



# **USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal**

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26 August 2016

**Feature Item: “B61 Life Extension Program Costs and Policy Considerations.”** Authored by Barry Blechman and Laicie Heeley; Published by the Stimson Center; August 2016; 5 pages.

<http://www.stimson.org/sites/default/files/file-attachments/B61-Life-Extension-Program.pdf>

The life extension program for the B61 is ambitious, with plans to consolidate all the weapon’s variations into one, known as the B61-12, which will be deliverable by either fighter planes or long-range bombers, and thus able to function in both strategic and tactical roles. In addition to replacing key components with modern versions of these parts, the B61-12 will be fitted with a special “tail kit” to improve its accuracy. Development and procurement of the tail kit will be funded by the Defense Department, and the lion’s share of the program will be funded by the Department of Energy. On August 1, 2016, the Department of Energy’s National Nuclear Security Administration (NNSA) announced that it had formally authorized the production engineering phase of development.<sup>2</sup> Actual production of the modernized B61-12 is planned to begin in 2020 and end in 2025.

## **U.S. Nuclear Weapons**

1. [Having Spent Trillions on Defense, US Could Soon Be Left Without Modern ICBMs](#)
2. [New ICBM Reaches Development Milestone](#)

## **U.S. Counter-WMD**

1. [Russia's 'US Missile Defense-Killing' Hypersonic Rockets Arriving Soon](#)
2. [Russian Diplomat: US Missile Defense Buildup in Asia-Pacific Causes Imbalance](#)

## **U.S. Arms Control**

1. [Abe Denies Conveying Concern to U.S. Commander over ‘No First Use’ Nuke Policy](#)

## **Homeland Security/The Americas**

1. [Foreign Hyper-Glide Weapons ‘Challenge’ to American Defense – Media](#)
2. [Hypersonic Missile Threat is Focus of Space and Missile Defense Symposium](#)
3. [DARPA Unveils Smart Phone-Sized Radiation Detector to Hunt ‘Dirty’ Bombs](#)

## **Asia/Pacific**

1. [N. Korea Threatens Pre-Emptive Nuke Strike over Seoul's Military Drill](#)
2. [North Korean Submarine-Launched Missile Lands Inside Japan ADIZ](#)
3. [N. Korea's SLBM Launch Stokes Worries over Pursuit of Nuke-Tipped Ballistic Missiles](#)
4. [North Korea May Have Reprocessed Enough Spent Nuclear Fuel for 2-4 Nukes](#)

Issue No.1230, 26 August 2016

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5. [Does N. Korea Have Nuclear Suicide-Bomber Corps?](#)
6. [China Gears up for Missile Warfare with US](#)
7. [North Korea's Nuclear Arsenal Progressing. Likely to Be within Striking Range: Experts](#)
8. [N. Korea May Deploy SLBM Within a Year](#)
9. [Kim Calls SLBM Test 'Greatest Success'](#)
10. [N. Korea's SLBM Test Success May Render THAAD Useless](#)
11. [NK to Develop Larger Submarines](#)
12. [U.S. Tracks N.Korean Submarines](#)
13. [Controversies over Nuclear-Powered Submarines Resurface](#)

### **Middle East**

1. [Iran Releases Images of 1st Self-Manufactured Missile Defense System](#)
2. [DM Dehghan: Russia Announced Use of Hamedan Airbase without Prior Notice](#)
3. [Def Min: Foreign Encroachments in Southern Waters 'Severely Punishable'](#)
4. [Syrian Regime and Isis Carried Out Chemical Attacks, Say UN Investigators](#)
5. [Supreme Leader Lashes Out Lack of US Commitment to JCPOA](#)
6. [Iran Able to Mass Produce Missiles with Any Range, Power: DM](#)

### **Commentary**

1. [\[Herald Interview\] Former Saenuri Whip Says South Korea Needs Nukes](#)
2. [Russia's Nuclear Paranoia Fuels Its Nuclear Propaganda](#)
3. [The Dangers of No-First-Use](#)
4. [Why Japan and South Korea Should Fear North Korea's Underwater Nuclear Weapons](#)

### [Return to Top](#)

Sputnik International – Russian Information Agency

### **Having Spent Trillions on Defense, US Could Soon Be Left Without Modern ICBMs**

21 August 2016

Earlier this week, US media reported that the development of America's new intercontinental ballistic missiles had been suspended, with the Pentagon citing costs that were billions of dollars above initial estimates. According to experts, the scandal is just the latest case in a long line of wasteful spending decisions by officials and arms makers.

On Tuesday, Bloomberg reported that the US Air Force's program to develop a new ICBM to replace the aging Minuteman III was effectively stalled, with the Pentagon concerned that the Air Force had underestimated the expected cost to develop and deploy the weapons by several billion dollars.

Last year, the Air Force estimated that the development of up to 400 new missiles, along with the necessary command and control systems and other infrastructure, would cost the government about \$62.3 billion. But earlier this month, an independent cost assessment report by the Pentagon's Defense Acquisition Board concluded that that figure was underestimated by billions. This was highly concerning, according to the news agency, given that the United States already plans to spend over a trillion dollars modernizing its nuclear forces over the next thirty years.



## **USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal**

Bloomberg explained that the discrepancy in costs has to do with the fact that the United States has not engaged in the development of new strategic missiles in decades, with the resumption of such work expected to cost significantly more than initially estimated.

*Commenting on the scandal over the missile's cost in an analysis for the online news and analysis platform PolitRussia, journalist Boris Stepnov emphasized that underestimating costs out-of-control spending was a regular occurrence in the US military-industrial complex.*

For example, the journalist recalled that "price of the F-35 fighter jet, which so far has only brought losses for the US budget, and will be combat ready only in 2022, has already exceeded \$110 billion. Meanwhile, the plane's testing has not borne out the capabilities once expected from the machine, with the US Air Force forced to continually lower the bar...The final testing of the plane has been moved back again, this time to 2018, and even the famous American hawkish Senator John McCain has called the project a failure."

A similar situation is plaguing the US Navy, Stepnov noted. "The story of failures and money being siphoned off is illustrated very clearly by the innovative new destroyer project Zumwalt, the costs of which have already reached those of an aircraft carrier."

*Ultimately, the journalist suggested that the stories surrounding the high costs of new US weapons systems demonstrate that pouring huge amounts of money into something doesn't guarantee results. The US military, he wrote, "had long intimidated the world with its high-tech, high-precision weapons, with its colossal military budget, etc. But while one cannot deny that this is the case, it's also necessary to see through the PR to the actual state of affairs: corruption, rent-seeking behavior, etc., which not only greatly increases costs, but leads to the creation of systems that don't necessarily offer any practical use."*

Last week, former US Secretary of Defense William Perry slammed the Pentagon's plan to modernize the US's nuclear deterrent, not only because it amounts to "starting a new nuclear arms race," but also because "we are talking about huge expenditures here [which are] hardly being discussed or debated..."

As to the costs of the program, Perry told Sputnik that the reality is that "nobody really knows what the cost is...but people drop figures like \$1 trillion. But I don't know what the right number is – if anything [\$1 trillion] is on the low side."

*As for the US's current ground-based ICBM, the LGM-30 Minuteman III is concerned, Stepnov noted that it is a formidable, but aging weapon.*

The solid-fuel rocket has a range of up to 13,000 km, and can accommodate up to three warheads. In 2003, the US reequipped the missile with a monoblock 457 kiloton warhead, using the vacant mass for additional subsystems aimed at overcoming missile defense. The last modification, designed in 2008, saw the missile equipped with a new guidance system by Northrop Grumman.

"Of course," the journalist noted, "the US has made an effort to show that everything is alright with their Minuteman. Thus a demonstration launch was conducted in February. According to Deputy Defense Secretary Robert Work, this action was meant to demonstrate the capabilities of the American nuclear arsenal to Russia and China, and most importantly, to frighten Kim Jong-un."

In any case, Stepnov added, "the demonstration launch was a matter of advertising for domestic audiences, meant to lift Americans' sense of patriotism and faith in the military –to tell them that all of America's possible opponents are aware of the existence of the Minuteman," and its capabilities.

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*Nevertheless, in an age when strategic weapons systems are being equipped with components and technologies allowing them to maneuver against missile defense, the Minuteman gradually risks falling far behind. "Unlike the Yars, the Rubezh, and the Bulava, the Minuteman is not able to maneuver in the take-off stage; it's been said that intercepting the Russian missiles will require up to fifty interceptors, whereas intercepting a Minuteman needs only a pair of missiles...Even the Soviet-era R-36, [NATO codenamed] 'Satan', is capable of deploying false targets, and can carry up to ten warheads, although it too cannot maneuver on start. And Russia already has the 'Satan 2' on the way."*

Meanwhile, the journalist noted, the Pentagon had been promising to calculate the requirements for the Minuteman's replacement since the early 2010s. "It was said at the time that this work would be concluded by 2013..."

"At the same time, the Pentagon has said that it would like to obtain funding for a variety of different projects. For example, last year, the Air Force presented a project for an above-ground missile complex in the form of a 'nuclear train', which would move around a network of underground tunnels, its rockets launching through a special shaft in the tunnel. This was suggested in spite of the fact that the US been unable to develop even an analogue to the [Soviet-era] Molodets rail-based missile system, much less its successor, the Barguzin." Not surprisingly, Stepnov noted, this program too was eventually shot down by the Air Force.

"Naturally, the United States will not remain without land-based ICBMs. But so long as they continue to spend a great deal of time and just as much money developing something more modern, the old Minutemen, introduced into combat duty in 1978, will continue to stand guard," Stepnov concluded.

<http://sputniknews.com/us/20160821/1044493253/us-nuclear-icbm-modernization-difficulties.html>

[Return to Top](#)

Great Falls Tribune – Great Falls, MT

## **New ICBM Reaches Development Milestone**

By Jenn Rowell, Great Falls Tribune

August 25, 2016

The Air Force has approved the Milestone A for the ground-based strategic deterrent, meaning the new weapon system meant to replace the Minuteman III, including those at Malmstrom Air Force Base, remains on track.

To reach this point, an analysis of alternatives must be conducted, including cost estimates, concepts of operations, overall risks and comparative effectiveness, according to the Congressional Research Service.

Now that the Air Force has reached Milestone A, the program is in the Technology Maturation and Risk Reduction phase, according to Secretary of the Air Force Deborah Lee James.

At the end of July, the Air Force released a request for proposals for the ground-based strategic deterrent and said up to two contracts are expected in the fourth quarter of fiscal year 2017, which begins Oct. 1, according to the Air Force Nuclear Weapons Center.

The process of developing a follow-on intercontinental ballistic missile is expected to be complicated, James said during her State of the Air Force address earlier this month.

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“The magnitude of this type of ICBM work, we have not collectively done it for more than 40 years. And so there is a level of complexity that has to be worked through,” James said. “We haven’t done such a thing in 40 years and so, we’re all getting on the same page. That’s the effort that’s ongoing.”

The current ICBM launch systems, and command and control physical infrastructure in use today first became operational with the Minuteman I system in the 1960s.

Some components and subsystems have been upgraded since, including the transition to the Minuteman III configuration in the 1970s, most of the fundamental infrastructure is original and has supported more than 50 years of continuous operation, according to AFNWC.

The flight systems in use now were fielded in the late 1990s and early 2000s with an intended 20-year lifespan. The Minuteman III system is expected to operate through 2030.

Sens. Steve Daines, R-Mont., and Jon Tester, D-Mont., sent a letter in May to the director of the cost assessment and program evaluation at the Defense Department expressing support for the GBSD and encouraging the DOD to approve Milestone A by the end of the current fiscal year, which ends Sept. 30.

“This is great news for maintaining our nation’s ‘peace through strength’ strategy at Montana’s Malmstrom Air Force Base and the security of our nation,” Daines said Thursday. “We must ensure our nuclear capabilities are ready for 21st century warfare. I will continue pushing to guarantee we modernize our nuclear weapons.”

<http://www.greatfallsribune.com/story/news/local/2016/08/25/new-icbm-reaches-development-milestone/89368948/>

[Return to Top](#)

Sputnik International – Russian Information Agency

### **Russia's 'US Missile Defense-Killing' Hypersonic Rockets Arriving Soon**

22 August 2016

Russian defense analyst Vladimir Tuchkov analyses Russian, Chinese and American developments in hypersonic weapons technology, including the expected timeframe for their deployment, which is sooner than you may expect.

Last week, Tactical Missile Systems Corporation general director Boris Obnosov told Russian media that he was confident that Russia would be introducing hypersonic missiles capable of speeds between Mach 6 and Mach 7 by the year 2020.

The director emphasized that such weapons would significantly weaken the potential of enemy missile defense. "It's obvious that with such speeds – when missiles will be capable of flying through the atmosphere at speeds of 7-12 times the speed of sound, all [air] defense systems will be weakened considerably."

Tactical Missile Systems Corporation (KTRV by its Russian acronym) is based in Korolyev, outside Moscow. Several dozen specialized research institutes and industrial enterprises are involved in the development of Russia's hypersonic missile potential, with KTRV a leader in this area not only in Russia but also compared to defense engineering companies globally.

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Obnosov's comments come on the heels of a recent speech by Admiral Cecil Haney, the Head of US Strategic Command, in which the admiral warned that American anti-missile and anti-aircraft defense systems will be virtually incapable of intercepting the Russian hypersonic systems expected to be deployed soon.

Commenting on these developments in a piece for Svobodnaya Pressa, Russian defense analyst Vladimir Tuchkov pointed out that while supersonic weapons have become a very popular topic of discussion today, their development actually began much, much earlier, going back to the Cold War.

*The analyst recalled that "in the 1970s, the Raduga Design Bureau, now a part of KTRV, began research exploring the possibility of creating a cruise missile with a speed of Mach 5 or greater. At the time, the problem was little studied. Firstly, it was impossible to use ordinary turbojet engines for speeds in excess of Mach 3. The sharp increase in air speed pressure resulted in a loss of efficiency in the engines, with a sharp rise in temperature in the combustion chamber of the air-fuel mixture also reducing efficiency. The higher the temperature, the lower the thrust. Moreover, as temperatures rose, so too did the risk of the rocket's turbine blades becoming deformed and simply melting."*

"In this situation," Tuchkov noted, "the only option is the use of a ramjet engine — in this case a hypersonic scramjet. The use of a rocket engine, either liquid or solid fueled, for cruise missiles, is impossible, since the entire trajectory of the flight must be actively controlled and adjustable."

"The design of the scramjet is very simple, with the number of moving parts reduced to a minimum. Theoretically, these craft can reach speeds of up to Mach 25, although the practical ceiling of operation is about Mach 17-19. However, the scramjet also has a significant drawback – its normal operation begins at speeds exceeding Mach 3. Before this speed, it is necessary to accelerate the missile using a solid booster, or some other method, similar to the kind used to launch a high-speed aircraft."

The analyst recalled that when development of hypersonic missile technology first began in the Soviet period, one of the key problems for engineers was overheating. "It was necessary to create the kind of heat shield through which the onboard flight control equipment would continue to work flawlessly."

*In the 1980s, Raduga Design Bureau created several prototypes of a new cruise missile – the Kh-90, NATO codenamed Koala. The cruise missile weighed 15 tons, had a length of 9 meters, and a 7 meter wingspan. With an expected range of up to 3,000 km, the missile had a design speed of Mach 5.*

"The project," Tuchkov noted, "advanced far enough for several test launches to be conducted. During the last of them, the missile reached speeds ranging from Mach 3 to Mach 4." The missile was aircraft-launched.

Of course, "all of the USSR's hypersonic weapons designs were strictly classified. It was only due to the fact that the project was closed in 1992 thanks to a lack of financing and the collapse of the defense industry in general that some information about the Kh-90 has become publically available."

*After a period of stagnation in the 1990s, development resumed. Today, the analyst noted, Russia has reached a point where it has created and is actively testing at least two hypersonic systems. "This includes the 3K-22 Zircon anti-ship cruise missile, the main developer of which is the NPO Machine Building plant in Reutov, outside Moscow, which is also part of KTRV. At the same time, an export version of the missile, known as the Brahmos, is being developed for the Indian Navy."*



## **USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal**

The first information about the Zircon appeared in 2011, with testing beginning a year later. "To date, five test launches have been made...During the last launch, in March of this year, the rocket was successfully tested in normal operation mode."

*Effectively, Tuchkov noted, "work on the Zircon is progressing so rapidly that the first state testing is expected to begin next year, and mass production the year after that, in 2018. In this connection, the Tactical Missile System Corporation director's forecasts about the year 2020 looks quite modest."*

"Of course, he is talking about speeds of Mach 6-7, while the Zircon's design speed is 'only' Mach 5. Various estimates suggest its range may be between 400 and 1,000 km. Precise information on the engines is not available, but informed analysts suggest that acceleration is carried out via a reactive solid booster, with a scramjet used as the main engine."

Furthermore, the Zircon has already been slated for installation onboard the heavy nuclear missile cruisers — the Peter the Great and the Admiral Nakhimov. It is also expected that a new Russian nuclear submarine, codenamed Project-Husky, currently under development, will be equipped with the Zircon.

"As for Project 4202, it appears that this system will be able to meet and surpass the speeds discussed by Tactical Missiles Corporation's director. This missile too is being developed by the NPO Machine Building plant. To be more precise – this is not an independent missile, but rather a warhead onboard an intercontinental ballistic missile, which, after separation from the launch vehicle, acts like a hypersonic cruise missile would, maneuvering freely to determine direction and pitch."

*According to informed estimates, Project 4202 is capable of speeds between Mach 7 and Mach 12. For this reason, Tuchkov noted, the system can overcome "not only modern means of US missile defense, but even those systems which American engineers have not even begun to develop yet."*

The testing of Russia's hypersonic gliders is taking place using the tried and true RS-18B 'Stiletto' silo-based ICBMs, used to accelerate them up to the appropriate speed. "After being adopted by the military, Project 4202 will be installed aboard the new RS-28 Sarmat, and on future Russian ICBM designs. This is expected to take place between 2020 and 2025. When the expected first batch of 20 supersonic warheads is rolled out, it will effectively make the US missile defense system pointless. Every Sarmat will feature three hypersonic combat gliders."

### **Foreign Analogues: USA**

Of course Russia is not the only country engaged in the creation of prospective hypersonic weaponry. The X-51, being developed by the Boeing Corporation under the aegis of the Pentagon's 'prompt global strike' concept, is expected to reach speeds of Mach 6-7. Testing began in 2010, but, as Tuchkov pointed out, none of them have been deemed successful so far. Brought into the air aboard a B-52 strategic bomber, the X-51, with a range of 500 km, has clocked a maximum speed of Mach 5.1. "However, all flights ended in the destruction of the test missile before the end of its planned flight."

*"Setting out on this costly project, the US positioned it as a tool for effective and lighting-speed strikes against terrorist groups. However, there is no doubt that the Pentagon also had in mind the traditional confrontation with Russia, and against a rapidly developing China. Yet the X-51, even if it is brought into mass production, will not solve the problems it was designed to handle, since the prospective Russian S-500 anti-aircraft missile system is expected to be capable of destroying hypersonic missiles."*



In this sense, Tuchkov noted, the DARPA program's Falcon HTV-2 has better characteristics in terms of its speed, having been successfully clocked at Mach 20. But the vehicle was launched from near space, first carried up by rocket booster, from where it hurled back down to earth.

"In other words, there's nothing new here; the US Space Shuttles and our Buran flew in similar fashion. Following the second test, which took place in 2011, the missile was recognized as unpromising, since it was almost uncontrollable, and impossible to establish communications with."

### **Foreign Analogues: China**

China too is actively involved in the development of hypersonic technology, beginning with its WU-14 rocket, which began testing in 2013. An average of three tests per year has taken place since then. The system's declared speed is Mach 10, although as Tuchkov pointed out, a variety of contradictory information has been circulating, estimating speeds from Mach 1.5 to Mach 7.

"Series production of the WU-14 is expected to begin in the second half of the 2020s, and it is expected to be mounted on ballistic missiles, which for the Chinese is very important. Today, only a small number of Chinese ICBMs is capable of reaching the US, giving the Pentagon the hypothetical ability to fight off a Chinese nuclear attack. For Beijing, this is not only insulting, but disadvantageous in the diplomatic competition between the powers. With the arrival of hypersonic warheads, the US is expected to 'behave' more prudently."

"Another task entrusted to the new weapon is the destruction of aircraft carriers; their defenses would be powerless against maneuverable warheads traveling at speeds of Mach 10."

<http://sputniknews.com/military/20160822/1044514884/russian-us-chinese-hypersonic-missile-designs-analysis.html>

[Return to Top](#)

TASS Russian News Agency – Moscow, Russia

### **Russian Diplomat: US Missile Defense Buildup in Asia-Pacific Causes Imbalance**

*The Russian Foreign Ministry's spokeswoman says the situation in the Korean Peninsula turned for the worse in the wake of the US and South Korea's decision to deploy the US missile defense system*

August 25, 2016

MOSCOW, August 25. /TASS/. Moscow has no doubts that Washington keeps building up the Asia-Pacific segment of the missile defense, thus causing an imbalance, Russian Foreign Ministry spokeswoman has told a news briefing on Thursday.

"It has to be stated with regret that the outlook for normalization in the Korean Peninsula is nowhere near and the blame for this can hardly be placed entirely on one side," Zakharova said. "We believe that this state of affairs stems from the lack of trust and from the conflicting parties' tendency to use power arguments."

"The show of military muscle, employed instead of attempts to find a key to the solution of the existing problems at the negotiating table, by no means adds to stability," Zakharova said, adding that Moscow's stance on the issue of North Korean missile launches relied on the need for the observance of UN Security Council resolutions."

The situation in the Korean Peninsula turned for the worse in the wake of the US and South Korea's decision to deploy the US missile defense system.



## **USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal**

"We proceed from the assumption that these complexes in the Republic of Korea surely go beyond the bounds of the tasks of deterring a so-called North Korean threat," Zakharova said. "We feel no doubts about the fact that the United States, with support from its allies, keeps building up the potential of the Asia-Pacific segment of the global missile defense. This will inevitably upset the existing strategic balance and cause further complications in the situation in the Korean Peninsula and in the region in general."

The just-started large-scale US-South Korean exercise causes Russia's serious concern, she stated.

"We have the fear that against the background of soaring tensions in the Korean peninsula such drills are capable of becoming a spark that cause the whole situation develop into a real fire," Zakharova said.

"Russia is prepared for the tightest interaction with all countries concerned with the aim of ensuring peace and stability in the region, achieving a comprehensive settlement of the Korean Peninsula's nuclear problem on the basis of equitable and non-discriminatory talks with the participation of all parties concerned," Zakharova said. "In this no simple situation all parties concerned should display restraint and refrain from action that might bring about greater tensions."

<http://tass.com/politics/895938>

[Return to Top](#)

The Japan Times – Tokyo, Japan

### **Abe Denies Conveying Concern to U.S. Commander over 'No First Use' Nuke Policy**

KYODO, JIJI

August 21, 2016

Prime Minister Shinzo Abe has denied conveying to the head of the U.S. Pacific Command concerns about the United States adopting a "no first use" policy for its nuclear arsenal, as reported by The Washington Post last week.

"We had no exchange whatsoever about no first use of nuclear weapons," Abe told reporters Saturday in Tokyo before boarding a plane to go to Brazil to attend the Rio Olympics closing ceremony. "I have no idea why it was reported that way."

Citing two unidentified government officials, Washington Post columnist Josh Rogin wrote Aug. 15 that Abe had "personally" conveyed Japan's concern over the possible policy shift to Adm. Harry Harris recently.

Abe, however, said he believed the issue remained undecided.

"It's my understanding that the U.S. side has made no decision," he said Saturday, adding that Tokyo would maintain close contact with Washington on the matter.

Abe and Harris met at the Prime Minister's Office in Tokyo on July 26.

A no first use declaration by President Barack Obama would represent a landmark shift in Washington's nuclear posture. However, some U.S. allies have privately communicated concerns about such a move, the column said.



Tokyo has reportedly been concerned about weakened deterrence in the region, with neighbor North Korea ramping up its burgeoning nuclear weapons program. North Korea confirmed Wednesday that it has resumed plutonium production and that it has no plans to halt nuclear tests as long as perceived threats from the U.S. continue.

Abe also noted that he and Obama had sent out strong messages about the need to achieve a nuclear-free world during their May visit to Hiroshima. The prime minister said he is determined to make strenuous efforts to ensure steady progress toward that goal.

<http://www.japantimes.co.jp/news/2016/08/21/national/politics-diplomacy/japan-to-keep-in-close-contact-with-u-s-over-possible-change-in-nuke-policy-abe/#.V73CXLTfvq1>

[Return to Top](#)

RT (Russia Today) – Moscow, Russia

### **Foreign Hyper-Glide Weapons ‘Challenge’ to American Defense – Media**

21 August 2016

The top brass of US Strategic Command acknowledges that hypersonic glide weapons developed by other countries are a serious challenge to Washington’s defense capabilities.

The concerns were voiced during a Space and Missile Defense Symposium that was hosted in the US state of Alabama earlier this week, Defense News reports.

It is *“becoming increasingly more difficult”* for the US to track down and tackle the foreign hyper-glide vehicles, Admiral Cecil Haney, chief of US Strategic Command (STRATCOM) said as quoted by the media outlet. *“Hyper-glide vehicle technology can complicate our sensing and our defensive approaches,”* he added.

Hyperglide vehicle’s (HGV), also known as boost gliders, are unmanned weapons that are launched by ballistic missiles. After separating from the rocket, they follow their own track path, reaching speeds of at least Mach 5 (five times faster than the speed of the sound) or more.

HGV’s can *“potentially glide over distances approaching ten thousand kilometers,”* while hitting their targets *“with accuracies down to a few meters,”* according to Forbes.

During the summit, Haney admitted that most of the US Defense capabilities are not designed to deal with these threats, which have different flight schemes in the air, compared to conventional missiles.

One of the key problems voiced by the US military was limited detection capabilities of HGV’s because of their extreme high altitude, reaching into the atmosphere, as well as a very short approaching time to target.

*“Reduced shooter-to-target timeline is our greatest problem because of how we do our command-and-control as well as how do we integrate our systems to be able to engage on fast-moving targets,”* US Army Acquisition Chief Katrina McFarland stated.

Alongside the US, China and Russia are among the countries leading the research and development of such state of the art weapons.

Earlier this year reports in the Russian and western media indicated Moscow tested a *“combat ready”* HGV. The weapon is said to be part of a top-secret project codenamed 4202.



## **USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal**

Britain's Daily Star said the aircraft can reach speeds of over 12,000 kph and can "travel from Moscow to London within 13 minutes." The Russian Defense Ministry has refrained from commenting on the issue.

Mark Clark, the director of US Missiles and Space Intelligence insists that Moscow is developing a "hypersonic vehicle for the purpose of penetrating missile defense," as quoted by Defense News.

In April, China launched a seventh test of its hyper glider, the Washington Free Beacon revealed, citing officials familiar with the matter. China is reportedly working on developing HGV's as part of its secret DF-ZF project. Officials in Beijing also refused to comment on the alleged test.

According to McFarland the HGV weapons "is one of our most challenging areas" the US Defense Department is facing in the coming years.

Washington is currently working on its own Advanced Hypersonic Weapon (AHW) project, which is tasked with developing a glider capable of flying within the planet's atmosphere, Army-technology reports.

The program is running under the guise of the US Army Space and Missile Defense Command (USASMDC) in partnership with Army Forces Strategic Command (ARSTRAT).

<https://www.rt.com/usa/356664-hyperglider-danger-usa-defense/>

[Return to Top](#)

Next Big Future.com

### **Hypersonic Missile Threat is Focus of Space and Missile Defense Symposium**

August 21, 2016

How to deal with hypersonic glider weapons is posing a major challenge for defense officials tasked with ensuring the US is safe from missile attacks. The hypersonic threat came up in almost every speech at the Space and Missile Defense Symposium.

The vehicle's flight altitude limits radar detection range and high speed shortens timelines from detection to impact. And the weapons are designed to be highly maneuverable in the air and highly precise on impact.

Hyper-glide vehicles have a different profile in the air than a ballistic missile, which most of the US defense capability is designed to detect. Haney said, the weapon "moves at a good clip" – most hyper-sonic weapons are anticipated to be clocked at Mach 5 or higher – and some of these vehicles can maneuver in unpredictable ways even at the end of its flight path to the intended target.

The US, Russia, China and India are in the lead all developing hypersonic weapons. Australia and other countries are also developing hypersonic weapons.

MDA Director Vice Adm. James Syring sees the "ultimate" solution to this problem in space "in terms of persistent tracking and discrimination for missile defense".

The US Army is looking at some improvements in its sensor and interceptor technologies.

The chart describes the flight test sequence of a Russian jet-powered hypersonic missile launched from a Tu-22 bomber and initially powered by a first stage derived from an "A84" missile.



After accelerating, the jet-powered missile flies for between 20 and 30 seconds at Mach 4 to Mach 8 over a distance of up to 25 miles before crashing. The missile send telemetry signals to an airborne receiver during the flight.

Thomas K. Scheber, a former Pentagon nuclear weapons policymaker and former Los Alamos National Laboratory official, said China, Russia, Pakistan, and India are developing advanced strike weapons.

One system being looked at by the Pentagon's Missile Defense Agency to counter maneuvering high-speed missiles is an enhanced version of Lockheed's THAAD, called THAAD-ER.

The current THAAD-ER system uses a two-stage interceptor with higher velocity that would be capable of catching up to and destroying hypersonic missiles.

Laser weapons also are being considered for use against hypersonic missiles. Lockheed is working on lasers that can hit hypersonic missiles shortly after launch and before they reach ultra-high speeds, Graham said.

The advanced missile threat is also driving demand in the Pentagon for laser guns, and Lockheed is working to develop a high powered laser deployed on a high-altitude, long-endurance drone aircraft. The laser would target missiles in the boost phase—shortly after launch.

"If you can do that, you can kill them long before they can do things during their trajectories to evade defenses," Graham said. Using lasers against high-speed missiles poses challenging technical problems, he added.

However, Lockheed's missile defense specialists believe the most effective solution to killing missiles in the boost phase is by using high-energy lasers.

Contracts for work on anti-missile lasers are expected to be announced by the Missile Defense Agency in coming months.

<http://www.nextbigfuture.com/2016/08/hypersonic-missile-threat-is-focus-of.html>

[Return to Top](#)

Sputnik International – Russian Information Agency

### **DARPA Unveils Smart Phone-Sized Radiation Detector to Hunt 'Dirty' Bombs**

*US scientists have manufactured a new generation of low-cost radiation detectors the size of smart phones to detect radiation from weapons of mass destruction.*

24 August 2016

WASHINGTON (Sputnik) — US scientists have manufactured a new generation of low-cost radiation detectors the size of smart phones to detect radiation from "dirty" bombs and other weapons of mass destruction (WMDs), the Defense Advanced Research Project Agency (DARPA) said in a press release on Tuesday. "

*A DARPA program aimed at preventing attacks involving radiological 'dirty bombs' and other nuclear threats has successfully developed... a network of smartphone-sized mobile devices that can detect the tiniest traces of radioactive materials," DARPA stated.*

Combined with larger detectors along major roadways, bridges, other fixed infrastructure and in vehicles, the new networked devices promise significantly enhanced awareness of radiation sources and greater advance warning of possible threats, DARPA explained.



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During a month-long test conducted with the New York City Port Authority, the system provided more than a 100-fold increase in ability to locate and identify sources of radiation as compared to currently installed systems," DARPA noted.

The new pocket-sized radiation "pager" sensors can be easily worn on a person's belt, are one-tenth the cost of conventional sensors, and are up to ten times faster in detecting gamma and neutron radiation, the agency pointed out.

DARPA is planning to demonstrate SIGMA's full city- and regional-scale, continuous wide-area monitoring capability in 2017 and to transition the operational system to local, state and federal entities in 2018.

<http://sputniknews.com/science/20160824/1044572087/darpa-unveils-dirty-bomb-detector.html>

[Return to Top](#)

The Korea Times – Seoul, South Korea

### **N. Korea Threatens Pre-Emptive Nuke Strike over Seoul's Military Drill**

August 22, 2016

North Korea on Monday threatened to mount a "preemptive nuclear strike" on South Korea and the United States as the allies kicked off their annual military exercise aimed at countering Pyongyang's potential aggression.

The command and control exercise Ulchi Freedom Guardian, began its two-week run on Monday, involving tens of thousands of South Korean and U.S. forces.

This year's drill came amid unusually heightened inter-Korean tensions following the defection of a London-based North Korean senior diplomat to South Korea.

South Korea and the U.S. "should bear in mind that if they show the slightest sign of aggression on (DPRK's) inviolable land, seas and air ..., it would turn the stronghold of provocation into a heap of ashes through Korean-style preemptive nuclear strike," an English-language statement by the country's General Staff of the Korean People's Army (KPA), carried by the state-run Korean Central News agency, said.

"They should properly know that from this moment the first-strike combined units of the KPA keep themselves fully ready to mount a preemptive retaliatory strike at all enemy attack groups involved in Ulchi Freedom Guardian," the KCNA report said.

DPRK stands for the Democratic People's Republic of Korea, the official name of North Korea.

The statement said the exercise is "a clear manifestation of a vicious plot" to deprive the DPRK's army of their cradle by force of arms.

"The situation on the Korean Peninsula is so tense that a nuclear war may break out any moment," it also claimed.

It is the resolute determination and will of North Korea "to terminate the ever more reckless moves of the U.S. imperialists and the South Korean puppet forces for a nuclear war not temporarily but indefinitely," the latest statement said.

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The statement said the KPA's such stances were made "upon authorization," indicating that North Korean leader Kim Jong-un was behind the issuance of the latest threat.

South Korea's government, meanwhile, warned over the weekend that it is likely that the North may carry out some sort of provocation during or after the on-going military exercise that comes days after Seoul confirmed the defection of the North Korean embassy official last week. (Yonhap)

[http://www.koreatimes.co.kr/www/news/nation/2016/08/485\\_212418.html](http://www.koreatimes.co.kr/www/news/nation/2016/08/485_212418.html)

[Return to Top](#)

The Japan Times – Tokyo, Japan

### **North Korean Submarine-Launched Missile Lands Inside Japan ADIZ**

Associated Press (AP), Agence France-Presse (AFP)-JIJI, KYODO

August 24, 2016

SEOUL – A North Korean ballistic missile fired from a submarine Wednesday flew about 500 kilometers (310 miles) in the longest flight by that type of weapon, Seoul officials said, a range that can place much of South Korea within its striking distance.

Seoul officials condemned the launch as an “armed protest” against the start of annual South Korean-U.S. military drills that North Korea calls an invasion rehearsal. The launch was also the latest in a series of missile, rocket and other weapon tests by North Korea, which is openly pushing to acquire a reliable weapon capable striking targets as far away as the continental U.S.

The missile fired from a submarine off the eastern North Korean coastal town of Sinpo landed in waters between the Korean Peninsula and Japan, according to a statement from South Korea's Joint Chiefs of Staff. The U.S. Strategic Command said it tracked the North Korean submarine launch of the presumed KN-11 missile into the Sea of Japan.

The 500-kilometer distance is longer than ones recorded by other submarine-launched missiles launched by North Korea, and puts most of South Korea within its range if it is fired near the border, although North Korea already has a variety of land-based missiles that can strike South Korea and Japan.

Japan Prime Minister Shinzo Abe said the missile breached his country's air defense identification zone and condemned what he called an “unforgivable, reckless act” and a grave threat to Japan's security. He said Tokyo had lodged a protest with North Korea.

South Korea's Yonhap news agency reported the projectile fell in water about 80 km inside the Japan's ADIZ.

The North's acquiring the ability to launch missiles from submarines would be an alarming development because missiles fired from submerged vessels are harder to detect in advance. The U.S. Strategic Command statement said the North Korean launch did not pose a threat to North America but that the U.S. military “remains vigilant in the face of North Korean provocations.”

A South Korean Foreign Ministry statement said the government “strongly condemns” the launch, and added it will continue to work with the international community to deploy effective sanctions and pressure against the North.

North Korea fired two missiles from submarines earlier this year but South Korean defense officials believe they exploded in midair after flying fewer than 30 kilometers (18 miles).

North Korea's missile and nuclear programs are a source of regional security concerns. Outside experts say the North doesn't yet have a reliable long-range nuclear missile capable of reaching the



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continental U.S., but they acknowledge the North has been making steady progress on its weapons programs and could one day acquire such a weapon.

Some civilian experts said they believe the North already has the technology to put warheads on shorter-range missiles that can strike South Korea and Japan.

South Korean defense officials believe North Korea has about 70 operational submarines and appears to be mainly imitating Russian designs to develop submarine-launched missiles. It is believed the North obtained several Soviet-era Golf-class ballistic missile submarines in the mid-1990s.

Earlier this month, North Korea launched a ballistic missile that fell in Japan's exclusive economic zone in the Sea of Japan after South Korea and the United States announced their decision to set up a new missile defense system in South Korea to counter Pyongyang's threats.

The previous missile launch was also seen as a message to Japan after Abe reshuffled his Cabinet to include a hawkish lawmaker, Tomomi Inada, as his new defense minister.

The progress of North Korea's missile and nuclear programs has drawn sharp reactions from neighboring states and world bodies. Pyongyang confirmed to Kyodo News earlier this month that it has resumed the production of plutonium and highly enriched uranium.

Wednesday's launch comes two days after the U.S. and South Korea began their 12-day Ulchi Freedom Guardian exercises, prompting North Korean threats of retaliation. Before the launch, North Korea warned that the joint military exercises were pushing the Korean Peninsula "to the brink of a war" and asked for an urgent meeting of the U.N. Security Council.

The South Korean military statement said it considers the North Korean missile launch a challenge to peace on the Korean Peninsula and noted it violated U.N. Security Council resolutions that ban any ballistic missile activities by North Korea.

The launch also comes at a time of intensified animosities between the rival Koreas over the defection of a senior North Korean diplomat in London and a U.S. plan to install a sophisticated missile defense system in South Korea.

About 28,500 U.S. troops are based in South Korea to help deter potential aggression from North Korea, a legacy of the 1950-53 Korean War that ended with an armistice, not a peace treaty. North Korea usually responds to the regular South Korea-U.S. military drills with weapons tests and fiery warlike rhetoric.

The American-led U.N. Command in South Korea on Tuesday accused North Korea of planting land mines near a truce village inside the Demilitarized Zone that divides the two Koreas. Much of the border, one of the world's most dangerous flash points, is strewn with land mines and laced with barbed wire. South Korean media said no land mines had been planted in the area of the truce village of Panmunjom until North Korea placed an unspecified number there last week.

<http://www.japantimes.co.jp/news/2016/08/24/asia-pacific/nuke-strike-threat-north-korea-tests-slbm-sea-japan-seoul/#.V78YMLTFvq0>

[Return to Top](#)



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CUWS Outreach Journal  
Maxwell AFB, Alabama

Yonhap News Agency – Seoul, South Korea

## **N. Korea's SLBM Launch Stokes Worries over Pursuit of Nuke-Tipped Ballistic Missiles**

By Kim Soo-yeon

August 24, 2016

SEOUL, Aug. 24 (Yonhap) -- North Korea's latest launch of a ballistic missile from a submarine represents technical advances in the country's weapons of mass destruction (WMD) program and brings the country closer to developing the capability to threaten faraway countries with nukes, experts here said Wednesday.

The South Korean military said the North's missile flew about 500 kilometers on Wednesday from waters off its east coast toward Japan. It marked the longest flight by a submarine-launched ballistic missile (SLBM) fired off by the North to date.

The South's Joint Chiefs of Staff said that the SLBM launched earlier in the day indicated technical improvements in delivery capacity compared with the North's previous tests.

The missile, fired off at a high angle, could have flown more than 1,000 km if it was launched at a lower angle, a military source said.

Military experts said that the launch could be viewed as a success, and said it raised concerns over the North's advances in missile technology.

"North Korea's development of SLBMs may indicate headway of making a nuclear warhead small enough to fit on a ballistic missile," said Moon Keun-sik, an expert at the Korea Defense and Security Forum. "North Korea may be seeking to build a nuclear-powered submarine armed with nukes."

Wednesday's launch marked the sixth time that North Korea has tested its SLBM capabilities after its first attempt in May 2015. It also marked the third SLBM test launch this year.

North Korea's possible success of the SLBM launch could serve as a fresh threat to regional security, as it is difficult to detect ballistic missiles that are launched underwater.

North Korea is seeking to develop a nuclear-tipped intercontinental ballistic missile capable of hitting targets on the U.S. mainland.

If an SLBM carries a small nuclear warhead, it can pose a formidable threat, as the North would be able to hit targets with very little warning, experts said.

In defiance of international condemnation, North Korean leader Kim Jong-un has never given up the country's nuclear and missile programs. He vowed to "permanently" seek his dual pursuit of nuclear and economic development, commonly known as the "byeongjin" policy.

North Korea has claimed technological breakthroughs in its nuclear and missile programs, saying that it has succeeded in developing a nuclear warhead small enough to be put on a missile. Seoul and Washington have been skeptical about the North's claims.

In March, Pyongyang also said it conducted tests of missile re-entry technology and solid fuel rocket engines. Uses of solid propellants for its rocket engine can make it easier for the North to swiftly launch missiles, experts said.

Since the North's leader took office in late 2011, North Korea is believed to have test-fired more than 30 ballistic missiles. In June, Pyongyang claimed the successful launch of an intermediate Musudan missile, which theoretically can fly as far as the U.S. territory of Guam.

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Experts said that the North may be able to move forward its deployment of SLBMs for combat uses to as early as late this year.

"For North Korea, it would not be difficult to develop a nuclear-powered submarine as it has developed nuclear weapons," said Park Hwee-rhak, a professor at Kookmin University. "The North could have developed a submarine carrying ballistic missiles or be in the process of building one."

A 2,000 ton-submarine being used by North Korea is believed to be able to operate underwater for just a few hours and to possess only one launcher for a ballistic missile.

Analysts said that it would take some time for North Korea to improve its existing submarines or build a large and nuclear-powered submarine that can be used to threaten other countries.

The success of North Korea's SLBMs could complicate South Korea's move to intercept an incoming North Korean missile with an advanced U.S. missile defense system to be placed on its soil, experts said.

Pyongyang has vowed to take unspecified "countermeasures" against Seoul and Washington's July decision to deploy the Terminal High Altitude Area Defense (THAAD) by the end of 2017 in a bid to counter North Korea's evolving nuclear and missile threats.

It would make it difficult for the THAAD system to intercept an SLBM since the missile can be fired underwater anywhere near South Korea, observers pointed out.

The South Korean military said that if deployed, a THAAD missile is capable of intercepting it, but some experts raised doubts about such claims, calling for the military to build up its anti-submarine capability.

"We will continue to strengthen our capacity to eliminate sources of threats encompassing not only the launch point of an SLBM but also the movement of submarines," said a military official.

The North's provocation came amid high tensions as Seoul and Washington on Monday kicked off their annual joint military exercise, which Pyongyang has long denounced as a rehearsal for a northward invasion.

Experts said that North Korea is widely expected to engage in further provocations in a bid to strengthen internal solidarity at a time when Thae Yong-ho, a high-ranking North Korean diplomat, has recently defected to Seoul.

"Thae's defection can deal a blow to the North's (elites). In order to prevent internal agitation, North Korea is likely to raise cross-border tensions on the peninsula," said Moon Sung-mook, a senior researcher for the Korea Research Institute for National Strategy.

<http://english.yonhapnews.co.kr/northkorea/2016/08/24/0401000000AEN20160824007800315.html>

[Return to Top](#)



USAF Center for Unconventional Weapons Studies  
CUWS Outreach Journal  
Maxwell AFB, Alabama

The Hankyoreh – Seoul, South Korea

## **North Korea May Have Reprocessed Enough Spent Nuclear Fuel for 2-4 Nukes**

*AEA recently observed that chemical tanks had been brought into the reprocessing facilities at the Yongbyon nuclear complex*

By Yi Yong-in, Washington correspondent

August 24, 2016

If North Korea reprocessed spent nuclear fuel from its 5MW nuclear reactor at Yongbyon in the first half of this year, it probably extracted enough weapon-grade plutonium to make between two and four nuclear weapons, an American research institute estimates.

The estimate was made on Aug. 22 by David Albright, director of the Institute for Science and International Security (ISIS), an American public policy institute, as part of remarks about a recent report by the International Atomic Energy Agency (IAEA) and about North Korea's claims that it had reprocessed spent nuclear fuel.

"The IAEA writes that North Korea could have unloaded the fuel from the 5 megawatt-electric (MWe) reactor [at Yongbyon] late last year and processed it to separate plutonium in the Radiochemical Laboratory during the first half of this year," Albright wrote. "In this case, we have estimated that North Korea could have produced and separated an additional 5.5-8 kilograms of weapon-grade plutonium."

"This amount of plutonium is enough for two to four nuclear weapons, assuming 2-4 kilograms of weapon-grade plutonium per weapon," Albright added.

In an Aug. 19 report, the IAEA observed that chemical tanks had been brought into the reprocessing facilities at the Yongbyon nuclear complex this year and that there was activity suggesting that reprocessing-related machinery was running again. This indicates that North Korea restarted its reprocessing facilities at Yongbyon in the first half of this year, the IAEA concluded in its report.

During a written interview with Japan's Kyodo News on Aug. 17, North Korea's Atomic Energy Institute claimed that it had reprocessed spent nuclear fuel removed from its graphite-moderated nuclear reactor at Yongbyon.

The possibility that North Korea has reprocessed spent nuclear fuel taken from the Yongbyon reactor has been repeatedly raised since the beginning of the year.

[http://english.hani.co.kr/arti/english\\_edition/e\\_northkorea/758225.html](http://english.hani.co.kr/arti/english_edition/e_northkorea/758225.html)

[Return to Top](#)

The Korea Times – Seoul, South Korea

## **Does N. Korea Have Nuclear Suicide-Bomber Corps?**

By Lee Jin-a and Park Si-soo

August 24, 2016

North Korea's military is said to have established a "nuclear backpack" corps whose members are trained to infiltrate South Korea to detonate a nuclear bomb.

Issue No.1230, 26 August 2016

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Radio Free Asia (RFA) reported the corps' establishment on Wednesday, citing unidentified sources in North Hamgyong Province. Details of the unit are unknown and the credibility of sources is questionable.

But what if the corps does exist? That means the North's nuclear weapons technology has advanced to where it can reduce the size of a nuclear bomb to that of a backpack. A miniaturized nuclear weapon could be carried by ground soldiers or loaded onto a long-range missile, which would pose a grave security threat to South Korea and its allies, including the United States.

The South Korean government does not believe the North's nuclear technology has advanced to that level yet.

RFA said the corps' members did not know what the nuclear backpack looks like. "They receive training with three types of fake bombs," RFA quoted an unidentified source. "The regime is telling the soldiers that backpacks are not designed to detonate nuclear bombs, but to spread radioactive substances over a wide area."

In October, the North showed soldiers wearing backpacks bearing the radiation symbol during a military parade celebrating the 70th anniversary of the North's Workers' Party. Similar backpacks were seen during a military parade in 2013.

[http://www.koreatimes.co.kr/www/news/nation/2016/08/485\\_212627.html](http://www.koreatimes.co.kr/www/news/nation/2016/08/485_212627.html)

[Return to Top](#)

Asia Times – Hong Kong, China

### **China Gears up for Missile Warfare with US**

By BILL GERTZ (Washington Free Beacon)

August 24, 2016

China's military is developing offensive and now defensive missiles in preparation for a future missile-dominated conflict with the United States.

Beijing's arsenal of ballistic and cruise missiles has been growing steadily for decades as new systems were fielded in an array of ranges – short, medium and intercontinental. Several long-range cruise missiles, capable of carrying nuclear or conventional payloads also are deployed.

And one of China's most secret missile programs is a revolutionary hypersonic strike vehicle that skims the upper atmosphere and can maneuver in a bid to defeat U.S. strategic defenses.

China for years has denounced U.S. missile defenses as destabilizing. But for the first time last month, the Chinese Defense Ministry confirmed the military is developing a new long-range anti-missile system.

Ministry spokesman Sr. Col. Yang Yujun, in what appeared to be part of a carefully choreographed disclosure, was asked at a briefing about Chinese state media publicizing a six-year-old flight test and intercept of a Chinese version of the U.S. ground-based, mid-course anti-missile defense system.

"To develop suitable capabilities of missile defense is necessary for China to maintain national security and improve defense capabilities," Yang said July 28. "It is not targeting any other country or target nor is it jeopardizing the international strategic equilibrium."

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The comment contrasts sharply with official Chinese views of the pending deployment of the American Terminal High-Altitude Area Defense (THAAD) missile defense system in South Korea.

Yang repeated the Chinese propaganda theme that Beijing is “deeply dissatisfied” and opposes the deployment of the defensive missile system, despite U.S. and South Korean assurances that THAAD system has no capabilities against nearby Chinese offensive missiles.

“We will pay close attention to relevant actions of the U.S. and the [South Korea] and will take necessary measures to maintain national strategic security as well as regional strategic equilibrium,” the ministry spokesman added.

Yang provided no details on what measures are being planned in response.

THAAD is one of the most effective ground-based U.S. missile defenses capable of knocking out a variety of medium- and short-range missiles. Its radar is said to be wide-ranging and capable of detecting missile launches hundreds of miles away.

When THAAD – also deployed on Guam — is combined with sea-based Aegis ship-based missile defenses that can be linked together through what the Pentagon calls cooperative engagement, the combination provides U.S. and allied nations in Asia with formidable defenses capable of protecting large areas against missile attack.

Chinese state-run media zeroed in on Yang’s comments on missile defense this week highlighting what it called China’s “spear and shield” of offensive and defensive missiles.

A report in China Military Online, affiliated with the official *PLA Daily* newspaper, said the recent disclosure of the video showing China’s first strategic missile defense test to intercept a target missile coincided with the propaganda campaign against THAAD deployment in South Korea.

“The problem is not whether the war will break out, but when,” the report stated. “Our task is to develop the ‘trump card’ weapon for China before the war.”

That has been kept secret in official accounts of Chinese missile defense efforts in the linkage between China’s missile defenses and its offensive anti-satellite missiles. Analysts say the two programs are closely intertwined.

In fact, China has used anti-missile tests as cover for offensive anti-satellite development. Frank Rose, the U.S. State Department’s assistant secretary for arms control, said a 2014 missile launch that Beijing claimed was an anti-missile test was in fact an ASAT shot.

“Despite China’s claims that this was not an ASAT [anti-satellite] test; let me assure you the United States has high confidence in its assessment, that the event was indeed an ASAT test,” Rose said in a February 2015 speech.

On hypersonic missiles, the U.S. Strategic Command chief warned last week that Chinese and other states’ high-speed maneuvering missiles pose a major threat.

“Hyper-glide vehicle research and development are also challenging our planning calculus,” Stratcom commander Adm. Cecil Haney said during remarks at a missile conference in Alabama.

“The ability to find, fix and track and hold ... these types of capabilities are becoming increasingly more difficult. Hyper-glide vehicle technology can complicate our sensing and our defensive approaches.”

For U.S. missile defenses, Haney said: “We have to think about it and look at it in different ways so that, again, we are maximizing sensing to be able to understand what exactly is it going at so we can then look at how do we take it out.”



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The Pentagon is looking at ways to counter maneuvering hypersonic missiles, possibly with an extended range version of THAAD and with lasers that can knock out the missiles before they reach their cruising speed of more than 5 times the speed of sound.

China has conducted seven tests of its DF-ZF hypersonic strike vehicle that U.S. intelligence estimates will be used primarily to deliver nuclear weapons through missile defenses. A conventionally armed variant is also possible.

The growing development of missiles, anti-missiles and space weapons are indications that any future conflict is going to be extremely damaging to a world that has become increasingly dependent on its high technology.

<http://atimes.com/2016/08/china-gears-up-for-missile-warfare-with-us/>

[Return to Top](#)

The Japan Times – Tokyo, Japan

### **North Korea's Nuclear Arsenal Progressing, Likely to Be Within Striking Range: Experts**

By AYAKO MIE, staff writer

August 25, 2016

After what North Korea claimed was the successful test-firing of a submarine-launched ballistic missile on Wednesday, Pyongyang is on track to develop the capability to strike targets in the region, including Japan, by 2020, given the speed of its development, according to a website run by a U.S. research institute.

The report posted on the website 38 North was compiled by the U.S. Korea Institute at the Paul H. Nitze School of Advanced International Studies (SAIS) at Johns Hopkins University.

North Korea's official media reported Thursday that leader Kim Jong Un supervised the test-firing of the SLBM and declared it "the greatest success," one that put it in the "front rank" of nuclear military powers.

"A test-fire of strategic submarine-launched ballistic missile was successfully conducted under the guidance of supreme commander of the Korean People's Army Kim Jong Un," the North's official KCNA news agency said. "He appreciated the test-fire as the greatest success and victory."

The KCNA report did not give the date of the missile launch, as it customarily omits references to the time and location of the leader's activities.

The test showed that the solid-fuel missile's control and guidance system, as well as the atmospheric re-entry of the warhead all met operational requirements, KCNA said.

The North's Nodong missiles have a range of 1,300 km and can strike Japan. But Japanese experts also said Pyongyang could have its SLBM system in place by 2020, given Wednesday's success, implying that Japan, the United States and South Korea could face more nuclear threats from the defiant hermit nation.

Hideshi Takesada, a professor at Takushoku University who is an expert on North Korea, said it is possible North Korea's SLBMs already have a range of 3,000 km, based on Wednesday's test, but merely adjusted the flight range to about 500 km for demonstration purposes.

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“North Korea is likely to have already completed the development of SLBMs. In theory, the North is taking the same logical nuclear strategy as the Western powers,” he said.

Takesada said North Korea needs to have at least four SLBM-armed submarines to successfully deploy SLBMs. The North has one 1,800-ton Romeo-class sub and is apparently developing 3,000-ton submarines that can be fitted with SLBMs. He also said the North could develop more submarines by 2020.

North Korea has reportedly started building a facility to make a nuclear sub that can stay submerged longer than nonnuclear types and even reach the United States without being detected.

Takesada also said a North Korean SLBM could strike Hawaii, even if launched from a non-nuclear submarine.

One of the main purposes of SLBMs is to retaliate against nuclear attacks, since they can approach an opponent’s shoreline undetected and unleash surprise attacks.

That is why experts say the successful development of an SLBM program in the North could be problematic for Japan, the United States, and South Korea because SLBMs are hard to intercept by current missile defense systems, including the Patriot Advanced Capability (PAC-3), the SM 3 and the Terminal High Altitude Area Defense (THAAD) system that the U.S. plans to deploy in South Korea.

However, it is unclear whether the North will have the capability to regularly deploy SLBMs due to the subpar quality of North Korean subs. The report by 38 North said the hermit kingdom could still face significant technological challenges, such as building a new class submarine to carry the missile.

To strategically deploy SLBMs as a deterrent, a submarine needs to be able to cruise below the surface undetected for a long period of time. But Masao Kobayashi, a former Maritime Self-Defense Force submarine commander, said North Korean subs have not yet reached that point, especially in terms of noise level.

“In order to use an SLBM as a deterrent, it has to be ready to strike back. But I am not sure if the North has such a capability, given the quality of its submarines. The most they could do is probably launch guerilla-like attacks for now,” he said.

*Information from Reuters added*

<http://www.japantimes.co.jp/news/2016/08/25/national/politics-diplomacy/norths-nuclear-arsenal-progressing-likely-within-striking-range-experts/#.V79MfLTfTmA>

[Return to Top](#)

The Korea Times – Seoul, South Korea

## **N. Korea May Deploy SLBM within a Year**

By Yi Whan-woo

August 25, 2016

North Korea's test-firing of a submarine-launched ballistic missile (SLBM), Wednesday, is raising concerns that it could deploy the weapons earlier than South Korea expected.

With the launch seen as a success, it also revealed that the military here underestimated Pyongyang's SLBM technology and failed to accurately track its rapid progress. The missile flew 500



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kilometers, well beyond the minimum 300 kilometers for a launch to be considered successful, before landing in waters under Japan's Air Defense Identification Zone.

Defense officials here are reportedly looking at the possibility that North Korea will be able to operationally deploy the SLBMs by the end of this year.

Some military sources said the officials were wrong about their previous analysis that it would take four to five years for Pyongyang to fully develop SLBMs when the Kim Jong-un regime test-fired one on May 8, 2015. It failed in its initial flight stage.

While criticism was poured on the military and intelligence authorities here, President Park Geun-hye warned, Wednesday, that Pyongyang's military threats were becoming "tangible."

She cited the one-man rule of the unpredictable North Korean leader Kim Jong-un, who declared that the launch Wednesday was, "the greatest success and victory," according to Pyongyang's state-controlled Korean Central News Agency (KCNA), Thursday.

The KCNA said that the young despot also ordered the bolstering of efforts to develop transport devices for nuclear weapons.

"Under these circumstances, the government must make sure to analyze information thoroughly, to relieve the people's anxiety by making sure that information is correct, and then bolster national defense, making it ready for any emergency," said minor opposition People's Party interim-leader Park Jie-won. "It's so apparent that the government falsely informed the people concerning the North's SLBMs."

Yang Uk, a senior research fellow at the Korea Defense and Security Forum, speculated that the SLBMs were "in the final stage of preparation for deployment" along with the Musudan intermediate-range ballistic missile (IRBM). North Korea successfully launched a Musudan missile on June 22.

"The SLBM will be ready for use once North Korea develops the Gora-class ballistic missile submarine," Yang said.

Shin In-kyun, the president of the Korea Defense Network, claimed SLBMs could be deployed "within a month depending on Kim's wishes."

"Our military's analysis on a possible time for deployment of SLBMs was based on a capitalistic way of thinking," he said.

"It's taken for granted in a capitalist society to let scientists work five days a week, to have days off on holidays, and to ensure that sophisticated weapons such as the SLBM pose no harm to operators before being deployed.

"However, North Korea mainly focuses on escalating threats against South Korea and it won't matter if scientists and military officials work 24 hours a day and their health is at risk as long as SLBMs work fine," Shin said.

To improve Seoul's analysis about North Korea's advances in nuclear and ballistic missile technology, Shin suggested taking Pyongyang's latest emphasis on speedy work for production, such as "70- and 200-Day Speed Battle," into account.



## NK steps up threats

Meanwhile, Kim said the U.S. mainland and its territories in the Pacific region "will fall into our hands."

It was speculated that the SLBM, which was launched using a lofted trajectory, could fly for more than 2,000 kilometers if fired on a normal flight path. The 2,000-kilometer travel range includes both South Korea and Japan as well as U.S. military bases there.

The KNCA reported that North Korea intentionally fired the SLBM to test the stability of "cold-launch" technology, which is essential to launch a missile from beneath the water, and other key factors.

"The SLBM fully met our criteria," the KNCA said.

The Rodong Sinmun, the mouthpiece of the Workers' Party, released a collection of 24 photos that showed Kim at the SLBM test site in Sinpo.

The dictator was seen watching the launch through binoculars with high-ranking officials, and hugging them after the test was successful.

The U.N. Security Council convened an emergency meeting at its headquarters in New York upon request of South Korea, the U.S. and Japan.

The majority of the UNSC's 15 member states denounced North Korea for violating its resolutions and discussed ways to adopt a statement against Pyongyang's "provocation," according to diplomatic sources.

[http://www.koreatimes.co.kr/www/news/nation/2016/08/485\\_212733.html](http://www.koreatimes.co.kr/www/news/nation/2016/08/485_212733.html)

[Return to Top](#)

The Korea Herald – Seoul, South Korea

### Kim Calls SLBM Test 'Greatest Success'

By Shin Hyon-hee

August 25, 2016

North Korean leader Kim Jong-un hailed the latest test of a submarine-launched ballistic missile as the "success of all successes," state media said Thursday, as the UN gears up to condemn the event that would likely beef up the country's nuclear capabilities.

The young ruler observed Wednesday's liftoff during which the projectile flew about 500 kilometers before falling into Japan's air defense zone, marking the weapon's longest flight and signaling sweeping technological advances.

The experiment proved the country has joined the "front rank of the military powers fully equipped with nuclear attack capability," Kim was quoted as saying by the official Korean Central News Agency.

Any "rash acts" by the US and its allies will "only precipitate their self-destruction," he added.

The Rodong Sinmun, the ruling Workers' Party's mouthpiece, carried 24 photos of Kim at the scene. The Korean Central Television also aired a 107-second footage of the launch, featuring the missile soaring into the air from the water, with a thundering noise, from various angles, as well as some other 60 related images.



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The SLBM was fired at a high trajectory powered by a solid fuel engine, the KCNA said, claiming that the test demonstrated its “perfect” mastering of core technologies.

The event prompted the UN Security Council to convene an emergency meeting late Wednesday in New York, during which its members explored issuing a statement condemning the provocation.

With Washington currently working on a draft, one focal point is whether China will back it as it has thwarted similar attempts following the North’s recent tests by linking them to plans to install advanced US missile defense assets in South Korea.

“There was a general sense of condemnation by most members of the council,” Ramlan Bin Ibrahim, Malaysia’s ambassador to the UN and the current council president, told reporters after the closed session.

Seoul offered a positive outlook for the ongoing efforts at the UN, citing Beijing’s expression of opposition to the test during the foreign ministers’ meeting in Tokyo.

“Our government is refraining from predicting what kind of outcome the UNSC discussions will lead to at this point. But we will continue necessary diplomatic efforts in close cooperation with our friends,” Foreign Ministry spokesperson Cho June-hyuck said at a news briefing on Thursday.

“We’ve been emphasizing that the planned deployment of the Terminal High Altitude Area Defense system is our self-defensive measure to counter North Korea’s nuclear and missile threats, not directed at any other third nation,” he added, referring to China’s resistance.

In Washington, White House Press Secretary Josh Earnest also stressed the need to “present a united front to North Korea and deepen its isolation” as critical to changing its behavior, while leaving the possibility open for additional sanctions.

UN Secretary-General Ban Ki-moon censured the test-fire as “deeply troubling” and in defiance of the “united call of the international community to reverse its course” his spokesman Stephane Dujarric said.

<http://www.koreaherald.com/view.php?ud=20160825000951>

[Return to Top](#)

The Korea Times – Seoul, South Korea

### **N. Korea's SLBM Test Success May Render THAAD Useless**

By Jun Ji-hye

August 25, 2016

As North Korea is advancing its submarine-launched ballistic missile (SLBM) technology, analysts here are raising questions about the effectiveness of a U.S. anti-missile system scheduled to be deployed in Seongju, North Gyeongsang Province, next year.

Some say that the Terminal High Altitude Area Defense (THAAD) battery would not be able to defend the nation if the North's submarines launch ballistic missiles from waters off the southern coast of the Korean Peninsula, given that THAAD is designed to shoot down North Korean missiles fired from the north.

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Pyongyang test-fired an SLBM, Wednesday, that flew about 500 kilometers and splashed down in waters under Japan's Air Defense Identification Zone (JADIZ) in the East Sea, showed a significant improvement from past tests. Defense officials here are reportedly looking at the possibility that the North will be able to effectively deploy the SLBMs by the end of this year.

Kim Dong-yup, a professor at the Institute for Far Eastern Studies, said THAAD's AN/TPY-2 radar would be aimed in a northward direction and will only offer a 120-degree azimuth of coverage.

"THAAD will be useless if the North Korean submarines infiltrate South Korean waters to the south and launch an attack from there," he said. "The North's latest SLBM launch means the planned deployment of THAAD could be meaningless."

Cheong Seong-chang, a senior researcher at the Sejong Institute, echoed Kim's view, saying that it will be almost impossible to respond to the North's SLBMs with THAAD.

"The limits of THAAD were seen this time," he said.

Opposition lawmakers criticized the government for "propagating" the defense utility of THAAD.

Rep. Sim Sang-jeung, chairwoman of the minor opposition Justice Party, said, "The government has propagated THAAD as if it is the almighty weapon, but its defense utility has been called into question following the SLBM launch."

Roh Hoe-chan, the floor leader of the party, said, "THAAD's reason for being has disappeared."

Observers say the military should take proper measures to counter new challenges, saying it is almost impossible to conduct surveillance, with the equipment the military currently has, to detect North Korean submarines launching missiles while submerged.

They say the military should promptly establish an underwater "Kill Chain" to detect, identify and preemptively strike incoming missiles launched from submarines.

They also say the nation should develop nuclear-powered attack submarines to strike the North's submarines before they launch any missiles.

Supporters of developing the nuclear submarines, including Rep. Won Yoo-chul from the ruling Saenuri Party, say these vessels do not have to surface frequently, making them difficult for an enemy to detect. Moreover, they can operate at high speeds for long periods of time.

In response to growing concerns, the military said it will sternly and strongly respond to any provocation by North Korea, noting that it is planning to place five military satellites into orbit by 2022, which will considerably enhance its military surveillance of the North.

[http://www.koreatimes.co.kr/www/news/nation/2016/08/116\\_212730.html](http://www.koreatimes.co.kr/www/news/nation/2016/08/116_212730.html)

[Return to Top](#)

The Korea Times – Seoul, South Korea

## **NK to Develop Larger Submarines**

August 25, 2016

North Korea's next move after conducting a successful submarine-launched ballistic missile (SLBM) test, Wednesday, will be to develop submarines that can fire multiple missiles, experts said Thursday.



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The North demonstrated a significant improvement in developing operational SLBMs by successfully test-firing one Wednesday, which flew about 500 kilometers before landing in waters within Japan's air defense identification zone. This indicates that the repressive state may have acquired the cold launch technology necessary to launch a missile from the water and to put it on a trajectory for a designated target.

Experts say the North now apparently needs a new bigger class of submarine than the existing Sinpo class with a displacement of around 2,000 tons to enhance its SLBM capability, as the SLBMs would be useless if the submarine functions poorly.

Moon Keun-sik, a submarine expert at the Korea Defense Security Forum, told reporters that the North will try to build a 3,000-ton submarine with three SLBM launch tubes, and then one that will have more than 12.

The Sinpo-class submarine, which the North built in the 1990s by modeling a Russian Golf-class submarine, has only one missile launch tube, meaning that it has to return to base after firing one missile.

Moon added, "I believe the North has also established a plan to build a nuclear-powered submarine."

The Sinpo-class is capable of navigating underwater for only several hours, which makes it almost impossible to cover long distances covertly in South Korean waters.

The Sinpo-class is capable of navigating underwater for only several hours, which makes it almost impossible to cover long distances covertly in South Korean waters.

A nuclear submarine does not have to surface frequently as it is powered by a reactor, making it difficult for an enemy to detect. Moreover, it can operate at high speeds for long periods of time.

Officials say the allies have yet to detect any signs of the North building larger, nuclear-powered submarines.

But a U.S. expert claimed that the repressive state already began a project several years ago to build a new bigger class of submarine.

Joseph Bermudez, co-founder and chief analytic officer of AllSource Analysis, said at a briefing organized by the U.S.-based North Korea monitoring website 38 North, Wednesday, that the North is building an operational SLBM system under a long-term plan and steady progress has been made.

If North Korea achieved that goal, it would complicate ballistic missile defense planning and operations by South Korea and the U.S., he said.

Experts also noted that the North will step up efforts to miniaturize nuclear warheads small enough to mount on top of SLBMs and that the regime's test-firing will continue to refine its capability to hit designated targets.

According to Pyongyang's state-run Korean Central News Agency, Thursday, North Korean leader Kim Jong-un described the test launch as "the greatest success and victory," noting that his country has full capacity to carry out nuclear attacks.



After observing the launch, Kim said the results showed North Korea "joined the front rank of the military powers fully equipped with nuclear attack capability," the KCNA reported.

[http://www.koreatimes.co.kr/www/news/nation/2016/08/116\\_212732.html](http://www.koreatimes.co.kr/www/news/nation/2016/08/116_212732.html)

[Return to Top](#)

The Chosun Ilbo – Seoul, South Korea

## **U.S. Tracks N.Korean Submarines**

By Yu Yong-weon

August 26, 2016

U.S. nuclear-powered attack submarines have been clandestinely tracking North Korean U-boats since the North began to show progress in developing submarine-launched ballistic missiles last year.

The U.S. has apparently been keeping the information from South Korea.

SLBM attacks would be difficult to detect unless a country's own submarines lie in wait in front of an enemy's submarine bases and ambush them in a crisis.

The U.S. has been spying on North Korean submarine bases in Hamnam and Sinpo, according to a source, and will probably step up surveillance after North Korea succeeded in test-firing an SLBM on Wednesday.

Conventional submarines powered by diesel engines cannot conduct missions underwater for more than three to four weeks, but nuclear-powered ones can operate underwater for up to three months at a time.

The U.S. subs are gathering crucial sonar signatures that will help them identify the 2,000-ton submarines that carry SLBMs.

But the U.S. subs are operating on the high seas away from the North's territorial waters to avoid provoking clashes, and North Korea's anti-submarine equipment is too outdated to detect them.

Meanwhile, North Korean leader Kim Jong-un visited the SLBM launch site on Wednesday and called the launch "the greatest success," according to North Korean state media.

Kim claimed that the North has "joined the front rank of military powers fully equipped with nuclear attack capability" and crowed that the U.S. mainland and operating theaters in the Pacific are under the North's control.

The Rodong Sinmun daily carried dozens of front-page photos of the SLBM launch, while state TV broadcast footage of the test.

[http://english.chosun.com/site/data/html\\_dir/2016/08/26/2016082600772.html](http://english.chosun.com/site/data/html_dir/2016/08/26/2016082600772.html)

[Return to Top](#)



## **USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal**

The Dong-A Ilbo – Seoul, South Korea

### **Controversies over Nuclear-Powered Submarines Resurface**

August 26, 2016

Nuclear-powered submarines are holding the limelight as countermeasure against the threat from North Korea's Submarine Launched Ballistic Missiles (SLBM) for their performance in covertness and striking power that overshadows conventional (diesel-powered) submarines. Conventional models are more likely to be detected by enemy in the process of emerging above the surface of the waters to replenish oxygen for their storage batteries. For proper operation, conventional submarines need to charge their batteries two or three times a day, each for one to two hours, which makes it highly likely for them to be seen and struck by anti-submarine forces such as the maritime operation helicopter. While there are more enhanced diesel-powered submarines, which generate oxygen with fuel cells, even with those, under-water operation can only last a maximum two hours.

By contrast, nuclear-powered submarines can stay under water practically for an unlimited span of time and move twice faster than their conventional counterparts. In other words, South Korea can use nuclear-powered submarines to monitor and track down North Korean submarines armed with ballistic missiles long enough, and in case of emergencies, they can evacuate quickly after striking their strategic target. This explains why some of the most advanced countries are running nuclear-powered submarines as a strategic weapon.

In 2003, the South Korean military had been pushing for a behind-the-scenes project to build three units of 4,000-ton nuclear submarines by 2020 under the Roh Moo-hyun administration, but the project was suspended after the project details were leaked out. "If the project had not been suspended, two nuclear submarines would have been combat-ready by now, and they would have served us greatly in dealing with the threats from North Korea's nuclear weapons," an official from the South Korean Navy said.

South Korea has the necessary technologies to develop small-sized nuclear reactors for 3,000 to 4,000-ton submarines, and it can also conduct uranium enrichment programs with the cap of 20 percent of enrichment levels pursuant to the revision to the Korea-U.S. nuclear cooperation agreement. Some experts project that South Korea will be able to build a nuclear submarine in the similar class to that of the French submarines such as Rubis (2,500 ton) or Barracuda (4,000 ton), in several years. Hurdles remain, however, such as the expected opposition from China and Russia and the tricky job of persuading the U.S. "During the early 2000s, the South Korean military tried to build nuclear submarines to secure strategic weapons against the North and neighboring countries," said a military official.

"Of course, it won't be easy to persuade the U.S. or cover the costs, but as nuclear threats from the North are extremely worsening, more will endorse the project to counter North Korea."

<http://english.donga.com/List/3/all/26/730529/1>

[Return to Top](#)

Issue No.1230, 26 August 2016

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RT (Russia Today) – Moscow, Russia

## Iran Releases Images of 1st Self-Manufactured Missile Defense System

21 August 2016

The final version of Iran's first domestically-built long-range air defense missile system has been unveiled at a Defense expo, alongside other state of the art technologies.

Iran's Bavar-373 air defense complex is designed to track down and penetrate targets like drones and missiles, as well as combat aircraft at various altitudes.

Pictures of the system were released to the public on Sunday during the exhibition of Iran Aviation Industries Organization (IAIO) hosted in the capital Tehran. The event was visited by the country's president Hassan Rouhani, who was portrayed next to various elements of the weapon alongside other top Iranian officials.

Bavar-373 is the country's first air defense system, manufactured solely by local specialists. It was commissioned back in 2010 following a suspended deal with Moscow on the delivery of similar S-300 defense systems due to nuclear sanctions adopted by the UN over Iran's nuclear program.

Last year Moscow re-authorized the delivery of S-300 to Iran shortly before the international community clinched a deal with Tehran on the nuclear program.

*"We did not intend to make an Iranian version of the S-300 – we wanted to build an Iranian system, and we built it,"* Iran's Minister of Defense Hossein Dehghan said on Saturday as quoted by The Times of Israel. The weapon was first time successfully test-fired in August of 2014.

Pictures posted by Iranian news outlets and people on social media showed the final shape of Bavar launchers.

*"Images of the Iranian missile system demonstrate the square shape of the final version of its launchers, as opposed to the initial cylindrical shape,"* Tasnim News Agency says.

Photos of the fire control radars as well as heavy trucks designed to carry the system were also presented on Sunday. According to AP citing the country's defense ministry, Bavar is expected to go into production late this year.

During the exhibition Iran also unveiled its first self-constructed turbo engine, with the country's officials claiming it is capable of flying at the altitude of some 15,000 kilometers (50,000 feet).

*"The Islamic Republic is one of eight countries in the world who have mastered the technology to build these engines,"* Rouhani said as quoted by the Iran Daily.

The country is also expecting to develop sea-based supersonic cruise missiles, according to the Iran's Defense Minister, Hossein Dehghan.

*"We have had considerable progress in this field,"* Dehghan said as quoted by ISNA news agency.

Research on missile defense is not banned by last year's international agreement on Iran's nuclear program. However, the country is subject to a UN resolution 2231 that urges Tehran to refrain from ballistic missile tests for the next eight years.

Back in April Iran's President Rouhani announced increase of the military budget.

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*"If we are able to discuss with world powers around the negotiating table, it is because of our national strength, because of our national unity," Rouhani said during a televised statement commenting on the move.*

<https://www.rt.com/news/356677-iran-defense-air-bavar/>

[Return to Top](#)

Mehr News Agency – Tehran, Iran

### **DM Dehghan: Russia Announced Use of Hamedan Airbase without Prior Notice**

Monday, 22 August 2016

TEHRAN, Aug. 22 (MNA) – Iran's Defense Min. said Russians announced use of Iranian military airbase in Hamedan without prior notice.

Brig. Gen. Hossein Dehghan made the remarks in an interview with the IRIB on Sunday where he talked in length about the country's latest defense achievements and the current developments in the region.

When asked why Iran was not the first to announce the use of Hamedan airbase by Russian fighter jets, Dehghan said "firstly, Russians are keen on showing that they are a superpower and can greatly impact security trends. Secondly, they wish to appear as an effective agent in the scene of operations in Syria so that they will be able to negotiate with the Americans and guarantee their own part in Syria's political future."

The Iranian defense minister went on to add, "Russia became involved in the Syrian crisis at the request of the Syrian government. Syrians were lacking in the airstrike department so Russians planned to deploy a part of their air fleet there."

"But after the short-lived ceasefire, the US, Saudi Arabia and Qatar began to arm terrorists with advanced weapons such as tanks, artillery and even armored personnel carriers," he added.

Dehghan explained the reason for the presence of Russian fighter jets in an Iranian airbase, saying "given the new terrorist moves in Syria and the need for a much stronger confrontation with them, Russia's air fleet needed to refuel in a closer area, hence the use of Hamedan airbase."

The defense minister went on to clarify, "under no circumstances will we ever provide Russians with a military base. They have not come here to stay."

Meanwhile, Dehghan touched upon the claims by American officials on the deployment of S-300 air defense systems in the eastern part of Tehran, adding "where we deploy our air defense systems is of no business to the US. The system will be deployed where it is needed and the decision will be made by aviation security commanders."

Dehghan further announced that the Ministry plans to develop a heavy jet engine in a maximum period of three years and a consortium has been formed between the Defense Ministry and Iranian technical groups to work on the project.

<http://en.mehrnews.com/news/119130/Russia-announced-use-of-Hamedan-airbase-without-prior-notice>

[Return to Top](#)

Issue No.1230, 26 August 2016

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Mehr News Agency – Tehran, Iran

## **Def Min: Foreign Encroachments in Southern Waters ‘Severely Punishable’**

Thursday, 25 August 2016

ISFAHAN, Aug. 25 (MNA) – Defense Minister Dehghan has told a press conference in Isfahan Russian air fighters provide support for Syrian army on the ground against ISIL.

Brig. Gen. Hossein Dehghan who is in Isfahan representing the cabinet on the occasion of National Week of Government, briefly talked to a press conference. The most immediate issue was Iranian patrol boats which had gone too near to an American USS Nitze (DDG-94), a guided-missile destroyer on Thursday morning in the Strait of Hormuz; “it is a natural and routine programs of the border patrol to do surveillance in the southern waters and to collect intelligence on foreign ships’ operations,” Mr. Dehghan told the press in response to a question of the event. “Be the US ships or otherwise, any destroyer of any sort would be severely punished if they are found to encroach our waters in Persian Gulf.”

Mr. Dehghan did not comment further on the incident, just briefly announcing Iran’s free hand in how to handle foreign ships in the southern waters. No other official account of the event had been released either by IRGC or Patrol Police in the region.

A second important issue of question by the press was Russian fighters taking of Nojeh Airbase near Hamedan, where he told the press that Russian fighters provided support and coverage to the Syrian government forces fighting on the ground against ISIL; “Russian-Iranian cooperation advance shared positions in Syria which is fighting terrorism; Russia fighters just accelerate the pace of military operation to destroy terrorist groups on the ground, and they would be provided airbase in the times when we feel that such a support Syrian forces required,” he detailed.

However, an account went online in a US military website. The US Naval Institute website reported that the guided-missile destroyer USS *Nitze* (DDG-94) was followed and harassed by four Iranian patrol boats on Tuesday in the Persian Gulf, defense officials confirmed to USNI News. “The destroyer was in the vicinity of the Strait of Hormuz when four Iranian Revolutionary Guard Corps Navy high-speed patrol boats came at the ship without responding to hails or warning flares fired from *Nitze*,” said the report.

<http://en.mehrnews.com/news/119229/Foreign-encroachments-in-southern-waters-severely-punishable>

[Return to Top](#)

The Guardian (U.S. Edition) – New York, NY

## **Syrian Regime and Isis Carried Out Chemical Attacks, Say UN Investigators**

*International team accuses Assad government of using chlorine gas in two incidents, and Isis fighters of using mustard gas*

Associated Press (AP)

Thursday, 25 August 2016

An international team has concluded that the Assad regime and Islamic State militants carried out chemical attacks in Syria during 2014 and 2015.

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The team from the UN and the Organisation for the Prohibition of Chemical Weapons (OPCW) accused the Syrian government of using chlorine gas in two attacks and Isis fighters of using mustard gas in one.

The UN security council established a joint UN-OPCW investigative team a year ago to identify those responsible for chemical attacks in Syria, and it examined nine cases in seven towns where chemical weapons were believed to have been used.

It determined responsibility in three cases and said evidence in three others pointed to government responsibility but was not conclusive. It said its findings in the three other cases were inconclusive.

The US ambassador to the UN, Samantha Power, urged the security council to take “strong and swift action” against the perpetrators, and accused the Syrian government of violating a September 2013 resolution which ordered the council to impose measures under chapter 7 of the UN charter for “any use of chemical weapons by anyone in the Syrian Arab Republic”.

In September 2013, Syria accepted a Russian proposal to relinquish its chemical weapons stockpile, which averted a US military strike in response to an alleged chemical weapons attack that had killed hundreds in the Damascus suburb of Ghouta the previous month.

Power said the findings mirrored “numerous other confirmed cases of chemical weapons use across Syria, and countless other allegations of such use, including as recently as several weeks ago”.

The UN-OPCW team said that between December 2015 and August 2016 it received more than 130 new allegations from UN member states of the use of chemical weapons or toxic chemicals as weapons in Syria.

It said 13 alleged the use of sarin, 12 mustard gas, four VX nerve gas, 41 chlorine, and 61 other toxic chemicals.

“The information suggests the involvement of both the government of the Syrian Arab Republic and other actions in these alleged incidents,” the team’s report said.

France’s UN ambassador, Alexis Lamek, also called for action, saying: “When it comes to proliferation, use of chemical weapons, such weapons of mass destruction, we cannot afford being weak and the council will have to act.”

The security council is scheduled to discuss the report on 30 August.

Russia, a close ally of Syria, has blocked sanctions and other council action against Assad’s government, but Moscow supported the establishment of the UN-OPCW investigation.

The US National Security Council spokesman, Ned Price, said the US would seek accountability at the UN and placed “a high priority” on targeting Isis’s chemical weapons capabilities.

“We continue to remove leaders from the battlefield with knowledge of these weapons and will target any related materials and attempts to manufacture such chemicals going forward,” Price said.

<https://www.theguardian.com/world/2016/aug/25/assad-regime-isis-chemical-attacks-syria-un-investigators>

[Return to Top](#)



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CUWS Outreach Journal

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Islamic Republic News Agency (IRNA) – Tehran, Iran

Friday, 26 August 2016

### **Supreme Leader Lashes Out Lack of US Commitment to JCPOA**

Tehran, Aug 26, IRNA – The Supreme Leader of the Islamic Revolution has criticized lack of US commitment to the landmark nuclear deal stressing that none of the US administrations are trustworthy.

“We have to learn from lack of US commitment to the Joint Comprehensive Plan of Action (JCPOA). This experience teaches us not to trust promises made by any of the US administrations and that no concrete action must be taken in return for their promises,” said Ayatollah Seyyed Ali Khamenei in a recent meeting with President Hassan Rouhani and his cabinet members.

The meeting was held on the occasion of the national Government Week which is marked by Iranians each year to honor government’s achievements.

“My criticism about the JCPOA concerns the breach of commitment and hostility of the other party not our own elements because our negotiators relentlessly did all within their reach and we are thankful for their efforts,” the Leader said.

Stressing the significance of diplomacy, Ayatollah Khamenei added that all parts of the world should be the target of Iran’s Foreign Policy.

“The power of diplomacy should be distributed worldwide in an appropriate and balanced manner. Asia, Africa and Latin America should be granted the share they deserve in Iran’s diplomacy. Issues such as regional developments that are highly complicated and intertwined should be dealt actively and effectively with accuracy, vigilance and wisdom,” Ayatollah Khamenei stressed.

He added that in diplomacy the only thing which can be trusted is a perfect, signed and documented work.

As for the issue of security in the country, the Leader said, thanks to the efforts made by military and security forces, Iran is provided with a strong security shield compared to regional countries where insecurity prevails.

Ayatollah Khamenei said that enemy is scared of Iran's growing defense and missile defense power, so all efforts to raise Iran’s defense power should be supported.

<http://www.irna.ir/en/News/82204111/>

[Return to Top](#)

Tasnim News Agency – Tehran, Iran

### **Iran Able to Mass Produce Missiles with Any Range, Power: DM**

August 26, 2016

TEHRAN (Tasnim) – Iranian Defense Minister Brigadier General Hossein Dehqan praised the country’s military might in the face of foreign threats and its self-sufficiency in defense sector, saying the Islamic Republic can mass produce ballistic missiles with any range and destructive power.

Addressing a large congregation of worshippers in the central city of Isfahan on Friday, Brigadier General Dehqan said Iranian Armed Forces have become so powerful that they can prevent and repel any act of aggression against the country.

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“Our country’s defense industries in all fields of sea, air, land, air defense and etc. have numerous capabilities and can respond to any (foreign) threats,” he noted.

The defense minister further pointed to Iran’s capability to mass produce long-range missiles, saying that the country is able to manufacture ballistic missiles with any range and destructive power.

He went on to say that such capabilities have made Iran reach “a level of deterrent power” that no foreign country can take action against it.

Earlier on Sunday, an exhibition of the Defense Ministry’s recent achievements was held in Tehran with President Hassan Rouhani in attendance.

Various military hardware, including Bavar-373 long-range air defense missile system, which has been designed and manufactured by Iranian experts, was put on display during the exhibition.

Iranian military 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 regional countries, saying that the Islamic Republic’s defense doctrine is entirely based on deterrence.

<http://www.tasnimnews.com/en/news/2016/08/26/1168755/iran-able-to-mass-produce-missiles-with-any-range-power-dm>

[Return to Top](#)

The Korea Herald – Seoul, South Korea

OPINION/Interview

### **[Herald Interview] Former Saenuri Whip Says South Korea Needs Nukes**

By Yeo Jun-suk

August 21, 2016

With North Korea continuing to hone its nuclear and missile capability, possibly to push ahead a fifth nuclear test, South Korea should have its own nuclear weapon for self-defense, the ruling Saenuri Party’s former floor leader told The Korea Herald.

Rep. Won Yoo-chul urged the government to shift away from observing a decades-old non-nuclear policy toward embracing nuclear armament for self-defense, proposing to use the North’s potential nuclear test as a “trigger” to begin the armament process.

“The trigger strategy means that we should get into a process equivalent to nuclear armament right after North Korea carries out yet another nuclear test” he said. “The most efficient ways to deter nuclear warfare is to have nukes for our self-defense.”

Nuclear armament, according to the lawmaker, includes all the measures varying from the development of nukes to the planned redeployment of US tactical nuclear weapons, of which the best option should be selected to fit South Korea’s security landscape.

To rally support behind his proposal, the former chairman of the parliamentary National Defense Committee built a study group for nuclear armament in July and has gathered opinions from like-minded lawmakers and security experts.

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His proposal has prompted intense debates over whether the measure will indeed be conducive to South Korea's security and economy. Some warned that if Seoul becomes a nuclear state, it would not only bring about economic sanctions from the international community but also lose moral ground to rebuke Pyongyang's nuclear ambition.

But the fifth-term lawmaker dismissed the view as "short-sighted." He asserted that the nuclear possession status could help maintain balance of power between the two Koreas and that the security benefit will far outweigh the potential setback in domestic economy and overseas reputation.

"Over the past decades, we have tried to solve North Korea's nuclear issues through six-party talks but the approach has made little progress. It is time for us to come up with new strategy that reaches beyond conventional paradigm," he said.

Won is not the first Korean politician advocating nuclear armament. Ranging from the former president Park Chung-hee to former presidential candidates Chung Mong-joon, groups of prominent politicians have backed the agenda.

But these efforts were often dismissed as unrealistic ideas or mere political stunts, as South Korea is prohibited by international law from developing nukes. The nation became a signatory to the Non-Proliferation Treaty in 1979 and its nuclear system is subject to inspection from International Atomic Energy Agency.

It is the suggestion of the Saenuri lawmaker that the government should withdraw from those pledges because South Korea confronts "destructive and terrorizing" threats from North Korea. Under Article 10 of the NPT, member states can leave the treaty when "extraordinary events jeopardizes national interest."

"North Korea's continuing efforts to improve its nuclear weapons, making them smaller and lighter, increasingly expose us to the consequent dangers," he said.

"When that happens, no one is out there to protect us. The protection of the peoples' lives and property is a sovereign right which we can never abandon."

One of the major hurdles facing Won is the strong opposition from Korea's long-time ally -- the United States. The US president Barack Obama set out his vision for a "nuclear-free world" back in 2009 and made the initiative one of the main goals during his tenure.

The latest opposition came from Robert Einhorn, former special adviser to the US Secretary of State for nonproliferation and arms control. During the meeting with Won in April, he warned that the decision to obtain nukes would come with a "serious price to pay."

But the lawmaker expected that the US would change its course as North Korea continues to ratchet up its nuclear threat against Seoul and Washington, using the provocations like the launch of Musudan intermediate-range ballistic missile targeting the US continent.

"It seems to me that the US has become more open to the idea (of nuclear armament) than before. There is sentiment inside the US that conventional approaches toward North Korea's nuclear threat have failed and needs to be revised," Won said.

Citing the nuclear armament of the North Atlantic Treaty Organization states such as the UK and France, which the US has endorsed, he claimed that Washington should also be convinced to understand South Korea's armament for the sake of regional stability.

A number of local experts deterred Won's idea, claiming that instead of a full-fledged approach that may trigger backlashes from the international community, Seoul should adopt a "conditional



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armament,” depending on Pyongyang’s denuclearization efforts. They also suggested that the strategy should be used as leverage against the US and China, pushing Beijing to become more involved in curbing Pyongyang’s nuclear plans and Washington to reinforce its nuclear umbrella.

But in Won’s opinion, this blueprint has its flaws in assuring national security, as the US-led nuclear umbrella is not guaranteed to take effect at all times.

“I respect (the conditional armament supporters’) opinion, but I am talking about moving toward real, substantive nuclear armament,” he said. “The US nuclear umbrella, which we see as protection, can be folded back anytime, and we just cannot borrow the umbrella whenever it rains.”

The lawmaker stressed that the nuclear armament will not conflict with Korea-US alliance and that the bilateral relationship would undergo little change regardless of who is elected as the next US president -- including Republican nominee Donald Trump, who calls for withdrawal of US forces stationed in Korea.

But he pointed out that the bilateral relationship should transform into a “matured partnership,” in which South Korea can reduce its overreliance on the US for security matters and exercise more authority in taking self-defense measures.

“While working to maintain a robust bilateral alliance, it is also crucial that we constantly keep asking ourselves what we can do for our own, independent self-defense.”

<http://www.koreaherald.com/view.php?ud=20160821000235>

[Return to Top](#)

Foreign Policy – Washington, D.C.

OPINION/Voice

### **Russia’s Nuclear Paranoia Fuels Its Nuclear Propaganda**

*A classic disinformation campaign about U.S. nukes reveals a lot about Moscow's military anxieties*

By Jeffery Lewis

August 22, 2016

Twitter has been aflame with reports that the United States is moving the few dozen nuclear weapons stored at the Incirlik Air Base in Turkey to Deveselu military base in Romania. I am calling bullshit on this one — but it’s bullshit in a telling way.

It’s most likely Russian propaganda, all part of an elaborate strategy to build opposition to U.S. missile defense efforts and deflect criticism of Moscow for violating arms control treaties. This is a particularly irritating manifestation of the bullshit asymmetry principle: “The amount of energy needed to refute *bullshit* is an *order of magnitude* bigger than to produce it.”

The evidence to suggest that there are U.S. bombs in Romania is pretty thin. An anonymous person blindsided a former Romanian president with a “sources say” question that he was dumb enough to answer — allowing Romanian media to cover it as though sources actually say — and then an obscure EU-focused website called EurActiv stated the outrageous rumor as outright fact, citing nothing more than “independent sources.”

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The Romanian government has already denied it — and, come on, the story never made much sense to begin with. For one thing, there are no storage facilities at Deveselu for the nuclear bombs. The United States has specific security requirements for its nuclear weapons, and Deveselu does not meet them. For example, B61s in Europe are stored in specially designed vaults called the Weapons Storage and Security System, or WS3. There are none at Deveselu or anywhere in Romania. I even checked some recent satellite images supplied by Planet. I found nothing remotely looking like new construction, let alone nuclear weapons storage.

For another thing, the NATO-Russia Founding Act contains a political commitment by NATO not to store nuclear weapons in former Warsaw Pact states. The United States and its allies could renege on this commitment, of course, but that is the sort of thing that would require consultation among NATO members. Consultation means talking, which NATO is really good at. That process would take months, if not years, and would be bound to leak.

No, if the United States withdraws its nuclear weapons from Turkey as it did from Greece in 2001, those weapons will go to another location in Europe with appropriate storage facilities, like Italy's Aviano Air Base, or simply come back to the United States.

So why is an obscure news outlet like EurActiv reporting that nuclear weapons are to be stored at Deveselu? Let's just say EurActiv Measures is more like it.

Here's some important context: Deveselu is an "Aegis Ashore" site for U.S. missile defense interceptors — that is to say, it is a land-based version of the ship-based missile defense system. (It even kind of looks like a ship on land.) The Russians have always hated the idea of U.S. missile defenses being stationed in the territories of their erstwhile Warsaw Pact allies and have said so repeatedly. Claiming that U.S. nuclear weapons are going to be stored at Deveselu is a surefire way to stir up local European populations against a given military site. You don't need to be an arms control wonk to connect the dots here.

Moreover, the Russians, including President Vladimir Putin himself, have repeatedly asserted that U.S. missile defenses are a pretext for stationing offensive, nuclear-armed missiles in violation of the 1987 Intermediate-Range Nuclear Forces (INF) Treaty. It is impossible to know how sincere the Russians are about this fear, but they say it a lot. And it certainly helps raise concern about what might be going on at Deveselu, which makes Putin happy.

The whole thing reads like a pretty classic Russian disinformation operation. A few anonymous sources make a claim in an obscure foreign newspaper. That allows Russia's state media to "cover" the allegations without quite taking responsibility for them. The story gets redistributed by the usual nitwits — looking at you, Breitbart! — and useful idiots connect the dots for Moscow. And, thanks to the geniuses in the Defense Department's press shop who "neither confirm nor deny" any story about the location of U.S. nuclear weapons, Russian media are having a ball.

The Soviets used to do this all the time. One of my favorite examples is the claim that HIV is a U.S. bioweapon gone rogue. In the early 1980s, the KGB planted the story in an obscure newspaper in India. Thomas Boghardt tells the story expertly in an article for the journal *Studies in Intelligence*. They let the story fester for bit, before having Soviet media kick it into high gear. That was followed by a campaign by an East German "doctor." It would all be very funny, except these views are prevalent in Africa and complicate efforts to fight HIV infection. Many important African figures have flirted with AIDS denialism, something that, in part, seems to have been strengthened by the circulation of such conspiracy theories (and which conspiracy theorists then recycle as further support). These sort of stories become impossible to beat back once they go, if you'll forgive the pun, viral. "Once the AIDS conspiracy theory was lodged in the global [subconscious]," Boghardt wrote, "it became a pandemic in its own right."



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There are literally dozens of other examples of Soviet propaganda like this. I strongly suspect the same thing is happening here. The Russians are using the concern about nuclear weapons located at Incirlik to push the idea that those weapons might come to Romania, largely in an effort to stir up local opposition to missile defense.

There is, however, another disturbing possibility. Even if the Russians — or some Russians — know that the EurActiv story is hokum, they may genuinely be worried about the idea that the United States would convert missile defense interceptors into INF-like weapons that could kill the Russian leadership with little or no warning. Although it is ridiculous from an American perspective, I have long argued that the Russian General Staff is genuinely terrified about the threat of decapitation — the ability of the United States to use nuclear weapons and precision munitions to kill the Russian leadership in a surprise attack. I've written about this before:

“It is a funny sort of paranoid fantasy, the notion that the United States might place nuclear weapons on missile defense interceptors and use them to decapitate the Russian leadership in Moscow. But I suspect this is the rub. The simplest explanation for Russia’s overwhelming concern with missile defense is that the General Staff fears that Russia is much, much more vulnerable to an attack against the country’s command-and-control infrastructure — what used to be called decapitation — than we realize. Part of this is a fear that missile defense interceptors could be armed as offensive missiles, part of it is that missile defenses could mop up a disorganized Russian retaliation. Most of it, however, is probably sheer terror at the persistent technological advantage held by the United States in light of Russian vulnerabilities.”

I know it seems absurd, but I think the Russians do believe it. Moscow was unmoving during the New START negotiations at the beginning of President Barack Obama’s administration on the issue of missile defense interceptors and offensive missiles using the same silos. That’s why it insisted on an obscure and politically troublesome provision prohibiting the placement of missile defense interceptors in silos built for intercontinental ballistic missiles and vice versa. Then-Secretary of Defense Bob Gates also mentioned that Moscow expressed concern that “ground-based interceptors in Poland could be fitted with nuclear weapons and become an offensive weapon like a Pershing and a weapon for which they would have virtually no warning time.” A senior official later told me he was surprised to see that remark in an unclassified setting. And this year, Putin made precisely the same claim in public. I know it is weird. But it just may be that the Russians think some weird things.

Even if Russia is paranoid, the increasing performance of missile defense interceptors means that the missiles could also be used to attack ground targets. I asked my friend David Wright to model an SM-3 Block IIB interceptor based in Poland converted to a nuclear weapon, and, sure enough, it would violate the 1987 INF Treaty and pose a threat to Moscow.

As far as I can tell, no one in the United States is *planning* to do this, but one reason the Russians may be suspicious is that they may be thinking about it themselves. John Krempasky likes to say the easiest way to figure out what the Russians are up to is to look at what they are accusing the United States of doing. He has a point. Many countries have adapted surface-to-air missiles to have surface-to-surface roles, including Russia and the United States. Some foreign observers are already warning that it is Russia that is planning on converting its most advanced air defense missiles into intermediate-range nuclear weapons.

I have long pressed the Obama administration to try to talk to the Russians about dealing with this problem. In particular, I have proposed that the United States and Russia agree to a ban on nuclear-armed missile defense interceptors.

Issue No.1230, 26 August 2016

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The United States, after all, doesn't use nuclear weapons on its missile defenses. In fact, a 2002 bipartisan amendment put forward by Sens. Ted Stevens (R-Alaska) and Dianne Feinstein (D-Calif.) prohibits the Defense Department from spending money on the "research, development, test, evaluation, procurement or deployment of nuclear-armed interceptors of a missile defense system." That's because after the chairman of the Pentagon's Defense Science Board indicated that then-Secretary of Defense Donald Rumsfeld was "interested in looking at" nuclear-armed missile defenses, Stevens freaked out.

On the other hand, Russia's missile defense system, at least the one around Moscow, may still be armed with nuclear warheads. Russia is reportedly moving toward a conventional missile defense of the city, something we should hasten along if at all possible. And if Putin intends to keep the Moscow anti-ballistic missile system armed with nuclear warheads, that is a sufficiently terrible idea to make this proposal all the more important.

So why not agree to prohibit nuclear-armed ballistic missile defenses? Everyone bangs on about reducing the massive stockpile of Russian tactical nuclear weapons. Well, a lot of those nuclear weapons are thought to be air defense warheads. Let's do it!

Banning nuclear-armed missile defense interceptors would help shore up the INF Treaty at a time when it looks to be faltering. There are any number of challenges facing the treaty. Addressing one of them would be a step in the right direction.

Perhaps most importantly, a ban would require verification, in the form of confidence-building measures, that demonstrates that neither side is converting missile defenses into nuclear-armed offensive missiles. That would probably involve visits to missile defense sites to examine the interceptor warheads and ensure nothing worrisome is stored at the base. Imagine if we had such an agreement today. It would be a simple thing to demonstrate to the Russians, as well as to the rest of the world, that there are no nuclear weapons at Deveselu and that the story — whether it was hatched in Moscow or not — is bunk.

*Jeffrey Lewis is director of the East Asia Nonproliferation Program for the James Martin Center for Nonproliferation Studies at the Middlebury Institute of International Studies at Monterey.*

<http://foreignpolicy.com/2016/08/22/russias-nuclear-paranoia-fuels-its-nuclear-propaganda/>

[Return to Top](#)

Bulletin of the Atomic Scientists – Chicago, IL

OPINION/Article

### **The Dangers of No-First-Use**

By Franklin C. Miller & Keith B. Payne

August 25, 2016

The Obama administration reportedly is seriously considering adoption of a no-first-use nuclear policy. Such a declaratory policy would tell the world that the United States would never use nuclear weapons other than in response to an opponent's nuclear attack. To some, such a policy may seem attractive because it suggests a type of symmetry and proportionality with regard to nuclear weapons.

In fact, however, US adoption of a no-first-use policy would create serious risks without offering any plausible benefit.



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Why so? There is no doubt that the US nuclear deterrent has prevented war and the escalation of war in the past. For example, there is considerable evidence from the 1991 First Gulf War that the US nuclear deterrent helped to prevent Iraqi leader Saddam Hussein from escalating to the use of Iraqi chemical or biological weapons of mass destruction—possibly saving tens of thousands of US and allied lives. A US pledge of no-first-use now would encourage current and future opponents to believe that they need not fear the US nuclear deterrent in response to their potential massive use of military force against us or our allies—including the use of advanced conventional weapons, and chemical and biological weapons.

Consequently, declaring a no-first-use policy would degrade the prospective credibility of the US nuclear deterrent—a particularly imprudent step at a time when Russia and China are rapidly expanding their military capabilities, pursuing aggressive policies in Europe and Asia respectively, and issuing explicit threats to US allies in the process. The same applies to North Korea, which repeatedly issues extreme threats against us and our Asian allies while maintaining the world's fourth largest army and reportedly advanced chemical and biological capabilities. Given these contemporary realities and the stakes involved, degrading the credibility of the US nuclear deterrent by adopting a policy of no-first-use is no small matter. Our goal instead should be to maintain the most effective deterrent possible to such lethal threats.

US adoption of no-first-use would also severely shake allied confidence in our security guarantees to them. In fact, US allies Japan, South Korea, Great Britain, and France reportedly have recently informed the Obama administration that a no-first-use policy would be detrimental to their security. The vast majority of our treaty allies depend, at least in part, on a credible US nuclear deterrence “umbrella” for their security. US adoption of a no-first-use policy would compel some to take steps to mitigate the degradation of the US nuclear deterrent which has heretofore protected them. One such avenue would be the possible acquisition or creation of their own independent nuclear weapons. There already appears to be considerable popular support today for the development of nuclear weapons in South Korea; US adoption of no-first-use would only increase that motivation. A policy of no-first-use now would likely increase the prospect for new nuclear powers in Asia and Europe, which would severely undercut the Nuclear Non-Proliferation Treaty and be extremely destabilizing, given the likely severe Chinese and Russian responses.

In short, based on evidence from the past seven decades, the US nuclear deterrent helps deter war and preserve global stability by compelling potential aggressors to consider the possibility of a US nuclear response in any of their prospective plans to attack us or our allies. It also provides enormous support for nuclear non-proliferation by helping to assure over 30 US allies of their security. US adoption of a no-first-use policy would threaten to degrade this critical deterrence of enemies and assurance of allies.

Proponents of no-first-use often assert that US high-tech conventional forces could ultimately defeat an opponent's massive use of military force, including advanced conventional weapons, and chemical and biological weapons, without the US needing to resort to nuclear weapons—and thereby claim that the US nuclear deterrent threat is unnecessary for this purpose.

This presumption of US military dominance is questionable in some key geographic areas. But more importantly, this claim fundamentally confuses the distinction between deterrence and war-fighting. We and our allies want to deter an opponent's massive use of force from ever taking place; we do not want to be compelled to wage war, even winning a non-nuclear war, in order to recover lost allies. Fighting such a war would cause unprecedented levels of death and destruction wherever it is fought. That is why US policy for over seven decades has sought to deter war via the



US nuclear deterrent, and why every Democratic and Republican administration for over seven decades has rejected a no-first-use policy. Retaining ambiguity regarding the US nuclear deterrent threat appears to be central to the success of that deterrence policy; we do not want a no-first-use policy that essentially assures opponents that they may safely ignore a US nuclear response if they themselves launch anything short of a nuclear attack. That is why key US allies also strongly oppose a no-first-use policy.

In light of this, adopting a policy of no-first-use would have to bring powerful benefits to offset the likely harm done to stability. What might these be? Advocates of a US no-first-use policy claim that US adoption of no-first-use would lead other nuclear powers to similarly do so, and thus contribute to nuclear stability.

In truth, however, there is zero evidence that US adoption of a no-first-use policy would lead others to mimic the United States. The idea that the rest of the world follows the United States in this way is itself outdated, arrogant, and contrary to considerable evidence. The failure of President Obama's Prague Agenda to convince Russia, China, India, Pakistan, North Korea, or other nuclear powers to reduce the role nuclear weapons play in their respective security policies is a powerful testament to this fact.

Russia by its own open statements is now committed to a policy of coercive and unambiguous *nuclear first-use threats and possible employment* to support an expansionist agenda in Europe—which means it hardly would follow a US no-first-use agenda. Indeed, a senior Russian official recently responded to US arms control overtures by observing that Russian nuclear policies are driven strictly by Russian security needs, not by “mythical universal human values.” Other nuclear powers similarly pursue their own paths and “do not seek to emulate” the United States. And, based on China's own open statements about its potential use of nuclear weapons, China's existing supposed no-first-use policy is wholly ambiguous and uncertain; China cannot seriously be considered to have a no-first-use policy.

In 2009, the high level and bipartisan Congressional Strategic Posture Commission, also known as the Perry-Schlesinger Commission, concluded that the United States should not adopt no-first-use. In 2010, the Obama administration's own Nuclear Posture Review reached the same conclusion. Since then, the international security situation has deteriorated. The spectrum of military threats to the United States and our allies has expanded considerably as Russia and China have pursued military buildups and aggressive policies in Europe and Asia respectively. US adoption of a no-first-use policy now would only reflect willful US detachment from these global realities, and would be perceived as such by friends and foes alike.

*Franklin C. Miller is a principal of The Scowcroft Group. He is a retired civil servant, having served 22 years in senior positions in the Department of Defense and four additional years on the National Security Council staff as a special assistant to the President. Miller is a member of the Defense Policy Board and the US Strategic Command Senior Advisory Group. Keith B. Payne is president and co-founder of the National Institute for Public Policy, and professor and department head at the Graduate School of Defense and Strategic Studies at Missouri State University (Washington campus), and chair of the US Strategic Command Senior Advisory Group, Strategy and Policy Panel. He has served as deputy assistant secretary of defense, a commissioner on the Perry-Schlesinger Commission, and as a member of the State Department's International Security Advisory Board.*

<http://thebulletin.org/dangers-no-first-use9790>

[Return to Top](#)



## **USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal**

The National Interest – Washington, D.C.

OPINION/The Buzz

### **Why Japan and South Korea Should Fear North Korea's Underwater Nuclear Weapons**

By Dave Majumdar

August 25, 2016

With North Korea demonstrating what appears to have been a successful launch of a submarine launched ballistic missile (SLBM), Pyongyang may have secured a nuclear second strike capability that could reduce the value of the American nuclear umbrella over Japan and South Korea. However, though the North Korean SLBM is not likely to pose a direct threat to the United States, it will create additional headaches for the U.S. Navy because the service will have to maintain track of Pyongyang's ballistic missile submarines.

“This development would potentially give the DPRK [Democratic People's Republic of Korea] a relatively secure second-strike capability. This could reduce the value of the U.S. nuclear deterrent against the North Koreans,” Bryan Clark a senior naval analyst at the Center for Strategic and Budgetary Assessments told *The National Interest*. “That would be significant, particularly in relation to our extended deterrence assurances to Japan and the RoK [Republic of Korea]. If the DPRK were to threaten one of them with nuclear attack, the U.S. could not effectively deter the DPRK by threatening a nuclear attack on it. The DPRK could still plan to launch the strike with its SSBN.”

The volatile North Korean regime has made many unsuccessful attempts to launch a SLBM—until Aug. 23. Late in the evening that day, the U.S. Pacific Command (PACOM) announced that American forces had monitored a successful North Korean SLBM launch at sea. “U.S. Strategic Command (USSTRATCOM) systems detected and tracked what we assess was a North Korean submarine missile launch at 3:29 p.m. CDT, August 23, 2016. The launch of a presumed KN-11 submarine-launched ballistic missile occurred off the coast of Sinpo. The missile was tracked over and into the Sea of Japan, approximately 300 miles off the coast of North Korea,” reads a statement issued by PACOM spokesman Commander Dave Benham. “The North American Aerospace Defense Command (NORAD) determined the missile launch from North Korea did not pose a threat to North America.”

As usual, PACOM issued a strongly worded condemnation of the North Korean test—and as usual—Pyongyang ignored it. “We strongly condemn this and North Korea's other recent missile tests, which violate UN Security Council Resolutions explicitly prohibiting North Korea's launches using ballistic missile technology,” Benham said. “This provocation only serves to increase the international community's resolve to counter the DPRK's prohibited activities, including through implementing existing UN Security Council sanctions. Multiple U.N. Security Council resolutions require the DPRK to suspend all activities related to its ballistic missile program. We intend to raise our concerns at the UN to bolster international resolve in holding the DPRK accountable for these actions.”

Additionally, Benham said that the American commitment to Japan and South Korea is absolute and ironclad, but as Clark noted—the successful North Korean test unavoidably weakens the U.S. extended nuclear deterrence umbrella over those two nations. “Our commitment to the defense of our allies, including the Republic of Korea and Japan, in the face of these threats, is ironclad. We remain prepared to defend ourselves and our allies from any attack or provocation,” Benham said.

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### CUWS Outreach Journal

Maxwell AFB, Alabama

“We call on North Korea to refrain from actions that further raise tensions in the region and focus instead on taking concrete steps toward fulfilling its commitments and international obligations.”

Though the North Korean SLBM will likely reduce the value of America’s extended deterrence over Japan and South Korea, the new weapons won’t be a huge problem for the United States’ own strategic nuclear deterrent. “The SSBN is less of a challenge for U.S. nuclear deterrence. If North Korea were to attack the United States directly, it would not be able to eliminate any leg of the U.S. nuclear triad and the attack could be small enough to be defeated by U.S. missile defenses,” Clark said. “The United States could then launch a devastating retaliatory strike. The fact the DPRK might be able to respond with a small number of SLBMs against the U.S. afterward would not be a deterrent on the U.S. response.”

That being said, the North Korean ballistic missile submarines which carry those SLBMs might prove to be a headache for the U.S. Navy’s dwindling attack submarine force, which is set to drop to a low-point of 41 by 2029—well below the required 48 boats (which is already set too low). “The DPRK SSBN may also introduce a new requirement to find and track it with U.S. SSNs, as we did against the Soviets during the Cold War,” Clark said. “The SSBN, however, will likely be fairly noisy and would likely not have the reliability and condition to deploy for long periods far from home. That would make them easier to find and track.”

Thus, while the North Korean development is significant—it’s probably not an insurmountable problem for the United States. Nonetheless, given a new SLBM force, Pyongyang might be emboldened to act even more belligerently than before.

*Dave Majumdar is the defense editor for the National Interest.*

<http://nationalinterest.org/blog/the-buzz/why-japan-south-korea-should-fear-north-koreas-underwater-17481>

[Return to Top](#)

#### 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.

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United States Air Force Center for Unconventional Weapons Studies | Maxwell AFB, Alabama

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## ***USAF Center for Unconventional Weapons Studies (CUWS) Outreach Journal***

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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