



USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal

Issue No. 1130, 29 August 2014

Welcome to the CUWS Outreach Journal! As part of the CUWS' mission to develop Air Force, DoD, and other USG leaders to advance the state of knowledge, policy, and practices within strategic defense issues involving nuclear, biological, and chemical weapons, we offer the government and civilian community a source of contemporary discussions on unconventional weapons. These discussions include news articles, papers, and other information sources that address issues pertinent to the U.S. national security community. It is our hope that this information resources will help enhance the overall awareness of these important national security issues and lead to the further discussion of options for dealing with the potential use of unconventional weapons.

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FEATURE ITEM: *"Manufacturing Nuclear Weapon "Pits": A Decisionmaking Approach for Congress."* By Jonathan E. Medalia, Specialist in Nuclear Weapons Policy; published by the Congressional Research Service; August 15, 2014; 37 pages.

<http://fas.org/sgp/crs/nuke/R43685.pdf>

A "pit" is the plutonium "trigger" of a thermonuclear weapon. During the Cold War, the Rocky Flats Plant (CO) made up to 2,000 pits per year (ppy), but ceased operations in 1989. Since then, the Department of Energy (DOE) has made at most 11 ppy for the stockpile, yet the Department of Defense stated that it needs DOE to have a capacity of 50 to 80 ppy to extend the life of certain weapons and for other purposes. This report focuses on 80 ppy, the upper end of this range.

Various options might reach 80 ppy. Successfully establishing pit manufacturing will require, among other things, enough laboratory space and "Material At Risk" (MAR). MAR is essentially the amount of radioactive material permitted in a building that could be released in an accident; there must be enough MAR available for manufacturing within the MAR "ceiling." PF-4, the main plutonium building at Los Alamos National Laboratory (LANL), or other structures would house manufacturing. Analytical chemistry (AC), which analyzes the composition of samples from each pit to support manufacturing, will also require availability of MAR and space.

Thus, three key decisions face Congress in deciding how to produce 80 ppy:

- **Decision 1:** For pit manufacturing, is there currently enough margin for space and MAR in PF-4? If not, what can be done to provide it?
- **Decision 2:** Once enough margin for space and margin for MAR are provided for pit manufacturing, what steps can be taken to maintain these margins over decades in the face of uncertainties?
- **Decision 3:** How much AC should be done at LANL, what is needed to make the space and MAR at LANL sufficient to support that amount of AC, and how much, if any, AC should be done at other sites?

Choosing among options also requires data on how options compare on cost and other metrics, setting up a process for downselection.

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Los Alamos Study Group – Albuquerque, NM

Feds' Plan to Make More Nuke Triggers at LANL Raises Questions

By Patrick Malone, *The New Mexican*

Posted: Saturday, August 23, 2014

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Los Alamos National Laboratory, birthplace of the atomic bomb, could ramp up production of triggers for nuclear weapons to levels not seen since the Cold War, if federal defense and energy officials get their way.

The federal government sees the site atop a rugged canyon cliff overlooking the vast expanse of plateaus and distant hills in Northern New Mexico as the perfect place — really, the only one — for an ambitious mission to massively increase production of plutonium pits — the softball-sized cores that can have the explosive power of the Nagasaki bomb. The pits are used to set off thermonuclear reactions in weapons tens of thousands of times more powerful than the pits themselves. The new pits would not be used for new weapons, proponents of the plan say, but to replace aging pits in the nation's nuclear stockpile.

But questions abound over the proposal. Foremost among them: Are more pits needed? Thousands of pits already are warehoused at a storage facility in Texas that scientists say could be used to supply the needs of the nation's nuclear industry for many decades.

There are also questions about the costs of increased production, whether Los Alamos has the space to increase production and whether the lab has the ability to safely house the dangerous and delicate war-grade plutonium required to produce the weapon components. The lab facility designated for pit production at Los Alamos is considered too small for the levels of production officials propose, and it sits over a seismic fault.

In a report to lawmakers this month, the Congressional Research Service describes a national defense agenda to produce 30 war reserve plutonium pits per year by 2026, and up to 80 pits per year by 2030.

To put the magnitude of the strategy in perspective, the U.S. has produced a total of 30 pits — all at Los Alamos — between 2007 and the present. Before that, domestic pit production had been at a standstill since 1989, when federal agents stormed the Rocky Flats Plant in Colorado to investigate environmental crimes and the facility was shuttered. Rocky Flats had produced up to 2,000 pits annually during the Cold War.

One nuclear watchdog familiar with the idea said the mission at Los Alamos carries the further risk of eroding the trust of countries that, along with the United States, have committed to drawing down their nuclear stockpiles.

“There's a financial cost. There's an environmental cost. There's a cost to our identity as a country, and there's a cost to our international credibility in nonproliferation,” said Greg Mello, executive director of the Los Alamos Study Group.

In the years following the closure of Rocky Flats, a combination of the shutdown and international treaties prohibiting the production of new nuclear weapons halted production of plutonium pits in the U.S. for nearly two decades. Production resumed in 2007, but only at Los Alamos, which produced 11 that year. The lab has never produced more than six in any year since then.

But the same nonproliferation treaties that halted the production of new weapons also prohibited the testing of existing stockpiles. Those provisions have created uncertainty about the reliability of the aging bombs.

One popular analogy among frustrated factions in national defense circles likens the stockpile to a rusty old car in a driveway. It might unexpectedly need to be driven someday, but turning the key to test whether it will start is strictly forbidden.

The U.S. Department of Defense, some in Congress and the National Nuclear Security Administration — an arm of the Department of Energy that manages the country's nuclear weapons program — want to replace aging triggers with new ones to ensure the weapons will work if they're ever needed.

A debate has raged for years between nuclear hawks and nonproliferation advocates about whether the pits need updating. Mello and other skeptics point to a 2006 report from the JASON Defense Advisory Panel, an independent scientific group, that said the useful life of a plutonium pit is up to 100 years. That would give many of the existing pits another half-century before they would need to be replaced.

For subscribers to that theory, the roughly 15,000 plutonium pits manufactured at Rocky Flats and stored at the Pantex Plant in Amarillo, Texas, are already more than enough.

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But proponents of increased production, including some members of Congress, say it is critical to have an arsenal they know will work. And having new pits would provide that confidence.

“Modernization of infrastructure and a robust plutonium science and technology program are key to our ability to respond to emerging issues and threats, to ensure safety of our facilities and personnel, and to assure the safety, security and effectiveness of the U.S. nuclear deterrent,” said Kevin Roark, a spokesman for the lab, which supports the plan.

The Republican-controlled U.S. House of Representatives believed enough in the stepped-up pit production plan that it included it in the defense authorization bill adopted for fiscal year 2015.

The Congressional Research Service report makes it clear that Los Alamos is the front-runner — if not the sole candidate — to house those activities. It describes Plutonium Facility 4, or PF-4, at Los Alamos as “the only building in the United States with the combination of attributes required to make pits.”

But the building, constructed in 1978 over a seismically active fault, would need expensive modifications to make it big enough and safe enough for increased production, the report said.

In comments at the National Republican Club of Capitol Hill in Washington last year, Jack Mansfield, a member of the federal Defense Nuclear Facility Safety Board, called the building “brittle” and not sufficiently constructed to survive a serious earthquake.

“There is a probability, albeit small, that the building could collapse with great loss of life within and with dispersal of plutonium,” he said.

Another building at the lab also would have to be retrofitted to safely store between 400 and 1,760 grams of plutonium for increased production, the report says. The building is currently designed to hold 26 grams.

The congressional report makes no recommendations about how the nuclear defense complex should proceed with the strategy to increase pit production and doesn’t speculate at the cost. Rather, it poses questions for Congress to consider about the steps and associated costs necessary to execute the plan.

“With NNSA, Los Alamos National Laboratory is exploring a wide spectrum of options to fulfill our mission commitments to plutonium manufacturing,” LANL spokesman Roark said. “While using existing facilities both at Los Alamos and across the complex is a short-term solution, it is not sustainable for the long haul.”

Mello questions the report’s conclusion that Los Alamos is the best place to do the work. But he thinks the report makes clear that the decision already has been made.

“Nobody should doubt that this is a high-hazard industrial operation,” he said. “The bigger it is, the more complicated it is, the more likely it is that there will be accidents.”

Mello worries the shifting international landscape of nuclear posturing — Iran’s capability to produce weapons and unknowns about Russia’s intentions in Ukraine — will be leveraged to convince some members of Congress to support the plan.

And he expects little resistance from New Mexico’s members of Congress, who have been largely mum on the plan.

“The citizens of Santa Fe have to wake up and realize that the identity of their metro area is tied up in this,” he said. “It would only take one disaster to end community development.”

Of the state’s five-member congressional delegation, only the offices of U.S. Sen. Tom Udall and U.S. Rep. Ben Ray Luján, both Democrats, answered The New Mexican’s questions about the plan.

Jennifer Talhelm, a spokeswoman for Udall, said the senator supports reducing the number of nuclear weapons around the globe, but also supports replacing weapon components to ensure the safety, security and reliability of the U.S. stockpile.

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"Los Alamos is the only lab capable of this work," she said.

Luján said he also embraces nonproliferation, but he believes the existing stockpile should be well maintained, and that Los Alamos should play a big role in that.

But he did not commit to a firm position on the plan described in the report and said Congress should proceed cautiously.

"While this report discusses many of the factors that go into pit production, there are a number of questions that remain," Luján said, "along with the need for significant discussion and research to determine the best path forward."

http://www.lasg.org/press/2014/SFNM_23Aug2014.html

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U.S. Air Force.com

Nuclear Deterrence: The Silent Sentinel

By Staff Sgt. Torri Ingalsbe, Air Force Public Affairs Agency, Operating Location – P
August 27, 2014

WASHINGTON (AFNS) -- Global conflict and instability have always been a part of human history, and America's nuclear forces serve as the nation's ultimate form of deterrence in a world where global engagements are becoming increasingly complex.

It has been almost 70 years since the last nuclear weapon was detonated during conflict. According to the doctrine of Mutually Assured Destruction, a full-scale use of high-yield weapons of mass destruction by two or more opposing sides would cause the complete annihilation of both the attacker and the defender.

"Nuclear weapons remain the gravest threat to the U.S. and our allies because of their extraordinary destructive power, a fact that's unlikely to change in the decades to come," said Maj. Gen. Garret Harencak, the Air Force assistant chief of staff for strategic deterrence and nuclear integration. "As long as these weapons exist, it's imperative the U.S. maintain a robust and credible deterrent."

With eight known countries in possession of nuclear weapons and others trying to acquire them it's imperative the U.S. maintains a safe, secure and effective nuclear capability. In other words, the U.S. nuclear deterrence mission is here to stay.

Harencak explained although the threat of an all-out nuclear war has significantly declined throughout the last couple of decades, there are an increasing number of nuclear-capable entities around the world.

"There's no doubt that today's multi-polar, proliferated environment creates new and complex challenges," Harencak said. "The threat of nuclear terrorism and nuclear proliferation has increased. Not only has the world seen a rise in the number of nuclear weapons states since the Cold War, but established nuclear powers like China and Russia are investing billions in modernization of their stockpiles and delivery systems. In light of these developments, the strategic stability provided by the Air Force's nuclear deterrence forces is vital to ensuring an aggressor can't coerce the U.S. or escalate their way out of conflict."

Airmen stationed within Air Force Global Strike Command operate and maintain two-thirds of the nation's nuclear triad, including intercontinental ballistic missiles and nuclear-capable bombers.

"With its diverse, flexible, responsive and survivable mix of capabilities, the triad provides the best hedge against future uncertainty," Harencak said. "Those unique attributes become even more important as the U.S. reduces its number of deployed nuclear weapons to meet treaty obligations."

He said the Air Force plays a crucial role in the equation.

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"ICBMs are valued most for the stability they produce and their high level of responsiveness," he explained. "Their dispersed basing and alert posture creates an extraordinarily high threshold for adversary attack against the homeland. Nuclear-capable bombers are highly flexible and resilient and can be deployed worldwide to signal resolve and intent. They're integral to extending deterrence globally and assuring our allies and partners. Dual-capable fighters perform an important role in assuring our NATO allies."

The Air Force's execution of its nuclear deterrence mission is not something that is changing anytime soon.

"For more than 50 years, our nation's nuclear forces have provided the U.S. with the ultimate guarantee against its only existential threat," Harencak said. "Every day, Air Force ICBMs, nuclear-capable bombers and fighters, and the Airmen who operate and maintain them help preserve the strategic stability that is foundational to that guarantee."

<http://www.af.mil/News/ArticleDisplay/tabid/223/Article/494747/nuclear-deterrence-the-silent-sentinel.aspx>

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FOX News.com – New York, NY

Boeing 'Recreates Outer Space' to Fix Missile Defense System

By Elizabeth Palermo, *Live Science Staff Writer*

August 25, 2014

Last month, the U.S. military's missile defense system successfully destroyed a mock enemy target high above the Pacific Ocean. The triumphant test was a much-needed win for the nation's Ground-based Midcourse Defense (GMD) system, and a huge relief for Boeing, the aerospace defense contractor behind the \$40 billion project.

But the successful test comes on the heels of three failed tests of the Boeing-designed system. The most recent of these unsuccessful tests was due to what engineers with the company called an "impossible" problem. It was impossible, they said, because it required them to recreate a spacelike environment here on Earth.

The need to recreate spacelike conditions is a result of the very nature of Boeing's missile defense system. It's designed to intercept ballistic missiles at the height of their trajectory, when they're outside Earth's atmosphere, more than 62 miles (100 kilometers) above the planet's surface.

The system works by launching so-called interceptor (similar to a high-speed rocket, but without the explosives) into space. The interceptor locates and tracks missile targets using complex radar, sensor and tracking systems, according to Boeing. Once it reaches the outer limits of Earth's atmosphere, the interceptor deploys a small device located inside its tip — called an Exoatmospheric Kill Vehicle (EKV) — that can destroy a missile by colliding with it at hypersonic speed.

At least that's how the missile defense system is supposed to work. But as Boeing has learned the hard way over the past decade and a half, getting both the interceptor and EKV to work properly at such high altitudes is a challenge. A July 2013 test of the GMD system failed because of what Boeing engineers called "conditions outside of Earth's atmosphere."

Exactly what those conditions are is hard to say, said Cindy Belliveau, a structural dynamics engineer at Boeing. To determine the cause of the problem, engineers had to sift through mounds of data and then make their best guesses as to what might be causing the issues.

"It's hard to reproduce [spacelike conditions]. You're not up there, so you don't know what happens," Belliveau said in a video posted on Boeing's website. "You have lots of different stories, and you pick the one that makes the most sense or is the most likely."

In the case of the most recent failed intercept test, Boeing engineers determined that the likely cause of the failure was the presence of high-frequency noises that occur in space. These frequencies, or pitches, can interfere with

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the interceptor's radar and tracking system, which it uses to pinpoint its target in space, according to the engineers.

To test this hypothesis, researchers at Boeing recreated these high-frequency pitches in a laboratory. They then bombarded the interceptor's tracking system with these spacelike noises, isolating — and ultimately fixing — the "impossible" problem.

The result of all this hard work was the successful test of the GMD system on June 22. However, this recent success might not mean that the U.S.' missile defense system is ready just yet.

Whereas the failed test in July 2013 resulted from a problem with Boeing's interceptor, previous failed tests resulted from issues with the Exoatmospheric Kill Vehicle, designed by defense contractor Raytheon, according to the Missile Defense Agency.

Each of Raytheon's EKV's is handmade and contains over 1,000 component parts, the LA Times reported. This means that no two of these devices are the same. Engineers who have worked on the kill vehicles acknowledge that a successful test of one of these devices doesn't predict the performance of EKV's used in future tests, according to the LA Times.

<http://www.foxnews.com/tech/2014/08/25/boeing-recreates-outer-space-to-fix-missile-defense-system/>

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RT (Russia Today) – Moscow, Russia

Hypersonic Advanced Weapon Test Fails Four Seconds after Launch

August 26, 2014

The Pentagon was forced to terminate the testing of a hypersonic weapon on Monday only moments after liftoff, creating a setback for a program that the military hopes will someday allow for any target on Earth to be obliterated in under an hour.

Monday morning's launch of a rocket carrying the Advanced Hypersonic Weapon from a test range in Alaska marked the second time since 2011 that the United States Army has attempted to deploy a missile capable of reaching speeds of Mach 5 or higher — or 3,600 miles-per-hour at a minimum — which, if all goes as planned, "will allow the Department of Defense to engage any target anywhere in the world in less than an hour," DOD spokesperson Maureen Schumann told the Associated Press.

The latest test was unsuccessful, however, with the Pentagon saying this week that controllers willingly aborted the mission after only four seconds due to only what officials are calling "public safety" issues.

"Due to an anomaly, the test was terminated near the launch pad shortly after lift-off to ensure public safety. There were no injuries to any personnel," the US Department of Defense said in a press release on Monday. *"Program officials are conducting an extensive investigation to determine the cause of the flight anomaly."*

"It came back down on the range complex. Fortunately, no people on the ground were injured. There was damage, but I'm not sure of the extent of it at this time," Schumann added to the AP.

Scott Wight, a photographer, told Kodiak, Alaska's KMXT public radio station that he was roughly 12 miles away at the time of the launch, and even at that distance saw what the network described as a "quite loud and scary sight to see."

Onlookers to the Pentagon program say that this second consecutive failure will likely do little to hinder the military's efforts.

"This is such an important mission and there is promise in this technology," Riki Ellison, the founder of the nonprofit Missile Defense Advocacy Alliance, told Reuters this week.



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Residents of the launch site in Alaska have raised questions, however, including Kodiak, AK resident Stacy Studebaker. In an email to KMXT, Studebaker told the radio station that she's concerned what kind of hazards exist for the un-burnt rocket fuel that's been introduced into the environment following the controlled crash landing this week.

The Pentagon's Advanced Hypersonic Weapon was developed by Sandia National Laboratory in conjunction with the US Army, and is part of the Defense Department's larger Conventional Prompt Global Strike technology development program. According to Reuters, analysts consider the creation of the program to be a direct response to reports of technologically advanced ballistic missiles developed by countries such as Iran and North Korea, or perhaps is part of an arms race with China.

But Anthony Cordesman, a defense analyst at the Center for Strategic and International Studies think tank, told the newswire that the Pentagon's technology is so far best suited for use against smaller, less-developed countries with missiles, and not adversarial nations that are actually capable of creating defense systems that stand a chance at thwarting any hypersonic weaponry.

"The United States has never assumed that these ... are going to be systems that you can use against a power like China by themselves," Cordesman told Reuters. "For a country like Iran or North Korea, they could be a very significant deterrent."

Previously, the Pentagon successfully tested a flight mission of the Advanced Hypersonic Weapon in November 2011 by launching the missile from Hawaii to the Kwajalein Atoll in the Marshall Islands.

<http://rt.com/usa/182912-army-hypersonic-weapon-alaska/>

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National Defense Magazine.com – Arlington, VA

U.S., China in Race to Develop Hypersonic Weapons

By Valerie Insinna

August 27, 2014

On the heels of reports that China had successfully completed a second ultra-high-speed missile flight test, the Defense Department announced on Aug. 25 that it had aborted a test of its own hypersonic weapon.

The military is investigating the "anomaly" responsible for the test failure, but analysts told National Defense that the incident was not a major setback for the program.

"It's a glitch. These are weapons that operate under fantastic stresses," said Rick Fisher, a senior fellow at the International Assessment and Strategy Center. "Failure is not necessarily a bad thing, especially if data can be gathered so that you learn from your mistake."

"These weapons are traveling at such fantastic speeds and they are required to be capable of such accuracy that it is simply going to require an extensive development program to achieve a point where they can be considered ready for the field," he added.

The Aug. 25 test of the advanced hypersonic weapon was aborted because of an unspecified flight anomaly, according to a Defense Department news release. "The test was terminated near the launch pad shortly after liftoff to ensure public safety. There were no injuries to any personnel," the release read.

Testers made the decision to destroy the rocket within four seconds of its launch at the Kodiak Launch Complex in Alaska, said Maureen Schumann, a Pentagon spokeswoman. She was not able to provide additional information on what the anomaly was or how it was detected.

The advanced hypersonic weapon is just one of the technologies under development in the conventional prompt global strike program, she said. The goal is to create a menu of precision strike options that would be able to hit anywhere in the world in under an hour.

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U.S. program officials are conducting an investigation to determine the cause of this Monday's test failure, said Schumann. The investigation will likely take "weeks or months" to finish and will inform future tests and scheduling.

The August test was the second flight of the advanced hypersonic weapon, Schumann said. "The objective of the test was to develop and demonstrate hypersonic boost glide enabling technologies and collect data on flight vehicle and test range performance for long-range atmospheric flights."

The United States may not be the only country that has been testing high-speed weapons this month. China conducted the second test flight of its hypersonic glide vehicle — called the Wu-14 — on Aug. 7, unnamed U.S. officials told the Washington Free Beacon.

Schumann would not confirm whether the Chinese military had executed a second Wu-14 test in August. Earlier this year, the Pentagon confirmed the Wu-14's first flight test in January.

Based on the available evidence, including Chinese reports circulating the internet, it seems probable that there was a second Wu-14 test recently, Fisher said.

"China and the United States are seeking to develop the same range of hypersonic weapons, both boost-glide or hypersonic glide vehicles, and future air-breathing hypersonic vehicles, such as scram jets," Fisher said.

The U.S. program appears to have progressed further, "but the Chinese program may be better funded and have greater depth in terms of the commitment of intellectual and development resources," he said.

Mark Gunzinger, senior fellow at the Center for Strategic and Budgetary Assessments, said he is skeptical that China's development of hypersonic weapons has matured past that of the United States.

"We hear about the successes and not the failures" of the Chinese program, he said. "They could have had dozens of failures that we know nothing about, at least in public."

Hypersonic weapons could be operational within a decade, Gunzinger said. The challenge, especially in a budget-conscious environment, will be figuring out how to drive down manufacturing costs.

"Can we find a sweet spot in hypersonic weapons where the price point is right and we can buy enough of them?" he asked.

One of the reasons why hypersonic weapons are so highly coveted is because they are difficult to shoot down, Fisher said. Directed energy weapons, such as a hypersonic capable rail gun or laser, could offer a way to counter hypersonic missiles.

"If you have two to four rail guns for example, [and] you get maybe a two-minute warning that a hypersonic warhead is coming at you, that's enough time to put into the sky clouds of hypersonic rail gun rounds that are designed like shotgun shells," he said. "They'll release into the air 100 to 200 tungsten pellets. Even if the hypersonic warhead is maneuvering, you're likely to nick it with one of these pellets, and that alone will make the warhead tumble out of control."

The United States appears to be further along in its efforts to develop directed energy weapons, although China's program is not particularly transparent, Fisher said.

The Navy in April unveiled a high-speed electromagnetic rail gun capable of launching projectiles at speeds up to 5,600 miles per hour. The service has also tested its laser weapons system at sea, proving that it could shoot down small unmanned aircraft.

That laser currently lacks the power and range necessary to destroy a hypersonic glide vehicle, but it could become powerful enough in the next decade to shoot down such weapons, Fisher said. A hypersonic speed capable rail gun is possible in the early 2020s, he added.

Gunzinger said it may be too difficult to intercept a hypersonic missile with a high-powered laser, but rail guns could be well suited for those missions.

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The advanced hypersonic missile was developed by Sandia National Laboratory and the Army. Its first flight test took place in November 2011 and was successful, with the missile traveling from Hawaii and hitting a target at the Reagan Test Site on Kwajalein Atoll, Republic of the Marshall Islands.

<http://www.nationaldefensemagazine.org/blog/Lists/Posts/Post.aspx?ID=1585>

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RIA Novosti – Russian Information Agency

US, Norway to Inspect Russia's Air Space

25 August 2014

MOSCOW, August 25 (RIA Novosti) - A group of US and Norwegian aviation inspectors plan to fly over Russia's and Belarus' territory this week under The Treaty on Open Skies, acting head of the Defense Ministry's National Nuclear Risk Reduction Center told journalists Sunday.

"Between August 25 and August 30 of this year, as part of The Treaty on Open Skies, a joint mission of the United States and Norway will conduct a flight over the territory of a group of member-states [Belarus and Russia] on board an American OC-135B observation aircraft," Ruslan Shishin said.

"During the flight along the agreed course, Russian and Belarusian experts on board the plane will control the compliance with the strict agreed flight parameters and the use of the surveillance equipment identified in the Treaty," he said.

The Boeing OC-135B Open Skies flies unarmed observation flights over the territories of the members of the Treaty.

The Treaty on Open Skies was signed on March 24, 1992, in Helsinki and currently applies to 34 countries. It came into force a decade later and established a regime of unarmed aerial observation flights over the entire territories of its participants.

The Treaty is designed to enhance mutual understanding and confidence by giving all participants a direct role in gathering information about areas of concern to them. During the observation flights, the aircrafts fitted with sensors and cameras collect image data that can be shared among all signatories to support the monitoring of compliance with existing or future arms control treaties.

http://en.ria.ru/military_news/20140825/192304366/US-Norway-to-Inspect-Russias-Air-Space.html

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Mainichi Daily News – Mainichi, Japan

Japan Eyes Effective Use of Space to Detect Missiles

August 23, 2014

TOKYO (Kyodo) -- The Defense Ministry plans to use space more effectively to detect early signs of ballistic missile launches by North Korea and bolster its defense capabilities, a draft of Japan's new space policy showed Friday.

In the basic policy to be formally adopted by the end of August, the ministry hopes to promote empirical research with the Japan Aerospace Exploration Agency. It will also consider setting up a special force for space surveillance within the Self-Defense Forces, and developing smaller satellites that can be lifted off easily, according to the draft.

Currently, Japan has four information-gathering satellites.

The Defense Ministry plans to load its infrared sensors onto JAXA's new satellite to conduct research and improve its capabilities to analyze satellite images, according to the draft policy.

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Prime Minister Shinzo Abe is trying to rework the country's defense posture as North Korea has repeatedly defied international pressure and launched missiles and other projectiles. Japan is also vigilant against China's possible militarization of space.

Japan and the United States are set to revise their defense cooperation guidelines by the end of the year, with bilateral cooperation in space expected to be one of the key items.

So far, Japan has enabled JAXA to do research for the country's defense since the law concerning the agency was revised, and aimed for greater use of space under the latest defense program guidelines.

The ministry and JAXA have been conducting joint research since April last year.

The draft states it is "extremely important to use space to prepare for various contingencies, including ballistic missiles." It goes on to say there exist "grave threats to stable use of space," citing factors such as an increase in space debris, and moves to develop weapons to shoot down satellites.

The ministry crafted the first basic policy in 2009 after Japan enacted the Basic Space Law in 2008.

<http://mainichi.jp/english/english/newsselect/news/20140823p2g00m0dm053000c.html>

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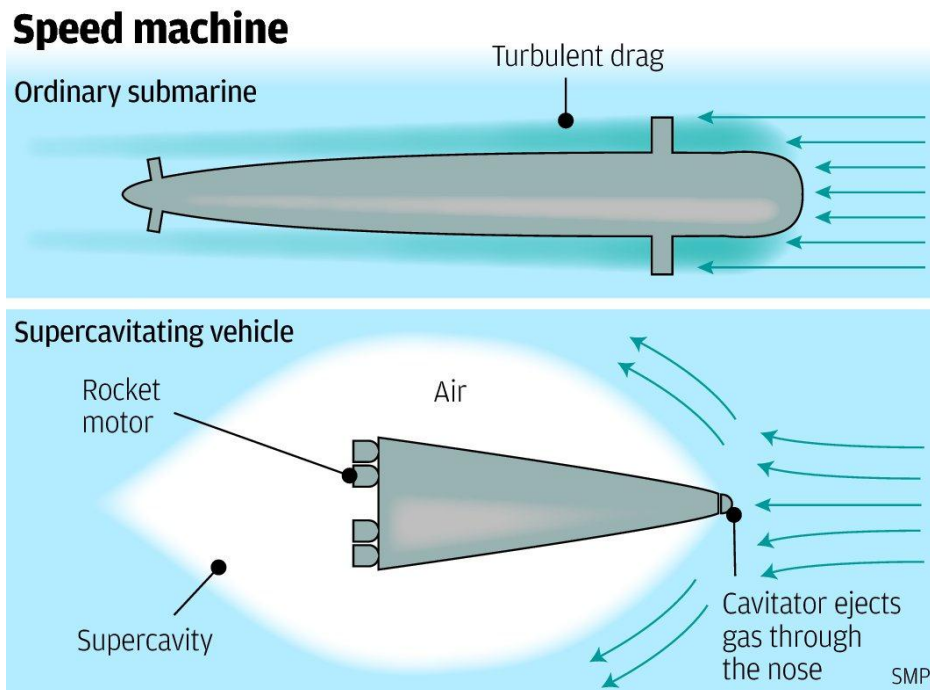
South China Morning Post.com – Hong Kong, China

Shanghai to San Francisco in 100 minutes by Chinese Supersonic Submarine

Chinese eye 'supercavitation' technology as future of underwater travel

Sunday, 24 August, 2014

By Stephen Chen



China has moved a step closer to creating a supersonic submarine that could travel from Shanghai to San Francisco in less than two hours.



USAF Center for Unconventional Weapons Studies
CUWS Outreach Journal

Maxwell AFB, Alabama

New technology developed by a team of scientists at Harbin Institute of Technology's Complex Flow and Heat Transfer Lab has made it easier for a submarine, or torpedo, to travel at extremely high speeds underwater.

Li Fengchen, professor of fluid machinery and engineering, said the team's innovative approach meant they could now create the complicated air "bubble" required for rapid underwater travel. "We are very excited by its potential," he said.

Water produces more friction, or drag, on an object than air, which means conventional submarines cannot travel as fast as an aircraft.

However, during the cold war, the Soviet military developed a technology called supercavitation, which involves enveloping a submerged vessel inside an air bubble to avoid problems caused by water drag.

A Soviet supercavitation torpedo called Shakval was able to reach a speed of 370km/h or more - much faster than any other conventional torpedoes.

In theory, a supercavitating vessel could reach the speed of sound underwater, or about 5,800km/h, which would reduce the journey time for a transatlantic underwater cruise to less than an hour, and for a transpacific journey to about 100 minutes, according to a report by California Institute of Technology in 2001.

However, supercavitation technology has faced two major problems. First, the submerged vessel has needed to be launched at high speeds, approaching 100km/h, to generate and maintain the air bubble.

Second, it is extremely difficult - if not impossible - to steer the vessel using conventional mechanisms, such as a rudder, which are inside the bubble without any direct contact with water.

As a result, its application has been limited to unmanned vessels, such as torpedoes, but nearly all of these torpedoes were fired in a straight line because they had limited ability to turn.

Li said the team of Chinese scientists had found an innovative means of addressing both problems.

Once in the water, the team's supercavitation vessel would constantly "shower" a special liquid membrane on its own surface. Although this membrane would be worn off by water, in the meantime it could significantly reduce the water drag on the vessel at low speed.

After its speed had reached 75km/h or more the vessel would enter the supercavitation state. The man-made liquid membrane on the vessel surface could help with steering because, with precise control, different levels of friction could be created on different parts of the vessel.

"Our method is different from any other approach, such as vector propulsion," or thrust created by an engine, Li said. "By combining liquid-membrane technology with supercavitation, we can significantly reduce the launch challenges and make cruising control easier."

However, Li said many problems still needed to be solved before supersonic submarine travel became feasible. Besides the control issue, a powerful underwater rocket engine still had to be developed to give the vessel a longer range. The effective range of the Russian supercavitation torpedoes, for example, was only between 11 km and 15 km.

Li said the supercavitation technology was not limited only to military use. In future, it could benefit civilian underwater transport, or water sports such as swimming.

"If a swimsuit can create and hold many tiny bubbles in water, it can significantly reduce the water drag; swimming in water could be as effortless as flying in the sky," he said.

Besides Russia, countries such as Germany, Iran and the United States have been developing vessels or weapons using supercavitation technology.

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Professor Wang Guoyu, the head of the Fluid Mechanics Laboratory at Beijing Institute of Technology who is leading another state-funded research project on supercavitation, said the global research community had been troubled for decades by the lack of innovative ideas to address the huge scientific and engineering challenges.

"The size of the bubble is difficult to control, and the vessel is almost impossible to steer," he said. While cruising at high speed during supercavitation, a fin could be snapped off if it touched the water because of the liquid's far greater density.

Despite many scientists worldwide working on similar projects, the latest progress remains unclear because they are regarded as military secrets.

Wang, a member of the water armament committee of the China Society of Naval Architects and Marine Engineers, said even he had been kept in the dark about recent supercavitation developments in China.

"The primary drive still comes from the military, so most research projects are shrouded in secrecy," he said.

<http://www.scmp.com/news/china/article/1580226/shanghai-san-francisco-100-minutes-chinese-supersonic-submarine>

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The Korea Herald – Seoul, South Korea

Xi Asked Park to ‘Tread Carefully’ on U.S. Missile Defense System

August 26, 2014

BEIJING (Yonhap) — Chinese President Xi Jinping asked South Korean President Park Geun-hye to “tread carefully” over a U.S. move to deploy its advanced missile-defense system in South Korea during their July summit, two Seoul diplomatic sources said Tuesday.

Xi had raised the issue during his summit with Park in early July at a time Beijing was trying to improve relations with South Korea amid bitter territorial disputes with its Asian neighbors, including Japan, Vietnam and the Philippines. South Korea is a treaty ally of the U.S., which protected the South from aggression by North Korea and China during the 1950-53 Korean War.

South Korea is home to about 28,500 American troops and the top U.S. commander in South Korea, Gen. Curtis Scaparrotti, said in early June that Washington wants to deploy the THAAD (Theater High Altitude Area Defense) missiles to South Korea to better defend against missile threats from North Korea.

China and Russia have voiced concerns over the U.S. move to deploy the new missile-defense shield to the southern part of the Korean Peninsula.

Former South Korean defense minister Kim Kwan-jin, who now serves as the top national security adviser to Park, told lawmakers on June 18 that it would be “no matter” if the U.S. troops stationed in South Korea deploy the THAAD to the country.

“During the summit talks, President Xi told President Park that it needs to tread carefully over the issue of the THAAD deployment (to South Korea),” a diplomatic source who was briefed about the July summit told Yonhap News Agency.

It was not known how Park responded to Xi’s call.

Another diplomatic source said Park and Xi discussed the issue “in a specific manner” during the summit, but declined to elaborate on specifics of the discussion.

In spite of international sanctions, North Korea continues to pose security threats to Northeast Asia and beyond, by developing its nuclear and ballistic missile programs.

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North Korea, which has conducted three nuclear tests since 2006, has threatened to conduct a “new form of nuclear test.”

South Korea and the U.S. have called on China to play a greater role in leading North Korea to give up its nuclear weapons, but Beijing’s diplomacy still appears to put its priority on stability, rather than the denuclearization of North Korea.

<http://www.koreaherald.com/view.php?ud=20140826000878>

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Want China Times – Taipei, Taiwan

PLA to Set Up New 'Aerospace Force' Branch

By Staff Reporter

August 26, 2014

The People's Liberation Army is expediting plans to set up a new "Aerospace Force" which is expected to be capable of taking on the United States military in emergency situations, according to a report from Japanese newspaper Yomiuri Shimbun.

The Aerospace Force will be the fifth service branch under the PLA along with its Ground Force, Navy, Air Force and Second Artillery Corps, the report said, adding that it will also lead to the creation of an Aerospace Office under the Central Military Commission.

Since the beginning of the year, Chinese president and CMC chairperson Xi Jinping has repeatedly emphasized moving progressively toward space militarization. In April, he urged the development of a "new-type combat force" and told military leaders they need to be able to deal with air and space emergencies "swiftly and effectively." During a session with PLA cadres in June, he also stated the importance of integrating air and space capabilities to create a powerful air force capable of safeguarding national sovereignty, security and development.

The plans to establish an Aerospace Force come amid reports that China has recently set up a central joint command center that will boost the unified operations of Chinese capabilities on land, sea, air and in dealing with strategic missile operations. According to the Canadian military affairs magazine Kanwa Defense Review, the "already-operational" command center is based at the Xishan Command Center of the Ministry of State Security and the General Staff Department in Beijing.

There are also reports that the PLA intends to reduce its current seven major military regions to five regions that will have better combat readiness to face emergency situations. Testing is reportedly being carried out at the Nanjing, Guanzhou and Jinan military regions.

The China National Space Administration also launched the Gaofen-2 high-resolution optical Earth observation satellite last week. The main goal of the Gaofen satellite series is to provide near real-time observations for disaster relief, climate and geographical surveying, and agriculture support, though it is believed that the satellites will also have significant military applications in the future.

<http://www.wantchinatimes.com/news-subclass-cnt.aspx?cid=1101&MainCatID=11&id=20140826000087>

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Stars and Stripes – Washington, D.C.

On Land and Sea, China’s Nuclear Capability Growing

By Erik Slavin, Stars and Stripes

August 26, 2014

Earlier this month, a minor Chinese environmental office broke some of the biggest news in nuclear missile technology since the end of the Cold War.

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The Shaanxi Province Environmental Monitoring Center posted a work summary of its projects, which included site monitoring for research into the Dong Feng-41 missile. The Department of Defense told Congress earlier this year that China was developing the DF-41, a road-mobile, next-generation intercontinental ballistic missile capable of launching multiple nuclear warheads.

The missile had been conceptualized for years, well before China's military modernization of the past decade began. However, no Chinese governmental agency was willing to confirm its development until the provincial environmental office's website did so. The post was quickly taken down, but only after it had been reported by the China Communist Party-affiliated Global Times.

The DF-41 news comes amid reports that China also conducted tests this month of its current land-based missile standard, the DF-31A.

U.S. officials also expect China to have operational nuclear missile-equipped submarines this year. The HK-6 bomber, a nuclear-capable aircraft with a range of about 2,000 miles, became part of the Chinese arsenal last year.

Collectively, it represents a nuclear triad, the decades-old standard that the United States still counts on for surviving a global nuclear war.

The Chinese triad remains heavily imbalanced in favor of land-based missiles, since its aircraft can't fly very far and its submarines may not be all that reliable, according to analysts.

However, the bigger question remains: Why is China, a country with a "no first-use" policy, upgrading its nuclear arsenal at a time when the United States and Russia are reducing their stockpiles?

No one in power in the United States, China or any other nation seen as a rational actor is advocating a nuclear strike in today's global environment. That said, military planners get paid to consider worst-case scenarios and keep open their options.

Chinese military leaders have contended they are so far behind the United States that their current nuclear posture isn't an effective deterrent to being attacked. Maj. Gen. Yao Yunzhu, China's director of the Center of America-China Defense Relations for the Academy of Military Science, explained that position in a letter last year to the Pacific Forum of the Center for Strategic and International Studies, a think tank.

"The Ballistic Missile Defense systems that the United States and its allies have deployed, or are planning to deploy, are capable of intercepting residue Chinese nuclear weapons launched for retaliation after it has already been attacked, thus potentially negating the deterrence effect of the Chinese nuclear arsenal," Yun wrote.

Furthermore, U.S. conventional missile strike systems in development could strike China's nuclear arsenal, "which, if adopted as an official doctrine, would discredit China's No First Use policy," Yun wrote.

China's nuclear arsenal is thought to total about 250 warheads, compared with 2,104 operational U.S. warheads and thousands in reserve, according to Federation of American Scientists figures.

If Chinese leaders think their stockpile is in danger of being wiped out by U.S. aircraft, missiles and other conventional means during a hypothetical war, it leaves them with two broad options to protect their nuclear capability: strengthen their potential attack, or abandon the no first-use policy in favor of something more threatening.

For now, they appear to have chosen the former option.

China has built three Jin-class nuclear submarines capable of carrying the JL-2 missile, which has an estimated range of 4,600 miles.

"This will give the China its first credible sea-based nuclear deterrent, probably before the end of 2014," Pacific Command chief Adm. Samuel Locklear said during congressional testimony in March.

Although the deterrent is considered credible, its survivability is debatable.

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Jin-class subs are noisy — noisier than the Russian Delta II-class submarines built 30 years ago, according to an Office of Naval Intelligence report published in 2009. Noise is a submarine killer, and the U.S. has several ways of listening for them.

Although China could develop a noise solution, multiple U.S. analysts think that design flaws in the missile compartments and hatches have left the Jin-class fundamentally flawed. China also has no experience with commanding and controlling nuclear-equipped submarines.

However, it does have extensive experience with land-based missiles, which are also the only option capable of striking the continental United States after being launched from somewhere near China.

“So from that perspective, modernizing the land-based missiles makes some sense,” said Vipin Narang, an associate professor at MIT and author of a recently published book on nuclear strategy.

Besides any conventional strikes, a Chinese nuclear response in a hypothetical war would have to overcome three major U.S. defenses: the Aegis ballistic missile defense, significant parts of which are maintained on ships based in Japan and patrolling the Western Pacific; the ground-based midcourse defense; and a high-altitude area defense.

The U.S. missile defense has destroyed 65 of 81 targets in tests conducted since 2001, according to the U.S. Missile Defense Agency.

China’s DF-31A has a range of about 7,000 miles and includes Multiple Independently targeted Re-entry Vehicles, or MIRVs, according to Defense Department reports. Most analysts say it can carry up to three MIRVs, which can scatter like the nuclear equivalent of shotgun pellets.

Reports on the DF-41 are far less reliable, since China’s defense ministry has never acknowledged it. However, Chinese media have reported the missile’s existence in recent years.

A 2012 CCTV report said the missile has a range of 8,700 miles. Some reports say it can travel at Mach 25, which would make it very difficult for a defense system to destroy it during its initial boost phase.

A Jane’s Defense report from 2010 speculated the missile could carry up to 10 MIRVs and could include decoys, chaff and penetration aids.

“In the exoatmosphere, numbers are the way to saturate a working missile defense system,” Narang said. “So from that standpoint, the MIRV’ing of the 31 and whatever the 41 looks like is, I think, the way to do that.”

Both the U.S. and Russia have developed MIRV-capable missiles, but each side considered them dangerous enough that they tried to ban them in the START II arms agreement signed in 1993. However, because of problems in the U.S. Senate and Russian Duma, the treaty was never implemented.

Although China and the U.S. haven’t approached anything like the hostility of the U.S.-Soviet Cold War, divisions remain that could lead to armed conflict.

Taiwan-China relations have improved markedly, but the U.S. is still obligated by law to defend Taiwan, and China maintains that it cannot remain separate forever.

The U.S. also has said it would defend the Japanese-administered Senkaku Islands, claimed as the Diaoyu Islands by China. The islands have been the center of repeated air and sea incidents between Japan and China, though none ever turned into firefights.

Even if an armed conflict did occur, there are positive indications that it wouldn’t escalate to a nuclear scenario.

China hasn’t developed the types of early-warning system and advanced intelligence capability indicative of a nation that wants something more than a retaliatory deterrent, Narang said.

That means unless the U.S. or another country attacked with nuclear weapons first, China wouldn’t be in a favorable position to use its arsenal.

“A shift away from a basic ‘assured retaliation’ posture does not yet seem to be occurring,” Narang said.

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The Wall Street Journal – New York, NY

U.S.-China Rivalry Simmers Underseas

Pentagon Concerned About Beijing's Expanded Submarine Forces

By James T. Areddy

August 26, 2014

SHANGHAI—A close midair encounter between U.S. and Chinese military planes last week reflected long-running tensions in the skies—a rivalry that is building under the waters below, as well.

The Defense Department didn't explain the mission for the U.S. Navy P-8 aircraft—a plane designed to track submarines—that was intercepted by a Chinese J-11 fighter over the South China Sea to the east of China's Hainan Island on Aug. 19. U.S. officials say in that encounter, and several others in recent months, Chinese fighter pilots have flown dangerously close to U.S. aircraft.

One Chinese rear admiral said the U.S. plane was likely spying on China's nuclear submarines.

The midair intercepts come as the U.S. military has warned that Beijing is quickly expanding its submarine force, including a fleet of Jin-class nuclear-powered ballistic missile subs.

At least two of those appear to be based at Hainan, according to foreign defense experts who point to a recently expanded sub base there that features an undersea entrance.

The Pentagon has said it expects the Chinese navy to use the Jin-class to begin China's first sea patrols with fully armed nuclear weapons at some point this year.

"The U.S. wants to know exactly what's going on in Hainan," said Chen Qi, an expert on Sino-U.S. relations at Beijing's Carnegie-Tsinghua Center. "China does not want the U.S. to know."

Both the U.S. and China are trying to reduce the likelihood that chance encounters between the militaries could lead to accidents.

The Chinese defense ministry said Tuesday that it sent a delegation to the U.S. to take part in meetings this week to discuss military rules at sea and in the air.

Rear Adm. John Kirby, the Pentagon's press secretary, said the U.S. would continue to increase cooperation and dialogue with Beijing, but said last week's intercept "did nothing to help that along."

The U.S. patrols and China's intercepts are likely to continue, some analysts said, given the stakes. The U.S. military is concerned about what it says is China's growing investment in submarines as part of a broad modernization program that already includes an aircraft carrier and an expanding fleet of navy ships.

Like few other systems in the military arsenal, submarines add stealth to military power and allow it to be projected virtually anywhere. China sees the force as vital to its aspirations to be a superpower.

The recently commissioned P-8 is the Navy's most advanced sub-hunter, notable for its relative speed and long-range surveillance capabilities. Since December, the U.S. has sent six P-8s to bases in southern Japan to boost its anti-submarine forces.

China's plan is to augment its submarine fleet of around 60, many acquired from Russia over the past 25 years, the U.S. military says.

"China's advance in submarine capabilities is significant," Adm. Samuel J. Locklear, commander of the U.S. Navy's Pacific Command, testified to the Senate Armed Services Committee in March. "They possess a large and increasingly capable submarine force."



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The Defense Department points in particular to submarines equipped to carry a new ballistic missile with an estimated range of more than 4,000 nautical miles. That would leave much of North America in range, depending on where in the Pacific the subs are.

"This will give China its first credible sea-based nuclear deterrent, probably before the end of 2014," Adm. Locklear told the Senate committee.

According to the Defense Department's latest annual report to Congress, China operates three such Jin-class Type 094 nuclear-powered ballistic missile submarines and up to five may enter service before it unveils a next-generation type over the next decade. "Make no mistake, the nuclear ballistic missile submarine is the most dangerous weapon on Earth," John Keller, editor of Military & Aerospace Electronics, wrote in a June report.

"Think of it as a stealthy, silent, and mobile collection of nuclear missile silos. They deploy quietly, submerge quickly, and remain hidden under the waves for months at a time. Tracking them is difficult and imprecise."

Experts in China said encounters like the one last week are neither new, nor likely to stop. Ni Lexiong, a military expert at Shanghai's University of Political Science, said the U.S. feels threatened by China's "normal and reasonable" desire to build a modern navy.

"This is an irreconcilable contradiction," said Mr. Ni.

The U.S. augments surveillance from aircraft with satellites, surface ships and other submarines, looking for favored routes and maneuvers, experts say.

That adds complications to a region with busy commercial shipping lanes and natural-resources exploration, as well as periodic clashes between vessels from China, Vietnam and the Philippines over disputed maritime claims.

As in last week's intercept in the skies, submarines appear in the background of past Sino-U.S. encounters near China's southern coast.

In March 2009, the U.S. said one of its navy ships—the Impeccable, a surveillance vessel designed specifically to drag a sonar array to detect submarines—faced harassment from five Chinese vessels as well as a low flyby from a Chinese air force plane.

The U.S. called the Chinese ships' actions reckless, unprofessional and unlawful, while China said the Impeccable was illegally surveying within its Exclusive Economic Zone—an area extending 200 nautical miles from its coast.

The U.S. says countries are free to carry out military surveillance and mapping outside the 12-nautical mile territorial waters.

Kersten Zhang and Julian E. Barnes contributed to this article.

<http://online.wsj.com/articles/u-s-china-rivalry-simmers-underseas-1409075209>

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The Korea Herald – Seoul, South Korea

N. Korea Developing Ballistic Missile Submarine: Report

By Song Sang-ho

August 27, 2014

North Korea is developing a submarine capable of launching ballistic missiles, a U.S.-based web magazine claimed Tuesday, escalating concerns here over missile and nuclear threats from the communist state.

Citing two U.S. defense officials, Washington Free Beacon said in an article that a missile launch tube on a submarine was recently observed by U.S. intelligence agencies — an indication that the North was building a ballistic missile submarine.

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Expressing doubts over the report, a senior South Korean Navy official told The Korea Herald that Pyongyang's military technology has yet to reach the level of being able to deploy submarine-launched ballistic missiles, or SLBMs.

The report said that the North's new missile submarine could be a modification of one of North Korea's Russian- or Chinese-design Romeo-class diesel submarines or of a Soviet-era Golf-class missile-firing submarine purchased by Pyongyang for scrap metal in the mid-1990s.

The influential Jane's Fighting Ships, an annual reference book on the world's warships, revealed in May 1994 that the North had purchased 40 decommissioned submarines from Russia, including several Golf-class and Romeo-class submarines.

The webzine also noted that the North covertly obtained several Soviet-made SS-N-6 SLBMs. The missiles have been adapted into the reclusive state's new intermediate-range missiles, the report added.

The SS-N-6 missile measures 9.65 meters in length and 1.5 meters in diameter. Its launching weight is around 14 tons. Having said this, Seoul officials remained skeptical about the North possessing submarines capable of firing large-scale missiles.

"If you want to mount a ballistic missile, the submarine should weigh between 8,000 tons and 10,000 tons. Even the Golf-class submarine weighs between 2,700 tons and 3,500 tons," said a South Korean Defense Ministry official.

A South Korean Navy official also argued that given the North's current submarine capabilities, it is highly unlikely that the North had deployed SLBMs.

"With the current tonnage of the North Korean submarines, they can only carry torpedoes," the official told The Korea Herald.

"On top of that, what should be done before placing ballistic missiles on submarines is to ensure that they have adequate information on the targets. But they don't have a satellite or any system to determine the direction of the SLBMs."

Should it be confirmed that the North has deployed SLBMs, it would constitute a serious nuclear threat. Nuclear experts consider strategic bombers, intercontinental ballistic missiles and SLBMs to be the components of a "nuclear triad" needed to ensure a nation's nuclear deterrence.

The communist state's submarines outnumber its southern neighbor's, though they are old and equipped with outdated weapons. The North is believed to have some 70 submarines including some 20 1,800-ton Romeo-class submarines and about 40 325-ton Sangeo-class submarines.

South Korea has been seeking to bolster its antisubmarine capabilities since its corvette Cheonan was torpedoed by a North Korean midget submarine in the West Sea in March 2010. The attack killed 46 sailors, but Pyongyang denies responsibility.

<http://www.koreaherald.com/view.php?ud=20140827000761>

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Korea JoongAng Daily – Seoul, South Korea

Thaad Missile System No Threat, U.S. General Says

Amid China's protests, Scaparrotti attempts to assuage regional fears

By YOO SEONG-WOON AND KIM HEE-JIN

August 30, 2014

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Gen. Curtis Scaparrotti, the commander of the South Korea-U.S. Combined Forces Command, said the controversial deployment of a Washington-led advanced missile defense system would not pose a regional threat to neighboring countries, including China, according to South Korean lawmakers.

At a meeting with a group of South Korean lawmakers on the National Assembly's National Defense Committee, who visited the Command Post Tango military complex on Thursday, the U.S. general told the assemblymen that the Terminal High Altitude Area Defense (Thaad) missiles are for South Korea's self-defense against military threats from North Korea and are not intended to pose a threat to other neighboring countries, several South Korean lawmakers told the JoongAng Ilbo yesterday.

According to the lawmakers, Scaparrotti told them that China was not obligated nor expected to have a sensitive response to the deployment of the antiballistic missile system.

In a lecture at a forum in June hosted by the state-run Korea Institute for Defense Analyses, Scaparrotti "recommended" to the Pentagon that the Thaad missile system be deployed in South Korea in light of Pyongyang's persistent military shows of force.

"Because China's strong opposition to the deployment triggered some controversy over the matter in South Korea, he appeared to be trying to send a strong message [to Beijing] and relieve any concerns about the missile system," a South Korean military official said.

"He told us that he is reviewing the specific schedule for the deployment," added a South Korean lawmaker who met with the commander on Thursday.

In May, Qin Gang, the Chinese Foreign Ministry spokesman, told reporters that the deployment "works against regional stability and strategic balance" and asked Washington to "fully consider [China's] legitimate concerns."

The anti-missile system can intercept incoming ballistic missiles at an altitude higher than 40 kilometers (24.8 miles).

It is superior to the Patriot Advanced Capability-3 missile system, which South Korean military is planning to adopt in 2016, which is capable of shooting down a projectile lower than 40 kilometers high.

Seoul officials said the core reason why Beijing opposes Thaad is because of its X-Band Radar, a rapidly deployable high-resolution radar designed to detect, track and identify ballistic missile threats at long distances and high altitudes, including in space.

The radar can technically detect some military bases and facilities, as well as some metropolitan cities in China like Beijing and Shanghai, Seoul officials said.

"If the Thaad system is deployed, it would be difficult for China to launch a missile across the Yellow Sea," said Saenuri Party Rep. Han Ki-ho. "They must have considered this possibility."

<http://koreajoongangdaily.joins.com/news/article/Article.aspx?aid=2994274>

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RIA Novosti – Russian Information Agency

Poland, Baltics Urge NATO to Target Russia with Europe's Ballistic Missile 'Shield'

24 August 2014

MOSCOW, August 24 (RIA Novosti) - Several NATO member states have reportedly thrown their weight behind an agenda of targeting Russia with the US-controlled ballistic missile "shield," which is being built in Europe to allegedly guard the European Union against Iran, Germany's Der Spiegel said Sunday.

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According to the German daily, the push comes from Poland and the Baltic trio of Latvia, Lithuania and Estonia who claim they “feel threatened by Russia’s intervention into Ukraine.”

Ahead of the NATO summit at the end of next week, the four countries have urged the military bloc to mention Moscow as a potential aggressor in its summit communique and have safeguards against Russia hardwired into the document, as they did with Iran.

“The majority, especially Germany, have opposed [this proposal] to avoid provoking Moscow unnecessarily, because NATO had spent years trying to assure the Russians that its missile shield wouldn’t target them,” Der Spiegel said.

The German paper said further debates had been put off till after the summit, which is scheduled for 4-5 September in Newport, South Wales.

The move came after NATO hit out at Russia for allegedly ordering its humanitarian aid convoy across the border with Ukraine, which it said was a flagrant violation of Ukraine’s sovereignty.

Russia’s ambassador to UN, Vitaly Churkin, retorted that Kiev’s permission was granted to Moscow back on August 12, while the Red Cross bowed out of escorting the convoy after leaving the 227 trucks stranded at the border for a week. The vehicles were confirmed by Ukrainian customs officials to be carrying food, water and generators to the besieged city of Luhansk in Ukraine’s east.

NATO has repeatedly blamed Russia for the escalation of tensions in Ukraine and building up arms and troops on the country’s border. The alliance has used the crisis to justify an expansion of its military forces near Russian borders, bumping up the number of air patrol missions in Eastern Europe. Today, the United States has missile defense bases in Turkey, Bulgaria, Poland and the Czech Republic.

http://en.ria.ru/military_news/20140824/192298970/Poland-Baltics-Urge-NATO-to-Target-Russia-with-Europes-Ballistic.html

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Xinhua News – Beijing, China

New Russian Strategic Subs Use only Domestically-Made Equipment

August 27, 2014

MOSCOW, Aug. 27 (Xinhua) -- New Russian strategic nuclear submarines will not use any foreign-made equipment, official of Russia's Sevmash shipyard said Wednesday.

"During construction of nuclear submarine Prince Vladimir (Borei-class) and all other ships, the shipyard does not depend on import," the Sevmash chief Mikhail Budnichenko was quoted by the RIA Novosti news agency as saying.

He added the enterprise has also stopped using spare parts produced in the Commonwealth of Independent States (CIS) countries, and successfully switched to production using spare parts and equipment made by itself or other Russian enterprises.

Located in the northwestern Arkhangelsk region, Sevmash is the largest ship-building enterprise and the only nuclear submarine producer in Russia.

Russia plans to put on service eight Borei-class submarines by 2020. Each submarine is capable to carry up to 16 Bulava inter-continental ballistic missiles (ICBMs).

Deputy Prime Minister Dmitry Rogozin said in April that Russia needs to end direct purchase of industrial machinery by producing them and creating related software on its own.

Rogozin also said in July that components for Russian weapons and military equipment imported from Ukraine will be replaced with domestically manufactured products in about three years.

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RIA Novosti – Russian Information Agency

No One Would Even Think of Starting Large-Scale Conflict with Russia – Putin

29 August 2014

SELIGER (Tver Region), August 29 (RIA Novosti) – Russian President Vladimir Putin said Friday that no one would even think of initiating a large-scale conflict with Russia today.

“I don’t think it would come to anyone’s mind today of starting a large-scale conflict with Russia,” Putin said.

Russia will not be drawn into large-scale conflicts but its partners need to understand that it is better not to provoke Russia, Putin underlined.

“Russia is far from getting involved into a large-scale conflict. We do not want it and aren’t going to do it,” Putin said.

“Of course, we were always ready to repel any act of aggression toward Russia. Our partners, regardless of the situation their countries are in or their foreign policy line, have to always realize that it’s better not to mess with Russia,” the president underlined.

Russia will continue building up its nuclear potential to ensure its security, according to Putin.

“I’ll remind you that Russia is one of the largest nuclear powers. These are not just words, this is reality and, moreover, we are strengthening our powers of nuclear restraint. We are boosting our armed forces, they are actually becoming more compact and more effective. They are really becoming more modern from the point of view of being equipped with modern systems of weaponry. We will continue increasing this potential, and we will do this,” Putin said.

"This is not to threaten anyone, but to feel secure, feel calm, it gives us the ability to realize those plans that we have in the economic and social spheres," the president added.

Russia is currently implementing an ambitious 20 trillion ruble (\$640 billion) rearmament program planned to run until 2020.

The program is to see the share of modern weaponry in Russia’s armed forces reach 30 percent by 2015 and 70 percent by 2020.

<http://en.ria.ru/world/20140829/192460089/No-One-Would-Even-Think-of-Starting-Large-Scale-Conflict-With.html>

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Tasnim News Agency – Tehran, Iran

Iran: No Need for More IAEA Inspection of Parchin

August 23, 2014

TEHRAN (Tasnim) – Iranian defense minister on Saturday said there is no reason for giving the IAEA further access to Parchin as no new development has taken place at the military site since the UN inspectors' last visit.

“The IAEA inspectors have visited Parchin before, and we have addressed their questions, and they have inspected the locations they wanted and took samples. Accordingly, we think there is no need for giving them more access to the site as no new development has taken place since their last visit,” Brigadier General Hossein Dehqan told reporters at a press conference in Tehran on Saturday.

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The minister underlined that the UN nuclear body's reports have never shown any suspicious activity at Parchin.

"Furthermore" he added "the IAEA has acknowledged that not any (nuclear) activity has ever taken place at the Parchin facility."

The minister also emphasized that the information on Iran's defense scientists will never be provided to anyone.

"The admission of disclosing information about defense scientists would mean that the Islamic Republic of Iran has moved towards the sphere of nuclear weapons, which is basically wrong and is a groundless accusation," he explained.

The United States, Israel and some of their European allies have repeatedly accused Iran of pursuing military objectives in its nuclear energy program.

Iran, however, rejects the allegations as baseless, saying that as a committed signatory to the nuclear Non-Proliferation Treaty and a member of the IAEA, it has the right to use nuclear technology for peaceful purposes.

<http://www.tasnimnews.com/English/Home/Single/470251>

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The Daily Star – Beirut, Lebanon

Report: Iran Opens Uranium-Conversion Plant

Associated Press (AP)

August 23, 2014

TEHRAN: Iran inaugurated a new plant Saturday to convert a type of uranium into a material that cannot be used to make nuclear weapons as part of its interim atomic deal with world powers, its official news agency reported.

The report by IRNA quoted Ali Akbar Salehi, the head of Iran's nuclear agency, saying that the plant will convert uranium hexafluoride, which can be used to make nuclear weapons and fuel. It will become uranium dioxide, which can only be used in nuclear reactors, he said.

"The process has begun and we have implemented our commitment," Salehi was quoted as saying.

The plant is located in central Iranian city of Isfahan, the report said. Iran has a nuclear power plant in southern port of Bushehr that went online in 2011.

In November, Iran accepted to cap its uranium enrichment in return for the easing of some sanctions by the West. Iran and world powers now are negotiating terms of a final deal, which faces a November deadline.

The West fears Iran's nuclear program could allow it to build atomic weapons. Iran says its program is for peaceful purposes, like power generation and medical research.

<http://www.dailystar.com.lb/News/Middle-East/2014/Aug-23/268256-report-iran-opens-uranium-conversion-plant.ashx#axzz3Bce7AWXK>

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Tasnim News Agency – Tehran, Iran

Rouhani: Iran's Defense Doctrine Based on Deterrence

August 24, 2014

TEHRAN (Tasnim) – Iranian President Hassan Rouhani reiterated that the country's defense doctrine is based solely on deterrence, stressing that whatever progress Iran makes in the field of missiles is "moral and humane", since they are employed to ward off threats.

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"Our military research, designing and training is on the basis of deterrence and defense. If we produce ground-to-ground missile and care about its accuracy, we still pursue deterrence. Such precision is moral and humane," President Rouhani said in a ceremony held in Tehran on Sunday to unveil a series of new defensive products.

Highlighting the significance of Iran's military advances, the president explained that the failure in enhancing the accuracy of missiles will result in potential damage to innocent civilians.

"(Improving) Precision of weapons is not only a scientific issue, but also a moral task," he added.

The president at the same time underlined that Iran's military industry is aimed at to safeguarding the country and deterring the enemy from invasion.

"If the enemy makes any mistakes, we will stand up to defend ourselves and will utilize our defensive equipment, since this is our moral right and is deemed a legitimate defense under the legal and religious criteria," Rouhani stressed.

He further reassured the country's neighbors and the Muslim countries that Iran's defensive power will benefit the entire region.

"Our neighbors should know that when we have a powerful defense industry, it is not for our maintaining our own security alone, but it will secure the entire region."

The Iranian military experts and technicians have in recent years made great headways in manufacturing a broad range of indigenous equipment, making the armed forces self-sufficient in the arms sphere.

Tehran has always assured other nations that its military might poses no threat to the regional countries, saying that the Islamic Republic's defense doctrine is entirely based on deterrence.

<http://www.tasnimnews.com/English/Home/Single/471527>

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The London Daily Guardian – London, U.K.

Israeli Stealth Drone Downed at Nuclear Facility, Iran Claims

Revolutionary Guard hails act against 'warmongers' as incident reported at major uranium enrichment plant

By Harriet Sherwood in Jerusalem and Saeed Kamali Dehghan in Boston

Sunday, 24 August 2014

Iran's Revolutionary Guards claimed on Sunday that an Israeli stealth drone had been brought down above the Natanz uranium enrichment site in the centre of the country.

The semi-official Fars news agency reported that Iran's elite forces had intercepted and brought down an unmanned aircraft belonging to "the Zionist regime". The news was announced in a statement published by the guards, but it was not clear when the incident, if true, happened.

"This mischievous act once again reveals the adventurist nature of the Zionist regime [of Israel] and added another black page to this fake and warmongering regime's file which is full of crimes," said the Revolutionary Guards' statement.

The state news agency ISNA reported that the aircraft was "of the stealth, radar-evasive type and it intended to penetrate the off-limits nuclear area in Natanz ... but was targeted by a ground-to-air missile before it managed to enter the area."

A spokesman for the Revolutionary Guards later told Iranian television that parts of the aircraft had been retrieved. Iran claimed to have reverse engineered a drone after capturing an American RQ-170 Sentinel in 2011.

"Major parts of the devices of the drone are intact and have been received by our friends that can be used for further information," said General Ramazan Sharif. He did not say when the aircraft was shot down, but said it was

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"identified upon arrival in Iranian airspace". He said authorities allowed it to fly for a short time to determine its destination.

Israeli political and military officials said they never respond to such claims. They have repeatedly threatened to take military action against Iran's nuclear installations, but have been reluctant to do so without US backing or participation.

Natanz is Iran's main uranium enrichment site, housing more than 16,000 centrifuges. About 3,000 more are at the Fordo plant, buried inside a mountain and hard to destroy.

Israel says Iran is developing nuclear weapons at the sites which it intends to use in attacks on the Jewish state. The Israeli prime minister, Binyamin Netanyahu, has repeatedly said the Iranian nuclear programme is an existential threat to his country. Iran insists it is enriching uranium is for civilian purposes.

Iran and the P5+1 powers – Britain, China, France, Russia, the United States and Germany – reached a six-month interim agreement under which Iran suspended part of its nuclear activities in return for a partial lifting of international sanctions.

In July, that deal was extended by four months until November to give the two sides more time to negotiate a final accord aimed at ending 10 years of tensions over Iran's nuclear programme. The sides remain split on how much uranium enrichment Iran should be allowed to carry out.

Washington wants Tehran to slash its programme by three-quarters, but Iran wants to expand enrichment tenfold by 2021, chiefly to produce fuel for its Bushehr nuclear power plant.

Israel opposes any agreement allowing Tehran to keep part of its uranium enrichment programme.

<http://www.theguardian.com/world/2014/aug/24/israeli-stealth-drone-nuclear-facility-iran-natanz>

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The Star Online – Malaysia

August 26, 2014

Iran Says "Completing" Nuclear Steps Agreed with IAEA

By Fredrik Dahl and Michelle Moghtader

VIENNA/DUBAI (Reuters) - Iran is "in the process" of completing measures on transparency in its nuclear research that were agreed with the U.N. atomic agency, a senior Iranian official was quoted as saying, suggesting Tehran had at least partly met a Monday deadline for cooperation.

Atomic energy chief Ali Akbar Salehi did not give details in remarks reported by the official IRNA news agency. Those remarks came a few days after diplomatic sources in Vienna told Reuters the U.N. watchdog's investigation into suspected atomic bomb research by Iran appeared to be making only limited headway.

Western officials say Iran must address the questions of the International Atomic Energy Agency (IAEA). They say that would be an important boost for parallel diplomatic efforts to end the dispute over a nuclear programme the country says is peaceful.

Under an accord reached by the U.N. agency and Iran in November in an attempt to revive the long-stalled investigation, Tehran agreed in May to carry out five specific steps by Aug. 25 to help allay international concerns.

They include providing information about two issues - for example, alleged explosives experimentation - that are part of the IAEA's inquiry into what it calls the possible military dimensions of Iran's atomic activities.

"They have five questions and demands ... some are completed and others are in the process of being completed," IRNA quoted Salehi as saying, without elaborating on what these were.



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The IAEA earlier said it would not comment on the issue on Monday. Diplomats say it may only release details of any Iranian response in its next quarterly report, expected next week.

Washington and its allies have accused Iran of seeking to develop an atomic weapons capability. Iran has dismissed the accusations, saying its work is focussed on generating electricity and other peaceful projects.

NUCLEAR INTELLIGENCE

The Islamic Republic has promised to cooperate with the IAEA since Hassan Rouhani, widely seen as a pragmatist, was elected Iranian president in mid-2013.

But diplomatic sources said on Friday that they did not believe Iran had given the IAEA the requested information yet, casting doubt on whether Iran would take all of the agreed action by this week's deadline.

They said there was still time for Iran to respond to the questions, noting that it had occasionally waited until the last minute to make concessions in the past, and that Tehran might also provide the information a few days late.

Western diplomats say Iran needs to help clear up the IAEA's suspicions if it wants to reach a broader diplomatic deal in the separate negotiations with the United States, France, Germany, Britain, China and Russia.

Those talks - which in July were extended until Nov. 24 - are focussed on persuading Iran to curb its atomic activities. In exchange, the West would lift sanctions that are hurting Iran's oil-dependent economy.

After years of what the West saw as Iranian stonewalling, Iran as a first step in May gave the IAEA information about why it was developing exploding bridge wire detonators, which can be used to set off atomic explosive devices. Iran says they are for civilian use.

The areas that the IAEA wants Iran to address were listed in a report published by the watchdog in 2011. That included a trove of intelligence indicating a concerted weapons programme that was halted in 2003, when Iran came under increased international pressure. The intelligence also suggested some activities may later have resumed.

Editing by Larry King

<http://www.thestar.com.my/News/World/2014/08/26/Iran-nuclear-probe-reaches-deadline-no-word-yet-on-outcome/>

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FARS News Agency – Tehran, Iran
Wednesday, August 27, 2014

Nuclear Chief: Iran Ready to Launch New Generation of Centrifuges

TEHRAN (FNA) - Iran's nuclear chief Ali Akbar Salehi announced on Wednesday that Tehran is preparing to launch a new generation of nuclear centrifuge machines called IR8.

"We have introduced the latest generation of our centrifuges, IR-8, whose SWU (Separative Work Unit) stands at 24 to the (International Atomic Energy) Agency," the head of the Atomic Energy Organization of Iran (AEOI) said in a televised interview with Iran's state-run TV on Wednesday.

"These centrifuges have undergone mechanical tests, but we haven't yet injected (UF6) gas into them as it requires a relevant permission by the president," he added.

Salehi underlined that Iran is entitled to the right to build new centrifuge machines which has also been stressed in the Geneva deal inked between Tehran and the world powers in November.

He said that the ground has been prepared for Iran's further progress by building the new generation of such centrifuges.

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In relevant remarks in December, a senior Iranian nuclear official said that the AEOI has provided the UN nuclear agency with information about the country's new generation of centrifuges.

"The AEOI has provided the (International Atomic Energy Agency) with necessary information about the research being carried out on the country's peaceful (nuclear) activities on time and within the framework of the Safeguards Agreement," Spokesman for the AEOI Behrouz Kamalvandi said at the time.

Kamalvandi added that the new generation of centrifuges has more capacity compared to the first and second generations and have undergone initial tests.

The Iranian official said the new generation was produced in line with the AEOI policy to enhance enrichment machinery and increase production capacity.

Iran announced in July that it is in need of 190,000 SWU to fuel its power and research reactors.

"We need almost 190,000 SWU for an agreed time interval, meaning the next 8 years, to provide fuel for Bushehr nuclear power plant so that we can provide the fuel for this power plant, Tehran research reactor and Arak reactor after the end of our contract with Russia (which has built Bushehr nuclear power plant)," Salehi told FNA.

"We don't define enrichment on the basis of the centrifuge machines, but on the basis of its unit, that is SWU," he explained.

Salehi underlined that the number of centrifuges needed for having 190,000 SWUs depends on the type of the centrifuge machines.

He said Iran's first generation IR1 centrifuge machines have a nominal output of over 3 SWUs, but in practice they yield less than 2 SWUs, meaning that "if we want to reach the above-mentioned 190,000 SWUs with the help of these (IR1) machines, then we would need more numbers".

Also in July, Supreme Leader of the Islamic Revolution Ayatollah Seyed Ali Khamenei rejected the world powers' demand from Iran to suffice to 10,000 SWU for enriching uranium, and underlined that "according to the relevant (Iranian) officials the country definitely needs 190,000 SWU".

<http://english.farsnews.com/newstext.aspx?nn=13930605001187>

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Trend News Agency – Baku, Azerbaijan

Iran Starts Redesigning of Arak Heavy Water Reactor

By Umid Niayesh, Trend
August 27, 2014

Head of Atomic Energy Organization of Iran (AEOI) Ali Akbar Salehi said the country has started redesigning of the core of Arak heavy water reactor (IR-40), located in central Arak City.

"The Iranian experts are reviewing the equipment of the reactor to prevent nuclear sabotage, and are redesigning the core of the reactor as well," Salehi said, Iran's ISNA news agency reported Aug. 27.

While remarking Iran's previous proposal for making changes in the reactor to reduce western concerns, Salehi said that his organization has informed the officials of Iran's foreign ministry about the redesign details.

"We held a meeting in the foreign ministry and informed them about the technical details, and the negotiating team will bring it up in the nuclear talks with the P5+1 group," he explained.

The U.S. and the EU are concerned that the heavy water reactor could be used to produce plutonium, which can be used to fuel a nuclear weapon as an alternative to highly enriched uranium.

The Arak heavy water reactor if operating optimally would produce about nine kilograms of plutonium annually or enough for about two nuclear weapons each year.

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Iran says that weapons-grade plutonium is not produced by the Arak reactor.

The country has agreed to suspend the installation activity at the reactor based on the Geneva nuclear deal.

Early in February Salehi said that Iran can make some design changes to the IR-40 to produce less plutonium in the reactor and in this way allay the worries and mitigate the concerns.

Iran and the P5+1 (five permanent members of the UN Security Council plus Germany) agreed to extend their nuclear negotiations until Nov. 24 after failing to meet the July 20 deadline to reach a deal on curbing the Iranian nuclear program in exchange for ending sanctions.

<http://en.trend.az/iran/2305756.html>

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FARS News Agency – Tehran, Iran

Friday, August 29, 2014

AEOI Chief Advises West to Seize Opportunity of Talks with Iran

TEHRAN (FNA) - Head of the Atomic Energy Organization of Iran (AEOI) Ali Akbar Salehi called on the western countries to seize the opportunity to reach a final nuclear agreement with Tehran.

"The West has no choice but to interact with the Islamic Republic of Iran," Salehi said.

The AEOI chief reiterated that Iran has always come up with new achievements despite attempts by the enemy to restrict its progress.

He noted that in case of not accepting Iran's offer there will only be a win-lose option waiting for the West.

Iran and its negotiating partners are currently in talks to iron out differences and achieve a permanent comprehensive deal.

The two sides sealed an interim deal in Geneva, Switzerland, last November. The accord took effect in January and extended until November 24, 2014.

Last month after a meeting with EU Foreign Policy Chief Catherine Ashton, Iranian Foreign Minister Mohammad Javad Zarif told reporters that a common understanding is needed for the nuclear negotiations to bear fruit.

The Iranian foreign minister urged the West to seize the current opportunity to reach a final agreement with Iran.

<http://english.farsnews.com/newstext.aspx?nn=13930607000845>

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Business Standard – New Delhi, India

Russia's Move to Sell S-400 Missiles to China may Rile India

The deal between Beijing and Moscow can dramatically alter the balance of power in South Asia

Press Trust of India (PTI)

August 29, 2014

Beijing -- Russia's reported plan to sell advanced S-400 anti-aircraft missile system to China may rile wary neighbours, especially India, as Moscow and Beijing moved closer in the backdrop of deepening Ukrainian crisis, according to a media report.

A recent comment by Kremlin's chief of staff, Sergei Ivanov, "the chances that China may be the first foreign buyer of S-400s are high," cited by official Voice of Russia, has sparked off speculation that the two countries have moved closer to clinch the deal that was dragged since 2010.

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Security experts feel that the much awaited deal between Beijing and Moscow over the sale of S-400 anti-aircraft missile system can dramatically alter the balance of power in South China sea and in South Asia.

With a range of 2,400 km, the S-400 can engage up to 36 targets simultaneously with as many as 72 missiles at altitudes of five meters to 30 km, Hong Kong based South China Morning Post reported.

The S-400 Triumph, a new-generation system upgraded from the S-300, which the PLA is using, is capable of countering all air attack weapons, including tactical and strategic aircraft, ballistic missiles and hypersonic targets such as the US' F-35 fighter jet.

If approved, it will be the third big arms deal between Beijing and Moscow since last year.

Moscow was initially reluctant to sell its S-400 missile system for fear of China reproducing them using its re-engineering skills, but west's decision to punish and isolate Russia in the aftermath of the Ukraine crisis had drawn Moscow closer to Beijing.

Wang Xudong, an adviser on satellites to Chinese government, said, "The PLA is expecting to learn some particular missile technologies from the S-400 system. I think China will soon produce a new type of anti-aircraft missile that compares with S-400 because Chinese are [good] copycats."

China and Russia are expected to cooperate further on developing the IL-476 transport aircraft and IL-78 airborne refuelling tanker, according to state media in both countries.

Macau-based military expert Antony Wong Dong said, "It's not clear [how] the military cooperation between Beijing and Moscow will go, but the US would definitely keep a close eye on it.

http://www.business-standard.com/article/pti-stories/russia-s-move-to-sell-s-400-missiles-to-china-may-rile-india-114082900508_1.html

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USA TODAY.com

Ebola Outbreak could Strike 20,000, WHO Says

By Kim Painter, Special for USA TODAY

August 28, 2014

The Ebola virus spreading through West Africa could infect more than 20,000 people before the outbreak is brought under control, the World Health Organization says in a report out Thursday.

The grim assessment is in a 27-page document outlining a "road map" to end the outbreak. That will take six to nine months and \$490 million, WHO says.

While Ebola outbreaks have happened before, they have been limited to a few hundred cases. "20,000 is a scale that has never been anticipated," Bruce Aylward, an assistant director general of WHO, told reporters in Geneva. "That's not saying we expect 20,000 cases. That's not saying we accept 20,000." But he says it's crucial to have a plan now to deal with an outbreak that big.

WHO also released the latest official toll of the outbreak: 3,069 cases and 1,552 deaths in Guinea, Liberia, Nigeria, and Sierra Leone. The overall death rate is 52%. Though the outbreak started in March, more than 40% of the cases have occurred in the past three weeks, the agency says.

As bad as those numbers are, "in many areas of intense transmission the actual number of cases may be two-to-four-fold higher than that currently reported," WHO says in the report.

The report comes as U.S. officials and drugmaker GlaxoSmithKline are announcing the first safety trial of an Ebola vaccine. It will begin next week at the National Institutes of Health in Bethesda, Md.

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"There is an urgent need for a protective Ebola vaccine," National Institute of Allergy and Infectious Diseases director Anthony Fauci said in a press release. But, he added, "today we know the best way to prevent the spread of Ebola infection is through public health measures." He said those include good infection control practices, isolating patients and tracing their contacts, and providing proper protective equipment to medical workers.

Those are the kinds of the measures stressed in the WHO road map. WHO also says affected countries must do more to address "deep-rooted fear and stigmatization," hampering control efforts in some hard-hit areas.

An effective response will take 750 international health workers and 12,000 workers from the affected countries, Aylward said. Right now, he says, a few hot spots have adequate staffing and facilities but "in other areas we have 10% of what we need. In some areas we have zero." Flight restrictions into affected countries are hampering efforts to get enough people in place, he added.

On Wednesday, the humanitarian group Doctors Without Borders said the international response to Ebola so far had been "chaotic and entirely inadequate." Aylward praised the group in his remarks, saying it deserves another Nobel Peace Prize for its work in the ongoing outbreak. The group won one in 1999.

Nigerian authorities, meanwhile, announced the first Ebola fatality outside the commercial capital of Lagos. It was the sixth death in Africa's most populous nation and occurred when an apparently infected traveler from Liberia evaded surveillance and infected a doctor in southern Nigeria. The doctor died, authorities said.

More than 240 health workers have been infected and more than 120 have died in the outbreak, WHO reported earlier this week.

Contributing: The Associated Press

<http://www.usatoday.com/story/news/world/2014/08/28/who-ebola-deaths/14725155/>

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The National Interest.com

OPINION/Article

NATO's Tactical Nuclear Weapons Must Go—But Not Today

The "optics"—considering the crisis in Ukraine—make such a move impossible for now.

By Tom Nichols

August 23, 2014

At the outset, let's stipulate some common sense about the American tactical nuclear weapons deployed in Europe. No matter what arguments we might make, pro or con, about keeping those arms, it's *not* the right time to remove them. Not because they have any utility, but because optics matter: Russian president Vladimir Putin's open aggression against Ukraine currently makes it impossible for Barack Obama, or for any NATO leader, even to suggest anything that would look like capitulation to Russia and thus encourage Putin to continue pressing his luck. The Atlantic Alliance has more pressing issues in Europe to deal with besides the fate of a moldering inventory of tactical nuclear bombs, and there's no point in handing a propaganda victory to a Kremlin already in a state of agitation, if not full-blown panic.

Saying that we should not remove these weapons in the middle of a crisis, however, does not then mean that there are any good reasons to hold on to them much longer. Tactical nuclear arms in Europe are literally outdated: not only are the bombs themselves reaching the end of their service life, but the strategy to employ them was overtaken by events twenty years ago.

None of that has stopped three prominent foreign-policy figures—Brent Scowcroft, Stephen Hadley and Franklin Miller—from arguing a few days ago in the *Washington Post* that NATO should "reaffirm the value to the alliance of the continued presence of the modest number of U.S. nuclear bombs in Europe." This affirmation, they claim, "is necessary because we are again hearing calls for the United States to unilaterally withdraw its small arsenal of forward-deployed nuclear bombs. Those arguments are shopworn, familiar—and wrong."

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I'm not as certain these arguments are so wrong, not least because I'm one of the people who has been making them for some years. Scowcroft, Hadley and Miller are conflating the tired demands of the antinuclear left—who wanted the bombs gone even when the Soviet Army was poised on the edge of Europe—with more recent (and better) arguments that take into account not only the changes in Europe, but the need to rethink our nuclear strategy.

Indeed, the “familiar and shopworn” arguments are the ones that Scowcroft, Hadley and Miller present in their defense of the tactical arsenal, which sound as if they were written in 1974 and not 2014:

“A principal function of forward deployment [of tactical nuclear weapons] has been, and remains, to be a visible symbol to friend and potential foe of the U.S. commitment to defend NATO with all of the military power it possesses.”

There is some truth to this, although it was a more salient observation thirty years ago. Today, it is an affirmation that is no longer welded to a strategy.

In the 1950s and early 1960s, tactical nukes were part of a last-ditch effort to stop superior Soviet conventional forces. Later, however, they were inserted as a crucial rung in the escalatory ladder to a Soviet-American central nuclear exchange. The goal was to convince Moscow that an invasion of Europe would produce an inevitable tipping of nuclear dominos, from the battlefield all the way to all-out war. Thus, the Kremlin would never dare an invasion of Europe (which it could have accomplished by conventional means) because it would have meant courting the destruction of the USSR.

Is that still NATO's strategy? I hope not; there is no longer a Central Front on which to fight, and in any case, Russia is now conventionally inferior to NATO and could never sustain the kind of invasion envisioned by Soviet planners—not least because they no longer have any allies. Tactical nukes derived their deterrent power from the realization on both sides that NATO would have to resort to them at a moment of unpredictable desperation against a far-mightier invasion force. That moment is hard to imagine today, even if Putin could reconstitute a more powerful Russian army (as he seems intent on doing).

Scowcroft, Hadley and Miller made several other claims, including: that newer members joined NATO to get under the nuclear umbrella (which is not entirely true); that NATO's conventional power isn't as strong as it looks and isn't enough to deter a Russian attack (which is unlikely, but unknowable); that the Russians still think nuclear weapons matter (that's true); and that NATO isn't really all that divided on keeping the bombs around (which is clearly false).

Keeping nuclear weapons in Europe isn't a coherent strategy, but rather represents a cobbling together of fragments of various strategies from the past. Without the overarching concepts of extended deterrence and mutual assured destruction in which they were embedded, tactical nuclear arms do not carry some kind of magical deterrent power merely by existing. If anything, they are more dangerous when detached from their original purpose: during a Cold War invasion of Europe, they were likely to be “use or lose” weapons, launched in strikes that would get them into the air and away from their bases before they were overrun. Today, they would have to be trundled out and attached to jets during a crisis, even if they were not in danger themselves, a provocative act that would play right into the Russian obsession with nuclear force.

Lacking in all this is just how these weapons—which, as Scowcroft and his co-authors admit, are political in nature, rather than military—actually serve the cause of deterrence and enhanced security in Europe. Think about this sobering fact: Russia entered Ukraine, with multiple incursions, sliced off a chunk of that sovereign state, and then formally annexed it. All of this happened with little more than throat-clearing in the European Union, who had to be cajoled into sanctions. Later, the downing of Flight MH17 finally shocked the United States and the EU into imposing stronger sanctions, but we've mostly left the Ukrainians on their own—enjoy the MREs, fellas—to fight off the Russians in Donetsk. Again, the EU had to be dragged along for greater sanctions, an effort that is not yet producing any tangible results.

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These are the allies who are going to countenance the use of nuclear weapons, perhaps even the *first* use of nuclear arms? (NATO has not renounced the first use of nuclear weapons, which was a good idea during the Cold War, but makes far less sense now.) And somehow, these 200 nuclear bombs strewn around Western Europe are the trump card that tells the Kremlin, “we’ll get really, *really* serious if we have to”? Nonsense.

NATO should have ditched these weapons a decade ago and spent more time beefing up its air and ground assets. The United States should also have focused sooner on the game of Roman knuckles Putin is intent on playing with us, rather than trying to pull one more moment of life from a Russian “reset” policy whose goals were admirable, but whose clumsy execution doomed the whole idea. Removing U.S. tactical nukes, instead of wringing our hands about what to do with them, could have been played as a moment of strength, part of the revitalization of NATO as a tough, confident, technologically supreme, extraordinarily wealthy alliance of twenty-eight free nations. Instead, we still dither over an outdated nuclear crutch.

And yet, we can’t remove them, at least not yet. Putin, less a nationalist than a Soviet nostalgist, already treats President Obama with the contempt his Soviet forefathers once heaped on the feckless Jimmy Carter. To treat Moscow to a political theater in which the president tries to remove 200 nuclear bombs while in the middle of five other crises at the same time would be pointless.

But there will be time, before Obama leaves office, for him to make good on bold promises made in his first term. Like George Bush the elder in 1991, he can use his famous “pen and phone,” and bring home the last few-hundred souvenirs of Cold War nuclear strategy that we never wanted to use.

Then he, or his successor in 2017, can change America’s nuclear strategy—and must. But one thing at a time.

Tom Nichols is Professor of National Security Affairs at the Naval War College and an adjunct at the Harvard Extension School. His most recent book is No Use: Nuclear Weapons and U.S. National Security (University of Pennsylvania, 2014). The views expressed are his own.

<http://nationalinterest.org/feature/nato%E2%80%99s-tactical-nuclear-weapons-must-go%E2%80%94not-today-11137>

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National Review Online.com – New York, NY
OPINION/Article
August 25, 2014

China Rising

The long-term Chinese military buildup is designed to target our weaknesses.

By Jim Talent

China recently conducted its third land-based missile-intercept test. These tests, most likely designed to facilitate “hit to kill” technologies critical for China’s missile defense and anti-satellite programs, are part of a well-planned, enormous military buildup in which the Chinese have been engaged for nearly 20 years.

Here are some features of that effort:

- They have created a large and modern navy, which, by 2020, will be substantially larger than America’s. Its vessels are highly capable and armed with long-range, advanced, anti-ship missiles and air-defense missiles.
- They are upgrading their nuclear arsenal and are on track to more than double the number of their nuclear warheads capable of striking the U.S. homeland over the next few years.
- They already have the world’s largest and most lethal inventory of conventional ballistic missiles as well as large numbers of highly capable and long-range ground-, air- and sea-based cruise missiles. They will continue to expand, diversify, and improve their missile inventory, enhancing their ability to coerce or use

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force against the United States and its allies and partners in Asia. China now is able to threaten U.S. bases and operating areas throughout the region, including those that it previously could not reach with conventional weapons, such as Anderson Air Force Base on Guam.

- They have almost 2,000 capable fighter aircraft and are on track to introduce two new fifth-generation fighters, which they will likely add to their inventory between 2017 and 2019. China also appears to be developing a new long-range stealth bomber.
- They are significantly upgrading their intelligence, surveillance, and reconnaissance systems and improving their amphibious capabilities.
- According to the Defense Science Board, they already have offensive cyber capabilities that can inflict existential damage on America's critical infrastructure.

China's military modernization is aimed primarily at one country: the United States. The Chinese have carefully studied America's military and the wars it has fought over the past 20 years and have tailored their buildup accordingly. China's leaders know that almost the entire firepower of America's surface navy is centered on its aircraft-carrier task forces. It costs \$13.5 billion to build an aircraft carrier but only about \$10 million to build a missile with the range, velocity, and accuracy to sink an aircraft carrier. The Chinese have created a "missile centric" military in pursuit of a highly effective asymmetric strategy designed to keep America's surface navy from intervening in a potential conflict in the Taiwan Strait or in the East and South China Seas.

The Chinese also know that America's armed forces depend almost completely on space satellites for targeting, intelligence, and communication. Hence the recent missile-intercept test and, more generally, China's rapid development of anti-satellite capabilities designed to destroy or severely disrupt America's space assets in every orbital regime. They will have that capability by 2020, if they don't have it already.

How is America responding to all this? In the years when China's military modernization first began to bear fruit, America's armed forces were completely focused on counterinsurgency in the Middle East. In 2011, then-secretary of defense Bob Gates proposed a ten-year budget with modest increases designed primarily to increase the size of the navy in response to the Chinese buildup. Congress and the president responded by cutting a half trillion dollars from the Gates budget and imposing another \$500 billion in reductions by sequester.

As a result, both present and future readiness are declining across the force. The Navy, which currently has no effective defense against China's missile strategy, is shrinking. The Air Force has fewer planes and an older inventory than at any time since the inception of the service. The Army is being reduced to pre-World War II levels. All of this, and more, was recently detailed in the unanimous report of the National Defense Panel, which found that unless the defense cuts were reversed, the armed forces would in the near future be at high risk of not being able to carry out their missions.

China, of course, has watched all this carefully, drawn the obvious conclusion, and stepped up its provocations in the western Pacific.

The Chinese government, which means the leaders of the Chinese Communist party, insists that the purpose of their military buildup is defensive, but anyone who believes that is not familiar either with China's policy in the western Pacific or the strategy it is using to execute it.

I don't believe the Chinese intend war with the United States. What they intend is to credibly threaten war, while continuing to shift the balance of power decisively in their favor and thereby achieve their objectives by intimidation. So far they are succeeding.

Jim Talent serves on the U.S.-China Economic and Security Review Commission, to which he was appointed Senate in 2012. He has served on the Senate and House Armed Services Committees and is currently a distinguished fellow at the Heritage Foundation and co-chairman of the American Freedom and Enterprise Foundation by the U.S.

<http://www.nationalreview.com/article/386230/china-rising-jim-talent>



Wilson County News – Floresville, TX

OPINION/Commentary

Congress Shouldn't Compromise a Key Missile Defense Program

By Rebecca Grant

August 25, 2014

To trim the budget, lawmakers may suspend a critical element of America's missile defenses.

But gutting this core national security technology -- the "Exoatmospheric Kill Vehicle" -- would seriously undermine national security. Missile defense has never played a more important role in protecting Americans and keeping global threats in check.

The EKV is the part of a missile defense rocket that collides with incoming ordnance. Using sophisticated radars, a defense system detects an enemy missile. It then launches a multi-stage rocket that, once exiting the earth's atmosphere, ejects the EKV. The EKV then navigates its way to the targeted missile, hits, and destroys it.

Currently, the United States has 30 EKV units in operation. 14 more are under development and are planned to become operational by 2017. Because so much of the legwork is completed, investing in new EKV units is an efficient use of taxpayer resources; engineers don't have to build a new system from scratch. By upgrading this system our country will be protected by the most advanced missile defense technology available.

In June, military personnel conducted a successful test of the newest EKV unit, with the interceptor hitting a dummy target. This is major milestone as it's the first successful intercept using the second-generation EKV.

Some previous test runs have failed, but such failures aren't unusual. After all, these are incredibly sophisticated systems attempting to hit targets travelling thousands of miles per hour in suborbital space.

Experts from the military and industry have proven they can turn around once-flailing missile defense projects in a timely manner.

Consider the Standard Missile-3 (SM-3), a sea-based interceptor that targets short- to intermediate-range missiles. It also suffered failures in early testing, but with additional resources the kinks were quickly worked out. SM-3 has now successfully intercepted missiles in space 26 times. The lesson: upgrade an existing and capable system, rather than starting over.

Appreciating these nuances, the top military brass has proposed investing another \$560 million into EKV development. That's about 1 percent of what's apportioned for missile defense of the next three years.

However, some in Congress are pushing back. They want the EKV shelved, in favor of starting over with a new technology.

But starting from scratch would waste an enormous amount of time and money. And scrapping EKV would leave our existing defenses bereft of an essential component for several extra years.

That's dangerous. Effective missile defense isn't a luxury; it's a necessity.

Consider North Korea's nuclear missile program, with the stated goal of being able to launch a pre-emptive attack on the United States. Or Iran's nuclear weapons program. That country's ruling elite continues to spout apocalyptic visions.

We have to be ready in case they strike first. And we need our technologies to evolve with the increasingly sophisticated missiles of rogue regimes. As Admiral James A. Winnefeld, Vice Chairman of the Joint Chiefs of Staff, recently stated, "a robust and capable missile defense is our best bet to defend the United States from such an attack."



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We can't afford to wait to build an entirely new replacement for the EKV. Investing and fixing today's system with existing technologies will ensure our defense systems will be fully operational as quickly as possible. Scrapping the EKV would leave us vulnerable to dangerous rogue regimes.

Rebecca Grant, Ph.D., is president of IRIS Independent Research, a Washington-based public-policy research organization.

<http://www.wilsoncountynews.com/article.php?id=60656&n=commentaries-congress-shouldnt-compromise-key-missile-defense-program>

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The London Guardian – London, U.K.

OPINION/Shortcuts

Hypersonic Weapons and the New Global Arms Race

This week, the US tested a hypersonic prototype missile in its bid to develop a weapon capable of reaching any target in the world in an hour. How will China and Russia respond?

By Homa Khaleeli

Tuesday, 26 August 2014

As top-secret, super-fast missile experiments go, it wasn't the most successful. This week the US tested its Advanced Hypersonic Weapons system, the Pentagon's latest attempt to create a weapon that can reach any target in the world, in just an hour. Instead it exploded within four seconds of takeoff and fell back down to earth, causing undisclosed damage to the test site.

Yet while the system failed this test, it's unlikely to cool the enthusiasm for developing such a weapon – which has already sparked a new arms race between China, Russia and the US – and which critics fear could potentially spark a nuclear war.

The need for faster conventional weapons was underlined for the US back in 1998. Osama bin Laden had been spotted in a terrorist training camp in the east of Afghanistan, but when missiles – capable of travelling at 880kph – were dispatched to kill him, from a warship in the Arabian sea, the Al-Qaida leader left before he could be hit.

The latest hypersonic prototype, which was tested in Alaska, can only travel 5,000 miles, so it is somewhat off from the target of reaching anywhere in the world in an hour. But it travels at several times the speed of sound, and can go faster than 3,500 mph. It also has a longer reach than any non-nuclear weapon the US currently possesses.

But the development of hypersonic weapons has worried China and Russia, who have begun looking into similar programmes to avoid being left behind. China tested a similar weapon in January, while Russia warned it will start doing the same.

All the initiatives are cloaked in secrecy, with little public scrutiny of the programme in the US, and no scrutiny at all in Russia or China. Even more worrying is the fact that experts say the hypersonic weapons could be confused for a nuclear attack, sparking a nuclear war. Currently, the Advanced Hypersonic Weapons system is being tested on ballistic missiles, which can also carry nuclear war heads. The way they are launched also looks similar to the way nuclear warheads are launched – but once they leave the atmosphere, they quickly re-enter to glide along 60 miles above the ground, rather than continuing above the atmosphere.

The initial similarities, however, could be enough to frighten countries into retaliating.

And even if this never happens, the prospect of the new weapons is already heating up the debate around nuclear weapons. Foreign Policy magazine reports that the anxieties around the US's new conventional weapons have led to internal discussions in China over whether it should abandon its policy not to use nuclear weapons first. And Russia is said to be no longer interested in reducing its nuclear capabilities for the same reason.

On this evidence, it may be best for all of us if the prototypes keep exploding when they're not supposed to.

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<http://www.theguardian.com/world/shortcuts/2014/aug/26/hypersonic-weapons-global-arms-race-us-tested-prototype?cmp=wp-plugin>

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Arms Control Wonk.com

OPINION/Commentary

Uncommon Strategic Restraint

By Michael Krepon

26 August 2014

Our nuclear future would take a significant turn for the worse if Beijing and New Delhi begin to mimic Cold War thinking about the utility of nuclear weapons. So far, they haven't. New Delhi waited 24 years in between nuclear tests, and Beijing took about as long to begin sea trials of second-generation ballistic missile-carrying submarines. Both have issued "No First Use" declarations, focused on economic metrics of national influence, and generally dealt with nuclear deterrence in ways that are hard for Washington and Moscow to comprehend. Their parallel nuclear postures are all the more remarkable because they have fought a limited war over a longstanding border dispute. Can the uncommon strategic constraint of these two rising powers continue? Important tests lie ahead, like those facing Washington and Moscow in the late 1960s and early 1970s.

One test will be whether China, and then India decide to place multiple warheads atop their new long-range ballistic missiles. Given the small number of nuclear powered SSBNs China plans to build, the small number of ballistic missiles they can carry, and concerns about the effectiveness of U.S. anti-submarine warfare capabilities, it would not be surprising if Beijing moved toward multiple maneuverable or independently-targetable warheads at sea. And if at sea, then perhaps on land. With more warheads, plus improved guidance capabilities, counterforce options could become more interesting. A second test is whether China and India will go beyond technology demonstrations toward limited ballistic missile defense deployments.

China and India appear to be in no hurry to resolve their border dispute, with the occasional Chinese patrol setting up camp on the Indian side of their disputed border. Overlapping interests could produce friction elsewhere, particularly at sea. Competitive sparks would not be new. At every crucial juncture in the past – after their border war in 1962, after China tested atomic and hydrogen bombs in 1964 and 1967, after New Delhi acquired nuclear weapon capabilities in the late 1980s, and in 1998, when it tested these devices – India and China adopted a level of forbearance that would have been inconceivable to U.S. and Soviet strategic planners. The Asian way has been different: so far, Beijing and New Delhi have managed to steer clear of the Bomb's siren song, sung in the key of prompt counterforce capabilities.

Nuclear restraint between Asia's rising powers will be tested in the coming decade. How much of the "Asian way" can be sustained with advancing warhead designs and ballistic missile defense technologies? How much will Beijing and New Delhi gear up the pace of their nuclear competition, with spill-over effects on Pakistan? An accelerated competition between China and India would also reinforce the reluctance of Moscow and Washington to further reduce their nuclear forces.

Much is riding on the resilience of Beijing's and New Delhi's uncommon strategic restraint.

Michael Krepon is Co-founder of the Henry L. Stimson Center and the author or editor of thirteen books and over 350 articles. Prior to co-founding the Stimson Center, Krepon worked at the Carnegie Endowment for International Peace, the US Arms Control and Disarmament Agency during the Carter administration, and in the US House of Representatives, assisting Congressman Norm Dicks.

<http://krepon.armscontrolwonk.com/archive/4250/uncommon-strategic-restraint>

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ABOUT THE USAF CUWS

The USAF Counterproliferation Center was established in 1998 at the direction of the Chief of Staff of the Air Force. Located at Maxwell AFB, this Center capitalizes on the resident expertise of Air University, while extending its reach far beyond - and influences a wide audience of leaders and policy makers. A memorandum of agreement between the Air Staff Director for Nuclear and Counterproliferation (then AF/XON), now AF/A5XP) and Air War College Commandant established the initial manpower and responsibilities of the Center. This included integrating counterproliferation awareness into the curriculum and ongoing research at the Air University; establishing an information repository to promote research on counterproliferation and nonproliferation issues; and directing research on the various topics associated with counterproliferation and nonproliferation .

The Secretary of Defense's Task Force on Nuclear Weapons Management released a report in 2008 that recommended "Air Force personnel connected to the nuclear mission be required to take a professional military education (PME) course on national, defense, and Air Force concepts for deterrence and defense." As a result, the Air Force Nuclear Weapons Center, in coordination with the AF/A10 and Air Force Global Strike Command, established a series of courses at Kirtland AFB to provide continuing education through the careers of those Air Force personnel working in or supporting the nuclear enterprise. This mission was transferred to the Counterproliferation Center in 2012, broadening its mandate to providing education and research to not just countering WMD but also nuclear deterrence.

In February 2014, the Center's name was changed to the Center for Unconventional Weapons Studies to reflect its broad coverage of unconventional weapons issues, both offensive and defensive, across the six joint operating concepts (deterrence operations, cooperative security, major combat operations, irregular warfare, stability operations, and homeland security). The term "unconventional weapons," currently defined as nuclear, biological, and chemical weapons, also includes the improvised use of chemical, biological, and radiological hazards.

The CUWS's military insignia displays the symbols of nuclear, biological, and chemical hazards. The arrows above the hazards represent the four aspects of counterproliferation - counterforce, active defense, passive defense, and consequence management.

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