide range of capabilities fit for a large variety of missions. The submarine fleet represents the technological cutting-edge of the Israeli Navy, the IDF and the State of Israel. Sailors in the Israeli Navy's submarine fleet engage in operational activity day after day under a heavy veil of secrecy.

COMMANDER SUBMARINE SQUADRON ELEVEN

8 April 2013

Bob Bissonnette
[redacted]

Dear Bob,

I would like to thank you for attending the San Diego Submarine Birthday Ball. It was an honor to have you as one of our guests. I would specifically like to thank you for participating in the Tolling of the Boats ceremony. It was a fine ceremony that added solemnity and significance to the evening.

The participation of so many submarine veterans made the Sub Ball very meaningful for many of our Sailors. Thank you for providing a tangible link to those that have gone to sea in "these boats" in previous generations.

I greatly appreciate your support to Submarine Squadron ELEVEN. If I can be of any assistance to you in the future, please let me know.

Very Respectfully,

T. E. ISHEE
Captain, U.S. Navy

North Korea calls US-South Korea summit prelude to war
Presstv.ir, May 10, 2013

North Korea on Friday called this week's summit between the U.S. and South Korean presidents a prelude to war against Pyongyang, the Associated Press reports.

The North has described South Korean President Park Geun-hye's visit to Washington as a "despicable sycophantic trip to please her master."

The summit between the two allies is "a curtain-raiser to a dangerous war to invade" the North, an unnamed spokesman for the North's Committee for the Peaceful Reunification of Korea told the official Korean Central News Agency.

Still, North Korea also said it was waiting "with patience" to see if Seoul changes its policies.

South Korea and the United States are staging a five-day joint anti-submarine drill until Friday near the maritime border, involving a U.S. nuclear-powered attack submarine, the USS Bremerton, and a number of warships, according to AFP.

North Korea's army threatened Tuesday an immediate retaliatory strike should a "single shell" fall on its side of the disputed maritime border during the military drills.

About 28,500 American forces are currently stationed in South Korea, a legacy of the 1950-53 Korean War.

In March, North Korea put its rocket units on standby to be ready for an attack against U.S. mainland and its military bases in South Korea and the Pacific, after the United States flew two nuclear-capable stealth bombers over the Korean peninsula in a show of force.

Pyongyang has also cancelled an armistice agreement with the United States that ended the Korean War and cut all communications hotlines with U.S. forces, the United Nations and South Korea.

Subvets to hold memorial service to commemorate 49th anniversary
New London Day, 29 Apr 13

Groton — The U.S. Submarine Veterans Groton Base has planned several upcoming events.

Subvets will hold a memorial service to commemorate the 49th anniversary of the organization at 1 p.m. on Saturday, May 4, at the World War II National Submarine Memorial East. Retired Vice Adm. Al Konetzni is the guest speaker. The public is invited to attend. In the event of rain, the event will be held at the Groton Municipal Building.

The monthly Steak N' Eggs Brunch will be held from 10 a.m. to noon on Sunday, May 5. Regular brunches are served on the remaining Sundays of the month.

The monthly membership meeting for all members and anyone interested in joining will be held at 6:30 p.m., Monday, May 6, at the clubhouse, 40 School St.

Subvets WWII will meet for its monthly social and lunch at 11:30 a.m. on Tuesday, May 14, at the clubhouse and the Holland Club will meet for its monthly luncheon at 11:30 a.m., Tuesday, May 21, at the clubhouse. The guest for the Holland Club luncheon will be Rear Adm. Kenneth M. Perry, commander of Submarine Group Two.

On Memorial Day, at 11 a.m. on Monday, May 27, the base will conduct a memorial service and USS Scorpion remembrance ceremony at the National Submarine Memorial East.

The Summer Steak Dinner will be on Friday, May 31. The menu includes salad, a 12 oz steak, vegetable and baked potato for $15 each. There will be sittings at 5:45 p.m., 7 p.m. and 8:15 p.m. The chief petty officers from the USS Toledo are preparing dinner. Advanced paid reservations are required by Wednesday, May 29.

Events, unless otherwise noted, are only open to members of U.S. Subvets and their guests. For more information, contact Groton Base Commander John Carcioppolo at (860) 514-7064 or e-mail *commander@subvetsgroton.org">commander@subvetsgroton.org.*

Off To A Bad Start: Why is the president letting America's nukes rust?

Foreign Policy, April 18
By Sen. Jim Inhofe and Sen. Bob Corker

In his April 8 article on FP, "Time to Face Facts," Secretary of State John Kerry observed how "in the Senate, we clawed our way to ratification [of the New START Treaty] with 71 votes, a big bipartisan statement that the arms control and nonproliferation consensus could hold together even in a polarized political culture."

The secretary fails to mention, however, that the reason he, as chairman of the Foreign Relations Committee, was able to "claw" together enough votes to secure ratification is that President Obama and the Senate agreed to a 10-year effort to modernize our aging nuclear weapons complex and our nuclear delivery systems. It was this consensus on the link between nuclear modernization and nuclear force reductions that made New START ratification possible – not a consensus on arms control, as Secretary Kerry suggests.

In fact, the connection between nuclear modernization and nuclear stockpile reductions pre-dates the New START debate: It was advocated in 2009 by the Strategic Posture Commission led by William Perry and James Schlesinger, and it was affirmed by the

president's 2010 Nuclear Posture Review, which noted that "these investments are essential to facilitating reductions while sustaining deterrence under New START and beyond."

Regrettably, the joint commitment to nuclear modernization, codified by the New START resolution of ratification and the president's message to the Senate on New START, is starting to dissolve due to a combination of budget pressures, new members of Congress who are unfamiliar with the state of our arsenal and the importance of maintaining a safe and credible deterrent, and a lack of leadership by the president.

To be sure, the president got off to a good start when he requested full funding for the weapons activities conducted by the National Nuclear Security Administration in his FY 2012 budget, yet he failed to fight for his request when congressional appropriators reduced that amount by $400 million. The following year, the president requested some $370 million less than promised for weapons activities, and deferred by at least five years the start of construction of a plutonium-handling facility in Los Alamos. His own Nuclear Posture Review had recommended that facility be operational by 2021, and the president had committed to that in his message to the Senate. To compound matters, we are told NNSA will cut another $600 million from weapons activities this year to accommodate the sequester, and various other promised modernization projects have been significantly postponed.

Development of a new nuclear submarine and the planned replacement for the nuclear air-launched cruise missile has been delayed by at least two years. We don't know if the next generation of strategic bomber will be qualified for nuclear missionsat the outset, if ever. No decision has been made to replace the Minuteman ICBM. The life extension programs for the B-61 nuclear bomb and the W-78 and W-88 nuclear warheads have slipped by at least two years.

Secretary Kerry may argue, as he did during his confirmation hearing, that the administration has honored the spirit of its modernization commitments and reversed the decline in funding for the nuclear enterprise in his first term. That might be true, but the fact remains that we are increasingly short of what the executive and legislative branches agreed was necessary for New START. If the Senate believed we would be in this position today, it is unlikely to have approved the treaty in December 2010.

As the gap between what was promised for modernization and what is provided continues to grow, it becomes increasingly difficult to achieve the responsive nuclear infrastructure that even the president acknowledges is essential for nuclear reductions and the continuing credibility of our nuclear deterrent.

Pentagon Finds That Furloughs Can't Be One-Size-Fits-All
Washington Post, April 29

Through months of hand-wringing over automatic budget cuts facing the federal government, the Defense Department has insisted that most of its 800,000 civilian employees will feel the same pain if the department decides to furlough its workers.

But as the Pentagon approaches its planned date in early May for issuing notices to begin furloughs in June, it faces pressure from inside and outside the department to rethink its plans.

"It's the idea of shared sacrifice and shared pain, which doesn't necessarily translate to good policy," said Todd Harrison, senior fellow for defense budget studies at the Center for Strategic and Budgetary Assessments.

The Navy has said it can make the cuts needed without furloughs, while the Army thinks the war in Afghanistan and other priorities make it nearly impossible to make the cuts without furloughs.

The Pentagon, focused on maintaining rough consistency in furloughs across the department, is trying to figure out how to balance the services' varied perspectives. It's likely to authorize military departments and defense agencies to exempt a limited number of mission-critical jobs, officials said.

A bipartisan group of 126 House members wrote last week to Defense Secretary Chuck Hagel warning that the department's personnel plans "are threatening to undermine mission performance and, as a result, mission readiness."

The lawmakers urged that the Pentagon "make merit-based versus indiscriminate decisions on furloughs . . . and that managers be allowed the discretion to make offsetting cuts to comply with sequestration."

Sens. Susan Collins (R) and Angus King (I) of Maine wrote a similar letter April 17, noting that the defense appropriations bill passed by Congress in March gave the department authority "to make smart budget decisions that are tailored to the unique requirements and budget realities of each military service."

"If the Department of the Navy or any other DoD component has determined that the costs of furloughs to its readiness and budget are greater than the savings they would produce, they should be able to avoid them," Collins and King wrote.

The Pentagon already reduced the number of potential furlough days from 22 to 14 and, at the direction of Hagel, has been reviewing whether it can reduce the number further or, far more unlikely, eliminate furloughs.

"We would like to see consistency and fairness, because if we're gonna have to jump into this pool, we'd like to jump together," Pentagon Comptroller Robert Hale told a congressional panel recently.

Each of the military services faces different budget pressures brought on by sequestration, other cuts to the budget and the costs of overseas operations.

"In the issue of furloughs, you won't get a one-size-fits-all," Gen. John Paxton, assistant commandant of the Marine Corps, told the Senate Armed Services Committee April 18.

The Navy has said it can find other cuts in its budget to make up the $300 million it would save in furloughing approximately 200,000 Navy and Marine Corps civilians. The service is particularly concerned about 30,000 shipyard workers on nuclear-powered aircraft carriers and submarines. If they are furloughed, the Navy said, vessels will stay at the shipyards longer and costs will increase.

Navy civilians are not happy at the idea of being furloughed to maintain Defense Department consistency.

"The Navy is saying we don't need to furlough, so why are we furloughing?" said Debbie Jennings, president of the International Federation of Professional and Technical Engineers, which represents 1,600 employees who work on nuclear submarines at the Portsmouth Naval Shipyard in Maine. "It doesn't make sense at all."

Army officials think the service cannot make the sequester cuts without furloughs. The Army bears the major responsibility for wrapping up combat operations in Afghanistan and removing troops and equipment by the end of 2014. "The Army has taken the brunt in Afghanistan," Hagel told the Senate Armed Services Committee.

The Army estimates that it would save more than $727 million with two weeks of furloughs for approximately 250,000 civilians. If the furloughs are not allowed, the cuts would instead potentially "eat up $700 million" needed for other operations, Gen. John Campbell, vice chief of staff for the Army, told the Senate committee .

Stopping civilian furloughs is less of a priority for the Army than supporting troops in Afghanistan and being prepared for contingencies in places such as North Korea, he said. "We just have to rack and stack that way," Campbell said.

The Marine Corps also faces high war costs, but because its budget is part of the Navy Department, it does not have the same fiscal constraints.

The Air Force estimates that it will save $409 million by furloughing its 180,000 civilians for 14 days. To save money, the service is standing down 13 fighter and bomber squadrons, and is reluctant to cut any further. "We're already curtailing flying hours to the point that we're in uncharted waters," said Lt. Col. John Dorrian, an Air Force spokesman.

Part of the dilemma for the Air Force is that civilian furloughs will have a direct impact on the readiness of aircraft. At a hearing last week before a House Armed Services subcommittee, the Air Force warned that furloughs will be "especially crippling" at its maintenance depots, where 77 percent of the workforce is civilian.

Brandon Copeland, a planner with the 564th Aircraft Maintenance Squadron at Tinker Air Force Base in Oklahoma, faces furlough along with his wife, who works for another squadron at the base. "It's really a double hit on our income," said Copeland, 33, who noted that he and his wife have two children in day care.

But Copeland expressed more concern about the impact furloughs will have on the work of his squadron in maintaining KC-135 refueling aircraft, which he said would have to spend more time grounded.

"It will make a tremendous difference in how quickly we can do our job," he said. "This aircraft is essential to providing global reach for the Air Force."

Northrop Grumman Honors Late Employees With Donation to USS Thresher Submarine Memorial

PRNewsWire, April 26

CHARLOTTESVILLE, Va., - Northrop Grumman Corporation (NYSE: NOC) has donated $5,000 toward construction of a memorial to the Navy submarine USS Thresher (SSN 593) in memory of two employees who perished when the Thresher sank in the Atlantic Ocean 50 years ago.

Northrop Grumman Sperry Marine employees Kenneth R. Corcoran and Donald T. Stadtmuller were performing work on the Thresher's gyroscope when the submarine sank during deep-diving tests approximately 200 miles off New England in April 1963. All 129 military crewmen and civilian technicians onboard perished.

Prior to his employment as a field service engineer for Sperry Marine, Corcoran was a 20-year Navy veteran who had retired as a lieutenant. Corcoran was 46, leaving behind a wife and three sons.

Stadtmuller had graduated from Union College in Schenectady, N.Y., in 1958 with a bachelor's degree and had made a number of previous trips aboard Thresher as a field engineer for Sperry Marine. Stadtmuller was 26 years old when he died aboard the submarine.

"It is our honor to contribute to the memorial recognizing our employees and the dedicated crew of the Thresher," said Bill Hannon , vice president of Northrop Grumman Maritime Systems. "Their sacrifices serve as a reminder that there will always be dangers inherent in the vital work of maintaining global security."

Funded by outside donors, the Thresher Memorial features a 129-foot flagpole in a memorial courtyard with granite plaques from more than 250 contributors. The memorial is in Kittery, Maine, adjacent to the Portsmouth Naval Shipyard where the Thresher was based.

The Thresher was the first of only two nuclear-powered U.S. Navy submarines to go down at sea. Its nuclear fuel remained intact and has never posed any safety threat. A thorough inquiry into the likely cause of the sinking led to design changes that made subsequent nuclear submarines safer and more secure.

Northrop Grumman is a leading global security company providing innovative systems, products and solutions in unmanned systems, cybersecurity, C4ISR, and logistics and modernization to government and commercial customers worldwide. Please visit www.northropgrumman.com for more information.

Iranian universities constructing eight submarines

Azernews.az, April 29, 2013

Isfahan University of Technology in cooperation with three other universities has designed eight military and civil submarines.

The construction operations of the submarines are underway, Mehr news agency reported.

They have a variety of uses, including tourism, exploration, defense, and laying cables.

Iran's Deputy Defense Minister Mohammad Eslami announced earlier this month that the country plans to unveil the first indigenous submarine within the next few months.

He added that the final stages of the submarine's design and construction are currently underway and that it will be unveiled by August 2013.

The submarine has been entirely designed and manufactured by Iranian experts, he said.

Iran's Navy previously launched the indigenous Tareq 901 and Ghadir class submarines as part of efforts to upgrade the country's defense capabilities, Press TV reported.

The Ghadir submarine was first unveiled in 2007. The 120-ton vessel has excellent shallow depth performance and can conduct prolonged coastal missions and launch torpedoes.

Eslami also revealed that new indigenous fighters and modern drones would be unveiled in the near future.

In recent years, Iran has made great achievements in the defense sector and attained self-sufficiency in essential military equipment and systems.

Iran has repeatedly assured other nations, especially its neighbors, that its military might poses no threat to other countries, insisting that its defense doctrine is based on deterrence.

A Look at North Korea's Military Capabilities

Associated Press, April 25

SEOUL-North Korea's military, founded 81 years ago Thursday, is older than the country itself. It began as an anti-Japanese militia and is now the heart of the nation's "military first" policy.

Late leader Kim Jong Il elevated the military's role during his 17-year rule; South Korea estimates he boosted troop levels to 1.2 million soldiers. The military's new supreme commander, Kim Jong Un, gave the Korean People's Army a sharpened focus this year by instructing troops to build a "nuclear arms force." Yet the army is believed to be running on outdated equipment and short supplies.

The secretive army divulges few details about its operations, but here is an assessment from foreign experts of its strengths and weaknesses:

Artillery

North Korea provided a chilling reminder of what its artillery is capable of when it showered a front-line South Korean island with shells, killing four people in November 2010 and underscoring the threat that its artillery troops pose at the disputed sea border.

South Korea says North Korea has more than 13,000 artillery guns, and its long-range batteries are capable of hitting the capital Seoul, a city of more than 10 million people just 30 miles (50 kilometers) from the border.

"North Korea's greatest advantage is that its artillery could initially deliver a heavy bombardment on the South Korean capital," Mark Fitzpatrick, a former U.S. State Department official now with the International Institute for Strategic Studies, said in an email.

South Korea's defense minister estimates that 70 percent of North Korean artillery batteries along the border could be "neutralized" in five days if war broke out. But Sohn Yong-woo, a professor at the Graduate School of National Defense Strategy of Hannam University in South Korea, said that would be too late to prevent millions of civilian casualties and avert a disastrous blow to Asia's fourth-largest economy.

Special Forces

Experts believe guerrilla warfare would be the North's most viable strategy in the event of conflict, since its conventional army suffers from aging equipment and a shortage of firepower.

Seoul estimates North Korea has about 200,000 special forces, and Pyongyang has used them before.

In 1968, 31 North Korean commandos stormed Seoul's presidential Blue House in a failed assassination attempt against then-President Park Chung-hee. That same year, more than 120 North Korean commandos sneaked into eastern South Korea and killed some 20 South Korean civilians, soldiers and police officers.

In 1996, 26 North Korean agents infiltrated South Korea's northeastern mountains after their submarine broke down, sparking a manhunt that left all but two of them dead, along with 13 South Korean soldiers and civilians.

"The special forces' goal is to discourage both the United States and South Korea from fighting with North Korea at the earliest stage of war by putting major infrastructure, such as nuclear plants, and their citizens at risk," said Kim Yeon-su, a professor at Korea National Defense University in Seoul. "The North's special forces are a key component of its asymmetric capabilities along with nuclear bombs, missiles and artillery. Their job is to create as many battlefronts as possible to put their enemies in disarray."

On Land, By Sea And In The Air

In March 2010, 46 South Korean Sailors died in a Yellow Sea attack on their warship that Seoul blamed on a North Korean submarine. Pyongyang denies involvement. Separately, since 1999, North and South Korean navies have fought three bloody skirmishes near their disputed western maritime border. Experts say those battles show while the South has an edge in naval firepower and technology, the North relies on the element of surprise.

North Korea has 70 submarines while South Korea has 10, according to Seoul's Defense Ministry. The most menacing threats from the North's navy are small submarines that would deposit commando raiders along the South Korean coast, said John Pike, head of the Globalsecurity.org think tank.

North Korea also has 820 warplanes, more than South Korea, though Seoul is backed up by American air power. The South says most of the North's aircraft are obsolete. North Korea also suffers chronic fuel shortages that have forced its air force to cut sorties, experts say.

"North Korea would not be able to prosecute a full-fledged war for very long," Fitzpatrick said. "Its biggest problem is that North Korea would quickly lose control of the skies because of the vastly superior (South Korean) and U.S. air forces. The reported number of North Korean aircraft is meaningless, because many of them cannot fly, and North Korean pilots have little training in the air."

The U.S. stations 28,500 U.S. troops in South Korea and has recently flown nuclear-capable stealth B-2 bombers and F-22 fighter jets during joint drills in a show of force aimed at deterring North Korea.

Logistics and supplies are another issue. Heavy equipment deployed by naval and air forces requires extensive repairs, especially on rugged terrain like the Korean Peninsula. South Korea's Defense Ministry estimates North Korea's wartime resources, mostly stored underground, would last only two to three months.

"North Korea's only chance of winning any war depends on how quickly it can end one," Sohn said.

North Korea could try to compensate for its lack of effective equipment with sheer manpower. North Korea, a country of about 25 million, has an estimated 7.7 million reserves.

Missiles And Nuclear Weapons

North Korea says it needs to develop nuclear weapons as a deterrent against U.S. aggression. It has conducted three underground nuclear tests since 2006, the most recent in February.

Pyongyang is believed to have enough weaponized plutonium for four to eight nuclear bombs, according to Siegfried Hecker, a nuclear expert with Stanford University's Center for International Security and Cooperation.

But he doubts Pyongyang has mastered the technology to tip a missile with a nuclear warhead. "I don't believe North Korea has the capacity to attack the United States with nuclear weapons mounted on missiles and won't for many years," he said on the website of Stanford University's Freeman Spogli Institute for International Studies this month.

Bruce Bennett, a Rand Corp. expert, said earlier this month that it's very unlikely the North has a nuclear missile capable of hitting the U.S. but said there is a "reasonable chance" that Pyongyang has short-range nuclear missile capability.

Chemical And Biological Weapons

North Korea denies it runs any chemical and biological weapons programs. South Korea claims that Pyongyang has up to 5,000 tons of chemical weapons.

The IISS says that although the figures are "highly speculative," the North probably does possess chemical and biological arms programs.

"Whatever the actual status of North Korea's chemical and biological capabilities, the perception that it has, or likely has, chemical and biological weapons contributes to Pyongyang's interest in creating uncertainties in Washington, Seoul and Tokyo and raises the stakes to deter or intimidate potential enemies," it said on its website. North Korea is not a signatory to the Chemical Weapons Convention, but it has acceded to the non-binding Biological and Toxin Weapons Convention.

Local Sailor Shares Story on 25th Anniversary of USS Bonefish Fire

www.counton2.com*, April 24*

Twenty five years ago, on April 24th, 1988, the Charleston based USS Bonefish caught fire and burned in the Atlantic Ocean. Most of the sailors on board escaped, but three lost their lives.

More than two dozen years later, the fire is still firmly imprinted into the memories of the survivors. Jim Yates was a Senior Chief Machinist's Mate Submarine Qualified at the time of the fire. Retired and living in Summerville now, he remembers what it was like, "It was so black you couldn't see your hand in front of your face and our shoes were melting to the deck. I made that conclusion in my mind that I was dead."

On the day of the fire, the 30 year old submarine was performing drills with the USS Carr off the coast of Florida. Bonefish was submerged underneath Carr, so even as the fire began it could not rise immediately.

Yates describes the frustration, "We knew we couldn't surface, so that's when I think people were going, ok this is it."

The sailors on board worked together and eventually Bonefish surfaced, but the smoke from the fire was the cause of death for three sailors. "I think that is the part that many people are living through, is that we left three men behind."

Their names and their stories are something Yates can never forget. He lists each man, and remembers their role that day.

"Lieutenant Ray Everts was the officer of the deck. He went up to open the escape hatch and got overcome by smoke and died there."

"Robert Borderlon was the radio man who was sending signals to the ships above us to please clear the way so we could surface. He stayed late in the radio shack and when he came out, he got overcome by smoke trying to get out."

"Marshal Lindgren was part of a casualty control group that was helping those that were injured. He also was overcome by smoke and died."

"The rest of us got out by the grace of God, and the heroics of a lot of people."

Sharing his story today, Yates spoke about the fire not for himself, but to remember those who gave their lives. "Sharing this with you was to point out the three heroes of the day. There was not a lot of fanfare for them, and they deserved it."

New DOD Acquisition Guidance Suggests 'Skunk Works' Management Approach
Inside Defense, April 24

The Defense Department will explore a lean, "skunk works" style management approach in more acquisition programs, one of many initiatives listed in new guidance issued today by Pentagon acquisition chief Frank Kendall.

The memo provides detailed implementation instructions for the "Better Buying Power 2.0" guidance that Kendall issued last year. Included is a long list of tasks and related due dates that concern affordability, cost control and reducing the frequency of higher-headquarters reviews, among other priorities.

InsideDefense.com obtained an advance copy of the memo from a Pentagon source. Kendall is scheduled to unveil the new guidance during a press briefing today.

"A number of observers of the DOD acquisition process have advocated a lean and less burdensome approach to managing programs and to making major acquisition decisions," the guidance states. "One approach is the 'skunk works' approach, which dates to the 1960s. This approach involves small, highly competent government and industry teams working together on a new product development. This approach can have merit, but only if the necessary preconditions are met."

Assistant Secretary of Defense for Acquisition Katrina McFarland and Director of Acquisition Resources and Analysis Nancy Spruill will draft a pilot "skunk works" based management and decision making guidance document to brief to the Business Senior Integration Group by July 1, the guidance states.

Service acquisition executives will each recommend to Kendall by July 1 one program for a pilot "skunk works" approach to acquisition management and decision-making. The recommended programs should be early in their development cycle; due for a cost-plus development approach with strong government and industry interaction; and include highly qualified technical management teams from both industry and government for development, Kendall writes.

A report released last year by the National Academy of Sciences proposed creating more unconventional "skunk works" programs in the defense industrial base, universities and DOD to help address a shortage of expertise in cybersecurity and key intelligence fields in the department's workforce.

Rogers: Nuclear Modernization, Missile Defense Cuts Pose National Security Threat Inside Defense April 24, 2013 Courtney Albon The Obama administration's fiscal year 2014 defense budget request cuts nuclear modernization efforts to "dangerous" levels and lacks a strategy for the implementation of a follow-on Strategic Arms Reduction Treaty with Russia, according to a senior member of the House Armed Services Committee.

Rep. Mike Rogers (R-AL), chairman of the panel's strategic forces subcommittee, spoke this morning at an event on Capitol Hill about the budget request's treatment of nuclear weapons, missile defense and satellite programs. Rogers said he was pleased to see funds requested for the sustainment of the nuclear triad and the continued modernization of the Navy's ballistic submarine replacement and the Air Force's replacement bomber. However, he said, nuclear modernization efforts as a whole are in "great danger."

In particular, Rogers is concerned about the Air Force's plans to delay a joint Air Force and Navy effort to extend the life of their respective W78 and W88 ICBM warheads. He also pointed to plans to delay the B-61 life-extension program as a setback to needed modernization.

"While the president's recent budget is a clear step in the right direction, we still have a long way to go," Rogers said. "Setting aside budget numbers and looking at capability, it's easy to see that nuclear modernization is in great danger."

Adding to Rogers' concern is a lack of information he said he and his congressional colleagues have received about President Obama's plans for complying with New START requirements and, in particular, how the administration expects to reduce the Defense Department's missile inventory by cutting some of the Air Force's ICBMs or the Navy's submarine-launched ballistic missiles. Rogers said he fears the president will pursue even deeper cuts to DOD's nuclear inventory beyond those called for by the treaty.

"Let me be clear: I intend to ensure that no further reductions to U.S. nuclear forces, including New START treaty reductions, will occur without formal treaty or explicit affirmative authorization by Congress," Rogers said.

This includes, he said, the Office of the Secretary of Defense's call for an environmental impact study to review the impact of shutting down one of the Air Force's ICBM wings. "New START does not require shutting down a missile wing and I have heard no explanation for this requested study," he said.

On missile defense, Rogers said he is "deeply concerned" about what he perceives as a lack of administration support for the Missile Defense Agency. MDA is requesting $100 million less than last year and is proposing terminating or deferring several programs including the Precision Tracking Space System, on which the Air Force has been a key partner.

"I'm deeply concerned about the compounding of more than five years of motivated and ideological cuts to the MDA budget," Rogers said. "We are paying for these decisions now in a more dangerous world."

Pakistan's Dream Navy?
Defense News, April 24

ISLAMABAD – Beset with monetary woes and a tenuous relationship with the US, Pakistan's naval modernization plans appear to be faltering with the hoped for acquisition of further surplus US equipment now unlikely.

Former Australian defense attaché to Pakistan, Brian Cloughley, says Pakistan's crippled economy means "the Navy will not receive as much as it needs for capital equipment," increasing the importance of obtaining surplus equipment.

Pakistan has long hoped for up to six Oliver Hazard Perry-class frigates to replace its six ex-British Type-21 frigates acquired in the 1990s.

In 2005, the Perry frigates Elrod and Kaufmann were speculated to be destined for transfer to Pakistan.

However, only McInerney was transferred in 2010, and she currently lacks ASW helicopters and missile armament, though a new Turkish combat management system indicates she is at least to be retained.

Six US Navy Perry frigates are due for decommissioning in fiscal 2013. However, Mexico, Taiwan and Thailand are known to have been offered the frigates, with Taiwan reportedly to take at least four to replace its eight Knox-class frigates.

As far as can be ascertained, Pakistan has not been mentioned in any official documentation regarding further transfer of Perry frigates.

Sources in the defense section at the US Embassy here were unable to give any further information, or say if any P-3C Orion patrol aircraft would be made available to replace two destroyed in a 2011 terrorist attack.

The Pakistan Navy did not reply to a request for information.

Cloughley said obtaining further Perry frigates is now unlikely, and that both the US and the UK (which has four surplus Type-42 destroyers up for disposal) are "reluctant" to provide combat vessels that would meet strong Indian objections.

Based on past announcements, Pakistan would like its future surface combatant strength to include six Perry frigates, four Chinese Batch 1 and two to four Batch 2 F-22P/Zulfiquar frigates.

The Navy did not respond to a request to clarify if speculation for a heavier class of Chinese frigate was a reality.

Regarding further F-22P frigates, Cloughley said, China "is happy about this, but of course wants at least some money on the table."

In the face of Western reluctance, Cloughley said, "the only alternative is China, with which the Navy appears comfortable."

Christian Le Mière, senior fellow for naval forces and maritime security, at the International Institute for Strategic Studies, agrees the Chinese Type-054A Jiangkai II (or a variant thereof), "would be a good fit for the Pakistani Navy.

"Given the political considerations, namely the close relationship with China, and [Pakistan's] current development of the Chinese-origin [F-22P]/Zulfiquar-class, the Type-054A would seem a logical buy," he said

Comparable in size to Perry frigates, but not what Le Mière would describe as a stealth frigate, he says the Type-054A has "a number of stealthy features that the [Perrys] lack, given advances in naval stealth technologies."

Carrying a variety of weapons, "[the Type-054A] is therefore able to fulfill a range of roles that Pakistan might require, from ASW to ASuW and air defense," he said.

He concedes there may "be concern within Islamabad about over-reliance on a particular supplier or the costs of having new builds," but added, "from a military requirement perspective, the Type 054A makes sense."

The submarine flotilla is in similar straits, with Cloughley considering the three Agosta-90B subs to be "good", but the two aging Agosta-70s to be "decrepit".

"Again, however, the solution may be China," he said.

Pakistan was first reported to have signed a deal for six Chinese AIP-equipped submarines in 2011, but that also seems to have stalled due to a lack of finances.

China has two modern submarine designs, the 4,000-ton (submerged) Type-041 Yuan class, and its smaller derivative the 2,300-ton (submerged) S-20, which can be fitted with an AIP module.

Analyst Usman Shabbir of the Pakistan Military Consortium think tank said, "The Pakistan Navy is more or less committed to Chinese submarines due to cost reasons plus it will give the Navy plenty of freedom to alter the design or request improvements in future."

Adding, "The Navy urgently needs these subs as submarines are its primary and most effective offensive weapon."

Finances also seem to be hampering any effort to offset the loss of the two P-3C Orions through additional purchase of ATR-72 ASW aircraft.

"Right now, the Navy has only bought a single ATR-72 for training purposes. No ASW suite is fitted yet. The idea was to buy more units, but due to budget constraints they have only gone for one and use it for training and then hope to buy more units once the budget crisis eases, " he said.

Ultimately, Cloughley sees a somewhat mixed future for Pakistan's Navy, which "will continue to be small, even if it is highly professional, and it values its association with Western navies, but these ties are becoming fewer."

Problems in China's Submarine Program?

www.lowyinterpreter.org, April 24

Submarine development and construction is a notoriously opaque subject, hard enough to analyse in open societies and even more difficult in a secretive environment such as that of China's military. Nevertheless, open sources are providing information that indicates important trends and potential problems in China's ambitious efforts to create a second-strike ballistic missile submarine force, at the same time as it produces both nuclear attack submarines and large numbers of modern conventionally propelled patrol units.

The Taiwanese report cited in Sam Roggeveen's post claiming that none of China's new ballistic missile submarines (or the accompanying missile) is yet fully operational may be a straw in the wind to suggest that the People's Liberation Army-Navy (PLA-N) is struggling to achieve its ambitions in this complex area of naval capability.

Another comes in the recent reports that China plans to order at least four of an export version of the Russian LADA (Type 677) class patrol submarine. Although there are significant doubts as to the status of the plan, what is interesting about this scheme is the suggestion that the Russians themselves have accepted that their protracted development of the LADA needs help. Only three boats have been completed since the first was laid down in 1996 and it is arguable that even the lead unit is not yet fully operational. The failure of the type has forced Russia to revive KILO (Type 636) production for its own navy.

Russia has also now apparently resumed a cooperative relationship with the Italian Fincantieri shipbuilder, with the obvious hope of incorporating western European technology into its boats (something that had already to be done for the water-making systems and batteries of the units Russia exported to India in previous years).

If China is joining this program, even if only as a buyer, this indicates that it is not confident its indigenous production effort will achieve results in good time. This may be an issue of quantity – in China's strategic situation, numbers have a value all their own – but it is much more likely to be one of quality.

This should not be a surprise. China faces extraordinary challenges in effectively managing three separate major submarine programs from its own resources. Despite national security and commercial intellectual property restrictions, most Western submarine operators can and do share a great deal of technology and doctrine through alliance arrangements and bilateral relationships. China enjoys no such access (at least not legitimately so).

It has had to hedge its bets before, with the purchase of a dozen Russian KILO class boats – four in 1993 and eight in 2002. While the first buy could be seen as providing a window on the much more advanced state of Russian design and construction at the time, the second can only have been because the Chinese-designed SONG (Type 039) class was not proving to be all that the PLA-N wanted. Certainly, the first unit needed several years of trials before commissioning and the second and subsequent boats had to be greatly modified.

The SONG class has been followed by the YUAN (Type 041; pictured), whose appearance suggests that its design was strongly influenced by that of the KILO. This boat is now in large scale production and Jane's Fighting Ships predicts a class size of 20. However, many of its systems and sub-systems represent older technology, and a truly up to date design will be required to meet the operational challenges of the future.

Chinese participation in a Russo-Italian program may provide the access it needs to a range of technologies, although Russia is likely to agree to the scheme only if China buys enough boats to avoid the accusation that its intent is simply reverse engineering.

This will not, in the short term, solve China's problems with its ballistic missile submarines or the nuclear attack boats, but it will help relieve pressure on China's ship design personnel and facilities – pressure which must be intense, given the number of construction programs the PLA-N has in hand for both surface and sub-surface units. It is not often realised that limited stocks of drawing-office design expertise, draughtsmen and naval architects have long been one of the major constraints for naval development in every nation with pretensions to building its own warships, including, at times, both the UK and the US. This is a reality China is now facing.

Submarine 'Got a Hammering'

Stuff.co.nz, April 24

John Bishop wanted to fly with the RAF but when he went as a teenager to volunteer he was told "sorry, we're full up at the moment".

He ended up as one of the first radar operators on a British submarine, his shore base in Malta, his 25 patrols from there helping to cripple the Axis supply lines to North Africa and hasten Hitler's defeat.

Sitting in his Richmond dining room, the still-dapper 90-year-old tells his war story in a matter-of-fact way and sprinkles it with the natural humour of a Londoner.

He says he was "about 17" when he joined the Royal Navy and was soon being trained in Scotland and England.

"Radar was just coming in and it was quite secret."

Early in 1942 he was assigned to the U-class submarine HMS Ultor, one of 49 that served in World War II.

Small at 58 metres - think of two railway carriages, Mr Bishop says - they carried a crew of 27 to 31.

Originally designed as training vessels for surface ships to practise their submarine attacks on, they were slow, could only dive to 80 metres, and had crowded living conditions, but their smallness proved suitable for the Mediterranean.

"They had a lot of drawbacks . . . but they were quick diving, and easy to maintain."

They had to surface at night so that their diesel motors could charge the batteries used for underwater travel and during that time it was Mr Bishop's job to share radar duties with one other crew member, each working one hour on, one hour off, watching for enemy ships and planes.

He says the equipment was primitive and "I think the skipper had more faith in it than I did, actually".

Once submerged the radar was inoperative and he was assigned to other duties - maybe going on the ship's wheel or cooking the meal. Watches were four hours and "you didn't get much sleep".

HMS Ultor was painted deep blue because on a calm day submarines were visible 20 metres under water to patrolling aircraft looking down on the clear water. It was part of the 10th Submarine Flotilla, which fought out of Malta during the legendary siege when German and Italian bombers relentlessly pounded the island in an unsuccessful attempt to subdue it ahead of an Axis invasion that never came.

Sometimes the Ultor submerged at its berth to avoid bombing raids. Between patrols the crew lived in an old stone building close to the shore.

"There were more bombs dropped on Malta than on London during the Blitz," Mr Bishop says.

Having already experienced that bombing as a teenage Civil Defence volunteer before joining the navy, he jokes that "I think the Germans had it in for me".

The Ultor could be at sea for as little as 10 days or as long as three weeks, depending on how long it took to find targets for the four torpedoes it had in its tubes, and the four it carried to reload with.

"When you'd expended those, you might as well go home."

Its mission was to sink ships supplying the Axis forces in North Africa. It accounted for 28, more than any other British submarine, Mr Bishop says, and it was often under attack itself.

Enemy warships would pass overhead, their engines thrumming like an express train, and then the submariners would wait for the sound of depth charges exploding.

"That's the hardest part, to see if they've thrown anything over the side or not. Half the time they probably dropped the depth charges miles away."

Nine British U-class submarines were lost in the Mediterranean. The Ultor escaped unscathed.

Mr Bishop says he was too young to feel much fear, except once. On his last patrol they sank a supply ship which had a destroyer and aircraft escort and then found there was another ship nearby also escorted by destroyers and planes. The two groups joined up to hunt the Ultor, which "really got a hammering" while it manoeuvred underwater.

"I can remember thinking, 'What the hell am I doing here?'."

He is more at ease talking about living conditions: canned food day after day, with 12 tins of M and V (meat and vegetables) a standard meal for the crew, one toilet for 15-18 men, with no privacy and a view of the turning propeller shaft, not enough water to wash.

After the war Mr Bishop trained as a compositor in London and, intrigued by the stories a Kiwi workmate from Canterbury told, brought his wife and daughter to New Zealand in 1953. He worked on the Otago Daily Times, went to Tasmania for a year, came back to New Zealand and was employed by the then Nelson Evening Mail for the rest of his working life.

He's been an RSA member and has attended many Anzac Day parades. He says when he thinks about the war, it's the "wicked waste" that comes to mind. He's not sure about tomorrow.

"I'll see how I feel. I'm not good at standing for long periods."

The interview over, a framed text on the sideboard catches my eye.

Dated September 1944, it's a citation awarding Able Seaman John Bishop the Distinguished Service Medal "for courage and skill serving in war patrols on HMS Ultor". He went to Buckingham Palace with 10 of his shipmates equally honoured, to get his medal from King George.

He hadn't thought to mention it.

Think Again on Raising Gallipoli Sub

World News Australia, April 24

The National Maritime Museum in Sydney says it's time to think again about the feasibility of raising submarine AE2 and bringing her home.

It's time to reconsider raising and bringing home the wreckage of Australian submarine AE2 from her resting place in the Sea of Marmara off Turkey, the National Maritime Museum says.

The director of the Sydney-based museum, Kevin Sumption, says the relic of the Gallipoli campaign is surprisingly well preserved, despite the passage of almost a century.

In 2008 a panel of Australian and Turkish experts considered raising the vessel but concluded it wasn't practical.

But now the federal government has allocated $2.5 million towards the preservation of AE2.

"It is about time then to reconsider the practicality and the technology needed to bring the vessel up," Mr Sumption told AAP on Wednesday.

"I don't think many Australians appreciate that potentially one of the most historic relics in an incredible state of preservation is sitting 73 metres down."

When Australian troops landed on Gallipoli, AE2 managed to penetrate the Dardanelles.

It was an astonishing feat, given two submarines had been lost trying to pass through the narrow, strongly defended waterway.

Over the next four days AE2 sank a Turkish cruiser and made unsuccessful attacks on other Turkish ships.

Damaged by a Turkish gunboat, AE2's captain Lieutenant Commander Henry Stoker ordered her scuttled and all aboard were captured.

The wreckage of the 800 tonne vessel was found in 1998 at a depth of 72 metres.

It was in relatively good condition, being beyond the depth easily reached by sport divers so the wreck hadn't been picked over by souvenir hunters.

Mr Sumption said any proposal to raise AE2 would need to be considered in conjunction with Turkish authorities.

But he isn't setting aside a place at the museum for AE2 just yet, although the facility hopes to build a new pavilion to house a major exhibit about AE2, in time for the Gallipoli centenary in 2015.

"We are looking at featuring some new technologies that would take schoolchildren down to the site to remotely look at the submarine in situ, understand the history of its service and the men who served aboard it," Mr Sumption said.

AE2 and her sister boat AE1 were built in Britain and launched in 1913 for the new Australian navy.

AE1 and all her crew vanished without trace off New Britain in Papua New Guinea on September 14, 1914.

Sub pin tradition keeps Thresher's memory alive
NavyTimes, April 22

Although all 129 men aboard the Thresher died when the attack submarine sank 50 years ago, a piece of the boat's history will give the silent service's youngest members a direct link to, and perhaps a greater understanding of, the fleet's worst submarine disaster.

The Thresher's final commanding officer, Lt. Cmdr. John "Wes" Harvey, had two sets of submarine warfare insignia, better known as "dolphins" — one he was wearing when the sub went down in April 1963, the other left with his widow, Irene.

Irene Harvey presented the spare set to her niece's husband, Ted Hack, upon his graduation from submarine school in 1969. Hack wore them "regularly and with special pride" throughout his career, he said. "In those days, the story of the Thresher was well-known, and I would often relate the background of these dolphins to my shipmates and fellow submariners."

Hack retired as a captain in 1997. On April 12 at the Submarine Birthday Ball in Washington, D.C., he passed the dolphins on to Lt. Chris Miller, an assistant professor of naval science at Penn State University and the most recently qualified officer in attendance. The 50th anniversary of the disaster was "a good time to pass them on to someone else," Hack said.

"I knew there was a possibility I'd be the most junior dolphin-wearer, just because I received my dolphins in April 2011," Miller said. "After I showed up to the ball and found out that I was pretty young compared to most people there … I was ecstatic."

Hack presented Miller with the dolphins on one condition: Miller is to wear the dolphins for a year, then return them to the submarine force leadership at the Pentagon. Then they'll be presented to the most recently qualified officer at a ball somewhere other than D.C.

Hack decided to pass the pin to the most junior qualified officer to keep alive the memory of those who died on the Thresher.

It's working. "People kind of look at them and say, 'Those look different; they're not quite as shiny as your other one.' I just say, 'You know what? They mean a whole lot more,'" Miller said.

Miller needed no reminder of the tragedy. He handled the SUBSAFE program during a previous assignment aboard the Los Angeles-class submarine Asheville, a program that resulted from the Thresher accident.

The Coming Armada of Mine-Hunting Robots
PopularMechanics.com, April 22

Nineteen U.S. Navy ships have sunk since 1945, and 15 of them fell prey to sea mines. To put a stop to it, the U.S. Navy wants someone to build its first unmanned minesweeping system, the Unmanned Influence Sweep System (UISS). Its mission: to find marine mines and detonate them safely—with humans kept out of harm's way. The Navy hopes to have this technology at sea within five years.

If a navy can't control the sea with ships, mines are a cheap and deadly alternative. In October 1950, for examples, North Korea laid 3000 mines off its eastern coast, enough to prevent 250 United Nations ships from carrying out an amphibious assault on Wonsan that might have changed the outcome of the war. "We have lost control of the sea to a nation without a navy," Rear Adm. Allen E. Smith lamented then.

Sixty years later, South Korea blamed a floating North Korean mine for the sinking of a South Korean naval vessel that was patrolling the sea border near Baengnyeong Island. China, a longtime friend of North Korea, has over 80,000 mines ready to deploy should a war break out. Or consider the Strait of Hormuz, the narrow passage between the Persian Gulf and the Arabian Sea through which a significant amount of the world's petroleum must pass—an area that Iran has threatened to mine.

The Navy estimates that 50 countries are currently holding about a million mines of 300 different kinds. Then there are underwater improvised explosive devices (IEDs), seagoing versions of the deadly roadside bombs used by al-Qaida in Afghanistan and Iraq. Terrorist groups can build these devices with just a few hundred dollars' worth of materials, but they're just as devastating as their more sophisticated cousins.

Robotic ships could clear such devices, and the Navy expects to use them by 2017. So how do you blow up a mine without blowing up the minesweeping robot?

A small, unmanned surface craft could tow an underwater system designed to trigger mines from a safe distance. The system emits magnetic and acoustic signals that mimic the signature of a passing ship and trick the mine into detonating, while the real ship waits safely out of range. The Navy calls this an influence sweep, as opposed to a mechanical sweep that cuts mines' mooring cables and tags them for disposal by Explosive Ordnance Disposal (EOD) teams.

Although the process uses sound and magnetic signals rather than physical contact to detonate mines, there is some risk of damage to the equipment. The Navy's requirements for the UISS specify that it must be "sufficiently rugged to survive mine explosions"—the UISS is intended as a long-term, reusable system, not a suicidal decoy.

The system must carry out its mission without steering help from anyone aboard the ship. An operator would program the bot to transit to specific coordinates and deploy the underwater system, but monitor from a safer vantage point as the bot completes its sweep. Leonard says this semiautonomous setup will reduce the manpower needed for minesweeping operations "while keeping the sailor out of the minefield."

The UISS may operate in conjunction with the 20-foot-long, torpedo-shaped Knifefish, a semiautonomous mine-hunter designed to scan the seafloor for buried mines. Knifefish will use sonar to detect underwater objects and compare them with a database of known mines stored in its onboard computer. When it returns from its mission, the Knifefish will upload the locations of potential mines to computers aboard a littoral combat ship (LCS), a Navy ship designed to operate in shallow coastal waters.

The UISS and the Knifefish will be only part of a mine countermeasures module carried aboard LCSs, the Navy says. There will also be a towed sonar device for remote mine detection, as well as an MH-60S helicopter to carry the Airborne Laser Mine Detection System and Airborne Mine Neutralization System.

But what holds up the UISS could be the LCS, the Navy's platform for these antimine robots. The program continues to face debate over its budget and its importance in the fleet.

During bidding for the Littoral Combat Ship contract, both Lockeed Martin and Austal bid well below the Pentagon's expectations, so the Navy made the now-controversial decision to order both versions. This strategy offered the advantage of faster delivery; each contractor is able to complete two ships each year, so accepting both bids effectively doubles that delivery rate. However, Navy officials recently revealed that building two versions of the LCS will increase each vessel's lifetime maintenance costs by about $400,000, for ships that already cost $440 million each to build—about twice the original budget.

Chinese Boomers A Bust

Strategy Page, April 23

Taiwanese intelligence officials recently revealed (while answering questions before parliament) that China's Type 94 SSBN (ballistic missile carrying nuclear powered boat, also called "boomers") has not yet been commissioned. This was apparently in response to reports that a Type 94 class sub was seen recently undergoing what appeared to be sea trials . Taiwanese officials also stated that the JL-2 SLBM (Sea Launched Ballistic Missiles) that the Type 94 is designed to carry is still undergoing testing.

It's no secret that China is eager to actually send one of its SSBNs out on a combat patrol. That's because, to date, China has never been able to do this. America, Russia, Britain, and France have all done so and still do. The U.S. has had SSBNs going out with nuclear armed, and ready to fire, missiles for over half a century. What is going on with China? There appears to be a combination of technical and political problems. Some of these problems are no longer state secrets but are being discussed in the state controlled media.

What is known is that China has already produced two generations of SSBNs. In the early 1980s, the Type 92 SSBN was launched but had a lot of problems and never made it into service. It only went out for training in Chinese coastal waters. Only one was built.

In the last decade the Type 94 showed up. This was believed, in the West, to be the Chinese SSBN that would go on patrol. This has never happened, at least not yet. Turns out that the Type 94 also had technical problems, and Chinese workers have been seen working on Type 94s for years.

The Type 94 seemed like it would enter service because it is simply a variant of the Type 93 class SSN (nuclear powered attack sub), which looks a lot like the three decade old Russian Victor III class SSN design . The first Type 93 entered service in 2006.

The Type 94 SSBN looks like a Victor III with a missile compartment added. Taking a SSN design and adding extra compartments to hold the ballistic missiles is an old trick, pioneered by the United States in the 1950s to produce the first ever SSBNs. The Chinese appear to have done the same thing by taking their new Type 93 SSN and creating a larger Type 94 SSBN boat of 9,000 tons

displacement. Priority was apparently given to construction of the Type 94, as having nuclear missiles able to reach the United States gives China more diplomatic clout than some new SSNs. The first Type 94 was completed two years ago. But it still has not gone to sea equipped with nuclear missiles.

This may be because after the first two new, 7,000 ton, Type 93 class SSNs went to sea, China apparently found their performance was not impressive at all. Not much more was expected from the Type 94s, except that they might be reliable enough to make a few combat patrols, just for the record. The 93s were too noisy and had a long list of more minor defects as well. It's unclear how many 93s will be built, probably no more than six (four already exist). More resources are apparently being diverted to the next SSN class, the 95, and the next SSBN, the Type 96. The first Type 95 is under construction and not expected to enter service until 2015. The Type 96 SSBN is still in the planning stages, apparently waiting to see how well (or not) the Type 95 SSN design works out.

The Type 93 and Type 94 were both over a decade in development and construction. Work began on the 94 class in the 1990s. For years all that was known was that the Chinese were having technical problems with the new design. The Type 94 is a modern SSBN, using technology bought from Russia, plus what was developed by the Chinese in their earlier nuclear submarine building efforts. While the Chinese have had a hard time building reliable and quiet nuclear subs, they are determined to acquire the needed skills. You do that by doing it and eating your mistakes. U.S. intelligence experts believe that China is now concentrating on the design of the new Type 96s. That may still be the case, and the Type 94 seen at sea may be testing new technology meant for the Type 96.

But there are other problems. The Chinese government is apparently uneasy with sending off an SSBN, armed with twelve or more SLBMs, each with one or more nuclear warheads. Western nations carefully select the officers and crews of their SSBNs and use a host of codes and procedures (PAL or "Permissive Action Links") to insure that a single madman cannot use any of those SLBMs. Russia also screened crews and had PAL codes but also had, in effect, representatives of the secret police on the SSBN, whose main job was to insure that the SLBMs were used as the government back in Moscow commanded. China has always been much less trusting of the armed forces when it comes to nuclear weapons. China also appears to lack the advanced PAL technology found in the West. All this doesn't get much mention in the West but it is very real inside China. So when the Type 96 shows up, sometime late in this decade, it will be revealing to see if the Chinese have overcome their reluctance to trust a crew of Chinese sailors with all those nukes.

Egypt Says Russia To Help Revive Nuclear Program

Reuters, April 23

CAIRO (Reuters) - Russia will help Egypt develop its nuclear power program, Trade and Industry Minister Hatem Saleh said on Monday, signaling that the Islamist-led state will press ahead with its quest for atomic energy.

Egypt froze its nuclear program after the 1986 nuclear disaster at Chernobyl, but in 2006, the government of deposed President Hosni Mubarak announced it would revive the program.

Five months before Mubarak was swept from power in February 2011, his administration announced plans for an international bidding process to build Egypt's first nuclear power station at Dabaa near the Mediterranean coast.

The agreement on Russian support was reached during a visit to Russia by President Mohamed Mursi last week.

"We spoke on this issue and agreed that the Russians will help us in conducting studies at the Dabaa nuclear station and to develop the experimental reactor in Anshas," Saleh said.

"There will be a Russian delegation to lay out the details of these issues as soon as possible," he added.

Russia's Energy Minister Alexander Novak was quoted by Russian news agencies on Friday as saying Egypt had proposed that Russia participate in construction of a nuclear power plant and in development of the country's uranium deposits.

Mursi met Russian President Vladimir Putin last week during an official visit to Russia. Saleh denied that Egypt had sought financial support from Russia to ease a severe economic crisis, which saw its foreign reserves drop to a critical low of $13.4 billion in March, less than three months' worth of imports.

Egypt has also been talking to the IMF about a $4.8 billion loan to prop up the economy, shattered by the turbulent transition from Mubarak's rule that has driven away tourists and investors alike, as well as accepting help from Arab allies and emerging powers.

Qatar and Libya have agreed to provide $5 billion in support. Turkish economic officials and banking sources have said Ankara will transfer within two months the remaining $1 billion of $2 billion it pledged last year.

Russian officials said on Friday that Moscow would consider an Egyptian loan request - which one Moscow-based source had put at $2 billion - and that it might also increase grain supplies to Egypt if its harvest reached target level this year.

However, in response to a question on the loan, Saleh said: "There was no request or plea for any assistance from the Russian side and what you heard in some of the media is news that does not deserve a response and is untrue."

When asked about the loan from Russia on Friday, Saleh said: "We have reached no conclusion on that loan."

He also said Egypt had not requested aid in the form of wheat. Typically the world's biggest importer of wheat, Egypt has cut back on wheat imports this year and is hoping for a bumper crop that the agriculture minister said on Sunday could be close to 11.023 million metric tons.

Iran's Nuclear Submarine Gambit
Thediplomat.com, April 18

For some time now a pattern has developed in the standoff between Iran and the United States in which the U.S. and its allies strengthen sanctions against Tehran, which responds by making advances in its nuclear program. The increased sanctions and nuclear advances are then used by each side as bargaining chips in negotiations.

In the meantime the standoff has become relatively stable in the short term as Iran has carefully limited its stockpile of 20 percent enriched uranium and has not enriched to higher levels, while the U.S. has not acted on its military threats and has sought to constrain Israel from exercising its own military option.

In the last 24 hours two new factors have emerged that could potentially derail this stability over the next few years.

The first and most serious one was an announcement by the head of the Iranian Atomic Energy Organization, Fereydoon Abbasi-Davani, that Iran may seek nuclear submarines in the future. This is significant because nuclear submarines require nuclear fuel that is enriched to anywhere between 45 and 90 percent levels, the latter being bomb-grade.

"At present, we have no enrichment plan for purity levels above 20 percent, but when it comes to certain needs, for example, for some ships and submarines, if our researchers need to have a stronger underwater presence, we will have to make small engines which should be fueled by 45 to 56 percent enriched uranium," Abbasi-Davani said on Tuesday.

The only potential bright spot is that Abbasi-Davani said that future nuclear submarines would be designed to run on the low-end of the nuclear spectrum. Still there is no question that a decision by Iran to move beyond 20 percent uranium would be seen as a major escalation in the ongoing standoff, and one that might prompt Israel or the U.S. to act on their military threats.

It should be noted that it is quite possible (probably even likely) that Abbasi-Davani is bluffing. Iranian officials in the past have suggested Tehran may someday want nuclear submarines, and despite the relative stability of the current standoff Iran has clear interests in ending it given that it is the side suffering economically from sanctions. Thus making this announcement could very well be aimed at forcing the West's hand in negotiations. This would be consistent with Supreme Leader Ali Khamenei's recent warnings that Iran will not negotiate simply for the sake of negotiating.

At the same time, the nuclear submarine gambit would be consistent with the trajectory of the Islamic Republic of Iran's nuclear program to date. Specifically, Iran has made incremental progress on its nuclear program without technically going beyond what non-nuclear weapon states that are in good standing have a right to do under the Nuclear Non-Proliferation Treaty. It has justified making these advances on civilian grounds but the same technologies have nuclear weapon applications. While nuclear submarines are not for civilian purposes they still allow Iran to deny it has ambitions to acquire nuclear weapons. Thus, in making this announcement Tehran is reminding the U.S. and its allies that if the current standoff continues, it can take actions that put it remarkably close to actually having a nuclear weapon while maintaining some plausible deniability.

This was not the only bad news Western policymakers received on Tuesday regarding Iran's nuclear program with the rest coming from the International Monetary Fund's (IMF) World Economic Outlook. In the report the IMF forecasts that, although Iran's economy shrunk by 1.9 percent in 2012, and is expected to shrink an additional 1.3 percent this year, it will begin growing again by 2014 starting at a rate of 1.1 percent. Furthermore, the IMF believes Iran will continue to maintain an account surplus, which significantly reduces the possibility that the Islamic Republic will encounter a balance-of-payment crisis that could undermine its ability to govern.

Although Iran has become more secretive about economic data as international sanctions against it have increased, it has continued to cooperate with the IMF, leading some to believe the IMF data on Iran's economy are the most accurate available. If the IMF is correct in its forecast, Iranian leaders have every reason to believe that their economic situation will not get much worse than it currently is, and will in a short while begin improving.

In essence, Iran has threatened to strengthen its hand relative to the U.S. and its allies at the same time the Western powers' hand has been shown to be weakening. The U.S. still has a number of options available short of military strikes to strengthen its bargaining position— such as additional actions to sabotage Iran's nuclear program, deepening its involvement in Syria, and/or imposing a full economic blockade on Iran— but many of these carry risks and costs which the U.S. has thus far not demonstrated a willingness to bear. In any case, it is far from clear that any of these options would have much impact on Iran's nuclear program.

Two North Korean Submarines Allegedly Missing
Inquistr.com, April 16

Two North Korean submarines have reportedly disappeared from port. Although the subs were last seen at a naval base in the Hwanghae Province in early April, the news is just now filtering out to media outlets. While the capability of North Korea to shoot a long-range missile at the United States has largely been nixed during press conference about EMP attack threats, the possibility of a missile attack from a submarine has rarely been mentioned.

The thought of missing North Korean subs aiming a missile at a coastal city is causing concern for some Americans. While any coastal city could become a target, some analysts think California is a very likely location. If North Korea shot a missile along the coast of the state, some feel than an earthquake could occur and allow the attack to go largely undetected – at least for a time.

North Korea also allegedly bought 1,452 pounds of silver from China. Some researchers believe the silver was purchased to use for batteries on the Sang-O (Shark) mini-subs. Generals in the North Korean Navy allegedly feel the Shark submarines are viable weapons which could be used against both America and South Korea. The Sang-O submarines are typically considered coastal submarines. The subs can reportedly carry at least 15 crew members and a dozen scuba commandos.

While many Americans might believe that a missing North Korean submarine trolling the coast would quickly be detected, that may not necessarily be the case. During a recent discussion about the EMP Commission, Dr. William Forstchen highlighted just how real the possibility is for an EMP attack from a cargo ship or a submarine.

In 2012, a Russian boomer went unnoticed for nearly a month in US waters on the Gulf of Mexico. The nuclear-powered submarine sighting was not the only such occurrence in recent history. In 2009, another Russian submarine patrolled very close to the United States. The incident happened about the same time as Russian bombers were spotted in restricted airspace near Alaska and California.

Dr. Forstchen, a North Carolina college professor, also told The Inquisitr just how woefully unprepared America is for an EMP attack. The professor wrote the bestselling novel One Second After. The book details the chaos which occurred in a small town after an EMP attack. His research was cited on the floor of Congress during discussions about EMP threats and the vulnerability of the power grid.

As the renowned professor so aptly noted, life as we know it would end without a functioning power grid. The nation's electrical systems could be repaired, but most of the necessary components are made in China. The time frame to repair a downed power grid is a hotly disputed topic, but a quick flip of the switch after a visit to the storage room would not be a possibility. Many experts feel that it would take months, if not years, to get the overly-taxed power grid back online.

The bestselling author also pointed out the many ways a downed power grid would increase the EMP attack death toll sooner rather than later. The most obvious and immediate impact would involve the thousands of Americans who would perish when planes near the EMP zone would fall from the sky.

Without power, hospitals with still-functioning generators would not be able to keep patients alive after they run out of stored fuel. Grocery stores would reportedly have only empty shelves after about three days, leaving those without a garden or ability to hunt or fish with very empty stomachs. Civil unrest would also cause an unthinkable amount of deaths, according to Dr. Forstchen. The EMP Commission was established under a Republican-controlled Congress in 2001. The commission was re-established under a Democratic majority in 2006. The EMP preparedness commission was disbanded in 2008. EMPact America is an outspoken advocate for re-convening the Congressional commission to further preparedness efforts.

Iran to enrich uranium to 50% if nuclear-powered vessels needed - official
Turkishweekly.net, April 17

Iran said on Tuesday that it could start enriching uranium to the purity level of 50 percent if its research community declares a need to nuclear-fueled submarines, but meantime underlined that it is not enriching uranium over 20 percent of purity at present and has no such plans for future now, FNA reported.

"At present, we have no enrichment plan for purity levels above 20 percent, but when it comes to certain needs, for example, for some ships and submarines, if our researchers need to have a stronger underwater presence, we will have to make small engines which should be fueled by 45 to 56 percent enriched uranium," Head of the Atomic Energy Organization of Iran (AEOI) Fereidoun Abbasi said Tuesday.

"In that case, we might need this fuel," he continued.

Meantime, the Iranian nuclear chief stressed that the country does not have any plan at present to work on enrichment levels above 20 percent, and reminded that the International Atomic Energy Agency (IAEA) has never reported enrichment activities at 50 percent of purity level in Iran, "because there has never been such a thing" in Iran.

This is not the first time Iran announces that it enjoys the technical know-how to enrich uranium to purity levels above 20 percent. Abbasi had first announced in July that Iran is in possession of the technical knowledge to produce the nuclear fuel needed for trade vessels and submarines.

"We have the capability to produce nuclear fuel for ships and submarines," Abbasi said in July, and added, "But currently no plan to enrich uranium beyond 20 percent of enrichment is on our agenda."

The AEOI has no difficulty to move towards such systems and technologies, once it becomes a matter of basic need and the government makes a decision about it, Abbasi stated.

A week earlier in July, a senior legislator had declared that some MPs were discussing the plan to use nuclear fuel in Iranian vessels, and urged the government to enrich uranium to the needed levels to be used in such nuclear-powered ships.

"The government should enrich uranium to the needed level to supply fuel for the ships," member of the parliament's Industries Commission Allahverdi Dehqani told FNA last July.

"Given the western states' sanctions against the Islamic Republic of Iran, which include an embargo on the supply of fossil fuels to Iranian vessels, the Islamic Republic will replace the fossil fuel with nuclear fuel to counter the sanctions so that Iranian ships would not need refueling for long-distance voyages," he added.

"The government should enrich uranium to the necessary levels to supply fuel for such ships since we cannot cut our trade relations with other countries due to the western sanctions," Dehqani said.

Iranian military officials had also earlier informed that the country is designing a nuclear-fueled submarine.

The same month, a senior Iranian Navy commander stressed Iran's high capabilities in designing and manufacturing different types of submarines, and announced the country's move towards manufacturing nuclear-powered submarines.

Speaking to FNA at the time, Lieutenant Commander of the Navy for Technical Affairs Rear Admiral Abbas Zamini pointed to the navy's plan to manufacture super heavy nuclear-powered submarines, and stated, "Right now, we are at the initial phases of manufacturing atomic submarines."

He noted Iran's astonishing progress in developing and acquiring civilian nuclear technology for various power-generation, agricultural and medical purposes, and said such advancements allow Iran to think of manufacturing nuclear-fueled submarines. Admiral Zamini further reminded that using nuclear power to fuel submarines is among the civilian uses of the nuclear technology and all countries are, thus, entitled to the right to make such a use.

Old Timer's Luncheon