



---

UNITED STATES AIR FORCE CENTER FOR  
**UNCONVENTIONAL  
WEAPONS STUDIES**

---

**OUTREACH JOURNAL**

**Issue No. 1264**  
*19 May 2017*



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

1

### **Feature Item**

#### ***“Energy and Water Development: FY2017 Appropriations for Nuclear Weapons Activities”.***

Authored by Amy Woolf; published by the Congressional Research Service; May 10, 2017

<https://fas.org/sgp/crs/nuke/R44442.pdf>

The annual Energy and Water Development appropriations bill funds civil works projects of the Army Corps of Engineers, the Department of the Interior’s Bureau of Reclamation, the Department of Energy (DOE), and several independent agencies.

The DOE budget includes funding for the National Nuclear Security Administration (NNSA), a separately organized agency within DOE. NNSA operates three programs: Defense Nuclear Nonproliferation, which secures nuclear materials worldwide, conducts research and development (R&D) into nonproliferation and verification, and operates the Nuclear Counterterrorism and Incident Response Program; Naval Reactors, which “is responsible for all U.S. Navy nuclear propulsion work”; and Weapons Activities.

The last is the subject of this report. The Weapons Activities account supports programs that maintain U.S. nuclear missile warheads and gravity bombs and the infrastructure programs that support that mission. Specifically, according to DOE’s budget documentation, these programs “support the maintenance and refurbishment of nuclear weapons to continue sustained confidence in their safety, reliability, and performance; continued investment in scientific, engineering, and manufacturing capabilities to enable certification of the enduring nuclear weapons stockpile; and manufacture of nuclear weapons components.”

NNSA’s budget request for FY2017 sought \$9,243.1 million for Weapons Activities within a total budget of \$12,884 million for NNSA. This represents an increase of approximately 4.4% in the Weapons Activities Account over FY2016, when Congress appropriated \$12,526.5 million for NNSA, of which \$8,846.9 million was allocated to the Weapons Activities account. The Consolidated Appropriations Act for 2017 (P.L. 115-31) provides \$9,318.1 million for Weapons Activities, an increase of \$471 million and 5.3% over the FY2016 level, within a total budget of \$12,938 million for NNSA.

Weapons Activities has three main programs, each with a request of over \$1 billion for FY2017, as follows:

- Directed Stockpile Work supports programs that work directly on nuclear weapons. It includes life extension programs, maintenance, and other activities. The FY2017 request was \$3,330.5 million, a 2% reduction from the FY2016 appropriation; the FY2017 appropriation is \$3,308.3 million.
- Research, Development, Test and Evaluation Programs, which advance the science, engineering, computation, and manufacturing, support Directed Stockpile Work. The FY2017 request was \$1,854.7 million, a 2% increase over the FY2016 appropriation; the FY2017 appropriation is \$1,842.2 million.



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

- Infrastructure and Operations maintains, operates, and modernizes the National Nuclear Security Administration infrastructure. It supports construction of new facilities and funds deferred maintenance in older facilities. In the FY2016 budget, this program replaced the program known as Readiness in Technical Base and Facilities. The FY2016-enacted amount was \$2,279.1 million; the FY2017 request was \$2,721.9 million, a 19% increase over the FY2016 appropriation; the FY2017 appropriation is \$2,808.4 million.

Weapons Activities also includes several smaller programs, all of which are described in this report: Secure Transportation Asset, Defense Nuclear Security, Information Technology and Cybersecurity, and Legacy Contractor Pensions.

## **Table of Contents**

### **US NUCLEAR WEAPONS**

- [Updated View of Nuclear Weapons Is Called Vital for U.S. Security](#)
- [Fracking Is Encroaching on US Nuclear Missile Sites, General Says](#)
- [Inside the U.S. Government's Plans to Survive a Nuclear War](#)
- [We're Edging Closer to Nuclear War](#)

### **US COUNTER-WMD**

- [Emergent Unveils Expanded CIADM Facility for Medical Countermeasure Preparedness](#)
- [NATO And Partners to Discuss Weapons of Mass Destruction Non-Proliferation and Arms Control in Helsinki](#)
- [Stacking Countermeasures for Layered Defense](#)
- [The THAAD System in South Korea Detected North Korea's Latest Missile Launch. So What?](#)

### **US ARMS CONTROL**

- [The Chinpo Shipping Case Implodes](#)
- [Conference Highlights Significance of Nuclear-Test-Ban Treaty](#)
- [Chinese Sanctioned by US for Aiding Iran Missile Development](#)
- [Policy Experts Push US to Get Stern on Russia](#)

### **ASIA/PACIFIC**

- [Why China's Nervous Over South Korea's New Missile Defense System](#)
- [North Korea's New Intermediate-Range Ballistic Missile, the Hwasong-12: First Takeaways](#)
- [Indonesia Appeals for Nuclear Disarmament at International Forums](#)
- [Sanctioned China Firm Eyes AFP Deal](#)

### **EUROPE/RUSSIA**

- [Russia Threatened to Use Nukes? US Commission Produces Wildest Claims in Push for Military Buildup](#)
- [US Stores Dozens of Weapons of Mass Destruction in This Non-Nuclear Country](#)
- [Less Than 50 Percent of Russians Expect a Nuclear War - Poll](#)
- [A Physicist Says Blowing Up Nuclear Weapons in the Ocean to Trigger Tsunamis 'Would Be Completely Stupid'](#)



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

3

### **MIDDLE EAST**

- [Iran Still Developing ICBM Technology Despite UN Resolutions – US Intel Chief](#)
- [US Extends Nuclear Sanctions Relief Days Before Iran Vote](#)
- [A Closer Look at Iran And North Korea's Missile Cooperation](#)
- [12 Arab Countries Call for Weapons of Mass Destruction-Free Middle East](#)

### **INDIA/PAKISTAN**

- [India's MOD Demands Early Induction of Ballistic Missile Defense System](#)
- [Did Pakistan Make North Korea a Nuclear Power?](#)
- [Pakistan's Secret Nuclear Weapons Storage Facility Tracked in Khyber Pakhtunkhwa](#)
- [Pak Accuses India of Diverting Nuclear Materials to Make Weapons](#)

### **COMMENTARY**

- [Why US Nuclear Sites Are a Ticking Time Bomb](#)
- [Why the U.S. Is Right to Invest in Nuclear Weapons](#)
- [A Taboo Still Surrounds the Legacy of Nuclear Testing](#)
- [Our Missile-Defense Policy Should Be 'America First'](#)



The Livermore Independent (Livermore, CA)

## **Updated View of Nuclear Weapons Is Called Vital for U.S. Security**

By Jeff Garberson

May 18, 2017

The U.S. needs to modernize its nuclear weapons policies to be able to respond to three nuclear adversaries who believe they can defeat the United States by a combination of threats, blackmail and actual warfare, according to a nationally known expert at Lawrence Livermore National Laboratory.

Nuclear weapons must be integrated into the overall U.S. defense effort as one military tool among many others, like ballistic missile defense, cyber defense, advanced conventional armaments and space defense, according to Brad Roberts, director of LLNL's Center for Global Security Research.

Since the end of the Cold War, Roberts said that U.S. thinking about nuclear weapons has been polarized, divided into two camps that view nuclear weapons either as too terrible to have at all or as the essential ingredient of warfighting in the coming nuclear age.

"The middle has just disappeared," he said, speaking last week to a meeting of the Lawrence Livermore Laboratory's Retirees Association. "The opposing groups don't talk to each other, they don't share common assumptions."

Until recently, the polarization hasn't mattered much, as our national security program has "been living off the investments of the Cold War" -- a time when we kept weapon systems relatively up-to-date and faced only the single enemy, the Soviet Union.

Today, however, we have reached "a crossroads," he said. Our nuclear deterrent is aging while nuclear adversaries have been developing strategies and modernizing weapons systems that they believe allow them to challenge and defeat us.

"We've come to the time when we will either modernize our nuclear deterrent or watch it 'rust away' very quickly over the next 15 years.... We have to have a national policy debate that we have not so far had."

The three nuclear adversaries that the U.S. faces are Russia, China and North Korea, all of whom appear convinced that they can make war so painful that the U.S. will back down rather than fight, Roberts believes.

The U.S. is more powerful than any of the three, but each is led by an autocrat who has fallen victim to the common error of believing that democratic countries are weak and indecisive, Roberts believes. They consider democracies to be "led by individuals who lack (the autocratic leader's) personal toughness," he wrote in an email following the talk.

### **Theory of victory**

Each country has its own "theory of victory" to explain how it will prevail over the U.S. Specifics vary, but they tend toward bold combinations of threats and blackmail, strategies to isolate us from our allies and our allies from each other, and punishing warfighting if necessary, he said.

Roberts's talk summarized the main arguments of his 2016 book, "The Case for U.S. Nuclear Weapons in the 21st Century."

Roberts has both practical and academic experience.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538





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

5

He served as deputy assistant secretary of defense for nuclear and missile defense policy from 2009 to 2013, playing a leading role in the Nuclear Posture Review for the Obama Administration.

After that, he moved to Stanford University's Center for International Security and Cooperation as a William Perry Fellow.

The book came as an outgrowth of his work at Stanford. After Stanford, he moved to LLNL in 2015 to head its 21-year-old policy center, the Center for Global Security Research.

"This is exactly the right time to understand how (the leaders of Russia, China and North Korea) think about problem of deterring and defeating a conventionally superior nuclear armed major power and its allies," he told the retiree group.

All three recognize not only the great military power of the U.S. in conventional and nuclear terms, but also the strength of the alliances that the U.S. maintains in Asia with countries like Japan and South Korea and in Europe through NATO.

The three adversaries see victory over the U.S. and its allies coming not from all-out war, which they would almost certainly lose. Instead, it would be an outcome like those envisioned by the classical military theorists Sun Tzu of China or Carl von Clausewitz of Prussia.

Either the U.S. would give in without fighting – Sun Tzu's favored outcome – or it would soon sue for peace when the fighting became too painful – a political settlement of the kind envisioned by Clausewitz.

The U.S. nuclear force today is based on aging technologies that in some cases are approaching obsolescence, Roberts believes.

The newest part of the nuclear delivery system is the submarine force, deployed in the 1980s, he said. Despite being newest, it will "age out first because you can only compress submarines so many times.... (The submarines) went into service 15 months apart, and they are going to come out of service 15 months apart beginning in 2025."

The newest U.S. intercontinental ballistic missiles "went into the ground" in 1970, while the newest B-52's flying nuclear missions – "the newest!" he repeated for emphasis – went into service in 1962.

Noting that many members of the Retirees Association may have worked on nuclear weapon designs when they were LLNL employees, he said that nuclear warheads have an average life expectancy of 15-20 years and the newest U.S. nuclear weapon went into service in 1991.

"There is not a single warhead in the arsenal today that is not beyond its originally designed service life," he stated.

### **'Archaic system'**

This is "an archaic system that will rust out over the next 15 years if it's not replaced," he said.

"Three administrations in a row have essentially punted on this question because the political will didn't exist to begin the nuclear modernization process."

In the meantime, he said, Russia, China and North Korea "are clearly focused on subduing us and separating our allies from us in peacetime."

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

Each does this in its own way. Russia, for example, “has created a very large aerospace defense force with air defense, missile defense, cruise missile defense, antiballistic missile defense and anti-satellite defenses... (while) we barely noticed.”

China’s strategic forces are largely unknown. It has declined to participate in arms reduction negotiations and has revealed almost nothing about the size and scope of its nuclear weapons program.

Although China would be happier if North Korea dropped its nuclear capability and became less belligerent, Beijing has been unwilling to help the U.S. put significant pressure on the maverick regime for fear of undercutting Pyongyang and risking instability on the Korean Peninsula.

This is for several reasons, Roberts said. For one, collapse of the North could drive large numbers of refugees into one of China’s poorest and potentially most unstable provinces.

For another, China does not want to risk the reunification of the Korean Peninsula under Seoul leadership, which would bring the American military even more heavily to its eastern boundaries.

For a third, if North Korea were no longer a distraction in Asia, the U.S. might feel free to focus more attention on Taiwan, which China considers an integral if rebellious part of its national identity.

**‘Ability to destroy the U.S.’**

As for North Korea itself, Roberts believes it has periodically entered into arms and trade negotiations with the U.S. in order to buy time to advance its ballistic missile and nuclear weapon programs.

“The evidence is very clear that they’re not interested in a deal,” he said.

“They are interested in having a nuclear deterrent of about 100 weapons in a few years, and the ability to destroy the United States.

“If they can get a deal that buys them time to cheat and head toward that agenda they will do that. That’s their behavior over the past 20 years.”

Roberts believes that much has changed in recent years. Since 9/11, we have focused narrowly on preventing and responding to terrorism and let other essential defense priorities slide.

He is concerned that the enthusiastic advocacy of the separate components of national defense is taking precedence over their integration into a robust, integrated program that would dissuade adversaries from threats or attacks.

In short, the leaders of Russia, China and North Korea are the ones who should feel that war would be unacceptably painful. “It’s about stripping away the confidence that these three leaders have in their ‘theories of victory,’” he said.

“We do that through not overly relying on one tool like nuclear weapons but (by) knitting together a suite of capabilities” that can influence expectations of the harm and the cost of conflict.

[http://www.independentnews.com/news/updated-view-of-nuclear-weapons-is-called-vital-for-u/article\\_6ebbc8e6-3b4d-11e7-93ca-6f06ed70c1e5.html](http://www.independentnews.com/news/updated-view-of-nuclear-weapons-is-called-vital-for-u/article_6ebbc8e6-3b4d-11e7-93ca-6f06ed70c1e5.html)

[Return to top](#)



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

7

The Washington Examiner (Washington, DC)

### **Fracking Is Encroaching on US Nuclear Missile Sites, General Says**

By Travis Tritten

May 17, 2017

The fracking boom in America's wide open spaces is causing a challenge for the crews of intercontinental ballistic missile sites, according to the general in charge of the Air Force Global Strike Command.

Over the past decade, the natural gas extraction business, including its influx of drilling crews and truck traffic, has spread across the same states where the 20th Air Force maintains its nuclear missile sites.

"It is a contested area of responsibility. It is contested by fracking," Gen. Robin Rand said.

Air Force missile operators and maintainers at facilities such as Malmstrom Air Force base in Montana drive hours for shifts at the remote sites eight to 10 times per month, he said.

"We're in the same area [as fracking operations], so these are out in the middle of nowhere, if you will, on some narrow roads. So it's just a challenge," Rand said.

The 20th Air Force has territory that covers more than 33,000 square miles in Colorado, Nebraska, Wyoming, Montana and North Dakota.

The process of hydraulically fracturing rock and extracting oil and gas has revolutionized U.S. energy production in recent years. It has created booms and busts of industrial and business activity in areas across the country.

"It's just an encroachment challenge, and we've got to be aware of it," Rand told a breakfast meeting on Capitol Hill. "It requires a little more scrutiny and time ... There's no safety issues, it's just that it requires more attention to detail than probably ever before."

<http://www.washingtonexaminer.com/fracking-is-encroaching-on-us-nuclear-missile-sites-general-says/article/2623353>

[Return to top](#)

The Washington Post (Washington, DC)

### **Inside the U.S. Government's Plans to Survive a Nuclear War**

By Sadie Dingerfelder

May 18, 2017

In 2011, a staffer at Washingtonian found a government ID in a Metro parking garage and gave it to Garrett M. Graff (the magazine's editor-in-chief at the time) to track down its owner. "Since I reported about that world, he figured I'd know what to do with it," Graff says.

Graff immediately noticed something strange.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

"The back of the ID had these evacuation instructions on it. And so I got on Google Maps and followed the instructions and they led to a road that very clearly went into the side of a mountain, and you can see on the Google satellite view big concrete bunker doors."

That discovery inspired Graff to comb through newly declassified documents to learn more about the U.S. government's plans in the event of a nuclear war or other catastrophe. His research culminated in the new book "Raven Rock: The Story of the U.S. Government's Secret Plan to Save Itself — While the Rest of Us Die." (Graff will discuss the book at Politics and Prose on Saturday.)

At first, the government didn't plan to let "the rest of us die."

"In the early 1950s, the government really hoped and believed it would be able to save most Americans," Graff says. As bombs became more destructive, "plans and ambitions gradually shrunk until, realistically, the best they could hope to do is save the senior leadership."

Drills and disasters have shown that the federal government is too complex and unwieldy to pluck out of D.C. by helicopter and set up in an underground bunker — though that was, and still is, the basic plan, Graff says.

One such shelter is the mountain fortress Graff tracked down: Raven Rock. Here's more on it, plus other tidbits from doomsday scenarios past and present.

**Raven Rock**

This compound, carved out of a mountain near the Pennsylvania-Maryland border, contains several freestanding, multistory buildings (on giant, shock-absorbing springs) for a total of 900,000 square feet of office space. It has its own subterranean water supply, too. Raven Rock is where top government and military officials would hide out in the event of a major attack on Washington, D.C.; it was reportedly one of the "undisclosed locations" former Vice President Dick Cheney worked from in the aftermath of the Sept. 11 attacks.

**Mount Weather**

Another major underground government complex, Mount Weather has been in use since the 1950s. Located at the border of Loudoun and Clarke counties in Virginia, the 600,000-square-foot bunker inside the mountain was once (and still may be) the official evacuation site for Supreme Court justices, documents such as the U.S. Constitution and the Declaration of Independence, and the National Gallery of Art's most valuable paintings.

**E-4B 'doomsday planes'**

These custom-built 747s, also known as "Air Force One When It Counts," are flying war rooms that follow the president when he travels internationally. When POTUS is stateside, one plane sits ready on a runway at a Nebraska military base, "fully staffed with battle planners and war planners and meteorologists and anything else you might need to run a nuclear war," Graff says. The planes are protected from electromagnetic pulse attacks with a fine wire mesh, and they can unfurl a 5-mile-long wire that allows communication with nuclear submarines.

**Survival crackers**

In the 1960s, the U.S. government distributed 150 million pounds of wheat crackers and biscuits to fallout shelters across America. Packages are still routinely found unopened in civic building basements, and apparently they don't taste great. "I did actually find on eBay a box of them, but I haven't been brave enough to try them in part because I have watched enough YouTube videos of other people trying them to know how disgusting they actually are," Graff says.



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

9

### **Button #13**

In the late 1970s, the D.C. mayor's emergency control center at 300 Indiana Ave. NW had a Plexiglas-shielded button that, when pressed, triggered "Emer-zak," the broadcast of emergency messages to lobbies, elevators and anywhere else served by the Muzak system.

[https://www.washingtonpost.com/express/wp/2017/05/18/inside-the-u-s-governments-plans-to-survive-a-nuclear-war/?utm\\_term=.ed10a8d48a31](https://www.washingtonpost.com/express/wp/2017/05/18/inside-the-u-s-governments-plans-to-survive-a-nuclear-war/?utm_term=.ed10a8d48a31)

[Return to top](#)

FiveThirtyEight (New York, NY)

### **We're Edging Closer to Nuclear War**

By Milo Beckman

May 15, 2017

*Experts are worried about India, Pakistan and North Korea.*

The nuclear football — a black briefcase containing an illustrated menu of doomsday scenarios — follows President Trump everywhere he goes. Like every U.S. commander-in-chief since John F. Kennedy, Trump has the sole authority to empty the American nuclear arsenal on any target, at any time, for any reason. James Mattis, his secretary of defense, must authenticate the order before it reaches the Pentagon, but should Mattis refuse to do so in an attempt to prevent missiles from launching, Trump can simply fire him on the spot and replace him with someone who will carry the order out. "There is no procedural or institutional mechanism that can stop a president from giving an order to use nuclear weapons," said Stephen Schwartz, editor and co-author of "Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940."

You can exhale, though: Most nuclear security experts I spoke to are not particularly worried by this aspect of the Trump presidency. They said that the risk of civilian-targeted nuclear weapon use has ticked up since 2015, but the causal pathway is a bit subtler than itchy fingers on the metaphorical red button. "I don't know how this plays out," said Rachel Bronson, executive director and publisher of the Bulletin of Atomic Scientists. "But he's moving us into a much more uncertain time."

The trouble is, nuclear risks are hard to measure quantitatively. The small sample size (two bombs dropped, ever) and rapidly changing technological and diplomatic contexts don't exactly lend themselves to simple mathematical modeling. While such models do exist, they are "mainly an exercise in structuring one's thinking, not something that would provide a 'right' answer," according to Matthew Bunn, a professor at the Harvard Kennedy School.

But just because we can't model our way to an exact answer doesn't mean we should throw up our hands and move on. Since so many lives are at stake, even a tiny increase in the probability that nuclear weapons will be used is a really big deal, and that remains true even if our best predictions are somewhat imprecise.

Academics and diplomats who spend their careers studying nuclear weapons have a pretty good conception of the nature and magnitude of the risks — their back-of-the-envelope estimates are as

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

good an answer as we have. And while some experts disagreed on the details, everyone I spoke to painted the same general picture.

In short, a nuclear strike on a civilian target could realistically happen in one of two ways: Either tensions between two nuclear states rise to the point where a single miscommunication or technical failure could trigger a launch; or,

a terrorist organization could acquire nuclear weapons capabilities.

So how likely is either scenario?

**State use of nuclear weapons is more likely than you think**

On the state side, there are a number of ongoing conflicts that could, in theory, go nuclear at any time. “Increasingly, some regional powers are relying on nuclear weapons for their day-to-day security against conventional conflict,” said Vipin Narang, author of “Nuclear Strategies in the Modern Era.” “If they think that a conventional invasion is coming — whether it is or not — they may be worried that the nuclear forces that they rely on for their survival might be threatened ... there may be what’s sometimes called a ‘use it or lose it’ situation.”

The conflict that topped experts’ list of clashes to be concerned about is India-Pakistan. Both states have developed nuclear weapons outside the jurisdiction of the Non-Proliferation Treaty, both states have limited capabilities, which may incentivize early use, and both states — though their public doctrines are intentionally ambiguous — are known to have contingency plans involving nuclear first strikes against military targets.

Then there’s North Korea, whose recent missile tests have brought renewed attention to the state’s nuclear weapons program, which has spurred international trade sanctions. The Korean War never officially ended, so North Korea is still technically facing the threat of a U.S.-backed South Korea, and nuclear weapons remain central to North Korea’s national defense strategy. Some experts believe that the seemingly erratic behavior of the Kim regime is in fact strategic: If you’re handcuffed to your adversary on top of a cliff, dancing erratically near the edge is a smart way to extract concessions.

Beyond these two clear danger zones, several experts cited U.S.-Russia or Iran-Israel as distant third-place threats to go nuclear, with one suggesting that U.S.-China could heat up in coming years as the situation in the South China Sea develops.

In any of these active conflicts, we shouldn’t necessarily expect that fear of mutually assured destruction will save the day. We can’t say with any confidence how likely a nuclear conflict is because we don’t know what a total war between two nuclear states would look like — we’ve never had one. “You’d like to hope if there was some sort of conflict started, it would remain limited and conventional until people could tamp it down,” said David Wright, co-director of the global security program at the Union of Concerned Scientists. “But you can certainly imagine ways it would start to get out of control.”

**Nuclear terrorism is plausible, but difficult to pull off**

Similarly, just because there’s never been a nuclear terrorist attack doesn’t mean that it will never happen. In theory, if a non-state actor got ahold of enough fissile material — the active ingredient in nuclear weapons — it would be relatively easy for them to assemble and detonate a bomb, according to Robert Rosner, former chief scientist and laboratory director at Argonne National Laboratory. “You’d need some physicists who know what they’re doing,” Rosner said. “But based on what’s available in the public literature, you could go ahead and make a uranium bomb.”<sup>1</sup> Detection



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

11

and prevention at this point would be very difficult, Rosner says — a weapon could be assembled in a garage and smuggled in a standard box truck.

Fortunately, fissile material is hard to come by. The processes used by states to develop fissile material — a diffusion plant or farm of specialized centrifuges for enriched uranium, a specialized reactor for plutonium-239 — would be prohibitively expensive for a non-state actor. Plus, due to their size (dozens of acres), these facilities are highly conspicuous and would likely be identified and destroyed before a terrorist cell could refine enough material to pose a threat.

A terrorist with nuclear ambitions, then, would have to acquire existing fissile material from one of the nine nuclear states, which could happen in one of two ways. First, there's open theft, either of fissile material or of a fully assembled weapon. This would likely require a firefight, according to Rosner — nuclear facilities have armed guards<sup>2</sup> — which would alert authorities to the presence of a threat. Second, which is the likelier possibility according to several of the experts I talked to, is through the assistance of an insider: A double agent with terrorist sympathies could infiltrate a state's nuclear apparatus and simply deliver a weapon to a non-state actor.

On both counts, Pakistan again emerged as the consensus pick for the No. 1 cause for concern, largely due to its instability. "If the Pakistani state does collapse, it probably wouldn't collapse in one big bang, but slowly become more and more dysfunctional," said Ramamurti Rajaraman, professor emeritus of physics at Jawaharlal Nehru University. "If the dysfunctionality also happens in the nuclear weapons security apparatus of Pakistan ... that I see as the biggest danger."

Finally, an act of nuclear terrorism would require the existence of a non-state actor that had both the organizational sophistication and the military ambition to entertain the prospect of nuclear violence. "I would say at the moment Al Qaeda and its various branches and ISIS are the main terrorist groups where ... it's at least within the realm of the plausible that they'd be able to do this," said Bunn. "Compared to 2015, I'm at least modestly less worried about the Islamic State, in that they seem to have turned to very unsophisticated attacks ... and are under huge pressure militarily."

Though most experts I spoke to considered both state and non-state risks to be serious and worthy of attention, a clear majority (four of the five who were willing to choose) thought that state use of nuclear weapons was more likely than use by terrorists. "I'm more worried about a nuclear state," said Wright. "They have large numbers of these things; they're worked into the war plans. They practice using them."

### **If a state uses a nuclear weapon, it'll probably be by accident**

When you imagine state use, though, don't think of a red-faced Trump or Kim launching a petty revenge strike. "Nobody's going to wake up one morning and say, 'Gee, today would be a really great day for a nuclear war,'" Bunn said. These scenarios account for a tiny sliver of the probability that nuclear weapons will be launched at civilian targets.

The real risk, embarrassingly enough, is accidental strikes. Amidst the chaos of an international crisis, global catastrophe could arise from a mere technological error — it only takes one falling domino to trigger an avalanche of self-defense responses, Bronson said. "We know the history. We know that conflict has the potential to escalate quickly," she said. "When we have huge arsenals on high alert, accidents can happen that can be very dangerous."

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

If this sounds more like “Dr. Strangelove” than reality, you may want to take a spin on the Wheel of Near Misfortune, where the Union of Concerned Scientists shares stories of instances where the world only narrowly avoided a nuclear strike. There have been a shocking number of close calls, where a faulty reading or hardware malfunction nearly provoked a nuclear response. Now swallow this: There’s nothing built into the system that has caused the coin to always come up heads so far. “We were prepared — and are still prepared — to use [nuclear] weapons at a moment’s notice,” said Schwartz. “The fact that we didn’t is not necessarily proof that the system works so much as proof that we got very lucky.”

If anything, we have reason to believe we won’t always be so lucky. “All of those incidents occurred during peacetime, so there were lots of indications that this is not normal,” said Schwartz. “If those kinds of incidents happen during a crisis, where everything is ratcheted up a few notches, and you’re already feeling kind of edgy, then not only are you perhaps convinced that it’s a real attack — as opposed to a glitch of some kind — but your system is geared to respond all the more rapidly.”

Wright gave a more specific example: “If you couple ... a conventional conflict that is escalating with an attack on U.S. satellites, so that the U.S. loses important communications and surveillance systems, those war games frequently go nuclear.”

**Three recent international trends have raised the risk**

Humanity’s best recourse, if we (prudently) assume that accidents are inevitable, is to back away from the edge of the cliff until we can afford a stumble or two without falling off. But we have not done this — quite the opposite. The experts I spoke to pinpointed three interlocking trends that they believe have brought us closer to the brink than we were in 2015.

“Nuclear disarmament is the only way to get rid of the threat,” said Kane. “That is simply not happening right now.”

First, the last two years have seen a sharp resurgence in ethnic and religious nationalism across the West, with several countries deprioritizing postwar liberal values of international cooperation, pluralism, and freedom of trade and migration in pursuit of national might and a coherent national identity. Marine Le Pen, president of the right-wing French nationalist party National Front, described these competing visions last November: “The model that is defended by Vladimir Putin is radically different than that of Mr. Obama. As for me, the model that is defended by Vladimir Putin — which is one of reasoned protectionism, looking after the interests of his own country, defending his identity — is the one that I like.”

Opinions vary on the domestic merits of this political shift, but the experts I spoke to were unanimous in condemning this strain of anti-globalism and anti-multilateralism from the perspective of nuclear security. The main concern is that nationalist governments might “take measures to increase their survivability in ways that would not be particularly conducive to global security,” said Narang.

“There is a reassessment of the security politics,” said Angela Kane, former high representative for disarmament affairs at the United Nations. “When you look at [the election of President Trump], particularly coupled with the Brexit decision last year,” and the growing electoral strength of far-right parties “in the Netherlands, France, Germany — all of this brings an instability into the situation that people are greatly worried about.” International peace, after all, rests on a number of treaties and assumptions that are now being called into question.

The recent political shifts are “certainly not conducive to the architecture we’ve worked within for the last 70 years or so,” Bronson said. “I do think this is a much more dangerous world.”





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

13

Second, the world's strongest military power, under its new, more nationalist government, has signaled interest in renegotiating the security agreements that help ward off war — nuclear and conventional — in Europe and East Asia. "All of a sudden there is a questioning of the commitments that the United States has made and the leading role that the United States has played in multilateral diplomacy," said Kane. "It hasn't been said so publicly, but ... there's been a realization that maybe the Europeans need to do a bit more for their own defense."

"We've seen this movie before," said Narang. "The Eisenhower administration went to tremendous lengths to establish essentially nuclear sharing agreements with [West] Germany ... to stop them from getting the weapons ... so that we and we alone could control nuclear use and escalation." Removing the nuclear umbrella and encouraging allies to go it alone can only complicate the picture. "The more countries that have nuclear weapons, the more nuclear weapons there are in the system, the more actors have the ability to use them ... the probability of use just accumulates," he said.

Bunn put it bluntly: "It would be disastrous for the U.S. to withdraw its protection from these countries."

If there's any cause for optimism on this front, it's Secretary of Defense James Mattis, who in 2016 criticized both President Obama and then-candidate Trump for their shared view of American allies as military "free riders." On his first international trip as secretary of defense, Mattis went to Japan and South Korea to reassure leaders that American nuclear commitments remained strong. "There is apparently already a repositioning of the United States which is not exactly aligned with the statements that President Trump made initially," said Kane. "That, to my mind, is also significant."

Whether Mattis can check the president's instincts and preserve the "Washington playbook," though, remains to be seen. "I do find comfort in the fact that Mattis is extremely experienced and has a lot of respect," said Bronson. "But Mattis is one voice in an administration with a lot of competing perspectives. It's unclear how it will eventually be organized, or what the administration's worldview will be."

The third trend is, in the context of nuclear weapon use, perhaps the most significant: "The disarmament process has come to a halt," said Rajaraman. The assertion that the U.S. will not renew the New START treaty, a bilateral agreement that limits Russian and American stockpiles; the pending review of the 2015 deal that curbs Iran's production of fissile material; Trump's signals to other nuclear powers that the U.S. intends to expand and modernize its arsenal<sup>3</sup> — this is not just talk. These are concrete actions that work directly against the program of nuclear disarmament, which has been progressing in fits and starts since the end of the Cold War.

This matters. International conflicts will flare up and fade away, but weapons stockpiles remain the underlying source of all nuclear dangers, state and non-state. "Nuclear disarmament is the only way to get rid of the threat," said Kane. "That is simply not happening right now."

Experts agree that we could reduce stockpiles significantly — and thus reduce the risk of their use significantly — without reducing nuclear weapons' power as deterrents.<sup>4</sup> Still, nuclear states are hesitant to move in this direction, for fear that moving toward disarmament would be interpreted as a sign of weakness. Multiple experts I spoke to expressed frustration that these political considerations should outweigh the strong consensus of people who study nuclear security and deterrence dynamics. "A lot of arguments are made that actually don't make any sense," said Wright. "We've done a lot of work on this."

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

It's unclear yet whether the recent moves toward rearmament represent a temporary blip or a turning point. This is the 1,000-kiloton question. If weapons stockpiles continue to grow, the per-year risk of civilian-targeted nuclear weapon use will only increase. "Hopefully nobody is crazy enough to drop one," said Rajaraman. "But nobody has the guts to get rid of them. I think it's going to go on like this until something stupid happens."

<https://fivethirtyeight.com/features/were-edging-closer-to-nuclear-war/>

[Return to top](#)

Global Biodefense (Seattle, WA)

**Emergent Unveils Expanded CIADM Facility for Medical Countermeasure Preparedness**

Author Not Attributed

May 16, 2017

Emergent BioSolutions Inc. held a ribbon-cutting ceremony last week on May 10 to mark the formal opening of the company's newly expanded Center for Innovation in Advanced Development and Manufacturing (CIADM) at its Bayview Campus in Baltimore.

Dr. Rick Bright, director of the Biomedical Advanced Research and Development Authority (BARDA), and Daniel J. Abdun-Nabi, Emergent's president and chief executive officer led the event, noting the milestone helps strengthen preparedness to rapidly produce medical countermeasures for public health emergencies.

The facility is one of three centers designated by the U.S. Department of Health and Human Services to provide advanced development and manufacturing of medical countermeasures to support the U.S. government's national security and public health emergency needs.

"The Centers for Innovation in Advanced Development and Manufacturing were designed as public-private partnerships to provide greater speed, flexibility, and domestic capacity to produce medical countermeasures to address public health emergencies," said Bright. "The work that we do in BARDA – and that we do together with industry partners at our CIADMs – is critical to protecting Americans' health in emergencies and is fundamental to our nation's security."

Emergent has doubled the Bayview facility's footprint to 112,000 square feet with investments to the original 56,000-square-foot facility purchased by the company in 2009. The facility, comprised of laboratory, manufacturing and office space, offers flexible manufacturing of drug substance from microbial, cell culture or viral production platforms and is equipped with disposable manufacturing technology to enable Emergent to meet the government's domestic preparedness priorities on a cost-effective, reliable and sustainable basis.

The new suite within the expanded facility is expected to come online with cGMP production capabilities in late 2018.

Since its inception, the Emergent CIADM has been awarded four task orders by BARDA to develop Ebola and Marburg therapeutics and a Zika vaccine. Emergent also successfully manufactured some of its product candidates at the CIADM and an Ebola vaccine candidate as part of a third-party collaboration.

BARDA contract HHSO100201200004I, awarded to Emergent in June 2012 to establish a CIADM, consists of an eight-year base period of performance valued at approximately \$220 million (cost-shared between the government and Emergent) and up to 17 additional one-year option periods.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



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

15

BARDA is a division within the Office of the Assistant Secretary for Preparedness and Response in the U.S. Department of Health and Human Services.

<https://globalbiodefense.com/2017/05/16/emergent-unveils-expanded-ciadm-facility-for-medical-countermeasure-preparedness/>

[Return to top](#)

NATO (Brussels, Belgium)

### **NATO And Partners to Discuss Weapons of Mass Destruction Non-Proliferation and Arms Control in Helsinki**

Author Not Attributed

May 17, 2017

As a valued NATO Partner, Finland will host the 13th Annual NATO Conference on Weapons of Mass Destruction (WMD) Arms Control, Disarmament and Non-proliferation from 29 to 30 May 2017 in Helsinki.

This is one of NATO's largest outreach activities, held with increasing success since 2004, involving Alliance member states and partners from around the world. Participants from five continents and major international organisations will gather together for this informal event. The conference will be opened by Timo Soini, Minister for Foreign Affairs of Finland. A statement will be delivered by NATO's Deputy Secretary General Rose Gottemoeller.

Following the repeated use of chemical weapons in Syria and nuclear and ballistic missile tests in North Korea, as well as the discussions in the Non-Proliferation Treaty (NPT) and UN framework on new disarmament instruments, this dialogue between NATO Allies with NATO partners around the globe is important to ensure a better understanding of the global security challenges.

#### **Reinforcing non-proliferation**

NATO's Assistant Secretary General for Emerging Security Challenges, Ambassador Sorin Ducaru, will chair this forum which provides an opportunity for open and informal dialogue. The conference will address topical issues, such as:

The state of play and future of the multilateral non-proliferation regimes and initiatives in view of a changing international security environment;

regional proliferation challenges in the Middle East and in Asia, including in Syria and North Korea;

NATO's contribution and other international organisations' efforts in the area of WMD arms control, disarmament and non-proliferation.

More than 100 participants from nearly 50 NATO and Partner countries and international organisations such as the United Nations and the European Union will gather in Helsinki, among them many senior non-proliferation officials from around the globe, including Assistant Ministers of Foreign Affairs, Ambassadors and Directors-General.

Dr. Lassina Zerbo, Executive Secretary of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) will be a keynote speaker at the opening of the conference and Ambassador Ahmet Üzümcü, Director-General of the Organisation for the Prohibition of Chemical Weapons (OPCW),

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

which received the Nobel Peace Prize in 2013, will address the conference with a keynote speech at dinner.

Previous conferences on the challenges of WMD proliferation were held in Rome (2004), Sofia (2005), Vilnius (2007), Berlin (2008), Warsaw (2009), Prague (2010), Bergen (2011), Budapest (2012), Split (2013), Interlaken (2014), Qatar (2015), and Ljubljana (2016).

[http://www.nato.int/cps/en/natohq/news\\_143786.htm](http://www.nato.int/cps/en/natohq/news_143786.htm)

[Return to top](#)

Defense Media Activity (Fort Meade, MD)

**Stacking Countermeasures for Layered Defense**

Author Not Attributed

May 11, 2017

Just as we must protect computer systems against assaults in the form of viruses and trojans in the cyber world, we must protect our warfighters from a multitude of chemical and biological threats on the battlefield. No one countermeasure can mitigate every threat, which is why the Joint Science and Technology Office at the Defense Threat Reduction Agency is developing a portfolio of novel capabilities and medical countermeasures to protect our troops.

To support this layered defense strategy, JSTO's Toxicant Penetration and Scavenging (TPS) research program, managed by Brian Pate, Ph.D., explores countermeasure development for increased protection against chemical and biological weapons.

One such weaponized threat is the use of organophosphonates in an attack. These nerve agents inhibit acetylcholinesterase (AChE), an essential enzyme responsible for neurological function. Irreversible inhibition of AChE may lead to muscular paralysis, convulsions, bronchial constriction and death by asphyxiation.

One of the projects in the TPS uses engineered DNA-enzyme nanostructures to create multi-enzyme pathway biocatalysts. These new biocatalysts are designed to process the destruction of chemical agents and their degradation compounds.

For this effort, researchers build engineered enzyme pathways using DNA scaffolds with tuned substrate-scaffold interactions, which promotes the diffusion of substrates and intermediates along the desired pathways. The pathways are expected to demonstrate greater sensitivity, specificity and reactivity for chemical agents, enabling new medical countermeasures, post exposure treatments and decontamination treatments.

DNA nanotechnology and DNA-based nanomaterial fields have proven effective in creating new protein-DNA structures, spatial organization at the nanoscale and dynamic nanoscale systems. This work highlights organophosphate compounds, methyl parathion and paraoxon, as well as their common hydrolysis product p-nitrophenol, have sequence dependent binding interactions with DNA.

The identification of organophosphate-DNA binding increases JSTO's understanding of molecular interactions between compounds with biological materials. This opens new possibilities in DNA-based sensors, matrices for extraction and enzyme-DNA technologies for organophosphate hydrolysis to produce new countermeasures for combating chemical weapons of mass destruction.



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

17

Another ongoing TPS effort is developing biomimetic toxin nanosponges to target membrane-interacting toxicants and function as a universal decoy. These act to absorb and remove different types of toxins, regardless of their molecular structures. The application of platelet membrane-coated nanoparticles (PNPs) toward the treatment of immune thrombocytopenia purpura (ITP) is demonstrated by its ability to specifically bind anti-platelet autoantibodies, which are directly responsible for reducing platelet counts.

ITP is an immune-mediated hematological disorder characterized by low levels of platelets and excessive bleeding due to the presence of anti-platelet autoantibodies. These pathological antibodies bind to specific antigens on the platelet surface, leading to sequestration and destruction by the reticuloendothelial system.

The interaction between PNPs and the antibodies was strong, effectively neutralizing biological activity in vivo. In an antibody-induced thrombocytopenia animal model, mice treated with PNPs after being challenged with antibodies retained their platelet counts.

Further, in a bleeding time assay, mice treated with PNPs exhibited normal hemostasis via effective clot formation and averaged values were nearly identical to unchallenged controls. Untreated mice or those administered with control nanoparticles bled excessively due to lowered platelets counts and impaired hemostasis capacity.

The ability to specifically neutralize anti-platelet antibodies presents a new option in the current landscape of treatment for ITP. Most therapies are non-specific and can significantly impair broad immune function. By directly targeting the pathological antibodies, treating the disease while leaving the immunity intact may be possible.

This increases a patient's opportunity for natural recovery of platelet counts. Alternatively, PNPs may also be used as an adjuvant therapy to either synergize with current treatments or enable a decrease in drug dosages to limit unwanted side effects.

Ultimately, PNPs represent a promising platform for the treatment of ITP, paving the path for further study towards translational products.

In the evolving world of weapons of mass destruction, it is important to constantly advance protections, treatments and remedies for troops. JSTO's TPS research portfolio offers several promising tools for a layered defense strategy to protect warfighters against chemical and biological threats.

<https://www.dvidshub.net/news/233441/stacking-countermeasures-layered-defense>

[Return to top](#)





The Diplomat (Tokyo, Japan)

## **The THAAD System in South Korea Detected North Korea's Latest Missile Launch. So What?**

By Ankit Panda

May 17, 2017

*THAAD's utility against a system like the Hwasong-12 is severely limited.*

South Korean Defense Minister Han Kin-koo told the country's lawmakers on Tuesday that North Korea's latest missile test on Sunday had been detected by the advanced radar systems accompanying the controversial U.S. Terminal High Altitude Area Defense (THAAD) system. The system was deployed earlier this month, days before South Korea elected Moon Jae-in, who had been critical of the system, its new president. North Korea's Sunday missile test was the first successful launch since the deployment of the THAAD system in early May.

As I discussed yesterday, the missile North Korea tested on Sunday was a new type of intermediate-range ballistic missile, based on an indigenously developed high-thrust liquid fuel rocket engine. Dubbed the Hwasong-12, the missile is thought to be capable of flight to a range of around 4,500 kilometers, putting it in the higher ranges of what the United States considers an "intermediate-range" capable system (with a range between 3,000 to 5,500 kilometers). The missile would likely be capable of striking the U.S. territory of Guam.

Despite Han's seemingly reassuring comment that the THAAD system, which is placed on a golf course in Seongju county in southern South Korea, was able to track the missile, there are serious limitations as to what the system can do against a missile like the Hwasong-12. First, though, the good news is that given the system's range, North Korea would likely look to deploy this missile (or a potential successor system with similar range and payload delivery capabilities) to strike Guam — not targets in South Korea. THAAD is designed to hit and kill projectiles in their terminal phase, so it would not be able to intercept a longer-range system intended to overfly the Korean peninsula altogether.

The bad news is that North Korea would always be able to use a missile like the Hwasong-12 as a shorter-range strike system in a pinch if needed by "lofting," i.e., firing the missile at a sharp angle to reduce its range, as it does during testing. During Sunday's test, for example, North Korea fired the Hwasong-12 to a maximum altitude of above 2,000 kilometers, reaching Medium Earth Orbit altitude, to avoid either overflying Japan or hitting Russia. In the process, Pyongyang demonstrated that the Hwasong-12's warhead is capable of surviving reentry at the high speeds generated by atmospheric reentry from that altitude (similar to what an intercontinental-range system might endure).

THAAD, during its years of testing and development, has only ever successfully faced off against short- and medium-range projectiles. In fact, it's first-ever test against an intermediate-range ballistic missile target, like the Hwasong-12, is expected to take place this year. (Interestingly, the United States has deployed and shown off THAAD on Guam, where it would ostensibly take a shot at IRBMs.) All this means that while Han may have intended to reassure lawmakers with the disclosure that THAAD was able to successfully detect the Hwasong-12, in a real warfighting scenario, the system's ability to perform against something like a lofted Hwasong-12 is uncertain at best and non-existent at worst.

As a corollary, given the observed trajectory of the Hwasong-12 fired on Sunday, which flew over North Korea and landed near Vladivostok, Russia in the Sea of Japan, the THAAD AN/TPY-2 X-band

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



## **USAF Center for Unconventional Weapons Studies**

### **(CUWS) Outreach Journal**

19

radar's ability to successfully detect the missile may reinforce existing Chinese anxieties about the system. As I argued in March, China's strong opposition to the THAAD battery's placement in South Korea — despite existing batteries already being in place in Japan — may be based on the ability of the AN/TPY-2 radar to observe and relay information on Chinese ballistic missile launches to other U.S. missile defense systems in a crisis. (Per reports last year, the U.S. Missile Defense Agency has assured that the South Korean THAAD battery will not be sharing information with other systems.)

<http://thediplomat.com/2017/05/the-thaad-system-in-south-korea-detected-north-koreas-latest-missile-launch-so-what/>

[Return to top](#)

Arms Control Wonk (Washington, DC)

### **The Chinpo Shipping Case Implodes**

By Catherine Dill

May 15, 2017

Chinpo Shipping (Private) Pty is our model proliferation finance prosecution. Or at least it was, until last week, when it all came apart at the seams.

In June 2014, Singaporean prosecutors filed charges against Chinpo Shipping and its director for its involvement in facilitating the shipment of the largest consignment of North Korean weapons ever seized. A year earlier, the Chong Chon Gang was stopped in the Panama Canal on its way from Cuba to North Korea. Panamanian authorities searched the vessel and found 25 containers of military equipment concealed beneath over 200,000 bags of sugar. The loot included two MiG fighter jets and additional engines, military vehicles, and surface-to-air missile systems, amongst other things. More about the cargo here, and in paragraphs 84-89 of the 2014 UN Panel of Experts report.

Further investigations revealed that it was a Singaporean company, Chinpo Shipping Ltd, that paid \$72,000 for the vessel's passage through the Panama Canal. Chinpo's Director, Tan Cheng Hoe had been providing services related to North Korean maritime trade since the 1970s. His primary client was North Korea's Ocean Maritime Management, which orchestrated the Chong Chon Gang shipment, and which was sanctioned by the UN for contributing to proliferation shortly thereafter.

Singaporean prosecutors filed two charges against Tan and Chinpo: one for carrying on a remittance business without a valid remittance license; and one for providing financial services or transferring financial assets or resources "that may reasonably be used to contribute to the nuclear-related, ballistic missile-related, or other weapons of mass destruction-related programs or activities of the Democratic People's Republic of Korea" (Regulation 12b of Singapore's United Nations Regulations 2010).

That was a big deal. Proliferation finance prosecutions, where the leading offense is about the flow of funds rather than the flow of goods per se, are extremely rare. Several facilitators of Iranian nuclear- or missile-related goods procurement were previously prosecuted in the US, partly on the basis of financial transactions connected to the deals. But in those cases the charges were mostly filed pursuant to anti-money laundering legislation, which carries the potential for bigger collective fines, and where guilt is often easier to prove. Chinpo was different, and many hoped it would show other countries that proliferation finance prosecutions were doable.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

The judge in the district court that first heard the case found Chinpo guilty on both counts. The first charge, relating to unlicensed remittances, was always going to be pie from a prosecution standpoint. Tan had agreed to let OMM use his bank accounts with United Overseas Bank, International Commercial Bank, and Bank of China to facilitate OMM's international business. At OMM's behest, between April 2009 and July 2013 Tan performed over 600 wire transfers worth \$40 million. Oh, and to make it shadier, a North Korean would periodically rock up to the bank and withdraw about half a million in mint US dollar notes from Tan's accounts. Chinpo did not have a remittance license when it did any of this. So when it appealed the initial conviction on this charge, the Singaporean High Court judge quickly upheld the District Judge's verdict.

The second count is where it all gets tricky. Singapore's Regulation 12(b) focuses purely on the provision of financial services that aid North Korea's WMD or missile activities. In order for Tan to be convicted under 12(b), the prosecution needed to prove that the financial transfer could have reasonably contributed to North Korea's WMD programs. The prosecution opted to make that link by bringing in a witness, Dr Graham Ong-Webb, to testify that the shipment of conventional weapons aboard the Chong Chon Gang clearly supported Pyongyang's WMD and missile programs, because the kit could be used to defend North Korean nuclear and missile sites. Yes, in the DPRK there are certainly SAMs proximate to priority sites, including nuclear ones. But does that mean SAMs could reasonably contribute to the nuke program? Discuss.

As I said at the time in an article for 38 North:

"Ultimately, prosecutors were lucky. The judge determined, based on the testimony of a single expert witness, that the surface-to-air systems found on board the Chong Chon Gang could be used to defend North Korean "nuclear missile sites." That's thin ice."

The Singaporean High Court on 12 May 2017 agreed with Chinpo's appeal on the same issue (the judgment is available [here](#)). "If we accept this opinion as conclusive of 'what could reasonably be used to contribute' to the [nuclear program] of the DPRK...then even mundane logistics such as food and toiletries that facilitated the functioning of the [nuclear program] of the DPRK" could also contribute. I'm not sure where Yongbyon gets its shampoo, but I take their point.

The court added that there is a "large logical leap between transferring funds for the passage of a vessel through the Panama Canal (without knowing the presence of the Material on the vessel) and contributing that the transfer could contribute to the [nuclear program] of the DPRK". Their conclusion: unless it's going directly to the nuclear program, it's not proliferation finance. The appeals court even implied that funding the transport of an assembled nuclear warhead (don't get me started) might be too indirect for regulation 12(b).

To be fair, prosecutors should not have had to perform such legal gymnastics in the first place. The language in 12b of the Singaporean statute is pulled from Paragraph 18 of UNSCR 1874 (2009).

But in just lifting language from paragraph 18, the statute misses out the financial obligations captured in other parts of the resolution, namely in paragraphs 9 and 10, which ban financial transactions related to conventional weapons. Had Singapore drafted and updated its national regulations with sufficient specificity, or made reference to other activities that proliferators are prohibited from engaging in pursuant to relevant UN resolutions, this would never have been an issue.

Sure, prosecutors could have tried to charge Chinpo under the part of the Singaporean statute that covers provision of services related to conventional weapons (Regulation 5, read with 13), but to do so they would have had to prove that Tan and Chinpo staff knew that illicit weapons were on board



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

21

the Chong Chon Gang. Hard to do. That same burden didn't exist in relation to regulation 12b, which is why it was chosen.

That sort of backfired on prosecutors too, because the Court of Appeal ended up getting spelling out its own (completely self-contradicting) conclusions that Chinpo staff might have had to know about the weapons in the Chon Chong Gang to be convicted under 12(b). Dear Singapore: if your statute requires the prosecution to prove that a defendant knew the whole illegal masterplan, it will be worthless for enforcement. North Korea is way too good at evasion for us to be able to do that, even in the most straightforward cases.

Debacles like this are perfect examples of the need for greater attention to the global deficiencies in implementing UN Security Council Resolutions on the DPRK. No, the issue isn't sexy, and DPRK sanctions nerds like me sound like broken records when we keep bringing it up. But if Singapore is actually comparatively advanced in implementation, think about how far behind we are elsewhere, and the practical problems those gaps might create for stopping perpetrators of the next Chong Chon Gang. We have so far to go just to get the arms-focused sanctions we passed in 2006 and 2009 right. Don't even get me started on the truck load of stuff the Security Council dumped on everyone in 2016.

In short, for those of us working to help build capacity globally on counter-proliferation finance, and particularly to create a basket of success stories in passing and enforcing CPF legislation, this outcome really sets us back.

<http://www.armscontrolwonk.com/archive/1203164/guest-post-the-chinpo-shipping-case-implodes/>

[Return to top](#)

In Depth News (Berlin, Germany)

### **Conference Highlights Significance of Nuclear-Test-Ban Treaty**

By Ramesh Jaura

May 14, 2017

"The urgent importance of bringing the Comprehensive Nuclear-Test-Ban Treaty (CTBT) into force, as a core element of the international nuclear disarmament and non-proliferation regime," was a highlight of the first session of the Preparatory Committee (PrepCom) for the 2020 NPT Review Conference from May 2-12 in the capital of Austria.

The PrepCom's Chair Henk Cor van der Kwast noted in his factual summary: "The intrinsic link between the Comprehensive Nuclear-Test-Ban Treaty and the goals and objectives of the Treaty was stressed." 111 States parties to NPT, the Treaty on the Non-Proliferation of Nuclear Weapons participated in the work of the Committee at its first session.

CTBT – negotiated in Geneva between 1994 and 1996 – is almost universal but has yet to become law. 183 countries have signed the Treaty, of which 164 have also ratified it, including three of the nuclear weapon States: France, the Russian Federation and the United Kingdom.

But 44 specific nuclear technology holder countries must sign and ratify before the CTBT, which has been in limbo for 20 years, can enter into force. Of these, eight are still missing: China, Egypt, India,

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

Iran, Israel, North Korea, Pakistan and the USA. India, North Korea and Pakistan have yet to sign the CTBT.

The PrepCom participants agreed with Lassina Zerbo, Executive Secretary of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), that the Treaty will provide the global community with a permanent, non-discriminatory, verifiable and legally binding commitment to end any nuclear weapon test explosion or any other nuclear explosion, as a means to constrain the development and qualitative improvement of nuclear weapons, which limits both horizontal and vertical nuclear proliferation.

The participants stressed that positive decisions on that Treaty by the nuclear-weapon States would have a beneficial impact towards the ratification of that Treaty. Those States were called upon not to wait for other States to ratify that Treaty first.

"The special responsibility of the nuclear-weapon States to encourage countries listed in Annex 2 of that Treaty to sign and ratify the Comprehensive Nuclear-Test-Ban Treaty was reaffirmed, and the nuclear-weapons States were called upon to take initiative in this regard," PrepCom Chair's draft summary said.

While States parties welcomed the existing de facto moratorium on nuclear test explosions, many expressed the view that this was not a substitute for a permanent and legally binding commitment to end nuclear weapon testing and all other nuclear explosions, which can be achieved only by the entry into force of the Comprehensive Nuclear-Test-Ban Treaty. It was emphasized that the importance of refraining from any activities that would defeat the object and purpose of the CTBT.

A working paper submitted by the members of the Non-Proliferation and Disarmament Initiative (NPDI) reaffirmed the members' strong commitment to strengthening the nuclear test ban regime, including the entry into force of the CTBT "at the earliest possible date, as well as to advancing global nuclear non-proliferation and disarmament."

The Initiative is a diverse cross-regional grouping of non-nuclear-weapon States comprising Australia, Canada, Chile, Germany, Japan, Mexico, the Netherlands, Nigeria, the Philippines, Poland, Turkey and the United Arab Emirates.

Yet another highlight of the May deliberations was the participation of Japanese Foreign Minister Fumio Kishida whose hometown Hiroshima, along with Nagasaki, suffered atomic bombs in 1945. He urged cooperation between nuclear states and non-nuclear states to prevent the spread of nuclear arms.

"North Korea has conducted two nuclear tests and launched more than 30 ballistic missiles since last year. Its nuclear and missile development has reached a new level and is posing a real threat to the region and beyond in the international community," Kishida told the PrepCom on May 2.

"The efforts toward a world without nuclear weapons should be "carried out in a realistic manner, while taking into account the security environment that is becoming increasingly severe, including that of North Korea," Kishida said.

Another Japanese national, Izumi Nakamitsu, High Representative for Disarmament Affairs United Nations (UNODA), said in a statement on May 8 – one week after assuming responsibilities – that a priority task for the Preparatory Committee should be "the formulation of recommendations to ensure the full implementation of past commitments." She said she was encouraged that all parties seemed to agree that the outcomes reached in 1995, 2000 and 2010 remain fully valid.

"In this regard, measures to promote accountability, transparency and mutual trust could be essential and could build upon the accomplishments of the previous cycle. The Committee should

**Issue No.1264, 19 May 2017**

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538





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

23

also seek to identify as early as possible a new common vision for the implementation of the 1995 Resolution on the Middle East. This should include the early restart of inclusive dialogue among the States of the region."

The significance of UNODA High Representative's remarks is underlined by the fact that, as in 2005, the 2015 Review Conference (from April 27 to May 22, 2015) in New York was unable to reach agreement on any substantive outcome documents. Three States parties – the U.S., Britain and Canada – crashed the conference because of objections of a non-state party, Israel.

The three states charged that Egypt had wrecked the conference with its demands that the Review Conference's final declaration reiterate the call for creation of a Middle East Nuclear Weapons-Free Zone.

Such a zone was, however, envisaged by the 2010 Review Conference, which produced conclusions and recommendations for follow-on actions in the areas of nuclear disarmament, nuclear non-proliferation, peaceful uses of nuclear energy and the Middle East, particularly implementation of the 1995 Resolution on the Middle East.

<http://www.indepthnews.net/index.php/global-governance/un-insider/1141-conference-highlights-significance-of-nuclear-test-ban-treaty>

[Return to top](#)

Middle East Monitor (London, UK)

### **Chinese Sanctioned by US for Aiding Iran Missile Development**

Author Not Attributed

May 18, 2017

China said today that it had lodged a complaint with the United States after Washington imposed narrow penalties on Iranian and Chinese figures for supporting Iran's ballistic missile programme.

China has complained repeatedly to the United States about unilateral sanctions against Chinese individuals and companies linked to either Iran or North Korea's nuclear or missile programmes. Chinese complaints come despite international recognition of the destabilising effect both Iran and North Korea have.

North Korea possesses nuclear weapons, and many western countries as well as security experts suspect that Iran harbours designs to acquire atomic arms for itself, in addition to its suspected arsenal of chemical weapons that were produced during the 1980s.

Although Iran is a signatory to the Chemical Weapons Convention and has promised to dismantle its chemical weapons arsenal, the US State Department in 2013 said that it had no accurate intelligence that proved that Iran had complied with the convention.

US President Donald Trump yesterday extended wide sanctions relief for Iran called for under a 2015 international nuclear deal even as he imposed the new penalties.

Chinese Foreign Ministry spokeswoman Hua Chunying said China followed local rules and regulations and closely adhered to its responsibilities to the international community.

Complaining about the sanctions, Chunying told a daily news briefing:

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

“China is opposed to the blind use of unilateral sanctions particularly when it damages the interests of third parties. I think the sanctions are unhelpful in enhancing mutual trust and unhelpful for international efforts on this issue.”

“China has lodged representations with the United States and hopes the US side can on the principle of mutual respect resolve non-proliferation issues through dialogue and communication,” Hua added.

China has close economic and diplomatic ties with Tehran, but was also instrumental in pushing through a landmark 2015 deal to curb Iran’s nuclear programme.

<https://www.middleeastmonitor.com/20170518-chinese-sanctioned-by-us-for-aiding-iran-missile-development/>

[Return to top](#)

Courthouse News Services (Pasadena, CA)

**Policy Experts Push US to Get Stern on Russia**

By Brandi Buchman

May 17, 2017

Grappling with Russia’s diplomatic slide on the world stage, experts told an independent U.S. committee on Wednesday to consider adopting tougher financial sanctions and increase the U.S. presence on the eastern flank of the Balkans.

The Commission on Security and Cooperation in Europe, also known as the U.S. Helsinki Commission, met this morning to discuss restoring Russia’s compliance with a variety of treaties that it has skirted since the annexation of Crimea in 2014.

“We have to understand that Russia is no longer interested in cooperation to strengthen European security,” said Michael Carpenter, a senior director at the Biden Center for Diplomacy and Global Engagement.

“Our goal should be to bolster defense and deterrents and suspend compliance with NATO so long as Russia continues to violate its basic principles.”

Candid in his assessment of Russia’s use of force against other nations, Carpenter suggested that the U.S. employ brigade combat teams and consider all legal countermeasures available to counter Russian aggression.

“Just as Russia denies access to part of its territory, the U.S. should restrict Russian access to territory until Moscow returns to compliance,” said Carpenter.

The policy expert also recommended that the U.S. immediately begin researching the development of intermediate range missiles that would match Russian capability.

“The U.S. should invest more resources in cyberdefense, and Congress should legislate a common set of defense standards,” he said. “We are way behind the curve on this.”

Against complaints about the disrespect Russian President Vladimir Putin shows the political independence of western democracies, there was little specific talk of Russia’s meddling in the 2016 U.S. election.



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

25

Though the committee members also did not tackle the recent firing of FBI Director James Comey, Carpenter did call for the appointment of a special prosecutor on the Russian investigation he led. The members made no mention of anonymous reports that emerged on Tuesday about President Donald Trump having pressured Comey to drop the Russia probe.

"We must appoint a special prosecutor to determine if there was collusion or cooperation between the Russian government and the Trump campaign representatives in the last election cycle," Carpenter said.

Stephen Rademaker, the former assistant secretary of state in charge of the Bureau of Arms Control, said the U.S. must find ways to "punish Russia" for skirting treaties.

"We must take steps to show that we're prepared for a response and if necessary to deploy our own missiles in correspondence to the ones that they're deploying," Rademaker said. "Those steps are perfectly appropriate and what we should be doing."

The Intermediate-Range Nuclear Treaty, which Rademaker recommended terminating, once counted North Korea as a member as well.

Rademaker reminded the committee that, after it was pushed too hard, North Korea simply chose to opt out, leaving the world to contend with an increasingly aggressive authoritarian.

Though he did not draw a comparison between North Korea and Russia directly, Rademaker said the Kremlin's problem is that it sees security in Europe as a "zero-sum game."

"All countries in Europe are more secure to the extent that their neighbors are more secure," Rademaker said. "But Russia takes a different view and thinks its security has only been enhanced if its neighbor, like Ukraine, has its security diminished."

<https://www.courthousenews.com/policy-experts-push-us-get-stern-russia/>

[Return to top](#)

Jalopnik (New York, NY)

### **Why China's Nervous Over South Korea's New Missile Defense System**

By Terrell Star

May 17, 2018

Chinese officials have long protested the U.S. deployment of the Terminal High-Altitude Area Defense (THAAD) missile defense system to South Korea because they believe it can spy on its military activities deep inside its mainland. Well, on Tuesday, Beijing's fears were pretty much confirmed when military officials in South Korea reported that they were in fact able to detect North Korea's recent ballistic missile test Sunday with THAAD.

Reuters reports that South Korean officials were able to determine that the missile was an IRBM (intermediate range ballistic missile), which can travel between 1,860 to 2,485 miles. The country's defense minister, Han Min-koo, added that the North's missile program is developing faster than expected.

While we are not sure how, exactly, the South used THAAD to track the north's missile test, the accompanying X-band AN/TPY-2 radar may have played a role. To recap, THAAD uses powerful

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

radar systems to track short, medium, and intermediate-range ballistic missiles similar to the ones North Korea could use in a hypothetical nuclear shooting match. THAAD then uses non-warhead equipped missiles to destroy the enemy projectile.

To be sure, China is not worried about THAAD's missiles; again, they are not armed with warheads, so they are not offensive weapons. What's really at issue here is the radar.

At the same time, as The Diplomat explained in March, there are some technical issues countering the argument that the system is as powerful of the Chinese claim it is. For example, this isn't the first time the U.S. has deployed AN/TPY-2 radar. There are already two in Japan, specifically the Shariki, Aomori prefecture. Also, the surveillance range of the AN/TPY-2 may not be able to monitor the locations where the Chinese do more of their missile testing, as The Diplomat explains:

Second, while we have no watertight estimates on just how capable the AN/TPY-2 radar is and in what configurations, even the most generous estimates don't leave the Gyeongsangbuk-do unit capable of any useful surveillance deep into the Gobi desert, where China has its most active and sensitive missile testing ranges. (AN/TPY-2 range estimates go from "several hundred miles" to 3,000 km.) I've mapped out the ranges below with the most generous range estimate of 3,000 km, using a Chinese ballistic missile impact range that Thomas Shugart at War on the Rocks recently revealed as a test-bed for potential People's Liberation Army Rocket Force preemptive warfare tactics (i.e., a site of surveillance interest for the United States).

Adding the westernmost AN/TPY-2 in Japan — the Kyogamisaki Communications Site unit — the map doesn't change drastically, either. (Incidentally, North Korea's latest missile test resulted in three missiles splashing down in Japan's exclusive economic zone, between the two AN/TPY-2s in the country — a less-than-subtle show of confidence.)

There is an argument that THAAD could threaten China's second-strike capabilities—its ability to respond in kind to a nuclear attack, and minimize its chances of being obliterated or crippled by an enemy's first strike.

Li Bin, a nuclear weapons expert at Tsinghua University in Beijing, wrote in March that THAAD's radar would "would undermine China's nuclear deterrence by collecting important data on Chinese nuclear warheads."

More specifically, as the New York Times explains, Beijing fears Washington can use the radar to get a jump start on its nuclear weapons strike response (China as a no first use nuclear weapons policy), weakening its capabilities to the point of uselessness:

He and other Chinese experts say the radar could identify which Chinese missiles are carrying decoy warheads intended to outfox foes. That would be like being able to see what cards China holds in a nuclear poker game, and that could weaken China's deterrent, they say.

"For China this is a very important point, because its missiles are limited in number to begin with," Wu Riqiang, a nuclear expert at Renmin University in Beijing. That meant, he said, "China could lose its nuclear retaliatory capacity."

For China, it does not matter that the American and South Korean governments have said Thaad is meant only to foil North Korean missiles. Mr. Wu said.

"What we worry about is the ability. It doesn't matter to us whether the United States says this is aimed at North Korea or China," Mr. Wu said. "If there's this ability, then China must worry."

What this comes down to is trust. Beijing doesn't believe that the U.S. will use THAAD solely as a defensive measure against a North Korean missile attack. If the Chinese truly believe THAAD can



## **USAF Center for Unconventional Weapons Studies**

### **(CUWS) Outreach Journal**

27

track which of its missiles is carrying a warhead, it is a moot conversation to argue that it will not be used for that.

The fact that THAAD can determine the success of North Korea's latest ballistic missile test will not make China feel any more secure about it being deployed in South Korea. If it can be used to track Pyongyang's actions, to what extent can it be used to do the same against Beijing?

That is what has China up at night.

<https://foxtrotalpha.jalopnik.com/why-chinas-nervous-over-south-koreas-new-missile-defense-1795297620>

[Return to top](#)

The Diplomat (Tokyo, Japan)

#### **North Korea's New Intermediate-Range Ballistic Missile, the Hwasong-12: First Takeaways**

By Ankit Panda

May 15, 2017

*North Korea introduces the Hwasong-12, a "perfect weapon system" that may bring the U.S. territory of Guam into range.*

On Monday, North Korea released images of the new intermediate-range ballistic missile (IRBM) it tested on Sunday, May 14, near the town of Kusong in North Pyongan province. As I noted over the weekend, that missile, based on data released by South Korean and Japanese authorities, was likely the longest-range capable ballistic missile North Korea has tested to date (excluding its satellite launch vehicles, which aren't ballistic missiles). North Korea has now christened its new missile the Hwasong-12 and, according to Korean Central News Agency, North Korea's state news agency, the missile is a "new ground-to-ground medium long-range strategic ballistic rocket." Translated, the missile's range falls somewhere between Pyongyang's Musudan (Hwasong-10) and its as-yet-untested intercontinental-range systems.

The KCNA report noted that the test "proved to the full" a range of systems, including "guidance and stabilization systems, structural system and pressurization, inspection and launching systems and reconfirmed the reliability of new rocket engine under the practical flight circumstances." The test "also verified the homing feature of the warhead under the worst re-entry situation and accurate performance of detonation system," KCNA noted.

Some readers may recall, looking at the images released by North Korea's Rodong Sinmun state newspaper, that this isn't the first time we've seen the Hwasong-12. North Korea showed off this missile for the first time at its April 15 parade. Back then, I noted that the missile looked like a "variant of the long-discussed KN-08 or KN-14 intercontinental ballistic missile." Based on the video footage from the parade and newly released imagery, it appears that this new missile may be something like a shorter, single-stage version of the KN-08 (presumably with a similar or even identical warhead).

The imagery released by North Korea on Monday also shows that this new missile uses liquid propellant and may be using an engine similar to the high-thrust engine North Korea tested in March of this year. (Remember, North Korea told us then that the "whole world will soon witness

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

what eventful significance” that engine tested carried back in March — we may just have found out.)

We may have also even gotten a hint of these new missiles showing up out in the wild earlier this year. In January, South Korea’s Yonhap news agency reported, citing South Korean military officials, that North Korea had built and placed “two missiles presumed to be intercontinental ballistic missiles” on transporter erector launchers. That report also added that the missiles were “estimated to not exceed 15 meters in length, making them shorter than the North’s existing ICBMs, the 19-20 meter-long KN-08 and the 17-18 meter-long KN-14.” At the time, there was no known North Korean missile that fit that description.

Meanwhile, Reuters had also added back then, reporting on the same observed missiles, that South Korean “intelligence agencies” believed the missiles could possibly be “the lower-half of an ICBM.” Additionally, as Jeffrey Lewis has observed, United States Strategic Command described two failed North Korean missile launches out of Kusong’s Panghyon Air Base in October 2016 as “presumed Musudan” tests. That assessment may have been based on an observation of Musudan transporter-erector-launchers as the missiles exploded shortly after launch. (The Hwasong-12 uses an armored version of the same TEL as the Musudan IRBM.)

In aggregate, a lot of this suggests that North Korea may be treating the Hwasong-12 IRBM as a stepping-stone to a liquid-fueled ICBM — and perhaps even developing something new altogether, apart from its existing KN-08 and KN-14s. In the meantime, however, this likely single-stage IRBM fills an important role in North Korea’s burgeoning nuclear forces and nuclear strategy.

As I discussed with MIT’s Vipin Narang on a recent podcast, North Korea has long made a point of intending to deter the United States from preemptive action against it by threatening the U.S. territory of Guam, where the U.S. Air Force notably stations its strategic bomber force for the Pacific theater, including B-1Bs and B-2s. The Musudan (Hwasong-10) had originally been described as North Korea’s ‘Guam-killer’ missile, but its range would likely be inadequate to deliver a nuclear payload. Based on the Hwasong-12’s range and apogee on Sunday, David Wright estimates that it should be able to comfortably overshoot Guam. As a result, this single-stage IRBM — even if it may be less efficient than the Musudan — fills an important role for North Korea’s nuclear forces.

There are a few other questions Sunday’s launch leaves behind. KCNA describes the Hwasong-12 as a missile “capable of carrying a large-size heavy nuclear warhead.” North Korea had claimed that its January 2016 and September 2016 nuclear tests were of fully staged thermonuclear devices. Most independent analysts believe that Pyongyang likely tested a more modest boosted fission device in both tests. North Korea has also claimed important advances in developing a compact nuclear device (recall the infamous photograph released last year of Kim Jong-un standing adjacent to what appeared to be a compact physics package). Parsing out KCNA language isn’t the easiest, but a “large-size heavy nuclear warhead” is suggestive of the North Koreans envisioning something like the Hwasong-12 (and longer-range systems) throwing a heavier payload, including potentially a fully staged thermonuclear device should that see successful testing and miniaturization in the coming years. (A sixth North Korean nuclear test continues to loom as a possibility.)

Second, as the White House’s bizarrely worded statement in the aftermath of the launch noted, the Hwasong-12 splashed down “closer to Russia than to Japan.” The statement continued that U.S. President Donald J. Trump “cannot imagine that Russia is pleased” by this development. In fact, U.S. officials told CNN that the missile may have splashed down just 60 kilometers of the Russian coast. The Russian Ministry of Defense noted that the launch, however, “posed no danger” and landed 500 km away from the Russian coast.



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

29

Based on a map seen in the released Rodong Sinmun imagery and a computer monitor behind Kim Jong-un showing the missile's intended trajectory, it does appear that the projectile splashed down somewhere between the U.S. and Russian claims. A rough estimate suggests that the splashdown may even have been within Russia's exclusive economic zone. Meanwhile, North Korea's KCNA statement went out of its way to note that the "test-fire was conducted at the highest angle in consideration of the security of neighboring countries."

It's unclear if Pyongyang was attempting to provoke Moscow with this launch; relations between the two capitals have remained relatively warm in recent years compared especially to North Korea's post-2013 chill in ties with China. Remember too that Sunday's launch came just hours before Chinese President Xi Jinping kicked off China's banner diplomatic event for the year: the Belt and Road Forum. Even if the Russian Defense Ministry denies that the launch posed no threat, a splashdown within Russia's EEZ and with such proximity to the headquarters of the Russian Navy's Pacific Fleet in Vladivostok can hardly be reassuring.

Ultimately, we're still hardly one day out from this test launch and a lot of the above remain preliminary conclusions. The United Nations Security Council will meet on Tuesday to discuss a course of action after this latest missile test. In the meantime, North Korea watchers will be hard at work poring over the released imagery and other data to gain additional insight into Pyongyang's missile ambitions.

<http://thediplomat.com/2017/05/north-koreas-new-intermediate-range-ballistic-missile-the-hwasong-12-first-takeaways/>

[Return to top](#)

Antara News (Jakarta, Indonesia)

### **Indonesia Appeals for Nuclear Disarmament at International Forums**

Author Not Attributed

May 17, 2017

The Indonesian government continues to call for discussions on nuclear and chemical weapons disarmament at international forums, Indonesian Permanent Representative in Vienna Ambassador Rachmat Budiman stated.

"There is an imbalance in the implementation of the Non-Proliferation Treaty, so Indonesia continues to push for discussions on nuclear disarmament at international forums," Ambassador Budiman said here on Wednesday.

The statement was delivered during the Foreign Policy Review Forum 2017 in Jakarta titled "Nuclear: Threats and Benefits."

According to Budiman, Indonesia has always played an active role in supporting efforts to abolish and ban nuclear weapons at the regional and global levels.

He explained that Indonesia's position on the issue of nuclear weapons is in line with the 1945 Constitution, especially the part in which Indonesia is obliged to contribute to creating global peace and order.

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

In addition, Indonesia has issued Law No. 8 of 1978 on Ratification of Agreement on the Prevention of Nuclear Weapon Dispersion.

To this end, Ambassador Budiman said Indonesias position on the issue of nuclear weapons refers to the two laws implemented through the three pillars of nuclear treatment.

The three pillars are disarmament, non-proliferation, and peaceful use of nuclear energy.

"In applying those three pillars, Indonesia underlines the need to implement the three pillars in transparent and non-discriminatory ways," the ambassador asserted.

He noted that Indonesia also continues to encourage incentives for countries that have ratified the Non-Proliferation Treaty.

<http://www.antaranews.com/en/news/110964/indonesia-appeals-for-nuclear-disarmament-at-international-forums>

[Return to top](#)

The Philippine Star (Manila, The Philippines)

**Sanctioned China Firm Eyes AFP Deal**

By Christina Mendez

May 16, 2017

A state-owned Chinese firm that was sanctioned by the United States for allegedly supplying weapons of mass destruction to Iran has expressed its intention to supply military hardware to the Philippines to boost the country's defense capability.

Defense Secretary Delfin Lorenzana announced yesterday that state-owned conglomerate China Poly Group Corp. has expressed intent to supply arms and other equipment to the Armed Forces of the Philippines (AFP).

The offer casts a shadow of concern raised by China's militarization in the South China Sea, which also comes on the heels of President Duterte's pivot to China.

Duterte received officials of the China Poly Group Corp. and Poly Technologies Inc. who paid a courtesy call on him at the Grand Hyatt Hotel here last Sunday.

"It's not yet a document. It's a letter of intent to deal with them because they're offering us a lot, a wide array of defense equipment," said Lorenzana, who was present during the Poly Technologies' call.

This is different from the \$14-million grant and another \$500-million loan offered by Beijing last year during Duterte's visit here.

The fast boats, sniper rifles and ammunition under the \$14-million grant will be delivered by yearend, the defense chief said.

Concerned parties were set to sign the letter of intent yesterday.

In an interview on the sidelines of the two-day Belt and Road Forum here, Lorezana said the country could take advantage of China's offer to improve its resources, especially in dealing with terror groups in the South.



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

31

"This is an intent and we are going to send here a technical working group to look at the equipment and see what we need," Lorenzana added.

In looking at Beijing to supply the needs of the AFP modernization, Lorenzana noted how arms are cheaper in China compared to other suppliers.

### **Practicality**

Lorenzana was quick to defend the Philippines' dealing with China on arms purchase despite the Philippines' claim over disputed islands at the South China Sea.

"Actually, we are not warring with China on the issue of South China Sea. That's only a dispute," he said.

He echoed Duterte's statements to set aside the dispute temporarily, adding that these concerns can be addressed amicably.

"We believe that would be settled through dialogue, bilateral or multilateral (talks) with other claimants. China is open about it," he added.

"Everybody is pragmatic here. Nobody would like to go into a shooting war with anybody. That's bad. You will just be spending resources and men for nothing if we have any shooting," Lorenzana said.

However, reports said China Poly Group Corp. was among the four Chinese firms slapped with sanctions by the United States in 2013 for selling items to Iran, which is banned under US laws aimed at curbing Iran's missile program.

The Chinese firms violated the rules of the Missile Technology Control Regime, the Chemical Weapons Convention, the Nuclear Suppliers Group and other international programs aimed at curbing the development and proliferation of weapons of mass destruction, wire reports said.

But China had earlier asked the US to revoke its sanctions, criticizing America's misguided policy.

In contrast to the United States, the Philippines' longest defense ally, Lorenzana noted the stringent conditions imposed by the US that are attached to arms procurement.

"The problem with the United States... the process there is very slow because it has to go through (US) Congress, and they demand some conditions. They ask like, what do you do with these equipment? Do you use it against drugs?" he added.

"That's why we are discouraged to get from them because of some conditionalities," Lorenzana said.

<http://www.philstar.com/headlines/2017/05/16/1700331/sanctioned-china-firm-eyes-afp-deal>

[Return to top](#)



RT (Moscow, Russia)

## **Russia Threatened to Use Nukes? US Commission Produces Wildest Claims in Push for Military Buildup**

Author Not Attributed

May 18, 2018

The Helsinki Commission has gotten creative on the notorious “Russian threat,” pinning the blame for the death of an OSCE observer in Ukraine on Moscow and claiming it threatened to use “tactical nuclear weapons” – all while calling for more arms and troops on the Russian border.

Members of the US government commission, officially known as the Commission on Security and Cooperation in Europe (CSCE), on Wednesday sat down in Washington, DC for a hearing aptly named “The Growing Russian Military Threat in Europe: Assessing and Addressing the Challenge.”

The hearing focused around claims that Moscow “flagrantly violated commitments enshrined in the Helsinki Final Act relating to refraining from the threat or use of force against other states; refraining from violating other states’ sovereignty, territorial integrity, or political independence; and respecting the right of every state to choose its own security alliances.”

While statements on the “Russian aggression” are often uttered by US politicians, the veracity of some of the claims put forward at the hearing would not disappoint even the staunchest anti-Russian hawks.

### **Death of OSCE monitor**

Alleging that Moscow “deliberately undermined its OSCE commitments” and security in Europe in general, some claimed Russia bears full responsibility for the death of an American OSCE monitor, Joseph Stone, who was killed on April 23 after the vehicle he was in struck a landmine in eastern Ukraine.

“If it was not for Russia’s aggression and a plethora of challenges that they face from the very beginning of that deployment, there would have been no death of that wonderful young man and so many others,” said Rep. Chris Smith (R-New Jersey), co-chairman of the commission.

The investigative team has not yet come forward with any conclusions concerning Stone’s death, but the death of the Special Monitoring Mission (SMM) member has already been used to fuel anti-Russia rhetoric in western media. The breakaway Lugansk People’s Republic said that the vehicle “deviated from the main route and moved along side roads, which is prohibited by the mandate of the OSCE SMM.”

### **‘Tactical nukes threat’**

However, speaking of how Russia has grown into a formidable force, threatening the entire OSCE region and “recklessly endangering the lives of millions,” Smith then added an even more bizarre claim: that Moscow “threatens to use tactical nuclear weapons against other countries.”

The New Jersey representative fell short of specifying what countries exactly are facing such threats and who has ever voiced them.

Several testimonies at the hearing specifically focused on Russia’s alleged sabotaging of the Open Skies Treaty, related to military transparency and non-proliferation agreements, by allegedly





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

33

introducing “nuisance restrictions” that make it inconvenient for NATO jets to monitor such places as Moscow or Russia’s exclave of Kaliningrad.

Stephen Rademaker, from the Podesta Group, admitted that Russian continues to implement the treaty but claimed that it “does so in a way to minimize the benefits of the treaty to other parties,” including the US.

The Open Skies Treaty was struck in 1992 and came into force in 2002 with 34 signatories, including Russia, US and most of its NATO allies. Moscow continues to heed its obligations under the treaty, with a joint US-Czech Republic mission conducting an intelligence flight over Russian territory as recently as April 21.

The latest series of flights over US territory are scheduled to be carried out by Russian Tu-154M LK-1 aircraft between May 15 and May 20, according to the head of Russia’s National Nuclear Risk Reduction Center, Sergei Ryzhkov.

### **‘Create new missile, send arms to Ukraine’**

Meanwhile, in the view of Michael Carpenter, Former Deputy Assistant Secretary of Defense and senior director at Biden Center for Diplomacy and Global Engagement, Russia also violated its commitments under the Intermediate-Range Nuclear Forces Treaty.

Carpenter has called for the US to “immediately begin research...into the development of an intermediate-range missile that would match Russian new capability” following his claim.

With that, he argued, that US should relieve itself of the obligations it undertook under the NATO-Russia founding act and aim to dispatch “an additional US brigade combat team to Eastern Europe as a deterrent force.”

Carpenter said the US should start more actively arming Ukraine by scrapping what he described as a “de-facto arms embargo,” supplying Kiev with air defense and anti-tank systems.

Stephen Pifer, director of the Arms Control and Non-Proliferation Initiative and a senior fellow with the Center for 21st Century Security and Intelligence at the Brookings Institution, went even further, suggesting that such arms supplies to Ukraine should involve not only defensive weaponry but also “certain types of lethal assistance,” including MANPADS and anti-armor weapons.

### **‘No interest in European security’**

New security agreements between Washington and Moscow should not be a part of the agenda in the foreseeable future, Carpenter said.

“Russia is no longer interested in cooperation to strengthen European security. Just the opposite,” he said.

Contrary to the claim, Moscow has repeatedly voiced its readiness to boost security cooperation in Europe and its dialogue with NATO.

In March, Russia’s Defense Ministry invited representatives of all NATO member countries along with its leadership and the EU to take part in the Moscow Conference on International Security.

“If someone holds a different point of view, let him outline it and we’ll take it into account in our further work. In a word, we count on open and interested discussions,” Aleksandr Fomin, Deputy Defense Minister, said at the time.



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

### **'Kremlin policy must change'**

However, talking on equal terms may not be the favored option in Washington, with Pifer arguing that Moscow must take unilateral steps to ease the crisis in Ukraine.

"What is needed to bring peace, however, is a change in the Kremlin's policy," Pifer said, adding that "the US and the West should support Kiev politically."

The apparent suggestion that Russia must change its foreign policy course ironically comes as Washington is accusing Russia of interfering into the November 2016 presidential elections, with media campaign and investigations into the alleged interference currently in full swing.

Speaking alongside German Chancellor Angela Merkel in Sochi, Russian President Vladimir Putin stated that Russia "never interferes, either in political life or in the political processes of other countries," and would like to see other countries following suit.

"Unfortunately, what we see is precisely the opposite. We have seen attempts to interfere in internal political processes in Russia for a very long time," Putin said.

<https://www.rt.com/news/388769-us-commission-russia-nuclear-threat/>

[Return to top](#)

Sputnik (Moscow, Russia)

### **US Stores Dozens of Weapons of Mass Destruction in This Non-Nuclear Country**

Author Not Attributed

May 16, 2017

*Although Italians have been opposed to Washington's military presence in the country due to major risks that it poses, Rome is unlikely to deal with this issue, journalist Fabrizio Di Ernesto told Sputnik Italia.*

"Few people know that Italy stores US nuclear warheads at the Aviano and Ghedi bases despite the fact that the country signed the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The Italian government has not confirmed this. However, former US President Bill Clinton said this in a 2005 interview. The news did not cause a stir. There are approximately 70 nuclear bombs in Italy, a country which voted against nuclear energy at a referendum," the journalist said.

The NPT strives to prevent the spread of nuclear weapons and weapons technology, to promote the peaceful use of nuclear energy and contribute to nuclear disarmament. The treaty has been in force since March 1970.

Italy has stored US nuclear weapons on its territory as part of NATO's nuclear-sharing arrangement, which has seen Washington station its B61 nuclear bombs in non-nuclear countries. Aviano, a NATO base in the Italian region of Friuli-Venezia Giulia, is home to some 50 B61 bombs, while Ghedi, a base of the Italian Air Force in the region of Lombardy, is estimated to host between 20-40 B61 bombs.

In addition, US tactical nuclear weapons are stored in Belgium, Germany, the Netherlands and Turkey.

The B61, one of the Pentagon's primary thermonuclear weapons, is in the process of a major upgrade, with its latest version, known as the B61-12, successfully tested in April.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



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

35

The US military presence in Italy poses other risks to the Mediterranean country.

"The US Navy's Mobile User Objective System (MUOS) was built in the commune of Niscemi, Sicily. It is a communications satellite system which functions thanks to five satellites and four antennas, located in Niscemi, Australia, Virginia and Hawaii. This complex helps all NATO armies to communicate. Since there are only four antennas, one can imagine how powerful they are to be able to transmit and receive signals. Numerous universities have warned that radio waves could cause cancer. Nevertheless, the project was carried out," the journalist said.

Di Ernesto expressed doubt that Italian politicians would force the United States to withdraw its troops, weapons and military installations from the country.

"Sadly, our politicians are fully dependent on Washington," he said. "I don't think that Italian politicians could oppose these bases, taking into account that they are mostly financed by the United States. One could say that the funds that Italy allocates on these bases come from NATO. Some politicians even urge to increase this spending since the more you give to these international organizations, the more you can count on their assistance. This is why no one wants to change anything."

<https://sputniknews.com/military/201705161053657854-us-italy-nuclear-weapons/>

[Return to top](#)

Russia Beyond the Headlines (Moscow, Russia)

### **Less Than 50 Percent of Russians Expect a Nuclear War - Poll**

By Boris Egorov

May 17, 2017

*Having lived through the Cold War, Russians are no strangers to the dangers of a confrontation between nuclear-armed countries, but an opinion poll reveals that most people in Russia do not expect a nuclear war to take place.*

Less than half the Russians polled recently by the Russian Public Opinion Research Center (VTSIOM) believe that there will be a nuclear war in the near future.

41 percent of respondents believe that it is fine to allow countries to freely develop nuclear weapons and to not impose any restrictive measures on them.

At the same time, 38 percent of respondents believe that countries that develop nuclear weapons should be isolated from the world community to prevent a nuclear arms race.

1,200 respondents were contacted over the telephone for the VTSIOM survey on May 10-11, 2017.

### **Positive trend**

The results of such surveys were noticeably different three years ago. A survey conducted by the Public Opinion Fund in July 2014, in the midst of the crisis in Ukraine and the confrontation between Russia and NATO, revealed that 64 percent of Russians believed that the world was facing the threat of a nuclear war.

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

More than half of the respondents showed then that the main threat of the use of nuclear weapons came from the U.S. (52 percent), while North Korea was named by only 12 percent.

A survey conducted by the same fund in late 2016 showed that a quarter of Russians didn't believe in the possibility of using nuclear weapons in case of a war between Russia and NATO.

78 percent of Russians said they didn't believe that Russia would be the first party to use nuclear weapons in case of a war with NATO countries.

**Dangers of nuclear destruction**

Russians are no strangers to the concept of nuclear safety. During the Cold War the world stood on the verge of possible nuclear conflict, with the Soviet Union being a key player.

The Cuban Missile Crisis of 1961 was the culmination of a confrontation between the superpowers. Nuclear war was avoided back then thanks to the joint efforts of the leadership of the two countries and the fact that Nikita Khrushchev and John F. Kennedy were ready for a dialogue.

The end of the Cold War, following the collapse of the Soviet Union in 1991, has not removed the possibility of a nuclear conflict.

A small deterioration in relations in the 1990s gave way to a hard confrontation between Russia and NATO in the 2000s, that reached its peak in the period of the Ukrainian crisis that began in 2014.

Today, the United States and Russia have the largest stockpiles of nuclear weapons: about 8000 and 7300 nuclear warheads respectively.

In addition to a direct nuclear conflict with the West, Russians have every reason to be wary of a potential nuclear conflict between Pakistan and India.

According to a VTSIOM poll, most Russians do not consider Pakistan and India as a direct threat to their country. But despite the fact that both South Asia countries have relatively few nuclear warheads (about 100 per country), a nuclear conflict between them would have severe repercussions for Russia and the world as a whole.

[https://www.rbth.com/politics\\_and\\_society/2017/05/17/less-than-50-percent-of-russians-expect-a-nuclear-war-poll\\_764496](https://www.rbth.com/politics_and_society/2017/05/17/less-than-50-percent-of-russians-expect-a-nuclear-war-poll_764496)

[Return to top](#)

Business Insider (New York, NY)

**A Physicist Says Blowing Up Nuclear Weapons in The Ocean to Trigger Tsunamis 'Would Be Completely Stupid'**

By Dave Mosher

May 14, 2017

*British tabloids recently reported that Russia could trigger tsunamis with nuclear "mole" missiles buried near US coasts.*

*The claim was rejected by both nuclear weapons experts and the alleged source of the idea.*

*Underwater nuclear detonations can trigger large waves, but it's nothing compared to natural tsunamis.*

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



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

37

Nuclear weapons are as awesome as they are terrifying. In an instant, their explosions can vaporize people, level cities, and obliterate military forces.

But could this fearsome power be harnessed by Russia or other nuclear nations to lob deadly tsunamis against an enemy coastline, as British tabloids recently reported?

If you ask a nuclear physicist, you're likely to be laughed out of the room.

"It would be a stupid waste of a perfectly good nuclear weapon," Greg Spriggs, a nuclear-weapons physicist at Lawrence Livermore National Laboratory, told Business Insider in an email.

Here's why it doesn't make sense and where the myth came from.

### **The science of nuclear wave-making**

A nuclear weapon detonated below the ocean's surface can cause great devastation.

One need not look further than the underwater US nuclear weapons tests of the 1940s and 1950s, including operations "Crossroads Baker" and "Hardtack I Wahoo" to see why. These underwater fireballs — roughly as energetic as the bombs dropped on Hiroshima or Nagasaki in August 1945 — burst through the surface, ejecting pillars of seawater more than a mile high while rippling out powerful shockwaves.

Some warships staged near the explosions were vaporized. Others were tossed like toys in a bathtub, sinking them. Others sustained crushed or cracked hulls, crippled engines, and other damage from the shockwaves. And — notably — the explosions roughly doubled the height of waves to nearby atoll islands, flooding inland areas there.

Yet Spriggs says it's unlikely that even the most powerful nuclear bombs could come close to unleashing a significant tsunami.

"[T]he energy in a large nuclear weapon is but a drop in the bucket compared to the energy of a [naturally]-occurring tsunami," he said. "So, any tsunami created by a nuclear weapon couldn't be very large."

For example, the 2011 Tohoku earthquake and tsunami that killed more than 15,000 people in Japan released about 9,320,000 megatons (MT) of TNT energy. That's hundreds of millions of times greater than the bomb dropped on Hiroshima in 1945, and roughly 163,000 times greater than the Soviet Union's "Tsar Bomba" test of October 30, 1961: the most powerful nuclear detonation in history.

"And second, because of the small solid angle that would subtended by a nuclear-induced tsunami (in the direction of the shoreline), most of the energy would be wasted going back out to sea," Spriggs said.

Perhaps the most damning point against using nuclear weapons to trigger tsunamis is how much more effectively the same weapon could kill people above-ground.

"[I]f they dropped a 10 MT weapon directly over a city, they could kill millions of people as opposed to a small nuclear-induced tsunami that may, at best, kill only a few thousand people that may be within a few thousand yards of the beach," Spriggs said. "In short, I don't believe it."





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

## **The origins of the nuclear-tsunami myth**

The claim that underwater nuclear blasts could trigger devastating tsunamis appears to have started with and spread by some media outlets in the UK.

Those stories referenced a commentary piece by Viktor Baranetz, a former spokesman for the Russian Defense Ministry, that was published February 28 in Komsomolskaya Pravda, a Russian tabloid. At the time, Baranetz was responding to President Donald Trump's desire to increase US military spending by \$54 billion, on top of an annual budget of about \$600 billion — what he claimed is roughly 10 times that of Russia's yearly military investment.

According to a March 8 translation by the Middle East Media Research Institute, Baranetz suggested that Russia has "already found asymmetrical responses" to counter such US military might including, for example (our emphasis added):

"[N]uclear warheads that can modify their course and height so that no computer can calculate their trajectory. Or, for example, the Americans are deploying their tanks, airplanes and special forces battalions along the Russian border. And we are quietly 'seeding' the U.S. shoreline with nuclear 'mole' missiles (they dig themselves in and 'sleep' until they are given the command)[...]"

Starting around April 30, however, several British outlets — including the Daily Star, Daily Mail, Telegraph, and The Sun — wrote that Baranetz claimed such "mole" missiles could detonate underwater to trigger deadly tsunamis against US coastal targets.

But Baranetz's text doesn't mention underwater detonations or tsunamis. In fact, he wrote a piece on May 2 that decried the suggestion of nuclear tsunamis as a "lie". (Business Insider contacted several prominent British outlets that published the nuclear tsunami claim; in response, at least one publication removed all references to the idea in its story.)

In his follow-up commentary on May 2, Baranetz also clarified the suggestion of "mole missiles":

"In Russia, any student who owns a computer will explain that 'Status-6' is a Russian project of an unmanned nuclear submarine. The mission of the apparatus is to deliver a nuclear munition with the aim of destroying important coastal elements of the enemy's economy and inflicting guaranteed unacceptable damage by creating extensive zones of radioactive contamination."

The Kremlin quickly and roundly denied Baranetz's claims, according to a piece by Tom O'Connor at Newsweek, and experts doubt the existence of "mole" missiles.

However, this does not change the reality that US and Russia together have deployed more than 3,700 nuclear warheads, with many thousands more stockpiled. Where many of the deployed weapons are at a given moment is either country's guess, given submarine and other covert military technologies.

<http://www.businessinsider.com/russia-mole-missile-nukes-science-debunked-2017-5>

[Return to top](#)



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

39

Sputnik (Moscow, Russia)

### **Iran Still Developing ICBM Technology Despite UN Resolutions - US Intel Chief**

Author Not Attributed

May 14, 2018

Director of US National Intelligence Daniel Coats said as he briefed the Senate on national security that Iran has continued its ballistic missile work in violation of UN resolutions.

The US intelligence head stressed that Iran has been steadily improving the range and power of its ballistic missiles in order to develop technology capable of carrying a nuclear warhead over thousands of miles to reach US soil.

Coats insists the ICBMs could actually be used by the Islamic Republic to launch a nuclear weapon.

"We judge that Tehran would choose ballistic missiles as its preferred method of delivering nuclear weapons, if it builds them," he said in a written testimony to the Senate Select Committee on Intelligence on Thursday.

According to Coats, Iran is using its space program as a disguise to illegally perfect ICBMs, as the expertise needed to launch satellites is similar to that needed to properly launch ICBMs.

"Progress on Iran's space program could shorten a pathway to an ICBM because space launch vehicles use similar technologies," Coats said.

According to the last US intelligence assessments, Iran's focus on ICBMs violates international prohibitions barring such activity.

"Iran is pursuing capabilities to meet its nuclear energy and technology goals and to give it the capability to build missile-deliverable nuclear weapons, if it chooses to do so," Coats wrote in the testimony.

The disclosure comes just days after Iranian military leaders announced the launch of two new Iranian-made satellites into space in the next few months. US national security experts suggest this could, in fact, be part of the country's larger nuclear weapons program.

In January 2016, the Joint Comprehensive Plan of Action (JCPOA) was implemented between world powers to ensure that Iran's nuclear program would be exclusively peaceful.

Iranian military leaders claim that testing missiles is not a breach to the agreement, and Iran has not been found by UN inspectors to be in violation of the agreement.

<https://sputniknews.com/world/201705141053593772-intel-chief-iran-icbm/>

[Return to top](#)



Deutsche Welle (Bonn, Germany)

## **US Extends Nuclear Sanctions Relief Days Before Iran Vote**

By Chase Winter

May 17, 2017

*The US has extended sanctions relief on Iran as part of an international nuclear accord. The economic benefits of the deal are a prime issue in Iran's presidential vote on Friday.*

The United States on Wednesday renewed sanctions relief on Tehran as part of an international accord with Iran over its nuclear program, just two days before Iranians head to the polls in a presidential election viewed as referendum on the deal.

President Donald Trump is reviewing the Iran nuclear deal he vowed to rip up on the campaign trail, but Wednesday's decision signals that for now he will avoid unilaterally pulling the United States out of the accord backed by five other world powers.

But in announcing nuclear related sanctions relief would remain, the State Department and Treasury Department said separate sanctions related to Iran's ballistic missile program would be imposed.

"Iran continues to pursue missile-related technologies capable of delivering a nuclear weapon," Washington's top diplomat for the Middle East, Stuart Jones, said.

The new sanctions target seven entities, including two Iranian defense officials and a Chinese firm tied to Iran's missile program. One of the defense officials was linked to weapons sales to Syria.

The United States accuses Iran of destabilizing the Middle East by supporting Houthi rebels in Yemen, the Shiite Lebanese militant group Hezbollah and Syrian President Bashar al-Assad.

"This ongoing review does not diminish the United States' resolve to continue countering Iran's destabilizing activity in the region, whether it be supporting the Assad regime, backing terrorist organizations like Hezbollah, or supporting violent militias that undermine governments in Iraq and Yemen," the State Department said in a statement.

It also said it would continue to put pressure on Iran over human rights abuses and the arrest of dual Iranian-American citizens.

The United States, Britain, France, Germany, China and Russia reached the nuclear accord with Iran in 2015. In exchange for Iran limiting its nuclear program punishing international sanctions against Iran were dropped.

The US State Department and the UN atomic watchdog, the International Atomic Energy Agency (IAEA), have said Iran is complying with the nuclear deal.

A six-month waiver of US nuclear related sanctions last renewed under former President Barack Obama would have expired if not renewed.

The UN resolution authorizing the nuclear deal prohibits Iran from testing ballistic missiles, but the wording is vague. It "calls upon" Iran not to carry out work "designed to" deliver nuclear warheads. However, Iran says its ballistic missiles are conventional weapons, not "designed to" carry nuclear warheads even if they are "capable of" delivering them.



## **USAF Center for Unconventional Weapons Studies**

### **(CUWS) Outreach Journal**

41

Since Iran is not pursuing nuclear weapons and has given up its program, Tehran argues, the UN resolution does not apply to its ballistic missiles.

Read: Presidential elections will 'seriously shape' Iran's foreign policy

Wednesday's announcement comes as Iran heads to the polls on Friday in a heated race between moderate President Hassan Rouhani and a hardline candidate Ebrahim Raisi, believed to be backed by Supreme Leader Ayatollah Ali Khamenei.

Rouhani placed much of his political capital on the nuclear accord and better relations with the West, promising that it would improve the economy and end Iran's international isolation.

But many of the promised benefits have failed to materialize, opening Rouhani to attacks from hardliners, clerics and Iran's powerful Revolutionary Guard.

The presidential campaign has been marked by rare public statements highlighting divisions within the Islamic Republic's political establishment. Last week, Rouhani openly accused the Revolutionary Guard of seeking to undermine the nuclear deal by launching ballistic missiles last year inscribed with "Israel must be wiped out" in Hebrew.

<http://www.dw.com/en/us-extends-nuclear-sanctions-relief-days-before-iran-vote/a-38880807>

[Return to top](#)

The Diplomat (Tokyo, Japan)

### **A Closer Look at Iran and North Korea's Missile Cooperation**

By Samuel Ramani

May 13, 2017

*How Iran and North Korea cooperate in their twin quests to develop better missiles.*

On May 2, 2017, the Iranian military conducted a missile test from a Ghadir-class submarine in the Strait of the Hormuz. Even though the missile test failed, the close similarities between Iran's Ghadir-class submarine and North Korea's Yono-class miniature submarine alarmed Western policymakers. Many U.S. defense experts have argued that Iran's missile test was proof of continued Tehran-Pyongyang military cooperation, despite repeated attempts by the United States to isolate the DPRK regime.

Even though there was considerable optimism that the July 2015 ratification of the Iran nuclear deal would halt Tehran's long-standing military cooperation with North Korea, Iran's ballistic missile program continues to rely on North Korean military technology. Iran's ongoing cooperation with North Korea can be explained by a shared distrust of U.S. diplomatic overtures and the common belief that countries have a right to develop self-defense mechanisms without external interference.

### **Technology Sharing between Iran and North Korea since the 2015 Nuclear Deal**

While media coverage on Iran-North Korea military cooperation has focused principally on technician exchanges between the two countries and nuclear cooperation, ballistic missile development has been the most consistent area of Tehran-Pyongyang technological cooperation

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

since the Iran nuclear deal was signed in 2015. This collaboration explains the striking similarities between Iranian EMAD and North Korean Rodong missiles.

Even though parallel missile developments are powerful indicators of collaboration between Iran and North Korea, American and Israeli analysts have intensely debated the nature of the Tehran-Pyongyang partnership. Former U.S. Ambassador to the United Nations John Bolton has been one of the most outspoken proponents of the view that Iran-North Korea cooperation is largely transactional. In a recent interview, Bolton declared that if North Korea gets nuclear missiles, “Iran could have that capability the next day” because of Tehran’s long-standing defense contracts with the DPRK and Pyongyang’s desperate need for hard currency.

While the DPRK’s dire economic situation can explain some dimensions of the Iran-North Korea military partnership, there is compelling evidence that Tehran-Pyongyang ballistic missile technology cooperation is a more mutual exchange than many U.S. policymakers have assumed.

Israeli defense analyst Tal Inbar recently noted that Iran purchased North Korea’s technical know-how on ballistic missile production, upgraded the DPRK missiles’ forward section, and distributed these advancements back to North Korea. The similarities between North Korean missiles launched during recent tests and Iranian technology suggests that Iran is a possible contributor to North Korea’s nuclear buildup, rather than a mere transactional partner.

Even though Iran’s technology-sharing partnership with North Korea is widely stigmatized, there is a compelling strategic rationale for Tehran’s continued military exchange with Pyongyang. Should Iran successfully test a missile on a North Korean-style miniature submarine, Tehran’s ability to threaten U.S. ships in the Strait of Hormuz would increase greatly. The Yono-class submarine’s undetectability helped the DPRK sink South Korea’s ROKS Cheonan ship in 2010. Iran’s possession of similar naval capabilities strengthened by sophisticated ballistic missiles would greatly increase the costs of a U.S. military confrontation with Tehran.

Iran’s successful utilization of North Korea’s BM-25 Musudan missile system could also profoundly impact the regional balance of power. As the head of the U.S. military in the Pacific, Admiral Harry Harris, recently noted, Washington’s adherence to the Intermediate-Range Nuclear Forces (INF) treaty prevents it from developing short- and medium-range missile deterrents to neutralize Iran’s missile developments.

Should Iran resolve the problems that unraveled its July 2016 test of North Korean missile technology and gain a 2,500-mile strike range, Tehran’s ability to militarily challenge Israel, Saudi Arabia, and the United States will strengthen considerably. This prospect explains why Iran views its partnership with North Korea as an integral component of its broader strategy to reshape the balance of power in the Middle East.

**Normative Solidarity Between Iran and North Korea**

In addition to the strategic benefits of aligning with Pyongyang, Iran’s continued military cooperation with North Korea is founded in deep-rooted normative solidarity between the two countries. This solidarity is rooted in the shared belief that countries have the right to decide what level of defensive capacity is appropriate for them, without external interference or aggressive deterrence.

The synergy between Iran and the DPRK on national self-defense rights is rooted in both countries’ shared perception of the United States as a security threat. On February 3, Iranian Foreign Minister Javad Zarif defended Iran’s ballistic missile program, by insisting that it was a defensive reaction to aggressive threats from the United States. Iranian diplomats also frequently cite the United States’





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

43

military support for Saddam Hussein's Iraq during the 1980-88 Iran-Iraq War as proof that Iran needs defensive capabilities of unassailable strength to maintain its sovereignty.

North Korea has framed its nuclear weapons and ballistic missile programs in similarly defensive terms. In a January 2016 public statement from the DPRK's official news agency, KCNA, the North Korean government defended its nuclear test as a necessary measure to prevent its leaders from succumbing to the fates of Iraq's Saddam Hussein and Libya's Muammar al-Gaddafi. The North Korean state media has also justified its weapons buildup by arguing that the presence of U.S. troops in South Korea is a compelling indicator of an imminent joint U.S.-ROK invasion of Pyongyang.

In addition to invoking their national rights to self-defense, the Iranian and DPRK governments have also highlighted double standards in the international community's responses to states possessing nuclear weapons. In particular, Iran and North Korea have been stridently critical of Washington's willingness to accept Israel's possession of nuclear weapons, even though many world leaders argue that Israel's nuclear arsenal poses a threat to regional and international stability.

Even though the 2015 Iran nuclear deal initially sparked optimism in the United States about the viability of a grand bargain to denuclearize North Korea, recent actions by the Iranian and DPRK militaries have effectively extinguished this prospect. If Iran-United States relations continue to worsen under Trump and Iran continues to upgrade its ballistic missile capabilities with DPRK technology, the Tehran-Pyongyang military nexus will remain an intractable security challenge for U.S. policymakers for years to come.

<http://thediplomat.com/2017/05/a-closer-look-at-iran-and-north-koreas-missile-cooperation/>

[Return to top](#)

Zawya (Dubai, UAE)

### **12 Arab countries call for weapons of mass destruction-free Middle East**

Author Not Attributed

May 17, 2017

A total of 12 Arab countries have jointly submitted a working paper on establishing a Middle East zone free of weapons of mass destruction, WMD, and nuclear weapons.

The move occurred on Friday at the conclusion of the first preparatory meeting for the 2020 Review Conference of the Parties to the Non-Proliferation Treaty, NPT, of Nuclear Weapons, Kuwait's Deputy Permanent Delegate to the UN headquarters in Vienna, first Secretary Abdullah Al Obaidi said. The second meeting will be held in Geneva in 2018 for the 2020 conference.

In a speech on behalf of the Gulf Cooperation Council States, Kuwait's Permanent Delegate at the United Nations in Vienna, Ambassador Sadeq Mohammad Maarefi stressed that establishing a Middle East zone free of weapons of mass destruction proliferation aims to support regional stability and security, Kuwait News Agency, KUNA, reported.

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

He said that Resolution No. 1995 on the Middle East, which was taken on a basis of an indefinite extension of the NPT, remains in force until its goals are achieved. He pointed out that all the Parties to the NPT of Nuclear Weapons are asked to implement the resolution.

GCC states have confirmed that the aim of establishing a Middle East zone without WMDs is to achieve stability and security in the region.

[http://www.zawya.com/mena/en/story/12\\_Arab\\_countries\\_call\\_for\\_weapons\\_of\\_mass\\_destruction\\_free\\_Middle\\_East-WAM20170517063024576/](http://www.zawya.com/mena/en/story/12_Arab_countries_call_for_weapons_of_mass_destruction_free_Middle_East-WAM20170517063024576/)

[Return to top](#)

Defence News (New Delhi, India)

**India's MoD demands early induction of Ballistic Missile Defense System**

Author Not Attributed

May 18, 2018

To ensure the early induction of India's homemade Ballistic Missile Defense System, the country's Ministry of Defence has directed the state-owned Defence Research and Development Organization to urgently submit a final induction strategy and timeline for the BMD system.

A senior MoD official said the ministry "is even considering to carry out an audit of DRDO claims about the performance of the tests."

Despite tall claims made by DRDO five years ago regarding completion of the first phase, there remains no word from the agency on the project's completion, the MoD official added. DRDO has been developing the indigenous BMD system since 1995.

It was in the wake of the system's delay that India last year cleared the \$5 billion purchase of S-400 air defense systems from Russia; however, the final contract is yet to be inked.

DRDO had earlier said that by 2012 or 2013, the first phase of the BMD shield would be ready to protect New Delhi from hostile missiles with a 2,000-kilometer range. It also boasted that by 2016, the second phase would be operational, allowing the system to kill hostile missiles with a 5,000-kilometer range.

Regarding a potential audit of the authenticity of DRDO's BMD system claims based on a variety of tests, Mahindra Singh, a retired Indian Army major general, said: "It is important to know whether the interceptor missile hit the incoming missile during trials because a remote fuze can also detonate the incoming missile, and there is no guarantee whether the incoming missile [was] actually hit by the interceptor missile."

In February this year, a top DRDO scientist said the homegrown anti-ballistic missile Prithvi Defence Vehicle, or PDV, traveling at supersonic speed destroyed a target at an altitude of 97 kilometers in the exo-atmospheric region. The PDV interceptor missile is capable of killing an incoming missile with a strike range of around 2,000 kilometers outside the Earth's atmosphere.

PDV is said to be an upgraded interceptor missile with a range of 50-150 kilometers and is set to will replace the Prithvi Air Defence missile, which has a range of 80 kilometers.

DRDO has successfully test-fired both exo-atmospheric and endo-atmospheric interceptor ballistic missiles.



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

45

India's BMD system consists of a long-range tracking radar developed in partnership with Israeli company Elta. It is based on the company's EL/M-2080 Green Pine radar used in conjunction with Israel's anti-ballistic missile system Arrow.

The second component of India's BMD system is the computerized command and control system that plots and predicts the intruding missile's flight path and assigns interceptor missiles to destroy it.

The third component is the interceptor missiles and includes the exo-atmospheric missiles as well as the endo-atmospheric missiles, which can kill an incoming missile at a distance of up to 40 kilometers.

<http://www.defencenews.in/article/Indias-MoD-demands-early-induction-of-Ballistic-Missile-Defense-System-262131>

[Return to top](#)

Swarajya Magazine (Bengaluru, India)

### **Did Pakistan Make North Korea a Nuclear Power?**

By Sumit Walia

*How did North Korea, a country with hardly any technological or engineering base, become a nuclear power? Surely, it had help, possibly from Pakistan.*

North Korea is in the news again. It is threatening South Korea, the United States and the entire world with its nuclear and missile arsenal. Most in the world are not much worried. They consider it as a regular bluff by the North Korean dictator. But one never knows when that cruel dictator would become adventurous and pull a stunt that could have far-reaching consequences.

Ever wondered how North Korea – a country that has the worst kind of communist dictatorship, which starves and tortures its citizens, where there is no proper education system, no technological or engineering base – became a nuclear power?

Readers would remember that remarkable confession of Dr A Q Khan, Pakistan's infamous 'nuclear' scientist. It was on 4 February 2004 when Khan appeared on the television and confessed to having supplied nuclear technology and components to North Korea, Iran and Libya. Khan accepted his crimes in English and not in Urdu, which is the language understood by most Pakistanis.

That telecast was actually for the international audience, especially the United States and the European intelligence agencies. Khan explicitly mentioned that this proliferation network was entirely his own and the Pakistani government or authorities were never involved.

But was it true?

North Korea's nuclear ambition started in the late 1950s and early 1960s. Erstwhile Union of Soviet Socialist Republics (USSR) agreed to set up their first plutonium-based nuclear reactor at Yongbyon-Kun for peaceful use of nuclear technology. Later, North Korea set up more reactors, signed Non-Proliferation Treaty (NPT) to get access to the latest technology and allowed International Atomic Energy Agency (IAEA) inspectors to inspect its nuclear facilities, but never gave up its desire to have 'the bomb'.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

In 1993, IAEA's inspection team had concluded that North Korea is not completely honest about its 'peaceful' nuclear programme and had reprocessed nuclear material at least thrice – in 1989, 1990 and 1991.

But North Korea was still far from detonating a device.

Here, it is interesting to note that after Pakistan's nuclear tests in 1998, a US sniffer aircraft flew over the test sites and took air samples. The Los Alamos nuclear laboratory tested those samples and found that the final test(s) was conducted using plutonium as fuel. Now, Pakistan had left the plutonium route long ago in 1975 when Khan bought stolen centrifugal technology from Europe where he was working for URENCO as a technical translator.

So why did they detonate a plutonium device? CIA believed that Pakistan tested a North Korean nuclear device based on plutonium fuel.

The CIA and Western agencies had reasons to believe that.

If we check Western intelligence agencies' declassified information and investigative work by leading journalists, it becomes clear that their cooperation started long ago.

Apart from China, Pakistan was the only major country in the world who not only maintained diplomatic relations with North Korea but received weaponry from them.

But the cooperation in nuclear and missile field started in the late 1980s.

Investigative journalists Adrian Levy and Catherine Scott-Clark did a commendable job while investigating Pakistan's quest to acquire nuclear weapons and their proliferation. Their book *Deception* explains it all. In 2006, they interviewed Benazir Bhutto in Dubai. She revealed some interesting facts.

This evil thought of proliferation for monetary gains was the brainchild of Pakistani Army Chief General Mirza Aslam Beg.

Towards the end of 1989, Benazir Bhutto was the Prime Minister, and in a meeting (attended by General Jehangir Karamat, DGMI and General Hamid Gul, DG-ISI) General Beg briefed her about the Kashmir situation and suggested fuelling the insurgency by setting up more training camps, providing weaponry and logistic support, infiltrating 100,000 battle-hardened Afghan Mujahideen.

Benazir was already under pressure due to the poor economic state of the country and from the US. She did not agree to escalate the situation; however, she agreed to let Pakistan Army continue the low-level insurgency.

Beg's second proposal was far more dangerous. To run the low-level insurgency, Pakistan needed money from sources independent of International Monetary Fund (IMF) funding, US aid, etc. This was the first time when he suggested to sell off the nuclear technology and assistance to likely customers. Bhutto was stunned and could not believe her ears. But the only customer she could think of were Iraq, Iran and may be Libya.

She then told the General that IMF gave around \$200 million a year to Pakistan and how many 'customers' he thought would give Pakistan that big an amount. And for how many years? What would happen when those customers receive all that they needed? What will happen when the international community gets to know about this proliferation?

Bhutto rejected the idea, and a disappointed General left her office. Bhutto claimed she had no clue about what happened later as the military would keep her away from Khan Research Laboratory and the nuclear programme.



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

47

But the General did not stop. In an interview in 2006, then US Ambassador in Pakistan, Robert Oakley, informed the authors of the book that soon after the meeting with Bhutto, General Beg went to Iran to get their support in Pakistan's proxy war in Kashmir, and in return offered Iranians support for their nuclear programme.

Oakley had informed the US administration about this development, but considering the Afghan Jihad, the US administration kept quiet.

Benazir also revealed that Pakistan Army and Khan did not lose hope. In December 1993, she was to visit Beijing, and Khan approached her again. He met Benazir and requested her to visit Pyongyang with a special request. Khan wanted Benazir to ask the North Korean dictator for Nodong missiles. He argued that Pakistan was developing short-range missiles which were not enough to hit deep inside India. He said, "we have the bomb, but we can't deliver it".

Benazir was again shocked but agreed for a short trip to North Korea on her way back.

She discussed Khan's proposal to her then counsel – Hussain Haqqani. He advised her not to fall into the trap of the security establishment, but Bhutto did not want to cross Army's way again. She tried earlier during her first term as prime minister and she was accused of being a threat to national security, and her government was dismissed. Bhutto did not want that to happen again.

She claimed that she thought the missile deal would be against cash. She had no clue about Army and Khan's plan to exchange nuclear technology instead.

Bhutto flew to Pyongyang on 29 December 1993, and during the dinner, a nervous Benazir bent over to the North Korean dictator and said, "Give my country Nodong missile's blueprints, we need those missiles".

Kim stared at her while she repeated the request. After a few moments' silence, he agreed.

Bhutto came back with a bag full of technical papers and disks. Soon Pakistan Army and Khan got what they wanted – Nodong missiles.

They test-fired it. Dr Shafiq, son of Brig Sajawal, who was in-charge of facilities administration of Khan Research Laboratories, revealed to Adrian Levy and Catherine that "there was so much excitement that no one cared to notice that paint on the missiles were still wet". Leading newspaper The Guardian had reported the same while quoting David Wright, the co-director of the global security programme at the Union of Concerned Scientists, "The first result was the Ghauri, a missile with a range of 1,500 km (930 miles). It was a repainted North Korean missile."

An evil deal had started where Pakistan's Uranium Enrichment technology was being exchanged for North Korean missile technology and some "cash".

In 1995, Oakley held a conference in Washington where he invited three persons from Pakistan – former vice-chief Gen (R) Arif, Mr Agha Murtaza Poya, editor-in-chief of the newspaper The Muslim and famous Pakistani journalist and editor of The Friday Times, Nazam Sethi. During the conference, Oakley surprised all of them by showing photos of Pakistani Air Force's C-130 planes unloading centrifuges and loading Nodong missile components. But Pakistan again denied the allegations of conducting any such exchange.

Soon there was plenty of other proof. Khan and PAF C-130s started making frequent trips to North Korea. The CIA and other agencies tightened their grip over Pakistan's network. The US administration could no longer resist pressure from the State Department and intelligence agencies,

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

who were giving irrefutable proof of Pakistan security establishment's (Army leadership and Khan) one-stop shop that was supplying everything to North Korea, Iran and Libya – from blueprint to actual centrifuges, technical support, bomb design and trigger mechanism.

Everything was on offer for dollars – most of the amount went to Pakistan treasury, and some of it went to personal pockets. In 2011, the Washington Post reported that Khan had released a copy of a letter from a North Korean official, dated 1998. The letter had details of the transfer of \$3 million to former Pakistan Army chief Jehangir Karamat, and \$500,000 and some jewellery to another military official, Lt Gen Zulfikar Khan.

In 2002, the US officially announced that they had proof against Pakistan having exported centrifugal technology to North Korea. But Pakistan's former president Musharraf did not hand over Khan for any investigation. When pressure kept mounting, Pakistan's security establishment persuaded Khan to take the sole responsibility in the country's "national interest". Khan was assured that there would be no trial, no one will be allowed to question him and, at most, he would be under house arrest.

But the Pakistan-North Korea cooperation never stopped. As per a Sunday Guardian report, sources suspected that North Korea is conducting nuclear tests for Pakistan to supply the latter with vital data. Pakistan requires this data to perfect its tactical nuclear weapons design.

Interestingly, China, the mentor and major supporter of both these countries, came out as the main beneficiary of this game. In early 1990s, China had refused to provide M-11 missiles to Pakistan as it was normalising its relations with the US and hoping to sign trade agreements to transfer manufacturing from the US to China. But China never stopped North Korea or Pakistan to fulfill each other's requirements. China had earlier provided bomb design to Pakistan, and now both its main allies are threatening its arch enemies – the US and India.

<https://swarajyamag.com/world/did-pakistan-make-north-korea-a-nuclear-power>

[Return to top](#)

Zee News India (New Delhi, India)

**Pakistan's Secret Nuclear Weapons Storage Facility Tracked In Khyber Pakhtunkhwa**

Author Not Attributed

May 17, 2017

*Pakistan, which recently test-fired the 2,750-km range Shaheen-3 missiles to prevent India from gaining a second-strike nuclear capability from Andaman and Nicobar islands, has built a secret nuclear weapons storage facility at the foot of Peer Than Mountain near Haripur in Khyber Pakhtunkhwa.*

Pakistan, which recently test-fired its 2,750-km range Shaheen-3 missiles to prevent India from gaining a second-strike nuclear capability from Andaman and Nicobar Islands, has built a secret nuclear weapons storage facility at the foot of Peer Than Mountain near Haripur in Khyber Pakhtunkhwa.

According to the military intelligence, Pakistan's secret nuclear weapons storage facility in Peer Than mountain was unknown until recently.





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

49

Inputs gathered by the military intelligence through satellite imagery suggest that Pakistan's Shaheen-III ballistic missiles, which are capable of delivering a nuclear weapon, could have been secretly deployed there.

The possible deployment of Shaheen series ballistic missiles in the secret storage facility poses a grave threat to India as it is located about 320-km from Amritsar, 520-km from Chandigarh and 720-km from New Delhi.

This assumes significance since the Shaheen-III ballistic missiles are capable of delivering a nuclear weapon and can hit targets as far as 2,750 kilometres effectively.

According to the Outlook magazine, Pakistan has been working assiduously to safeguard its nuclear first strike capability and to maintain second strike capability.

Over the years, Pakistan has built many secret nuclear weapons storage facilities to ensure survivability of its nuclear arsenal from India's first strike.

In a series of exposes through open source Google Earth satellite imagery, we will sketch out Pakistan's various underground and tunneled nuclear weapons storage facilities.

The construction of the tunneled facility began in the first half of 2003 and possibly completed around 2011.

In all these years, the Indian Army possibly had no clue regarding Pakistan's secret nuke weapons storage facility.

According to Outlook report, it has two main tunnels with three layered perimeter fence, support area with administrative office, mechanical transport (MT) garages, residential buildings and two Masjids.

However, it is still unclear as to how many such nuclear-capable missile bases are there in Pakistan, which has a stockpile of around 140 nuclear warheads.

<http://zeenews.india.com/india/pakistans-secret-nuclear-weapons-storage-facility-tracked-in-khyber-pakhtunkhwa-2006464.html>

[Return to top](#)

One India (Bengaluru, India)

### **Pak Accuses India of Diverting Nuclear Materials to Make Weapons**

Author Not Attributed

May 18, 2017

*Foreign Office spokesman Nafees Zakaria said media reports and papers substantiate an otherwise largely "ignored fact" that India's nuclear weapons programme is the fastest growing in the world.*

Pakistan on Thursday alleged that India has been diverting nuclear materials it had obtained for peaceful purposes under the NSG waiver to make weapons.

Pakistan foreign office spokesman Nafees Zakaria Foreign Office spokesman Nafees Zakaria told reporters that Pakistan has been underscoring for decades the risks of diversion by India of

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

imported nuclear fuel, equipment and technology, received pursuant to civil nuclear cooperation agreements and the 2008 Nuclear Suppliers Group (NSG) waiver.

"The concerns over diversion are neither new nor unfounded. India enjoys the rare distinction of diverting nuclear material, obtained on its peaceful use commitment, to its nuclear weapons programme," he said.

"The past and potential misuse of nuclear materials by India entails not only serious issues of nuclear proliferation but also carry grave implications for strategic stability in South Asia and national security of Pakistan."

He said media reports and papers substantiate an otherwise largely "ignored fact" that India's nuclear weapons programme is the fastest growing in the world. Talking about a paper recently released by Harvard Kennedy School, he said that this paper and other several reports corroborate growing concerns related to the use of nuclear material acquired by India from abroad in its existing and future unsafeguarded nuclear reactors, plants and facilities for development of nuclear weapons.

"The recent Belfer paper inter alia concludes that India has accumulated nuclear material for over 2600 nuclear weapons," he said.

He said that NSG states have a responsibility to take into account these well-founded concerns while considering transfer of nuclear material to India and its NSG membership bid. He claimed that many international nuclear experts, think tanks and media reports in the past years have consistently raised concerns over the lack of transparency, absence of international safeguards, and the potential for diversion of unsafeguarded nuclear material for nuclear weapons in India. Zakaria also said that the Rashtriya Swayamsevak Sangh (RSS) was establishing units in Kashmir, which were managed by non-Kashmiri activists. "Their increasing presence in (Kashmir) is to terrorise Kashmiris and deter them from participating in the self-determination movement," he alleged.

Zakaria called on the international community to take notice of the situation in Kashmir and condemned the ban on social media and TV channels in the valley. He said Pakistan extends full cooperation to United Nations Military Observers in India and Pakistan (UNMOGIP) in monitoring situation on the Line of Control and the Working Boundary.

Talking about the issue of medical visas by India, he said most patients who were travelling to India from Pakistan have serious ailments requiring urgent medical attention.

"Despite paying for their treatment themselves, these patients are being deprived of their basic right to health, due to political consideration on the part of India," he said.

"While granting or denying a visa is a sovereign right of any country, this Indian move is unprecedented in inter-state relations," he said.

<http://www.oneindia.com/international/pak-accuses-india-diverting-nuclear-materials-make-weapons-2439170.html>

[Return to top](#)



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

51

Nature (London, UK)

### **Why US nuclear sites are a ticking time bomb**

Author Not Attributed

May 17, 2018

*The Department of Energy needs to prioritize the clean-up of nuclear waste.*

The United States is still fighting the cold war. Thousands of its citizens had to take shelter last week because of the threat of radiation from nuclear weapons. But the opponent is no longer the Soviet Union. The enemy now is the legacy of an arms race and decades of government indifference to the mess that has been left behind.

On 9 May, the roof collapsed in a tunnel that houses highly radioactive waste at the US Department of Energy's sprawling Hanford site in Washington state. The tunnel is one of a pair that together shield 36 radioactive railway carriages, once used to carry nuclear fuel for reprocessing to plutonium. Radiation monitors showed no signs of airborne contamination after the collapse, so workers at the site were released and the hole was filled with fresh soil.

The incident is yet another alarming reminder of the risks posed by pollution at nuclear-weapons facilities in the United States and around the world. It could have been much worse. And without serious and sustained efforts to clean up these ageing facilities, one day it will be.

In August 2015, an independent panel of academics placed the Hanford tunnels on a list of high-priority dangers at the site, which spreads for more than 1,500 square kilometres along the Columbia River. The interim report, by the Consortium for Risk Evaluation with Stakeholder Participation (CRESP), said that the oldest tunnel — built in 1956 and covered with soil nearly 2.5 metres deep — could collapse and release radiation during an earthquake. The energy department is still investigating last week's breach, but the 6-metre section that gave way may have succumbed to little more than old age.

The energy department has spent more than US\$164 billion cleaning up its nuclear-waste sites since 1989. But it will be many decades before the work is complete. Each year, the agency spends more money just to maintain old infrastructure and ensure workers are safe.

Science might yet offer more efficient and economic solutions. Whereas Congress and previous administrations have been willing to spend money to maintain — or upgrade — the nuclear weapons themselves, there is less interest in paying to clean up after them. US President Donald Trump is no different. His administration's initial 2018 budget outline would boost funding for the environmental clean-up of nuclear waste by around \$300 million, to \$6.5 billion. But the National Nuclear Security Administration, which runs the energy department's weapons programme, would fare better with an increase of \$1.4 billion, or 11%.

Money is not the only problem. For more than a decade, organizations such as the US National Academies of Sciences, Engineering, and Medicine have been raising questions about the regulatory challenges that impede clean-up. For instance, the energy department's nuclear waste is still classified by where it comes from, rather than by its actual radiological risk. This often increases clean-up costs, and so heightens danger in a budget-constrained world. Nor is the department able to focus its resources on the highest priorities, given myriad legal agreements with state and federal regulators at individual sites — Hanford included.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



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

In a second report in August 2015, CRESP said that the extent to which the clean-up programme is based on actual risk remains “unclear”. The report recommended that Congress establish an inter-agency task force, with the participation of independent experts, to advise the department on clean-up activities and to help navigate legal and regulatory issues. Controversially, CRESP also recommended the creation of an alternative dispute-resolution process to replace the court-approved agreements that govern individual sites.

Objections to that report were raised by the governor and attorney general of Washington state, which has one such agreement at Hanford. This is testimony to the complexity of the problem. Still, the energy department would benefit from a broader reassessment of its clean-up mission — and a regular injection of unbiased risk analysis. The carriages in the Hanford tunnels are not going anywhere soon. But it should be science that dictates their timetable.

<https://www.nature.com/news/why-us-nuclear-sites-are-a-ticking-time-bomb-1.21998>

[Return to top](#)

Politico (Arlington, VA)

### **Why the U.S. Is Right to Invest in Nuclear Weapons**

By Gen. Dave Goldfein and Gen. Robin Rand

May 12, 2017

*Though it may seem counterintuitive, nuclear weapons are a critical tool of world peace.*

Americans don't often hear much about U.S. nuclear weapons. Despite their historical and continued importance to the strategic defense of our country, the most powerful weapons in the U.S. military arsenal are largely outside of the public view.

As the Department of Defense embarks this year on a Nuclear Posture Review, we must not lose sight of what has changed since the last review in 2010. Potential adversaries are aggressively modernizing and expanding their nuclear forces and capabilities. Some are publicly reminding those watching that their policies and doctrines support their use. So while much has changed since 2010, what has not changed is the need for a strong U.S. nuclear deterrent. We must modernize our aging delivery platforms, nuclear weapons and supporting infrastructure so that America's deterrent remains credible and effective in the future.

Though it may seem counterintuitive, nuclear weapons are a critical tool of world peace. Since the advent of the nuclear age, the great wars that so ravaged the globe during the first half of the 20th century are no more. Consider that between 65 and 85 million people died in the two world wars of the last century. It is against this backdrop that the United States must ensure that we continue to field effective nuclear deterrent forces.

As the service responsible for two of the three legs of the “nuclear triad,” and approximately 75 percent of the nation's nuclear command-and-control, the Air Force has a keen interest in assuring that our nuclear-capable bombers, ground-based missiles, command-and-control systems and supporting infrastructure are capable, reliable and secure. These systems have served as a bedrock deterrent of U.S. national security for more than seven decades precisely because prospective enemies know they work and that our nation's leadership will always make the tough decisions needed to protect and ensure the survival of the American people and our allies.



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

53

Although the two Air Force legs of the triad have proven remarkably resilient, they are growing old. Our Minuteman III Intercontinental Ballistic Missiles, or ICBMs, have been around since the 1970s. The infrastructure and support platforms that underpin our ICBMs, such as launch facilities, weapons storage facilities and security helicopters have been in service even longer. Our bomber and air-launched cruise missile forces are decades past their expected lifespans. While we will continue to rely on a portion of our legacy bomber force for decades to come, we must press forward with upgrades to ensure their reliability and effectiveness.

In the face of the aggressive and well-documented modernization efforts of potential adversaries and their increasingly assertive posturing, including overt threats from North Korea, the United States must maintain its commitment to recapitalizing our nuclear forces. History supports the view that our nuclear forces deter large-scale conventional and nuclear attacks from well-armed adversaries and undergird our stability.

Finally, modernization must include investment into technologies that assure the viability of American space assets critical to early warning around the world. Gen. John Hyten, who commands American nuclear forces at U.S. Strategic Command, recently emphasized to Congress that space capabilities are increasingly important to detecting missile launches such as those we've recently seen by North Korea.

Investments in our nuclear deterrent represent approximately 5 percent of the overall military budget over the next decade. While not an insignificant bill, history has shown the nation's outlays supporting our strategic deterrent are well worth the investment, especially when compared to the costs—financial and in lives lost—of world wars that we have not experienced since 1945.

For the better part of 70 years, American airmen have been quietly standing watch alongside our shipmates in the Navy to protect the nation and underwrite strategic stability, under the often harsh conditions and high-stress that come with serving as part of the nuclear forces in our northern tier and under the high seas. Now more than ever, they need our support. By investing in the recapitalization of our nuclear forces, we can provide them with the tools necessary to keep us safe and our allies secure in the decades to come.

<http://www.politico.com/magazine/story/2017/05/12/why-the-us-is-right-to-invest-in-nuclear-weapons-215132>

[Return to top](#)

Chatham House (London, UK)

### **A Taboo Still Surrounds the Legacy of Nuclear Testing**

By Beyza Unal

May 17, 2017

*It's time to start talking about the long-lasting effects of nuclear weapons tests.*

A quarter of a century after the end of the Cold War, interest in nuclear weapons has revived, not reduced. But for all the debate over the tensions between the United States and North Korea, a taboo still surrounds the lingering impacts of nuclear weapons testing and fears for their future use in conflict.

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

Our latest research looked not only at the implications of a potential future nuclear conflict, but also the humanitarian consequences of nuclear weapons testing for more than seven decades. Between 1946 and 1996, more than 2,000 nuclear weapons tests were conducted by the US, UK, Soviet Union, France and China. Most of these took place in locations selected on the basis of colonial history, and in lands belonging to indigenous peoples. And the impacts were severe.

As well as devastating costs to their health and environment, many affected communities still live with the social, cultural and economic consequences of these tests. Subjected to forced displacement, they lost their land and connection to that land forever. Many were prevented from pursuing their traditional livelihoods. Not everyone was compensated, and those affected reported a lack of official accountability. Nuclear tests have adversely impacted mental health, by fostering a climate of fear over radiological exposure in test locations, and through the creation of a culture of social stigma and discrimination.

One of the less tangible legacies of nuclear tests has been a sense of humiliation and alienation from society. This was seen following the attacks on Hiroshima and Nagasaki, when hibakusha women - survivors of the atomic bomb in Hiroshima and Nagasaki - faced marriage discrimination, but it echoed at testing sites. As a UNIDIR study noted, women from the Marshall Islands suffered 'humiliating' examinations by US military medical and scientific personnel as a result of the American nuclear weapons testing programme until 1958.

Today, the potential use of nuclear weapons, deliberate or accidental, represents a great risk to humanity. Two decades on from its inception, the Comprehensive Test Ban Treaty (CTBT) - an agreement to ban all types of nuclear detonations, including atmospheric, underground, space and underwater tests - has still not entered into force. The international nuclear order is in peril: the US and Russia have increased investment in nuclear modernization; North Korea has conducted five tests in the past decade and has the will to continue, regardless of sanctions or threats of action.

Nuclear testing is part of weapons research and development: several steps ahead of a test is the decision to be ready, in principle, to use a nuclear weapon. There is an important connection between the widely-supported comprehensive ban on nuclear testing, and attempts to ban nuclear weapons altogether. A ban on testing has been pursued largely due to unacceptable effects on human life and the environment; precisely the same concerns drive current efforts to prohibit nuclear weapons.

Last week, the British and Australian governments announced healthcare aid for the indigenous communities who were exposed to radiation as a result of British nuclear tests 50 years ago. In a personal interview with me and my co-authors last year, Sue-Coleman Haseldine, a first-generation nuclear test survivor in Australia, told us the only possible compensation to her community would be 'a world free of nuclear weapons'.

It's time to start talking about the long-lasting effects of nuclear weapons. After all, unless we do, the nuclear taboo will only exist until a devastating detonation occurs somewhere in the world.

<https://www.chathamhouse.org/expert/comment/taboo-still-surrounds-legacy-nuclear-testing>

[Return to top](#)





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

55

The National Review (Washington, DC)

### **Our Missile-Defense Policy Should be 'America First'**

By Kevin Mooney

May 17, 2017

*The U.S. provides anti-missile shields to Europe. Let's redirect some of those resources to protect the homeland.*

Ideal year-round temperatures, lush tropical foliage, and scenic beaches belie the strategic significance of Hawaii's Pacific Missile Range Facility, which cuts across 2,385 acres of coastline in Kauai County.

The U.S. Naval base is said to be the "only range in the world where submarines, surface ships, aircraft and space vehicles can operate and be tracked simultaneously." Whale watchers and other tourists who set sail in nearby waterways are largely unaware of the advanced military testing that takes place at the facility.

But with the 50th state now within range of North Korea's accelerating missile technology, the arguments in favor of activating rather than just testing defensive systems are gaining currency among elected officials and top military brass.

Just a few months ago, seismic sensors determined that the Communist regime's latest round of underground nuclear tests produced an explosion equivalent to the bombs dropped on Hiroshima and Nagasaki. Supreme Leader Kim Jong-un appears poised to set off another nuclear-weapons test, which would be the sixth such test since 2006. Moreover, it's become evident that the North Korean dictator continues to sharpen and hone missile technology that could be used to deliver nuclear warheads to intended targets.

Despite the widely publicized "failed launch" of a ballistic missile that exploded over land in North Korea in April, Hawaii is in within range of Jong-un's ever-expanding arsenal. So are South Korea, Japan, Guam, Okinawa, and parts of Alaska. What the media dismissed as a failure, savvy U.S. defense planners correctly view as an audacious step in the direction of missile technology that will ultimately threaten U.S. lives and assets. Since he first came to power in December 2011, Jong-un has tested more missiles than were tested in the 30 preceding years. On Sunday, he launched North Korea's most advanced weapon yet in the form of a mid- to long-range missile that improved on the performance of previous tests.

"They can certainly hit the Aleutian Islands," warns Riki Ellison, chairman and founder of the Missile Defense Advocacy Alliance, a nonprofit group based in Alexandria, Va. "We don't know if they can put nuclear warheads on their missiles, and we would think that they would want more reliability on these missiles before they would put nukes on them. The North Koreans also have to test the reentry on the warheads. But they can reach Alaska."

Even so, Ellison said, the ground-based anti-missile interceptors deployed at Fort Greely in Alaska and at Vandenberg Air Force Base in California "have been tested and proven," to the point where they provide a sufficient defense against an attack from rogue states against the American mainland, "at least for the time being."

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> \ [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538

**USAF Center for Unconventional Weapons Studies****CUWS Outreach Journal**

Maxwell AFB, Alabama

Thankfully, the U.S. is equipped with a unique ground-based missile-defense system, designed by Boeing, that can strike enemy missiles in the outer atmosphere before any nuclear fallout could reach the U.S. mainland.

But Ellison, who is a former NFL linebacker turned missile-defense advocate, is less confident about Hawaii's current defense posture, which, he says, would greatly benefit from an added layer of protection that is easily feasible.

This is where an "America first" approach to missile defense comes into play. The \$450 million Aegis Ashore launcher located at the Pacific Missile Range Facility could be equipped with ground-based interceptors almost instantly to blunt North Korea's offensive capabilities. So why isn't it? The Aegis Ashore network uses radars and missiles to test defensive networks that have been installed in Romania and will soon be installed in Poland. Since the already beleaguered American taxpayer is footing the bill for anti-missile shields in Europe, is there any reason why some of these same resources can't be redirected to protect U.S. territory?

Think about what's going down.

Missile interceptors that have been built, tested, and perfected in Hawaii are being shipped off to Europe when at least some of them could stay put in Hawaii to bolster the security needs of the same Americans who are covering the cost of those missiles. Dangling out there somewhere is a Donald Trump "America first" line that perfectly captures the irony of Hawaii's strategic position. America will be better positioned over the long term to help defend allied nations from ballistic missiles if the Trump administration moves to add multiple layers of defense.

Ellison estimates that it would take only one or two days at the most to make Hawaii's Aegis Ashore combat-ready. Crew members stationed on the U.S. East Coast who are trained to operate Aegis facilities in Europe could be flown into Hawaii in the event of an emergency, while ground-based interceptors could be put into position to provide the U.S. with the ability to fire multiple shots at incoming missiles, he explained.

Ideally, it would be best to activate the Aegis system now rather than waiting until the hour of maximum danger. While the missile-defense systems in Alaska and California could shield Hawaii in a pinch, there are limits and potential pitfalls associated with assets that were designed for another purpose.

"Those ground-based interceptors have to make a very difficult long shoot out of architecture that was not designed for Hawaii, but was designed for look-and-shoot capabilities over the North Pole coming into the continental United States," Ellison said. "The flight to Hawaii does not enable the sensors that we have permanently based in Alaska. So instead we must rely on a one-shot opportunity, because of the physics involved. The interceptor has to cross over about 3,000 or even 4,000 miles, and it's got to get in front of the missile, so there is no chance of doing a second shot. You can't look, assess, and shoot again. The other problem is that we only have a limited amount of interceptors, and we have to ask ourselves how many we are going to enable to protect the 1.4 million or so people in Hawaii rather than protecting the continental United States. These are hard questions. That's the dilemma of Hawaii, and that's why I favor activating the Aegis system in Kauai. Right now, Hawaii is less protected than the other 49 states and even Guam, Japan, Okinawa, and South Korea."

There's only one test left in Hawaii for the missile-defense system that will be deployed in Poland next year. So, it would seem it's high time to make the most of the technology that's already available.



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

57

“We don’t need to rush toward a solution in Hawaii, but the fact is we have capabilities that can be turned on and made fully operational in an emergency,” Ellison said. “We have the crews, we have the missiles, and we have the radar.”

American technology can find a way out from under the threat of a nuclear-missile strike just as Ronald Reagan envisioned more than 30 years ago. But before existing capabilities can be matched up against growing and emerging security risks, the Trump administration must pivot in the direction of an America-first missile-defense policy that makes smart use of unexploited and insufficiently funded resources.

For starters, the president who ran his campaign on a message of “America first” ought to double down on funding the Defense Department’s Missile Defense Agency (MDA), which atrophied during the Obama years. The MDA’s budget declined from \$11 billion in 2007 to \$8.4 billion in 2006. That’s a drop of more than 25 percent, which has hit hard the testing and deployment of ground-based interceptors. A 2012 report from the National Academy of Sciences concluded that, without substantial improvement, the current ground-based missile defense system will be able to outpace the threat only “for the next decade or so.”

An America-first missile-defense policy does not mean shortchanging allies in Europe and Asia who are threatened by rogue states. But it does mean that U.S. policymakers need to make more-efficient use of limited anti-missile resources to plug lacunas now vulnerable to North Korea and others that might attack U.S. territory. America will be better positioned over the long term to help defend allied nations from ballistic missiles if the Trump administration moves decisively to add multiple layers of defense, as Ellison, and others, have suggested.

In testimony before the House Armed Services Committee in April, Admiral Harry Harris, Navy commander of the U.S. Pacific Command, warned against the possibility of being put into a position where the military might have to make a choice between taking out missiles fired against the population in Hawaii and missiles fired against the American mainland. Ellison, the NFL linebacker, made this same point when he briefed the Hawaii state legislature just a few days ago. In true football fashion, he favors a “multi-layered” approach to missile defense, arguing for components that operate on land, sea, and air and eventually outer space.

Even South Korea’s new president, Moon Jae-in, who ran on a “sunshine policy” of engagement with the regime in Pyongyang, cannot escape the need to keep pace with the offensive capabilities of his counterparts in the north. He now appears inclined to maintain the THAAD (terminal high-altitude area defense) anti-missile system that the U.S. recently deployed in his country. Despite popular outcry within South Korea and protests from China’s government, the offensive weaponry north of the 38th parallel is an inescapable reality.

The whale watchers who remain blithely unaware of the missile range located near their vacation spots in Kauai County probably shouldn’t be expected to know that technically a state of war still exists between the U.S. and North Korea. But if they read up on Ellison’s statements in the local press, they would learn that it takes about only 20 minutes for a missile to reach them from North Korea.

<http://www.nationalreview.com/article/447694/united-states-missile-defense-policy-america-first-north-korea-kauai-county-hawaii>

[Return to top](#)

Issue No.1264, 19 May 2017

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

<https://cuws.au.af.mil> | [https://twitter.com/USAF\\_CUWS](https://twitter.com/USAF_CUWS)

Phone: 334.953.7538



## **About The USAF CUWS**

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

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

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

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