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

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## **Feature Item**

### ***“A New Approach to Eliminating North Korean Weapons of Mass Destruction if Needed”.***

Written by Robert Peters, published by the 38 North’s The North Korea Instability Project; June 2017

<http://www.38north.org/wp-content/uploads/pdf/NKIP-Peters-WMDE-062017.pdf>

Preventing the use of weapons of mass destruction (WMD) against the United States and its allies has long been a paramount security objective for Washington with increased urgency since 9/11.1 When it comes to mitigating the threats posed by North Korean WMD, the United States has long followed a multi-pronged approach that has incorporated, among other elements, increasing resiliency and capacity among our allies in Japan and Republic of Korea (ROK or South Korea); multilateral diplomacy in the form of the Six Party Talks; various types of active and passive defense measures; deterrence; and planning for the use of special technical teams to secure adversary programs in semi-permissive or non-permissive environments.

This last effort, for a long time known as WMD-elimination, was a military mission that emphasized the use of special technical forces trained in nuclear, chemical and biological weapons. While the Department of Defense Strategy for Countering Weapons of Mass Destruction ended elimination as a formal doctrinal military mission earlier this decade, the Department of Defense (DoD) has continued to plan for and organize, train and equip forces so that it may be prepared to respond to a crisis in which US and ROK forces must secure WMD in North Korean territory. As many in the DoD counter-WMD community still refer to the elimination mission, particularly when it comes to neutralizing North Korean WMD, this paper will use the former doctrinal definition of WMD elimination as the effort to locate, isolate, secure, exploit, disable, disrupt and destroy WMD and related program materials in non- or semi-permissive environments.

As will be detailed later in this paper, such an effort would require an enormous amount of manpower, resources and planning and would present significant risk to the United States, the Republic of Korea, and the coalition forces engaged in such efforts. Moreover, due to the expanding size of the North Korean WMD arsenal, combined with a greater appreciation of the role that China might play in various contingencies, this paper suggests that the DoD’s old approach to WMD elimination is flawed, and, should it ever be implemented, would likely fail. Ultimately, this paper argues that the planning process and underlying assumptions with the WMD-elimination mission has serious deficiencies that need to be addressed and corrected. Therefore, the counter-WMD community must reevaluate key operational and planning assumptions to identify a better way to neutralize the threat—one that identifies a number of diplomatic, defensive, deterrent and military tools that could be used to neutralize the North Korean WMD threat, should the Kim regime ever collapse.

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## US NUCLEAR WEAPONS

The Washington Free Beacon (Washington, DC)

### **Stratcom Worried by Slow Pace of U.S. Nuclear Modernization**

By Bill Gertz

July 31, 2017

*Hyten says information warfare will be key to future conflict*

The commander in charge of American nuclear missiles, submarines, and bombers is concerned by the slow pace of modernizing aging U.S. weapons in the face of growing threats from China, Russia, and North Korea.

Stratcom commander Air Force Gen. John E. Hyten also said information warfare—the use of information operations, cyber, space, and other capabilities—is emerging as a form of strategic warfare.

"Information warfare in the future is the key to military dominance and control," Hyten told the *Washington Free Beacon* in an interview.

"The military that figures out how to control information will be the most powerful military on the planet," he said.

Currently, Russia and China have developed significant information warfare capabilities involving the use of political, legal, media, intelligence, psychological, and cyber warfare means to achieve strategic objectives. China's operations can be seen in covert efforts to take over the South China and East China Seas. Russian information warfare, also known as hybrid warfare, was used in the takeover of Ukraine's Crimean Peninsula.

By contrast, the United States is just beginning to develop effective information warfare capabilities, both military and civilian.

A report by the Army War College states that adversaries are using influence, intimidation, coercion, and aggression against U.S. interests.

"So far, the United States has not come up with a coherent countervailing approach," the report on what the Army calls "gray zone" conflict states.

On modernizing aging nuclear forces and infrastructure, Hyten said current U.S. nuclear weapons and forces are sufficient to deter foreign adversaries. But all the systems, including nuclear warheads, urgently need modernizing and quickly.

"My biggest concern is the ability to go fast enough," Hyten said.

The modernization will take between 12 and 18 years depending on the triad of systems—land-based intercontinental ballistic missiles, submarines and missiles, and nuclear bombers.

Congress' Government Accountability Office estimated this month that the Pentagon and Energy Department will spend \$341.8 billion over 10 years on nuclear modernization. The costs include \$40.5 billion for nuclear command and control, \$107.8 billion for the nuclear weapons stockpile and infrastructure, and \$193.5 billion on nuclear delivery systems.

Key decisions on which systems will be built and how fast will be part of a Pentagon study currently underway called the Nuclear Posture Review. The review is expected to be completed later this year.

By contrast, Russia, China, and North Korea are rapidly modernizing their nuclear forces faster the U.S. is, Hyten said.

Hyten said he understands the challenges of deciding what to buy, getting funds from Congress in a timely manner, and following an effective acquisition plan.

"But I just keep pointing out the fact that this is not new technology. This is not pushing the state of the art in many ways," he said.

For example, Hyten said that in five years beginning in the late 1950s, the Pentagon built and deployed 800 Minuteman I ICBMs at five bases in new silos, and created new command and control systems. The cost in current dollars was \$17 billion.

"So how is it that we could do it in five years back then?" Hyten asked, recognizing that it was during the Cold War and there was a need.

Hyten said the American private sector has shown speed of development, noting commercial space developers Space X and Blue Origins and Apple and Google on the technology side.

"We can go fast in this country. So somehow we need to get that focus on the need to go fast. And the other thing is when you go fast, you end up being a little more efficient with the taxpayers' dollars too, which is a good thing," he said.

Key nuclear delivery systems to be built include new Columbia-class missile submarines, a new ground-based ICBM, and the B-21 bomber.

Hyten said during his tenure as Stratcom chief the force will be robust. But future Stratcom commanders could find U.S. deterrence lacking.

Meanwhile, America's adversaries are rapidly modernizing nuclear and strategic forces.

Russian nuclear force modernization includes a rapid buildup of several new missiles with multiple warheads, missile submarines, and bombers. Moscow has announced the force will be 70 percent upgraded by 2020. Moscow is spending \$560 billion on the modernization.

"Whether they get there or not, I won't comment on, but that was a stated objective, and I'll just point out that in 2020, we'll be zero percent modernized," Hyten said.

"So you have Russia going fast, North Korea is going extremely fast, China is going fast across a number of things, not just the nuclear capabilities, but in space where they are aggressively pursuing counterspace capabilities; in cyber space, where they are aggressively pursuing very modern cyber capabilities," he added.

North Korea on Friday conducted the second test this month of a new ICBM the Pentagon is calling the KN-20. The new missile was called a "game changer" by Army Gen. Vincent Brooks, commander of U.S. Forces Korea.

China has been conducting military exercises with their nuclear forces that integrate both space and cyber attacks as part of an overall strategic deterrent. "It's all one to them," Hyten said.



"The threats are right there and that's why we have a Strategic Command to respond to those strategic threats," he said. "And that's why modernization is important, not just the triad, but the nuclear weapons, the nuclear command and control, space, cyber."

The four-star general made the remarks on the sidelines of Stratcom's annual deterrence conference in Omaha, Neb., where Stratcom's headquarters is located.

Modernizing nuclear weapons will require fixing an aging infrastructure and maintaining a workforce that has weapons to work on.

Hyten said he currently does not need new nuclear weapons that many experts say could make U.S. nuclear weapons more effective and safer. Most current nuclear weapons are more than 20 years old and have undergone upgrading.

"But I have to have a nuclear weapons enterprise that continues to produce the nuclear weapons and maintain the nuclear weapons I need and the next 10 Stratcom commanders need in order to provide that capability," he said. "So there has to be work done in modernization of the nuclear capabilities. I want to do that in a way that does not require testing. That creates a significant challenge for the laboratories as well."

U.S. supercomputers operated by the laboratories could be used for weapons development and simulated testing, he said.

On information warfare, Hyten said he is concerned by the lack of integration within the United States on the information front.

"You have intelligence here, cyber here, space here," he said, noting that all are information-based domains for military conflict.

"So the ability to control the information is going to be the key to conflict in the future," he said.

Hyten said he believes there are going to be "continuing changes" within the military and government in organizing and dealing with information conflict.

"I think as we go forward 20 years from now they'll be a continuing merger of information together," he said.

The Air Force has been looking at information warfare for some time but the subject "just never reached the point where the service was culturally ready for it."

Both cyber warfare and space defense have not been fully embraced by the military as new war-fighting domains, he said.

"Space has been around for 35 years now, I mean there's been an Air Force Space Command for 35 years, and we have not fully integrated space as a war fighting domain that we operate in," he said.

That is changing under policies put in place recently by Defense Secretary Jim Mattis and Gen. Joseph Dunford, chairman of the Joint Chiefs of Staff.

Cyber too has not been fully embraced as a new realm for war fighting. "We don't like to think of cyber as a war fighting domain, and therefore we have all kinds of special rules that we put into it. We have to start treating them as war fighting domains and operating in them as war fighting domains," he said.

Hyten said information is "the key piece of the puzzle."

"Treating information as a war fighting element that control of is critical to the future," he said.

"And as you do that, I think those kind of pieces will come together, especially in terms of integrated operations."

Hyten said he has long advocated that organization structures are less important than melding new forms of warfare into current plans and strategies.

"The organization isn't the most critical thing," he said. "The most critical thing is the way you actually integrate to fight. And we have to look at information as a critical element of a future conflict."

A former chief of Air Force Space Command, Hyten also said he is concerned about the military's aging satellites and other space capabilities.

"They are very old and not built for a contested environment," he said.

Both China and Russia are building space weapons to kill or cripple U.S. satellites—key asymmetric warfare capabilities used for weapons guidance, intelligence and communications.

To bolster space defenses, space needs to be treated as a war fighting domain, Hyten said.

"It's not very complicated," he said. "You treat it as a war-fighting domain. It's a war-fighting domain and therefore you treat it as a war-fighting problem. And when you do that, the answers are not that complicated."

The military needs to have better capabilities for satellites to maneuver to avoid missiles, lasers, or killer robot satellites.

Additionally, the military needs better space defenses.

"We have to have defensive capabilities to defend ourselves [in space]," Hyten said. "These are just war fighting problems, but for some reason we hesitate to think about space in a war fighting construct. But you have to, and when you do you actually can figure out a way to preserve the peace because we don't want a war extended in space."

"But just like every other domain, the best way to prevent war is to be prepared for war," he said. "So that's what we have to do. Walk down that path."

Hyten said both China and Russia have threatening space warfare capabilities.

"China right now is ahead of Russia because they've been on a consistent path for a longer time," he said.

Russia, however, has had anti-satellite weapons since the 1980s and has slowed its effort.

"So I would put China a little bit ahead of Russia in developing those capabilities but that's just a matter of time. They're both threats," Hyten said.

Hyten also said he is concerned about Russian compliance with the New START strategic arms treaty.

According to the State Department, Moscow currently has deployed 1,765 warheads—215 more than the limit allowed by the 2010 treaty that must be met by February 2018.

By contrast, the United States is currently under the New START warhead limit with 1,411.

Pentagon officials revealed last year that Moscow is doubling the number of strategic nuclear warheads through deploying multiple warhead missiles.

"In a deterrent construct, parity is actually a good thing, and understanding where parity is with Russia is important," Hyten said. "And the New START treaty helps us define that, which helps me as the commander of Stratcom to make sure we have an effective deterrent that can respond to any threat that Russia can have. If that doesn't exist then it becomes a much more difficult problem. So yeah, I'm concerned."

Hyten also voiced worries about the development of ultra-high speed maneuvering vehicles known as hypersonic missiles.

"The United States is pursuing hypersonic technology, as Russia is. China is also pursuing hypersonic technology. Hypersonic technology is concerning to me, but it's really no more concerning to me than any cruise missile technology, any ballistic missile technology," he said.

<http://freebeacon.com/national-security/stratcom-worried-slow-pace-u-s-nuclear-modernization/>

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Business Insider (New York, NY)

## **US Government Contractors Mistakenly Shipped Nuclear Bomb Materials Dozens of Times Over the Past 5 Years**

By Patrick Malone

August 1, 2017

Plutonium capable of being used in a nuclear weapon, conventional explosives, and highly toxic chemicals have been improperly packaged or shipped by nuclear weapons contractors at least 25 times in the past five years, according to government documents.

While the materials were not ultimately lost, the documents reveal repeated instances in which hazardous substances vital to making nuclear bombs and their components were mislabeled before shipment. That means those transporting and receiving them were not warned of the safety risks and did not take required precautions to protect themselves or the public, the reports say.

The risks were discovered after regulators conducted inspections during transit, when the packages were opened at their destinations, during scientific analysis after the items were removed from packaging, or — in the worst cases — after releases of radioactive contaminants by unwary recipients, the Center for Public Integrity's investigation showed.

radioactive materials shipment cask center public integrity doe

Only a few, slight penalties appear to have been imposed for these mistakes.

In the most recent such instance, Los Alamos National Laboratory — a privately-run, government-owned nuclear weapons lab in New Mexico — admitted five weeks ago that in June it had improperly shipped unstable, radioactive plutonium in three containers to two other government-owned labs via FedEx cargo planes, instead of complying with federal regulations that required using trucks to limit the risk of an accident.

Before shipping the plutonium, Los Alamos failed to properly complete a checklist of dangerous goods that FedEx requires customers to fill out, according to the Energy Department. According to the initial explanation Los Alamos filed with the government on June 23, the lab used air transport because one of the other labs — located in Livermore, California — needed the plutonium urgently.

But that claim of urgency was false, the recipient told the Center for Public Integrity. "There was no urgency in receiving this shipment — this notion is incorrect," Livermore National Laboratory spokeswoman Lynda Seaver said in an email message.

The incident — which came to light after a series of revelations by the Center for Public Integrity about other safety lapses at Los Alamos — drew swift condemnation by officials at the National Nuclear Security Administration in Washington, D.C., which oversees U.S. nuclear weapons work. It



provoked the Energy Department to order a three-week halt to all shipments in and out of Los Alamos, the largest of the nuclear weapons labs and a linchpin in the complex of privately-run facilities that sustains America's nuclear arsenal.

The lab – which is operated and managed by an industrial consortium that includes Bechtel, BWXT Government Group, Inc., AECOM (since its 2014 acquisition of URS) and the University of California – has since been allowed to ship things out only after specially scrutinizing every item, said Los Alamos spokesman Matthew Nerzig.

"All of those involved from the individual contributor level up the management chain have been held accountable through actions that include terminations, suspensions, and compensation consequences," Nerzig added, without offering details.

But the documents show that Los Alamos, in particular, is a repeat offender in mislabeling its shipments of hazardous materials: In a previously undisclosed 2012 case, for example, it sent unlabeled plutonium – a highly carcinogenic, unstable metal – to a University of New Mexico laboratory where graduate students sometimes work, according to internal government reports. The plutonium was accidentally opened there, leading to a contamination of the lab that required cleaning by the university and disposal of the debris by Los Alamos.

Los Alamos told the government it was not primarily at fault because the shipment had originated elsewhere and been mislabeled before it reached the lab. But it acknowledged that its personnel should have checked the package more closely before sending it onward.

In total, 11 of the 25 known shipping mistakes since July 2012 involved shipments that either originated at Los Alamos or passed through the lab. Thirteen of the 25 incidents involved plutonium, highly-enriched uranium (another nuclear explosive), or other radioactive materials. Some of the mislabeled shipments went to toxic waste dumps and breached regulatory limits on what the dumps were allowed to accept, according to the reports.

In many instances, there were no consequences for the associated private nuclear weapons contractors. Responsibility for policing such hazardous shipments is fractured within the federal Transportation Department, with ground movements of nuclear weapons materials under the purview of the department's Pipeline and Hazardous Materials Safety Administration and air shipments policed by its Federal Aviation Administration.

The Nuclear Regulatory Commission, which arguably has more experience with the handling and transport of radioactive materials than any other government entity, has no jurisdiction over nuclear weapons-related work by the NNSA or its contractors. Instead, the Energy Department (of which the NNSA is a semi-autonomous part) regulates all the sites on its own, as well as the contractors that manage them.

Patricia Klinger, a spokeswoman for DOT hazardous materials regulators, said in a telephone interview that ensuring that all shipments are accurately labeled is vital to emergency personnel, whose safety and ability to protect the public in the event of an accident rely on correct knowledge of whatever they're trying to clean up or contain. But she did not respond to questions about why the department only rarely appears to have imposed fines.

DOT fined the Energy Department's Savannah River site \$17,650 in 2016 for incomplete hazardous material descriptions and insufficient training of security personnel. The New Mexico Environment Department imposed an \$80,100 fine against Los Alamos last year for an array of hazardous waste violations, including several shipments with unlabeled containers of hazardous waste and incomplete waste descriptions. Utah environmental regulators also fined Los Alamos \$1,500 in 2015, when bolts holding hazardous waste containers shut came loose during a shipment to a dump in that state.

But in more than 20 instances, the contractors were not directly fined by regulators in enforcement actions stemming from the shipping errors, according to government reports.

Los Alamos tells Washington another lab's pressure caused its mistake

In the most recent shipping snafus by Los Alamos, the Federal Aviation Administration and FedEx are still conducting investigations, according to FAA spokeswoman Lynn Lunsford and FedEx spokeswoman Jennifer Caccavo. But Lunsford said "the remedy will likely be administrative since government agencies don't assess civil penalties against one another."

"Ensuring the compliance of all packages in the FedEx network is a top priority, and we are working closely with the customer to determine what happened with these shipments," Caccavo said.

Normally, a shipment of plutonium would take shape over the course of three months and be delivered by ground, Los Alamos's June 23 report to the NNSA said, "however, LLNL [Livermore] advised they needed this delivered within three days." But Livermore spokeswoman Seaver disputed Los Alamos's excuse for making the mistake. Seaver said, "We have a single point of contact here who worked with LANL [Los Alamos] regarding this shipment and at no time was any urgency expressed."

Asked about the discrepancy, Los Alamos spokesman Nerzig said in an email that "after a thorough internal investigation of the event, we found no evidence of time pressure to make the shipment." But he did not provide any other explanation for the mistaken shipment or explain why Los Alamos initially told the government that it was only responding to Livermore's urgent demands.

Referring to the incident, Nerzig emailed that "the Laboratory has acknowledged this as a mistake, taken an initial set of actions to address the situation, and plans on taking additional measures to dramatically reduce the possibility of something like this from happening again."

NNSA spokesman Gregory Wolf said the agency is looking closely at "the accuracy of initial reporting" by Los Alamos. He said a shipping facility employee had "failed to follow established procedures that would have prevented the improper shipments," and that a thorough review by the lab of what it was about to send out "was bypassed." In addition, checklists that FedEx requires customers to complete for dangerous goods "were not filled out properly," he said.

"NNSA has uncompromising standards for our laboratories, plants, and sites to perform work in a safe and secure manner that protects our employees, our facilities and the public — and that includes shipping operations," Wolf said. "We look closely at any errors in shipping to identify and correct deficiencies and make appropriate notifications to Congress, government agencies and the public when errors do occur."

Nerzig declined to comment about the July 2012 incident in which Los Alamos supplied unlabeled plutonium to the University of New Mexico's nuclear engineering program, normally a direct academic pipeline to careers at Los Alamos and Sandia National Laboratories (which also works on nuclear weapons) in Albuquerque.

According to records obtained under the state's Inspection of Public Records Act, the university had expected to receive "dummy" metal sheets without radioactivity that faculty used to test radiation detectors Los Alamos had commissioned the university to develop. Students were not present in the laboratory during the contamination, but they ordinarily have access to it, Dianne Anderson, a university spokeswoman, said. The samples originated at Oregon State University and were not tested at Los Alamos before being shipped to the University of New Mexico, according to an internal government report that Los Alamos contractors submitted to the Department of Energy.

Oregon State University vice president Steve Clark said in an email that while his school is paid by Los Alamos to produce both radioactive and nonradioactive samples, it is "not able to determine

conclusively" whether it was responsible for failure to note radioactive material in the package labeling.

The lab was cleaned within a few days, but disposal and retrieval of the debris oddly took more than a year, according to University of New Mexico emails obtained by the Center. A source familiar with the episode said that when Cathy Anderko, the university's chief radiation safety officer at the time, told officials at Los Alamos in an Aug. 2013 email — 13 months after the incident — "wow — you really work fast," she was being sarcastic. When the waste was shipped out a few weeks later, Anderko told members of the campus safety staff in another email that the disposal was "very difficult... due to the high radio-toxicity of the radionuclide."

Asked in July about the incident, UNM spokeswoman Anderson played it down, however: "This low-level activity was easily removed," she said.

The New Mexico Environment Department acts as the NRC's surrogate in that state and licenses the University of New Mexico to possess radioactive materials for medical purposes and other uses. But it imposed no fine in this case due to the small quantity of plutonium involved, according to New Mexico Environment Department spokeswoman Allison Majure.

#### Contractors' shipment record fails to improve

Ken Niles, an assistant director for nuclear safety in Oregon's Department of Energy, said mislabeling of radioactive or hazardous weapons-related shipments greatly complicates the task of first-responders in the event of accidents or spills. "The first thing [a responder]...is looking at is a placard on a truck" that identifies the cargo as radioactive, explosive, or toxic. "If that's missing or incorrect, that would be huge," he said.

In the past three months alone, however, nuclear weapons contractors have made at least three shipping errors besides the errant FedEx plutonium shipments, according to Energy Department records.

In June, the Pantex plant in Amarillo, Texas, accidentally shipped an unsafe quantity of high explosives to an unspecified off-site laboratory, according to an internal Energy Department report dated June 27. In May, the Y-12 National Security Complex in Tennessee shipped unlabeled radioactive materials to an unspecified destination, a DOE report said.

And in May, Los Alamos sent inaccurately labelled highly acidic waste to a Colorado chemical disposal site, according to New Mexico Environment Department records. In Aug. 2014, Los Alamos was temporarily forbidden from shipping waste to the same Colorado dump after the lab sent two shipments with paperwork that didn't note the highly corrosive and acidic makeup of the waste. In its evaluation of Los Alamos's performance for 2016, the NNSA singled out the accuracy of shipping descriptions as a weakness.

The previous December, shipping personnel at Savannah River sent a container of tritium gas — which is used to boost the potency of a nuclear detonation — to the wrong place. It was supposed to be shipped to Lawrence Livermore, but instead was delivered to Sandia. In an email message last week, Angeline French, a spokeswoman for Savannah River Nuclear Solutions, the contractors that operate Savannah River, said the company "maintains very high standards in the execution of the hundreds of hazardous materials shipments it conducts each year." And in Sept. 2014, the contractors that operate the Nevada National Security Site sent unlabeled radioactive material to their own satellite office at Livermore, which lacked a radiation control expert trained to reckon with such a surprise, according to an internal Energy Department report.

A similar shipping and labeling error preceded the notorious radiation leak at the Waste Isolation Pilot Plant in southern New Mexico on Valentine's Day in 2014, which exposed 21 workers to low

levels of radiation and shut down the nation's only repository for radioactive nuclear weapon waste for years. It resulted from the explosion of a drum of waste from Los Alamos that was improperly packaged and inaccurately described in the paperwork that accompanied it.

For the mistakes at Los Alamos and WIPP that led to the radioactive release, the New Mexico Environment Department imposed an unprecedented \$73.25 million in fines, but the Energy Department — not Los Alamos — wound up paying it.

<http://www.businessinsider.com/los-alamos-radioactive-shipping-mistakes-2017-8>

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Money Morning (Baltimore, MD)

## **America's Nuclear Arsenal Won't Save Us from North Korea, Russia, or China**

By AJ Bursick

July 31, 2017

The U.S. military just confirmed what we've been warning readers about for years: that America's nuclear arsenal is not prepared to counter enemy threats anytime soon.

The reason why is a simple one. We haven't upgraded our nuclear program... but our adversaries have.

Stratcom commander Air Force Gen. John E. Hyten admitted as much to The Washington Free Beacon today (July 31). He thinks the U.S. military's slow movement toward modernization is a serious problem.

And not just in the face of North Korea's threats, but in response to Chinese and Russian nuclear improvements too.

For example, Hyten pointed out that Russia announced plans to upgrade its own nuclear arsenal in June 2015, saying that 70% of it will be upgraded by 2020 at a cost of \$560 billion.

"Whether they get there or not, I won't comment on, but that was a stated objective, and I'll just point out that in 2020, [the U.S. nuclear arsenal] will be zero percent modernized," Hyten said.

Hyten's statement echoes several made by Money Morning Executive Editor Bill Patalon, who's been following developments in the "Asian Arms Race" for over three decades...

The Three Biggest Risks Posed by North Korea, Russia, and China

"Hyten's admission is a pretty big deal – and it's not just nukes," Bill says. "We've fallen behind in nukes, cyberwarfare, and space as a 'high ground' spot in the battlefields of the future."

In fact, the Pentagon's lagging modernization efforts have opened the United States to three specific risks posed by the nuclear-advanced trifecta – Russia, China, and North Korea. Bill wrote about these risks back in April:

- North Korea will succeed in its efforts to create sub-launched ballistic missiles (SLBMs) – an achievement that will put the mainland U.S. within range of the threats being made by Kim Jong Un.
- China's militarization of the South China Sea – coupled with its lack of "transparency" (military speak for "we have no damned idea how far they will push things") – creates a major risk for America and its allies in the Pacific Rim.

- China and Russia will succeed in creating conventional and nuclear-tipped "hypersonic" weapons – leapfrogging U.S. leadership (and stalled programs) in these areas, resulting in a new and real threat that the American military can't currently defend against.

Take, for example, the first risk: SLBMs.

We have one operational SLBM – UGM-133 Trident II – which was commissioned and deemed operative way back in 1990. Meanwhile, Russia has three SLBMs. China has one (that we know of). And North Korea, as we've mentioned, is well on its way.

But, as Gen. Hyten points out, the entire U.S. nuke arsenal is lagging far behind.

And we can thank the bigwigs in Washington for that...

The Failure of America's Nuclear Arsenal Is Washington's Fault

"A lot of this stalling has to do with U.S. bureaucracy at its worst," says Bill.

Look at the 2010 stalemate between former President Barack Obama and then Sen. Jon Kyl (R-AL). After months of back and forth between Kyl and the White House about updating the U.S. nuclear arsenal – during which time Obama's admin proposed spending \$80 billion over 10 years on the nuke complex and then added another \$4.1 billion in 2012 as a last-ditch effort to appease congressional Republicans – Kyl still nixed the idea. This "failure to compromise" between the two parties stalled upgrades for at least four years, given the talks had initially started in 2008.

To see how the butting heads in Washington have continued to keep the U.S. military's nuclear program from flourishing, look no further than the U.S. military's Minuteman ICBM...

The Minuteman is an ICBM capable of obliterating any spot on Earth with a nuclear blast in 30 minutes or less.

While this sounds like a state-of-the-art weapon, there are major issues with the Cold War-era missile and its control centers.

For one, they've not been upgraded since the 1990s.

And now, when a Minuteman is tested, spare parts for it are in such short supply that the military has been known to pull them from museums, according to The Los Angeles Times on May 30.

The U.S. military needs to catch up with its sub-launched ballistic missile cache as well.

"Those are where nukes are headed next as far as developments are concerned," Bill says. "Sub-launched missiles, for example, are key. They're more flexible. Plus, we know that's what North Korea itself is working on right now."

Indeed, though the Trident model does work, the Navy deemed it due for upgrades just this past May.

These upgrades were not ordered to counter those of Russia, China, or North Korea, however. Rather they were requested "to prevent obsolescence and ensure the missile system remains viable for the next several decades," reported Scout.com – a website that follows military recruitment efforts.

In other words, the military ordered Trident upgrades to keep it from falling apart and not for the sake of improvement.

Meanwhile, Bill has covered North Korea's SLBM advancements in depth in his subscription service Private Briefing over the past several months, outlining in particular Pyongyang's first successful SLBM launch in August 2016.



The 500-kilometer distance that particular weapon reached clearly indicates that North Korea's push to develop its weapons has indeed paid off.

It's because of these advancements, along with the Pentagon's long history of denying the fact that they're even being made, that leads Bill to warn, "We've got a lot of catching up to do."

In fact, one of the only areas the U.S. military has managed to upgrade is its anti-missile interceptors, which are not part of the U.S. nuclear arsenal, but of its defensive weapons cache.

These interceptors are where the U.S. military's strength currently lies...

America's Defense Program Is Its Strong Suit

Yesterday (July 30), the Missile Defense Agency (MDA) — the Pentagon unit whose job it is to create a missile "shield" that protects U.S. cities and military operations — successfully tested the U.S.' Terminal High Altitude Area Defense (THAAD) anti-missile system in Alaska.

The U.S. Air Force launched a medium-range ballistic missile over the Pacific Ocean, and the THAAD system — in Kodiak, Alaska — "detected, tracked, and intercepted the target," according to the MDA's statement.

One of Bill's biggest defense stock winners – Boeing Co. (NYSE: BA) – has been a key player in THAAD's development, as well as that of the Pentagon's ground-based midcourse defense system – or GMD – that was successfully tested in May.

Bill first recommended Boeing to his Private Briefing subscribers in 2011, years before any of these major successes. Then, BA was trading at just \$61.92.

Thanks to his keen eye for developments in the Asian Arms Race and which companies would counter these advancements first, Bill identified Boeing as a surefire "buy."

Today, Boeing's share price is \$243.57 – a price increase of 293%.

<https://moneymorning.com/2017/07/31/americas-nuclear-arsenal-wont-save-us-from-north-korea-russia-or-china/>

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US News & World Report (Washington, DC)

## **Review of Nuclear Weapons Plant Says Protections Are Working**

Author Not Attributed

August 2, 2017

*The latest government review of a former nuclear weapons plant outside Denver says precautions put in place after a 10-year cleanup are protecting people and the environment.*

The latest government review of a former nuclear weapons plant outside Denver says precautions put in place after a 10-year cleanup are protecting people and the environment.

The U.S. Department of Energy released the review Wednesday on the most contaminated portion of the Rocky Flats site west of Denver. Federal law requires a review every five years.

Rocky Flats manufactured plutonium triggers for nuclear warheads until it closed in 1989 because of safety and environmental concerns.

The review covered the central part of the property where manufacturing took place. It's off-limits to the public.

The outer parts of the site are now a wildlife refuge managed by the U.S. Fish and Wildlife Service.

Activists have sued in an attempt to prevent the service from building a visitors center and trails.

<https://www.usnews.com/news/best-states/colorado/articles/2017-08-02/review-of-nuclear-weapons-plant-says-protections-are-working>

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## US COUNTER-WMD

Global Biodefense (Seattle, WA)

### DoD Studies Veriox as Countermeasure for Deadly VX Nerve Agent

Author Not Attributed

July 31, 2017

A current Defense Threat Reduction Agency (DTRA) research effort, conducted by the U.S. Army Research Institute for Chemical Defense (USAMRICD), is exploring the decontamination properties of Veriox®, a topical antimicrobial, anti-infective and disinfectant to counter the deadly nerve agent VX.

Veriox® is under development for use in hospitals for medical device sterilization, surface disinfection and advanced wound care. The same properties that make it useful in these situations may also mean that it could be used to treat warfighters after exposure to a chemical weapon.

Dermal or inhalation exposure to VX, like most chemical weapon nerve agents, may result in muscle paralysis, shortness of breath, seizures and death. To counter this threat, our warfighters need a reliable treatment option for both broken and unbroken skin.

While the Department of Defense currently uses the Reactive Skin Decontamination Lotion (RSDL) for broad-spectrum agent elimination on unbroken skin, a capability gap exists for treating chemical agent exposure to large affected areas or open wounds. This need has led researchers from DTRA to pursue new personnel decontamination therapeutics.

Recent USAMRICD studies have shown that the median lethal dose of VX in Veriox®-treated animals is 1.8-fold higher than in RSDL-treated animals. While preliminary studies demonstrate Veriox® provides a significant reduction in lethality from nerve agents, in-depth efficacy studies are needed to fully assess the compound. If successful, Veriox® could provide an alternative dermal capability for military personnel, particularly for open wound and whole-body decontamination.

The USAMRICD team recently published their findings in the report, "USAMRICD-TR-16-06, Evaluation of Veriox® as a Skin Decontamination Product after Dermal Exposure to the Nerve Agent VX."

DTRA is also working with the Edgewood Chemical and Biological Center on a parallel decontamination effort utilizing zirconium hydroxide (Zr(OH)<sub>4</sub>). This effort has demonstrated dermal efficacy equal to or greater than RSDL against several chemical weapon agents, including VX, sulfur mustard and soman, when tested on pig and artificial skin. In addition, multiple endeavors to explore novel formulations of medical decontamination capabilities for open-wound treatment after exposure are underway.

<https://globalbiodefense.com/2017/07/31/dod-studies-veriox-countermeasure-deadly-vx-nerve-agent/>

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Nature (London, UK)

## US Defense Agencies Grapple With Gene Drives

By Ewen Callaway

July 21, 2017

*National security community examines the risks and benefits of technology to quickly spread genetic modifications.*

The JASONS, a group of elite scientists that advises the US government on national security, has weighed in on issues ranging from cyber security to renewing America's nuclear arsenal. But at a meeting in June, the secretive group took stock of a new threat: gene drives, a genetic-engineering technology that can swiftly spread modifications through entire populations and could help vanquish malaria-spreading mosquitoes.

That meeting forms part of a broader US national security effort this year to grapple with the possible risks and benefits of a technology that could drive species extinct and alter whole ecosystems. On 19 July, the US Defense Advanced Research Projects Agency (DARPA) announced US\$65 million in funding to scientists studying gene-editing technologies; most of the money will be for work on gene drives. And a US intelligence counterpart to DARPA is planning to fund research into detecting organisms containing gene drives and other modifications.

"Every powerful technology is a national security issue," says Kevin Esvelt, an evolutionary engineer at the Massachusetts Institute of Technology in Cambridge, who won DARPA funding to limit the spread of gene drives. Esvelt says he also attended last month's JASON meeting in San Diego, California, where he outlined how would-be bioterrorists might weaponize gene drives. But he is far more concerned about the potential for accidental release of gene-drive organisms by scientists, he says. "Bio-error is what I'm worried about."

So, too, is the US military, according to Renee Wegrzyn, the DARPA programme officer leading its 'Safe Genes' initiative, which supports research on restraining gene drives. The technology has been developed in recent years in fruit flies, mosquitoes and other organisms, using CRISPR gene editing. A UK-based team hopes to begin field tests of gene drives in *Anopheles gambiae* mosquitoes, the main carrier of malaria in Africa, as soon as 2024. "I've been very excited to watch the advances, but I've noted with increasing concern that the advances are outpacing biosecurity," Wegrzyn says.

The JASONS' gene-drive discussion involved around 20 scientists, according to Philipp Messer, a population geneticist at Cornell University in Ithaca, New York, who attended the meeting. (As a German citizen, he was identified as a foreign national and accompanied by an escort.)

"I'm not used to that kind of conference," says Messer, who says he told the group about his lab's efforts to study the evolution of resistance to CRISPR gene drives in fruit flies. "We just had open

discussions about this technology and what we think the current state of the field was and what we think the problems are.” Gerald Joyce, a biochemist at the Salk Institute in La Jolla, California, and a JASON member who Messer says co-organized the meeting, declined to comment on the meeting, which is likely to lead to a classified report.

### Gene drive countermeasures

Under the DARPA programme, seven teams won four-year contracts. Esvelt plans to develop CRISPR gene drives in nematode worms — a fast-reproducing model organism — that are designed to spread a genetic modification in a local setting and then fizzle out, a concept that other scientists are pursuing. He and the other teams receiving military funding also plan to develop tools to counter rogue gene drives that spread out of control. Such methods include chemicals that block gene-editing or ‘anti-gene drives’ that can reverse a genetic modification or immunize unaltered wild organisms so they are resistant to a gene drive.

These tools could combat a gene drive deployed to do harm, such as those that engineer insects to transmit diseases more effectively or deliver toxins. But such countermeasures are far more likely to be deployed against accidental gene-drive releases from research labs, says Esvelt. Lax or non-existent biosafety guidelines for working on gene-drive organisms increase the odds of a release, he says.

Other efforts are afoot to fund work studying the national security implications of gene drives. Next week, the Intelligence Advanced Research Projects Agency (IARPA), which is part of the Office of the US Director of National Intelligence, will hold a meeting about a planned funding programme for detecting genetically modified organisms that are potentially harmful, including ones that contain gene drives.

Todd Kuiken, who studies policy relating to synthetic biology at North Carolina State University in Raleigh, is glad to see gene-drive research receive more funding. But he has qualms about the US military’s interest in the field; with Safe Genes, DARPA has become the world’s largest government funder of gene-drive research. Kuiken worries that this could sow suspicions about gene drives in parts of the world that view the US military in a less-than-favourable light, including countries that stand to benefit from the elimination of disease carriers such as mosquitoes.

Esvelt shares those concerns but sees military support as the only way, for the time being, to advance gene-drive technology, while making it safer for eventual deployment. Private funders such as the Bill and Melinda Gates Foundation, in Seattle, Washington, and the Tata Trusts, a Mumbai-based charity, have spent tens of millions on gene-drive research, but this funding has been directed to specific projects or institutions; other government funders have not yet made large contributions to the field. “No one else is offering us large amounts of money,” Esvelt says.

The DARPA programme explicitly prevents the release of gene-drive organisms and requires contract winners to work under stringent biosafety conditions and to disclose their planned experiments to the public — measures that should reduce the risk of any accidental release, Esvelt adds. “If what you’re worried about is your cowboys running amok and causing trouble, then what you really want to do is employ the cowboys to make sure they stay out of trouble.”

<https://www.nature.com/articles/d41586-017-01742-z>

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Phys.org (Isle of Man, UK)

## Researchers Designing an Instrument to Identify Uranium, Atoms at a Time

By Anne Manning

August 2, 2017

Creating a new instrument capable of detecting trace amounts of uranium and other materials will be the focus of a new research partnership spearheaded by scientists at Colorado State University.

The partnership, led at CSU by University Distinguished Professor Carmen Menoni of the Department of Electrical and Computer Engineering, is supported by the U.S. Department of Homeland Security's Domestic Nuclear Detection Office through its Nuclear Forensics Research Award (NFRA) program.

Together with researchers at Pacific Northwest National Laboratory, Menoni will oversee the design and implementation of a highly sensitive mass spectrometer capable of detecting just a few uranium atoms at a time. The instrument will also allow nanoscale imaging of the isotopic content of solid samples, in three dimensions. Such a tool could set the stage for new capabilities in nuclear forensics, to support U.S. government counter-nuclear-terrorism efforts.

The nuclear forensics award will bring Pacific Northwest National Laboratory scientist Lydia Rush to CSU as a Ph.D. student in Menoni's lab. The collaboration will involve training Rush and other students in cutting-edge, laser-based mass spectral imaging and forensics.

Existing tech, unprecedented sensitivity

"The new instrument we are going to build is going to be far more sensitive than our previous-generation, extreme ultraviolet time-of-flight mass spectrometry instrument," Menoni said. "It will employ a magnetic sector to identify uranium, thorium and their isotopes at a concentration of a few parts per million."

The imaging technology provides unprecedented sensitivity and spatial resolution because it uses an extreme ultraviolet laser for ablation and ionization. This compact laser is an innovation from the lab of University Distinguished Professor Jorge Rocca.

The laser ablation process creates a plume of ionized atoms and molecules, which the detector reads inside a vacuum chamber. A set of special plates allows the scientists to extract and detect ions from the sample, identifying uranium (or other elements) by determining its unique ion signature, like a fingerprint.

Identifying minute amounts of various compounds has its uses in national security, but could also be applied to any process requiring identification of very small amounts of molecules.

<https://phys.org/news/2017-08-instrument-uranium-atoms.html>

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DefenseNews (Vienna, VA)

## New Tech Paves Way for Ballistic Missile Defense

By Adam Stone

August 2, 2017

*The U.S. Missile Defense Agency, claiming progress on its efforts to knock out incoming missiles, is asking Congress to support development of a range of new and upgraded sensors.*



On July 30 MDA conducted a successful missile defense test using the Terminal High Altitude Area Defense (THAAD) system. This follows a successful shoot-down of a ballistic missile this spring.

These recent wins could help build momentum behind MDA's effort to win congressional funding for a variety of sensors and other technologies related to missile defense. The service wants to "press forward with plans to identify, develop and field cost-effective solutions to enhance BMDS sensors and discrimination for homeland and regional defenses," Vice Adm. Jim Syring, then MDA director, told the House Armed Services Committee's Subcommittee on Strategic Forces in June.

Syring went before Congress with a laundry list of sensors and related technologies the MDA says it wishes to pursue. "We are investing in radars and developing advanced electro-optical sensors to achieve a diverse sensor architecture that eventually will provide highly accurate midcourse tracking and discrimination," he said.

The agency's wish list gives some insight into the technologies driving the nation's missile defense capabilities. MDA's priorities highlight the need for sensors that can differentiate between lethal and non-lethal targets, as well as continued development of the Long Range Discrimination Radar (LRDR), and an ongoing effort to sustain existing surveillance systems.

The agency's budget request includes \$191.1 million to sustain several facilities. These include COBRA DANE, a single-faced ground-based, L-band phased-array radar located at Eareckson Air Station, Shemya, Alaska, and operated by the United States Air Force, as well as the Upgraded Early Warning Radars (UEWR), and the Army Navy/ Transportable Radar Surveillance and Control Model-2 (AN/TPY-2) radars.

Syring outlined a request for \$213.5 million to continue the development of advanced discrimination algorithms for the AN/TPY-2, Sea-Based X-band (SBX) and the UEWR radars, a capability he said is needed to counter evolving threats. Improved algorithms will specifically help missile defense assets to identify lethal and non-lethal objects.

#### Target acquired

In support of its extensive requests, MDA can point to a successful intercept test carried out this spring and summer. In addition to the THAAD test conducted by the 11th Air Defense Artillery Brigade from Fort Bliss, Texas, MDA — in cooperation with the U.S. Air Force 30th Space Wing, the Joint Functional Component Command for Integrated Missile Defense and U.S. Northern Command — successfully intercepted an intercontinental ballistic missile target during a test in May of the Ground-based Midcourse Defense (GMD) element of the nation's ballistic missile defense system (BMDS).

MDA said it was the first live-fire test event against an ICBM-class target for GMD and the U.S. ballistic missile defense system.

The interception involved "multiple sensors" providing both target acquisition and tracking data to the command-and-control system, Syring told a press briefing at the time.

These successful tests serve as a backdrop to the agency's present requests, which include a number of sensor-related technologies in addition to those mentioned above.

MDA also wants to expand the use of SBX, an advanced mobile radar that provides precision midcourse tracking and discrimination capabilities. The agency wants \$130.7 million for the system. Syring referred specifically to continued missile test activity of North Korea, saying the U.S. needs to enhance SBX in order to extend at-sea time from 120 to 230 days and conduct contingency operations for defense of the homeland.

The agency's \$357.7 million request in support of LRDR would further enhance that midcourse sensor, providing precision tracking and hit assessment while improving BMDS target

discrimination capability. LRDR also will support additional mission areas, including space situational awareness. Phase I construction is set for 2017. Initial fielding for LRDR is anticipated in 2020 with war-fighter readiness by 2022.

Syring also described ongoing work on the Space-based Kill Assessment experiment, which uses fast-frame, infrared sensors to deliver a defensive assessment capability. MDA envisions a network of SKA sensors to be hosted on commercial satellites to be in orbit by FY 2018.

Even as it pursues these various enhancements to its existing missile defense capabilities, MDA says it remains ahead of the game, capable of countering any threat that may emerge between now and 2020.

“Our mission becomes more challenging as time goes on, as I’ve spoken in the past, as they continue to develop increasingly complex threats,” Syring said after the May intercept. “But yesterday’s test did demonstrate that the system continues to improve and mature, and it is ready to defend the homeland today.”

<https://www.defensenews.com/intel-geoint/sensors/2017/08/02/new-tech-paves-way-for-ballistic-missile-defense/>

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## US ARMS CONTROL

Arms Control Wonk (Washington, DC)

### Is Space the Final War-Fighting Frontier?

By Michael Krepon

July 26, 2017

There are two generic kinds of failure in the arms control and threat reduction business: failure despite trying, and failure by not trying. Neither one is comforting, but the latter is particularly galling. The dangerous military competition is space now unfolding reflects both kinds of failure. None of us really know how fast and how far this competition is progressing because major powers don’t advertise once they have demonstrated kinetic energy ASAT capabilities. The only point of clarity at present is that there are few diplomatic instruments and no active diplomacy among major powers to serve as even a slight counterweight to the military space competition now underway.

It’s extremely hard to negotiate limits on dangerous military technologies. When success occurs, it’s due to their exorbitant costs and the relative ease of their nullification. When adversaries perceive common interests to constrain dangerous military technologies, they can focus on preventing tests that are verifiable by national technical means. Controls on the production of weapon systems incorporating dangerous military technologies are also possible, as was demonstrated in the Intermediate-range Nuclear Forces Treaty, where production monitoring was accomplished by a combination of on-site inspections and sensors located at and orbiting above production facilities. Controls on deployments of military systems incorporating dangerous technologies can also be monitored by cooperative measures and NTM. This is how Washington and Moscow managed to slow down and then downsize their strategic nuclear competition.

All of this was very hard to do for ground-based systems. It's far harder to control dangerous military technologies applicable to space warfare, where these methods have yet to be applied. A long-range missile that carries a nuclear warhead doesn't have military applications beyond the obvious. Because nuclear warfare stands apart from other types of warfare, states willing to place constraints on nuclear capabilities, whether for reasons of cost, signaling, or threat reduction, can find the means to do so. In contrast, a laser beam could be used as a space weapon, or it could be used for monitoring or satellite station keeping. To prohibit a technology on the basis of one application would be to prohibit it for other essential uses. The same problem applies to the delivery vehicles that could be used for space warfare. An airplane that could be used to launch an anti-satellite weapon could be used to ferry cargo or strike the planners of the next 9/11 attacks.

Beijing and Moscow champion an ambitious space treaty as they ramp up ASAT capabilities, knowing full well that they can posture as good guys while counting on Washington to pour cold water on an unverifiable treaty riddled with loopholes. The hard reality is that formalized arms control and threat reduction treaties relating to multi-purpose technologies are not negotiable – and not acceptable to two-thirds of the U.S. Senate. As long as treaties are beyond reach, norm-building is the best way to prevent dangerous practices in space.

In diplomacy as in warfare, you can't beat something with nothing. One way to counter the bogus Russian and Chinese space treaty is to seek, either by tacit or executive agreements, a ban on hit-to-kill ASAT tests. A kinetic energy ASAT test ban is verifiable and possible because the United States, China, and Russia have already demonstrated this capability, and everyone now recognizes the blowback consequences of explosive debris generation in space. Agreeing not to carry out such tests would have some symbolic value, as it would demonstrate top-down awareness of the dangers of the current competition. But it would not be reassuring, as it would not constrain competition elsewhere, including ASAT tests designed to miss.

A broader, more practical and common sense approach would be for major space powers to agree to a code of conduct for responsible behavior in space. This diplomatic initiative wouldn't seek the impossible – constraining military technologies – but would instead focus on promoting cooperative and avoiding dangerous activities. A code of conduct among major space-faring nations faces serious hurdles, but is possible because all major powers are investing heavily in space — on top of considerable sunk costs. War-fighting capabilities in space cannot safeguard these investments because no major power has a monopoly on them.

At the outset of the Obama Administration, it seemed possible to make headway on a space code of conduct, as relations among major powers were in decent enough shape. But as I have written in *The Nonproliferation Review*, Team Obama had other priorities. One reason for taking a pass on championing the code of conduct was that any initiative constraining U.S. freedom of action in space would have driven Republicans on Capitol Hill even deeper into treaty demolition mode – endangering New START, which was the administration's top priority and which eventually passed the gantlet of Senate consent with only six votes to spare. Another reason for the Obama administration's reluctance was a lack of domestic enthusiasm. All of the excitement was initially around abolition and a new treaty securing deeper cuts. By comparison, a space code of conduct seemed like small potatoes.

Consequently, Team Obama decided to hand this initiative over to the European Union. The EU faced an immediate fork in the road: to bring others into the drafting process within a UN-sanctioned body — with the prospect of another easily stalled multilateral negotiation — or to do the drafting, eliciting comments along the way. It chose the latter course, producing an admirable draft, but was unable to bring others on board who were excluded. A meaningful code of conduct requires buy-in by the Big Three space powers, but there was no way that European diplomats could sell this initiative to Moscow and Beijing. That was Washington's job, and Washington punted.

The Obama Administration never did get around to declaring its unequivocal support for the EU's handiwork.

By the time the EU's draft code was ready for consideration, relations between Washington and Moscow had soured badly, and Beijing backed off engaging in a serious way. The nadir of this effort was a meeting convened by the EU at the United Nations in July 2015, in which the EU's handiwork was roundly criticized by Russia, China, India, Brazil, South Africa and others. One of the arguments against the code was that it would legitimize a preemptive war in space because it included a provision, based on the UN's Charter, recognizing the right of national defense. The draft space treaty proposed by Russia and China also explicitly endorsed the right of national defense. But when proposed by the EU, with the implicit support of Washington, the right of national defense was deemed dangerous and unacceptable by other states, including those with active anti-satellite programs.

Military competitions in space are cyclical. They subside and regenerate when competition intensifies between major powers on land or at sea. By my count, this is the third round of intensified competition – the others punctuated by Sputnik and the Strategic Defense Initiative. This time, there are three, not two, serious competitors. This time, the military competition has extended to geostationary orbit, and this time, space isn't the private domain of national governments and military establishments. The private sector and consortia are major players. Profit taking can add friction or have palliative effects. If we're smart in space, as on Earth, the pursuit of profit and existing co-dependencies can have a restraining effect on military adventurism.

Competitions in space, unlike strategic competitions involving missiles, bombers, subs and missile defense deployments, are mostly out of sight. Outsiders are left with inferences, not hard data. We know, at least roughly, the status of nuclear forces. We don't know the balance of forces in space warfare.

Even if we don't know adversarial capabilities in space, we can assume that satellites are hostages to space warfare, just as cities are hostages in nuclear warfare. Satellites are as vulnerable as cities. Where there's a will, there's a way to disable or destroy them. Nuclear detonations and kinetic kill mechanisms could be employed to kill satellites, but they are indiscriminate weapons; their use will hurt one's own assets in space. The real competition in offensive counter-space capabilities lies elsewhere, by non-explosive means.

Deterrence absent diplomacy, whether in the nuclear domain or in space, can have a sharp offensive edge. A code of conduct clarifying responsible and dangerous operational practices can take something off this edge. It will not lead to a false sense of security, nor diminish the means of national defense in space because states will still possess counter-space capabilities. If, however, states follow agreed norms and avoid dangerous military practices in space, all major powers will benefit. If they disregard the code of conduct and engage in dangerous practices, major space-faring nations will have indications and warning signs of trouble ahead, warranting preparedness measures. Success will come only when the United States, Russia and China are on board. The wisest course for Washington at this point would be to seek a trilateral agreement, which could serve as a model for a wider negotiation.

In the meantime, the messages conveyed by U.S. officials and military leaders about this competition are crucial. The best messenger at this point is General John Hyten of the Strategic Command, who has repeatedly clarified the U.S. preference to avoid fighting a war in space, while noting that the Pentagon will be quite ready if others want to go there. The worst messenger is newly confirmed Secretary of the Air Force Heather Wilson, who has asserted that, "We must develop space airmen who have the tools, training, and resources to fight when – not if – war extends into space."

Asserting that warfare in space is inevitable is as dangerous as asserting that nuclear warfare is inevitable: If this is the case, then constraints of any kind, including norms of responsible behavior, are worse than useless. The record of the last seven decades suggests that nuclear warfare is not inevitable, and that diplomacy has been essential to avoid this outcome. The record of the last six decades suggests that warfare in space is not inevitable, either. What's painfully missing now is the diplomatic piece to help avoid worst cases.

<http://www.armscontrolwonk.com/archive/1203399/is-space-the-final-war-fighting-frontier/>

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Newsweek (New York, NY)

## **How Russia Won the Nuclear Arms Race Against the U.S.**

Author Not Attributed

July 24, 2017

*Newsweek published this story under the headline of "The Russian Bear Redux?" on January 10, 1977. In light of recent events, Newsweek is republishing the story.*

Nearly twenty years ago, a panel of prominent scientists and businessmen startled the Eisenhower Administration by warning that it was not doing enough to protect the U.S. against Soviet nuclear attack. The top-secret "Gaither Report", delivered only a month after the launching of the first sputnik, led to a massive increase in U.S. military spending and contributed to John F. Kennedy's talk in 1960 of a "missile gap." The Soviet arsenal was indeed expanding, but only after taking office did JFK conclude that the U.S. had never been in danger of losing its military superiority.

Last week, another panel of distinguished private citizens presented the incoming Carter Administration with the makings of a new missile-gap controversy. The group of relatively hard-line outsiders, led by Harvard Prof. Richard Pipes, had been invited last summer to join for the first time in preparing the annual national intelligence estimate of Soviet strategic intentions. The result: the most alarming forecast in years.

Previous estimates said the Soviet Union was aiming for military parity with the United Superiority: The panel's conclusions were not based on any dramatic intelligence breakthroughs. Instead, they were a reinterpretation of existing evidence. The seven outside experts charged that the Central Intelligence Agency was not taking a serious enough view of Soviet military expansion. They cited improvements in missiles, expansion of Russia's underground shelters and a continuing improvement of its low-level air defenses as unmistakable evidence, in the words of one outsider, that "the Soviets want strategic superiority." Then the consultants argued their case with CIA analysts. "That sobered up everybody," said one outside expert. "The CIA draft of its national intelligence estimate was charged in the direction of our viewpoint."

In addition to the Pipes study of Soviet intentions, NEWSWEEK learned, two separate panels of outsiders of about ten members each dealt with specific technical questions: the accuracy of the Soviet Union's missiles and the actual effectiveness of its air defenses. They also came to some daunting conclusions. The panel on missile accuracy, for example, estimated that by the 1980s the Russians will be able to drop an ICBM within 300 feet of its target - an astonishing improvement over the quarter-mile margin for error currently credited to the Soviets (U.S. missile accuracy at present is said to be 500 feet or less).

The outsider panel was recruited because President Ford's Foreign Intelligence Advisory Board wanted a hard-line view to balance the more "relaxed" estimates of CIA analysts. The findings will now put pressure on the Carter Administration to spend more money on strategic weapons,



including a new "super" ICBM and the controversial B-1 bomber. Some extreme hard-liners in the Pentagon are talking of budget increases that could add up to nearly \$40 billion a year. Carter will not agree to anything like that, but even before details of the still-secret Pipes report leaked out early last week, he was backing away from his campaign promise to trim the defense budget by \$5 billion to \$7 billion (page 14).

The President-elect indicated last week he was not overly worried about the Soviet intentions. "I think it's apparent that their rate of growth of military strength compared to ours has probably been fairly substantial," he declared. "But we're still, by far, stronger than they are in most means of measuring strength." Carter also made it clear he prefers a second-stage SALT accord with Moscow limiting strategic weapons, rather than a massive new military spending program. He said a summit meeting with Soviet leader Leonid Brezhnev - possibly in this country - was "a likely prospect for 1977, although we haven't made any plans about it yet."

Maverick: The formation of the outside panel was itself a victory for superhawks like Maj. Gen. George J. Keegan Jr., the maverick Air Force chief of intelligence (box, page 24). With the approval of CIA director George Bush, Pipes chose six colleagues: Thomas W. Wolfe of the Rand Corp.; retired Lt. Gen. Daniel O. Graham, former head of the Defense Intelligence Agency; Paul D. Wolfowitz of the Arms Control and Disarmament Agency; Paul H. Nitze, former Deputy Secretary of Defense; retired Air Force Gen. John Vogt; and Prof. William Van Cleave of the University of Southern California.

The outside experts concluded that the Russians are not reassured by the current nuclear standoff. "What drives the Soviets is their desire for security, but they go to extremes," said one panelist. "Americans emphasize deterrence and don't like to think about fighting a war if deterrence fails. The Russians want to be prepared in case deterrence breaks down. Thus they are taking steps to minimize their casualties in a nuclear war." The outsiders were offering no prediction, however, that the Kremlin wanted to start a war. "It intends to use its strategic nuclear weapons for political purposes to get what it wants in the world," said one.

As many CIA analysts still see it, the Russians realize that they have nothing to gain from seeking military superiority. These experts argue that the Soviet respect American power and recognize that the U.S. can hold its own in any new arms race. They also believe that the Russians are unlikely to embark on new military or diplomatic adventures. "They don't like to take high risks," one analyst argued. "They are careful about any potential collision of superpower interests." Carter's choice for Defense Secretary, Harold Brown, seems to agree. In a 1975 speech, he said it made no sense to "reach a new equilibrium in strategic arms at a higher level of military capability. Indeed, my strong preference is for a new equilibrium . . . at a lower level."

'Cardinal Task': The Kremlin itself was trying to encourage the "relaxed" fraction of U.S. analysts. In an interview with an American newspaperman last week, Brezhnev complained that "certain circles in the West" were launching "one noisy campaign after another over an allegedly growing 'military menace' from the U.S.S.R., demanding new military appropriations and stepping up the arms race." Instead, Brezhnev said he wanted a summit with Carter to pursue "the cardinal task of our time: to prevent nuclear war."

Since no U.S. analyst is capable of reading minds, there was no way of knowing what Brezhnev's real intentions were. The Pipes report, however, coincided with growing support for military spending on Capitol Hill (NEWSWEEK, Dec. 27). And whether or not the Russians really meant to bury the U.S. armed forces, Jimmy Carter was likely to encounter great difficulty in cutting the defense budget.

<http://www.newsweek.com/russia-military-united-states-president-power-641350>

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Sputnik (Moscow, Russia)

## **STRATCOM Head: Arms Control Pacts Important for Strategic Stability**

Author Not Attributed

July 28, 2017

*STRATCOM chief Gen. John Hyten claims that nuclear weapons play a vital role in today's world, but arms control deals are necessary for strategic stability.*

Nuclear weapons play a vital role in today's world, but arms control deals are necessary for strategic stability, US Strategic Command (STRATCOM) chief Gen. John Hyten said Thursday.

"Some of our nations, some of our citizens have a hard time seeing the critical role that nuclear weapons play in the world today," Hyten stated. "Containing the spread of nuclear weapons and arms control agreements are important to strategic stability."

Hyten spoke at the closing of the seventh annual STRATCOM Deterrence Symposium in Omaha, Nebraska, which took place on July 26-27.

"I challenge every one of you to think about what the world without nuclear weapons really looks like," Hyten said. "It looks the world before 1945, and in the world before 1945 we had two world wars, and in those two world wars tens of millions of people were killed... So just think about sheer brutality of World War I and World War II and think about the role of nuclear weapons."

The STRATCOM commander stated on Wednesday that the United States would like to remain in the Intermediate-Range Nuclear Forces (INF) treaty with Russia, and desired that both nations be in compliance with the agreement.

The STRATCOM symposium gathered world's military leaders, government officials as well as academic experts to discuss matters related to deterrence as well as international efforts to decrease heightened tensions on the Korean peninsula.

Two US defense studies, the nuclear posture review and a ballistic missile defense review are currently underway, and the North Korean nuclear threat as well as the hypersonic threats coming out of China and Russia are being incorporated into them, according to Hyten.

Many of the symposium's speakers have accused Russia of destabilizing activities and stressed the need to deter it.

Hyten said on the first day of the meeting that having open communication between the United States, Russia, China was a good thing from a military prospective and that he would continue to advocate for that.

The participants of the event paid special attention to the North Korean nuclear program and called on international cooperation to address the issue.

UK's Head of Nuclear Operations for the Director General Nuclear Commodore Paul Burke, US Acting Principal Deputy Assistant Secretary of State Bruce Turner, South Korea's Deputy Director of Strategic Planning Brigadier General Jung Woong Lee, as well as Sugio Takahashi, Senior Analyst on Nuclear Stability at Japan's Ministry of Defense participated in the panel discussions among others.

<https://sputniknews.com/military/201707281055949301-stratcom-arms-control-important/>

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Courthouse News Service (Pasadena, CA)

## **Bid to Force US Out of Nuclear Arms Race Dies at 9th Circuit**

By Helen Christophi

July 31, 2017

*STRATCOM chief Gen. John Hyten claims that nuclear weapons play a vital role in today's world, but arms control deals are necessary for strategic stability.*

The Ninth Circuit ruled Monday that the judiciary lacks the authority to order the United States to fulfill its international treaty obligations to eradicate nuclear weapons, sounding the death-knell for a three-year campaign by the Republic of the Marshall Islands to eliminate the weapons worldwide.

Affirming a lower court's dismissal of the island nation's lawsuit centered around Article VI of the Treaty on the Nonproliferation of Nuclear Weapons (NPT), a three-judge panel ruled in a scathing decision that the provision is not enforceable in U.S. courts and that the republic's claims raised political questions beyond the courts' jurisdiction.

"At bottom, the suit is doomed because diplomatic negotiations among parties to this treaty fall quintessentially within the realm of the executive, not the judiciary," Circuit Judge M. Margaret McKeown wrote for the panel. "Asking the federal court to order the United States to negotiate in 'good faith' on 'effective measures' for nuclear disarmament puts the judiciary in the role of nanny to the executive."

The Republic of the Marshall Islands sued the United States and eight other nuclear-armed nations in 2014, accusing them of violating the 1968 treaty by failing to dismantle their nuclear arsenals. It asked a federal judge to find the United States in breach of its treaty obligations and to order it to convene negotiations within one year to eliminate the weapons.

The treaty prevents non-nuclear nations from acquiring nuclear weapons, and requires nations with nuclear arms to negotiate their elimination. More than 180 states have signed the agreement.

The United States used the Marshall Islands, located halfway between Australia and Hawaii, as a testing ground for nuclear weapons during the first part of the Cold War, detonating 67 nuclear weapons there between 1946 and 1958. A 2016 study by Columbia University researchers found that radiation levels in some parts of the islands are two times higher than what is considered safe. One explosion was so devastating that some residents were permanently displaced.

U.S. District Judge Jeffery White dismissed the domestic suit against the United States in 2015, finding the Marshall Islands lacked standing under the Constitution.

White said the case raised political questions beyond his jurisdiction. Granting the republic's requested relief – forcing the United States to negotiate with other nations in good faith – would violate the separation of powers because such a decision belongs to the executive branch, he said.

The Ninth Circuit agreed, ruling Monday that Article VI is non-self-executing, or not enforceable in a U.S. court, that the Marshall Islands' asserted injuries are thus not redressable, and that its claims raise nonjusticiable political questions meant for the executive.

A self-executing treaty is judicially enforceable upon ratification, while a non-self-executing one usually requires Congress to pass implementing legislation, according to the panel's 26-page opinion.

"Not all treaties are created equal in terms of enforceability," McKeown wrote, concluding that Article VI does not direct domestic courts to enforce it, as required under the Supreme Court's 2008 decision *Medellín v. Texas*.

McKeown explained that Article VI instead addresses the executive branch, “urging further steps only the executive can take – negotiation with other nations.” It also addresses the Senate, “because it calls for ‘a treaty on general and complete disarmament,’ which would, under the Constitution, require both the president’s signature and the Senate’s consent,” she wrote.

“A provision cannot be judicially enforced if doing so would compel the courts to assume a role constitutionally assigned to the executive or the Legislature,” McKeown wrote. “There is perhaps nothing more prototypically political than the negotiation of a multilateral international instrument. Deciding when, where, and whether to negotiate with foreign nations is within the exclusive authority of the executive.”

She added: “Granting the Marshall Islands’ requested relief would essentially appoint the district court as a special master overseeing the United States’ nuclear treaty negotiations. To construe Article VI as self-executing and approve the Marshall Islands’ claims would thus violate core separation-of-powers principles.”

Moreover, McKeown found, Article VI does not suggest that presidents Lyndon Johnson and Richard Nixon or the Senate intended the provision to be enforceable domestically. Although the treaty notes the “intention” of the parties to disarm, it is “silent as to any enforcement mechanism” if a country fails to comply with its obligations, the judge said.

“That silence is significant in the context of this treaty and this lawsuit, not least because, in the absence of a specific treaty directive, having states open their domestic courts to other treaty parties would be extraordinary,” McKeown wrote.

And, she added, Congress passed a law after the treaty was ratified conferring responsibility for the international negotiation of arms control and disarmament to the U.S. secretary of state.

Marshall Islands attorney Laurie Ashton of Keller Rohrback in Phoenix expressed disappointment with the decision Monday.

“With respect, the court’s decision purports to say that it is without authority to determine the nature and scope of the Article VI obligation, but then the court turns around and does just that, holding that Article VI, in its ‘wishful tenor reflects the reality of the treaty itself: the state parties could agree only that they hoped to usher in a nuclear-free future,’ Ashton wrote in an email.

“But if hope were all that were offered in Article VI, the NPT would have been ... at risk of failure for lack of consideration. In other words, in exchange for the non-nuclear weapon states’ promise to not acquire or transfer nuclear weapons, the nuclear weapon states offered only “hope” under today’s decision,” she continued. “But that’s not a contract. The obligations of non-nuclear weapon states to not advance nuclear weapons programs are in the news at least weekly and often daily. It is not difficult for one to imagine the effects of the United States position, as held by the Ninth Circuit, that its Article VI obligation is hortatory, and reflects only its ‘hope.’”

The Justice Department declined to comment on the decision.

The Marshall Islands also sued the United States, along with the United Kingdom, Russia, France, China, Israel, India, Pakistan and North Korea, at the International Court of Justice in the Netherlands. That court ruled last October that it did not have jurisdiction to hear the merits of the cases against the United Kingdom, India and Pakistan.

The remaining nations ignored the cases against them because they do not recognize the court’s compulsory jurisdiction.

U.S. Circuit Judge Jay Bybee and U.S. District Judge Susan Oki Mollway, sitting by designation from the District of Hawaii, joined McKeown on the panel.

A representative for the Marshall Islands’ department of state could not be reached for comment.

Justice Department attorney Sushma Soni represented the government.

<https://www.courthousenews.com/bid-force-us-nuclear-arms-race-dies-9th-circuit/>

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## ASIA-PACIFIC

38 North (Washington, DC)

### What Next for North Korea's ICBM?

By John Schilling

August 1, 2017

Less than a month after their first successful ICBM test, North Korea has done it again. The missile tested on July 28 appears to be identical to the liquid-fueled KN-20 (Hwasong-14) missile launched on July 4. This missile, however, demonstrated substantially greater range—possibly sufficient to reach the east coast of the United States—but only with a substantially reduced payload. Second, possibly because of the reduced reentry vehicle (RV) weight, the RV appears to have disintegrated before reaching the ground, and thus the test may not have been completely successful. Third, this was the first time the North Koreans have conducted at launch at night, suggesting an emphasis on demonstrating operational rather than experimental launch procedures.

While Pyongyang may have an ICBM, the threat is currently limited to unsophisticated warheads against targets on the US west coast. North Korea will likely have to turn to an upgraded design to achieve their goal of a robust capability to retaliate against targets on the east coast, including Washington, for any attack on North Korea. While the KN-20 may have some deterrent value even in its current, unreliable form, it will likely take another year or two of work to achieve full operational capability. If the North pursues the objective of fielding a new solid-propellant ICBM, that will likely only be another few years beyond that.

The combination of increased performance and a night launch, contrary to North Korea's hopes, reveal the probable failure of this test. Rather than landing far out to sea, this missile entered the atmosphere within sight of Japan, and it did so in a clear night sky. Several cameras on the Japanese island of Hokkaido caught the incandescent trail of the reentry vehicle. As my colleague Michael Elleman notes, the trail flashes briefly and brightly as the missile descends for 6-8 km, and a second or so thereafter breaks up into at least two visible objects and a vapor trail. The initial flash could be due to the reentry vehicle passing close to a reflective cloud, or it could be a part of the heat shield breaking off and vaporizing. Whatever the cause of the flash, the subsequent breakup is telling. We cannot be certain, but it seems unlikely that a warhead would have survived that experience.

The missile was reported to have reached an altitude of over 3,700 km, remaining airborne for 47 minutes. That's a substantially higher level of performance than what the missile displayed on its first launch. This means, if the missile had been launched on a maximum-range trajectory, it could have reached Chicago or possibly even New York City. North Korea has given us a clue as to how that happened, with a press release indicating that the number of engines has increased. The trajectory of the first KN-20 indicates that its upper stage was propelled by a set of two vernier engines from an old Soviet submarine-launched ballistic missile whose technology is known to have



fallen into North Korean hands. This same propulsion system was used on North Korea's successful Unha space launch vehicle, but doesn't produce enough thrust for optimal performance with heavy nuclear warheads. There is room in the upper stage to add a second pair of vernier engines, and we suspect this was done.

But this alone wouldn't explain the performance observed from the second test. In order to reach a 3,700 km altitude, compared to 2,800 km in the first test, North Korea would probably have needed to reduce the missile's payload from roughly 500 kg in the first test to 300-350 kg in the second. This may explain the failure. The first test was conducted with a conservative design, with all of the key elements of the missile's design having been successfully demonstrated in other systems and with a heavy, robust reentry vehicle. The second test included a new upper-stage propulsion system and a much lighter reentry vehicle. The propulsion system worked, but that led to the lighter reentry vehicle hitting the atmosphere at a higher velocity than in the first tests, and that didn't work so well.

Based on those tests, and on performance data from other missiles whose technology has been incorporated into the KN-20, everything depends on the weight of the payload. 300 kg is almost certainly too small for a reentry vehicle that must carry one of North Korea's nuclear warheads and survive reentry at ICBM speeds. If they can manage to squeeze a warhead and survivable reentry vehicle into a 400 kg package (a very low possibility), New York might barely be within range. For more realistic 500-600 kg warheads, the KN-20 would be limited to west coast targets. Interestingly, adding extra engines does little to improve long-range performance with the lightest warheads, where the extra thrust isn't needed and the weight of the engines competes with the warhead. North Korea's press report alluded to "heavy warheads," and their chosen missile design supports that interpretation.

If North Korea continues with the current design, their near-term objective will likely be to overcome this latest partial failure in order to field a missile capable of delivering nuclear warheads of reasonable weight to targets on the US west coast. They will presumably want to conduct another test combining the four-vernier engine upper stage and the heavy reentry vehicle to validate that configuration, after which, they may feel ready to go into production and training. And to do that, they may require more tests. The fact that last week's test was conducted at night and from a site not normally used for missile testing may signal that they are getting a head start on the crew training part already, treating the launch as an operational exercise as well as an engineering test. If they fast-track this version of the missile, they may have a robust, reliable nuclear strike capability against US west coast targets sometime next year, and may have already fielded a few unreliable prototypes to provide minimal deterrence in the interim.

The emphasis on heavy warheads suggests North Korea has plans to use any extra payload capability they can squeeze out of the design. One obvious possibility is a thermonuclear warhead. North Korea has never successfully tested such a device, and the sophisticated designs that allow the major nuclear powers to deliver hundreds of kilotons of yield from a package of only a few hundred kilograms weight are probably beyond Pyongyang's reach for now. But there are ways for North Korea to incorporate a thermonuclear element to increase the yield of their current 10-20 kiloton fission warheads, and we expect they will seek to incorporate them in any ICBM design they field.

They will probably also seek to incorporate more advanced reentry vehicles, along with decoys and other penetration aids to defeat missile defenses. The successful July 4 test most likely used a simple blunt-body RV, but the payload shroud used on the KN-20 and the post-boost propulsion system demonstrated on the KN-17 (Hwasong-12) would both support a more advanced payload with a low-drag RV and set of decoys. These advances will not come quickly or easily to North Korea, but we should be looking for them perhaps five years down the road.

While North Korea's ambitions reach beyond the west coast to places like Washington, DC, if they want to accomplish that with this missile, they will have to change the design substantially. The extra engines on the upper stage currently aren't enough; they will also need to stretch the propellant tanks. Additionally, they will need to demonstrate a lightweight warhead capable of surviving the faster and hotter reentry of such a long-range missile. This missile's design may not stretch that far without breaking, but North Korea may try anyway. If so, they probably won't succeed this year or next.

They may not try at all. Earlier this year, canisters representing solid-propellant ICBMs were paraded through the streets of Pyongyang. Those canisters were probably empty; North Korea has an ambitious solid-rocket development program but has so far only been able to build smaller medium-range missiles using solid propellant. But the greater mobility and responsiveness afforded by solid propellant makes it the clear choice for ICBMs as well. North Korea may consider the liquid-propellant KN-20 to be strictly an interim system to provide limited deterrence by threatening US west coast targets and to support technology development for advanced warheads and other systems to be incorporated in a new solid-propellant ICBM in perhaps 2025.

The bottom line today is that North Korea has tested two versions of the KN-20 ICBM which seem to work, and two reentry vehicles, one of which probably didn't work. Using the more conservative RV design, they can field a system that can threaten US west coast targets. At first, this threat will consist of a handful of unreliable prototype missiles, but as early as next year they could begin production and deployment of a proven, reliable design with trained crews. After that, they might be able to stretch the KN-20 design to reach Washington, DC, with a light warhead. Or they might use the system's increased payload capability at short ranges to experiment with more advanced warheads and decoys, which in the longer term could be incorporated in a new solid-fuel ICBM.

<http://www.38north.org/2017/08/jschilling080117/>

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The Asahi Shimbun (Tokyo, Japan)

### **Analysts doubt North Korea's ICBM re-entry capability**

Author Not Attributed

August 2, 2017

North Korea after decades of effort has a missile potentially capable of reaching the continental United States, but analysts say Pyongyang has yet to show the ICBM can inflict serious damage once it gets there.

U.S. and South Korean experts on Tuesday said Japanese video footage capturing the Hwasong-14's re-entry vehicle shortly before it crashed into the sea suggests it failed to survive the extreme heat and pressure after re-entering the Earth's atmosphere following its launch from northern North Korea on Friday.

But the apparent failure likely means the North will conduct more flight tests of the Hwasong-14 missile to ensure the warhead could survive the re-entry from space and hit its intended target, the analysts said.

The Hwasong-14 ICBM, which was first tested on July 4, follows decades of effort by North Korea to obtain a nuclear deterrent against the United States. Analysis of the flight data from Hwasong-14's second test has suggested that more of the U.S. mainland, including Los Angeles and Chicago, is now in range of Pyongyang's weapons.

However, whether North Korea can arm the missile with a nuclear warhead and protect it throughout the flight are different questions entirely.

After analyzing video from a rooftop camera operated by Japan's NHK television on the northern island of Hokkaido, U.S. missile expert Michael Elleman concluded that Hwasong-14's re-entry vehicle "disintegrated" before it landed at sea.

In an article posted at the 38 North website, Elleman said the video showed the re-entry vehicle shedding small radiant objects at an altitude of 4 to 5 kilometers. He said the re-entry vehicle dims and quickly disappears at an altitude of 3 to 4 kilometers before it passes behind a mountain range and is obscured from the camera's view. Had the re-entry vehicle survived, it would have continued to glow until disappearing behind the mountains, Elleman said.

"In short, a reasonable conclusion based on the video evidence is that the Hwasong-14's re-entry vehicle did not survive during its second test," said Elleman, an expert with the International Institute for Strategic Studies. "If this assessment accurately reflects reality, North Korea's engineers have yet to master re-entry technologies and more work remains before Kim Jong Un has an ICBM capable of striking the American mainland."

Granted, it's impossible to know how the warhead would have performed if North Korea had launched the missile for real. Both ICBMs were test-launched at highly lofted angles to reduce the range and avoid neighboring countries, and the near-vertical flight paths meant the re-entry vehicles endured harsher conditions during their descents.

But Kim Dong-yub, a defense analyst at the Institute for Far Eastern Studies at Kyungnam University in Seoul, said it's obvious North Korea has yet to reach where it wants to be with re-entry technologies.

While North Korea has declared that the Hwasong-14's latest launch confirmed important features of the missile, such as its range and the warhead's atmospheric re-entry, it also described the rocket as "landing in the target waters in the open sea." That probably wasn't an ideal outcome for North Korean engineers because nuclear warheads are usually designed to detonate at lower altitudes shortly before impact, Kim said.

"Considering the cost and efforts they put into tests, North Korea likely would have tried to detonate the warhead properly; they apparently failed this time, but could focus on this aspect in future tests," Kim said.

Mastering warhead re-entries would be one of the most critical military milestones the North has left, along with developing a submarine-launched ballistic missile system and solid-fuel ICBMs, Kim said.

<http://www.asahi.com/ajw/articles/AJ201708020008.html>

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The Diplomat (Tokyo, Japan)

## **North Korea Just Tested a Missile That Could Likely Reach Washington DC With a Nuclear Weapon**

By Ankit Panda

July 29, 2017

*Even with early data, North Korea's July 28 missile launch answers questions about the capability of its ICBMS.*

On Friday evening, local time, North Korea carried out what is thought to be its second-ever flight-test of the Hwasong-14/KN20 intercontinental ballistic missile (ICBM). The test comes just weeks after Pyongyang's first test of the system on July 4. The launch took place at 11:11 pm local time in North Korea.

According to a U.S. government source with knowledge of North Korea's weapons programs, Friday's launch took place from Mupyong-ni in North Korea's Chagang province, not from Kusong, where the first test occurred. As The Diplomat reported earlier, the United States government had seen "a Hwasong-14 transporter-erector and firing-table transporter in Kusong" as recently as this week.

According to the source, North Korea demonstrated a range of 1,000 kilometers with its flight test on Friday, landing the missile's reentry vehicle in the East Sea or Sea of Japan inside Japan's exclusive economic zone, according to Japan's chief cabinet secretary, Yoshihide Suga. The performance of the reentry vehicle, the part of the missile that returns to earth carrying the payload, is unknown.

Additionally, the missile launched on Friday demonstrated a 3,700 kilometer apogee and a flight time of 47 minutes. Both of these numbers are considerably greater than 2,811 kilometer apogee and 37 minute flight time reported for the July 4 test and suggest that North Korea purposely did not test the Hwasong-14 to near its full capability during that test.

Contrary to the above assessments, the Russian Ministry of Defense has assessed the launch on Friday as a "medium-range ballistic missile" that flew to a range of 732 kilometers with an apogee of 681 kilometers. Russia also denied that the July 4 launch from North Korea involved an ICBM, despite opinions to the contrary from the governments of the United States, North Korea, Japan, South Korea, and China. As a result, the United Nations Security Council has still been unable to respond in a united way to North Korea's first ICBM test.

When North Korea tests long-range missiles like ICBMs and intermediate-range ballistic missiles, it often fires them at what's known as a lofted trajectory to avoid overflying Japan. As a result, the observed range is shortened, but experts are nevertheless able to extrapolate what the missile's demonstrated range might convert to at what's known as a minimum energy trajectory — the kind of trajectory North Korea would use to maximize its ICBM's range.

The nearly 1,000 kilometer extension of the Hwasong-14's apogee would allow for North Korea's missile engineers to observe increased stress on the system's reentry vehicle. As it reenters the atmosphere, the reentry vehicle needs to be capable of surviving incredibly high temperatures and avoid tumbling at hypersonic speeds.

A 30 kiloton nuclear airburst — a common estimate for the boosted fission device North Korea is thought to have tested in September 2016 — would require a reentry vehicle to survive to approximately an altitude of 1 kilometer. North Korea's July 4 Hwasong-14 reentry vehicle is thought to have survived to that altitude, according to a U.S. government source who spoke to The Diplomat.

Based on the July 28 launch, preliminary impressions are that North Korea would be capable of easily ranging the contiguous United States. This contradicts earlier assessments of the Hwasong-14, which, based on the demonstrated July 4 flight, said that it would only be capable of striking Alaska and parts of Hawaii. The July 28 test would suggest that North Korea could potentially reach targets as far away as New York City and Washington, DC, depending on the size of its weapons payload.

David Wright at the Union of Concerned Scientists, based on figures first reported by The Diplomat, estimates the Hwasong-14 may now be capable of flying to a range of 10,400 kilometers and potentially 11,000 kilometers. Wright notes that if the unknown payload used for testing “was lighter than the actual warhead the missile would carry, the ranges would be shorter than those estimated.”

All signs now point to North Korea getting ever closer to operationalizing an ICBM that can range the U.S. mainland — a long-sought strategic objective for the country.

<http://thediplomat.com/2017/07/north-korea-just-tested-a-missile-that-could-likely-reach-washington-dc-with-a-nuclear-weapon/>

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The Japan Times (Tokyo, Japan)

### **Strategic Approach: Washington’s Shifting Nuclear Policy in the Asia-Pacific Region is Putting Japan in a Difficult Position**

By David McNeill

July 29, 2017

A global ban on nuclear weapons was approved earlier this month at the U.N. headquarters in New York. A total of 122 countries signed the Treaty on the Prohibition of Nuclear Weapons. None of the signatories, however, possesses a nuclear bomb.

The world’s nuclear club — the United States, Britain, Russia, China, France, India, Israel, Pakistan and, most recently, North Korea — boycotted the talks, arguably dooming them to failure. Nikki Haley, U.S. ambassador to the United Nations, said in March that Washington couldn’t allow “bad actors” to have nuclear weapons and “those of us that are good, trying to keep peace and safety, not to have them.”

A joint statement by the United States, Britain and France on July 7 said the ban “disregards the realities of the international security environment.” As a result, all countries that rely on the nuclear deterrent either stayed away (including South Korea), voted against the ban (the Netherlands) or abstained (Singapore).

Japan’s absence from the talks was striking. The U.S. atomic bombings of Hiroshima and Nagasaki in August 1945, which are estimated to have killed or wounded more than 200,000 people, mostly civilians, remain the only use of nuclear weapons in warfare, giving Japan considerable moral heft in any discussion on abolition.

Tokyo’s disarmament ambassador, Nobushige Takamizawa, lamented in March at the beginning of negotiations that while his country would “continue to pursue realistic and effective” disarmament measures, “regrettably” it was unable to join the talks.

The decision appalled Japan’s hibakusha, the dwindling survivors of the 1945 atomic bombings. Toshiki Fujimori, assistant secretary-general of Nihon Hidankyo, an organization for atomic bomb



victims, said it left him “heartbroken.” Fujimori was little more than a year old when the bomb exploded over Hiroshima on Aug. 6, 1945.

Terumi Tanaka, former director of Hidankyo, says he believes diplomatic pressure was brought to bear on Japanese officials.

“Up until the day before the negotiation convened, the minister of foreign affairs showed an intent to attend the negotiations but, in the end, he didn’t,” Tanaka said. “I think there was influence from the Prime Minister’s Office not to go.”

Japan has for decades acknowledged the anti-nuclear cause while sheltering under the U.S. defense umbrella. The nation’s so-called three non-nuclear principles, outlined by Prime Minister Eisaku Sato and formally adopted in 1971, state that Japan shall neither possess nor produce nuclear weapons, nor shall it permit their introduction into Japanese territory.

“Japan is the only country in the world to have suffered the ravages of atomic bombing,” said Sato, accepting the 1974 Nobel Peace Prize for his contribution to the efforts toward nonproliferation of nuclear weapons. “That experience left an indelible mark on the hearts of our people, making them passionately determined to renounce all wars.”

However, those noble sentiments were not safe from the Cold War calculations needed to maintain the facade of pacifism in a heavily nuclearized neighborhood, when the Soviet Union and then China acquired their own deterrents against what they saw as potential U.S. aggression.

Japan’s no-nuke rule was undermined by a backroom deal struck between Washington and Tokyo, signed by Sato and President Richard Nixon in 1969. The deal allowed the possibility that nuclear-armed U.S. ships and aircraft traffic anywhere through or over Japanese territory for decades.

Politicians on both sides of the Pacific repeatedly denied the deal. In February 2016, Washington finally admitted what had almost become an open secret — that nuclear weapons were stored in Okinawa in Japan’s far south before its reversion to Japanese rule in May 1972. The secret agreement allowed for their re-introduction without prior Japanese consent in times of crisis.

Japan’s abstention from this year’s U.N. conference, therefore, did not come out of the blue. In 1998, it declined to sign a U.N. resolution against no first use of a nuclear weapon. Washington has historically maintained the right to a preemptive strike. Attempts to end the policy are typically condemned as liberal naivete.

Prime Minister Shinzo Abe appears to agree. Last year, shortly after standing beside U.S. President Barack Obama on his historic visit to Hiroshima, Abe reportedly expressed “concern” that the United States was weighing whether or not to end its policy of no first use. Abe warned Adm. Harry Harris Jr., head of the U.S. Pacific Command, that deterrence against North Korea would suffer as a result, according to a report in *The Washington Post*, a report that has not been denied.

Japanese officials rarely discuss such nuclear issues publicly — hardly surprising given their unpopularity: Just 5 percent of Japanese people said they wanted their country to possess nuclear weapons in a poll conducted by think tank Genron in 2016. In South Korea, by contrast, the figure is consistently over 50 percent.

A senior Japanese defense official, speaking off the record owing to the sensitivity of the issue, said whatever his personal feelings, the “reality” is that as part of Japan’s alliance with the United States, the nuclear deterrent is necessary.

“We share the view that we should have a peaceful and stable world without nuclear weapons, but can we one-sidedly do away with them?” the official asked. “If someone has nuclear weapons, they must believe in them.”

The contradictions of Japan's position, however — acknowledging domestic sentiment on nuclear weapons while supporting the United States' right to deploy and use them — are likely to become more glaring as tensions in East Asia grow.

As the Cold War eased following the fall of Soviet communism, U.S. President George Bush almost halved America's nuclear stockpile, withdrawing tactical nukes from ships and submarines across Asia in 1991. His son, George W. Bush, cut the global stockpile again.

China's growing economic and military clout and, since 2006, the entry of North Korea into the group of nuclear powers have helped convince Pentagon planners that such moves may have been premature. The shifting U.S. defense policy puts Japan in a difficult position as it tries to deal with three nuclear-armed states on its doorstep.

Bush's "liberal" successor, Barack Obama, authorized "the largest expansion of funding on nuclear weapons since the fall of the Soviet Union," said the Alliance for Nuclear Accountability, a Washington think tank, in September 2014. The \$1 trillion splurge puts the world on track for a 21st-century arms race, it warned.

Washington will not rule out a first-strike option against China, says Gregory Kulacki, a China specialist at the Union of Concerned Scientists, a think tank.

"(China) has been asking that for 10 years, and we won't give it to them," Kulacki says.

Since building its first nuclear bomb in 1964, Beijing has repeatedly reaffirmed a no first-use policy.

The Pentagon's Strategic Command, meanwhile, which was charged with obliterating the Soviet Union during the Cold War, is working on a new evaluation to determine "whether the Russian and Chinese leadership could survive a nuclear strike and keep operating," the Bloomberg news agency reported.

Critics say the "modernization" of U.S. nuclear forces is code for a technological leap, increasing America's capacity to fight and win a nuclear war.

"This increase in capability is astonishing — boosting the overall killing power of existing U.S. ballistic missile forces by a factor of roughly three," says a paper in the Bulletin of the Atomic Scientists in March. That, in turn, encourages America's enemies to keep their own fingers on the trigger, the paper's authors say.

These developments make Japan's long-standing duality increasingly untenable, Kulacki says.

Historically, he says, there have been two sets of Japanese voices on U.S. nuclear weapons policy. The first, reflecting the majority of the Japanese public, "is strongly opposed to the use of U.S. nuclear weapons in the defense of Japan."

The second, Kulacki says, "is a small and secretive group of bureaucrats in Japan's defense and foreign policy institutions who may have different views." Alarmed by China's territorial claims to much of East Asia, as well as North Korea's five nuclear tests, these bureaucrats are working harder to reverse the Bush legacy, he says.

"They have made a sustained effort to have U.S. tactical nuclear weapons redeployed in Asia," Kulacki says. In addition, he says, the once-taboo notion of "tailored nuclear options" has growing support on both sides of the Pacific.

For tailored, read "usable."

"(Bureaucrats) believe that a credible threat to use nuclear weapons first or preemptively is necessary for maintaining the credibility of the U.S. nuclear deterrent in Asia," Kulacki says.

Defense officials in Japan will neither confirm nor deny these claims. Noboru Yamaguchi, a retired lieutenant general with the Japan Ground Self-Defense Forces, who supports the modernization of America's nuclear arsenal, says tactical nukes in East Asia "don't make any sense."

"Tactical nuclear weapons used to be a good tool to compensate for inferiority in conventional arms," Yamaguchi says. "Not any longer — we are conventionally superior. In this region, the U.S. Navy and Japanese Navy have always been superior to any other navy, including the Chinese or the Soviets, so there is no need to rely on such weapons."

Ramesh Thakur, director of the Centre for Nuclear Non-proliferation and Disarmament at the Australian National University and author of "Nuclear Weapons and International Security," calls such a strategy a seductive illusion.

"The limited utility of nuclear weapons rests on the certainty of nuclear retaliation, not in any belief in its first use," Thakur says. "First-use posture is a Cold War deterrence legacy whose logic breaks down once nuclear weapons are used and the empirical reality is transformed from peacetime deterrence ... to fighting an actual war."

Thakur is "skeptical" of the strength and influence of pro-nuclear officials in the Japanese national security bureaucracy. Nevertheless, the distance between them and mainstream thinking in the government appears to have narrowed under Abe, Thakur says.

Some analysts note, for example, that Shotaro Yachi, a key Abe aide, was a disciple of Kei Wakaizumi, the diplomat who negotiated the secret deal with Nixon in 1969. Wakaizumi is believed to have been a "realist" who wanted to end Japan's "insular pacifism" and over-reliance on U.S. military protection, says Giulio Pugliese, a lecturer in war studies in King's College London.

That said, Japan is very unlikely to go so far as to start building its own nuclear arsenal for protection, despite Donald Trump telling *The New York Times* while running for U.S. president last year that it might not be such a "bad thing" if Japan (and South Korea) developed nuclear weapons.

U.S. Vice President Joe Biden had also played a similar card last year. "What happens if Japan, who could go nuclear tomorrow? They have the capacity to do it virtually overnight," Biden told Chinese President Xi Jinping in June 2016.

While few doubt that Japan has the required capital, technology and raw materials, there is more to joining the nuclear club than that, says Alessio Patalano, a reader in East Asian warfare and security at the Department of War Studies at King's College London.

"You need civil-military relations set up, command and control, a national security council," Patalano says. "And you need political confidence to understand the complexity of how to use nuclear weapons."

Another obstacle is popular opposition — merely floating the idea of a nuclear weapon would most likely be tantamount to political suicide — and the certainty that it would trigger a regional arms race.

Whatever the thinking, tactical nuclear weapons in East Asia would be a disaster, says Thakur, ratcheting up tensions with China and North Korea and potentially spooking Kim Jong-un into launching a preemptive strike on Seoul if he fears imminent U.S. attack.

"Remember, Pyongyang has been living with hair-trigger sensitivity and preparing for a U.S. attack for decades," Thakur says. "A nuclear umbrella may offer protection of the great and powerful ally, but any actual use ceases to be protective and instead morphs into the most catastrophically self-destructive security guarantee imaginable."

<http://www.japantimes.co.jp/news/2017/07/29/national/politics-diplomacy/strategic-approach-washingtons-shifting-nuclear-policy-asia-pacific-region-putting-japan-difficult-position/#.WYKOvmRSxTY>

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## EUROPE/RUSSIA

EU Reporter (Cardiff, Wales)

### **29 August opening of #Kazakhstan Low Enriched Uranium Bank**

By Colin Stevens

July 24, 2017

*Kazakhstan has chosen August 29 for the opening ceremony of the first Low Enriched Uranium Bank (LEU Bank), being established in Kazakhstan under the auspices of the International Atomic Energy Agency (IAEA). August 29 also marks the International Day against Nuclear Tests as designated by the United Nations and this year on that day it is also the 60th anniversary session of the Pugwash movement of scientists aimed at nuclear disarmament, writes Colin Stevens.*

The idea to establish the LEU bank was initially put forward in 2006 by Sam Nunn, co-founder of the Nuclear Threat Initiative (NTI), a non-profit organization aimed at strengthening global security by minimizing the proliferation of biological, chemical, and nuclear weapons.

The IAEA authorised the initiative in 2010 and Kazakhstan volunteered the following year to host the bank.

Kazakhstan's President Nazarbayev said "Instability and tension internationally affirm the urgency of Kazakhstan's efforts in building a nuclear weapon-free world as the main goal of the humankind in the 21st century. Kazakhstan voluntarily destroyed the 1,400 nuclear weapons it inherited from the collapse of the Soviet Union in 1991."

The sides negotiated the terms of a host state agreement in 2011, and the official signing ceremony took place in August 2015 in Astana with the participation of Kazakhstan Minister of Foreign Affairs Erlan Idrissov and IAEA Director General Yukiya Amano.

"We are very young, we are 25 years old. But we, at the start of our independence back in 1992, were the fourth-largest nuclear power in the world," said the foreign minister of Kazakhstan.

"And we have destroyed other means of the nuclear threat, the infrastructure for the delivery of nuclear weapons, the infrastructure for testing nuclear weapons. Kazakhstan was the first to close, at the end of Soviet days, the largest nuclear test site in the world, the Semipalatinsk test site, where 500 nuclear explosions took place," he said, adding the LEU Bank is another example of Kazakh efforts to address the nuclear weapons issue.

"This is an important tool, a practical step in making sure that the world is a little bit safer in terms of the nuclear threat," he said.

The LEU bank will operate as a mechanism of last resort; in case of unforeseen disruption in a commercial market of uranium, countries that are unable to procure uranium for their nuclear power plants can request LEU from the bank under certain conditions. Thus, it will ensure a global nuclear fuel supply and facilitate nuclear non-proliferation efforts.

The bank will be based at the Ulba Metallurgy Plant in Ust-Kamenogorsk in eastern Kazakhstan. The plant has dealt with and stored nuclear materials for more than 60 years without any incidents.

“As you can imagine, this is a very complex project. I am grateful to the Government of Kazakhstan for hosting the LEU Bank,” said IAEA Director General Yukiya Amano

The funding is based on voluntary contributions from the NTI, the U.S., the European Union, the United Arab Emirates, Norway, Kuwait, and Kazakhstan, which in total equals to \$150 million, believed to be enough to procure 90 tonnes of low enriched uranium.

International support and praise for Kazakhstan’s role is widespread.

“The government of Kazakhstan, by volunteering to host the LEU bank has further cemented its reputation as a world leader in promoting non-proliferation and nuclear security,” the White House said.

A senior source at the European Commission told this website that Kazakhstan deserves “much credit for its ongoing efforts to rid the world of nuclear weapons. The EU appreciates President Nursultan Nazarbayev’s important leadership on non-proliferation spanning more than two decades.”

He added: “For the past two decades, Kazakhstan has been a strong advocate of nuclear non-proliferation and this is something that most certainly should not be under-estimated.

“The country is conducting a multi-vector foreign policy which is based on preventing war and to save the planet from nuclear weapons.”

<https://www.eureporter.co/energy/2017/07/24/august-29-opening-of-kazakhstan-low-enriched-uranium-bank/>

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New Eastern Europe (Krakow, Poland)

## **Kaliningrad Oblast - Russia`S Formidable A2/AD Bubble**

By Sergey Sukhankin

August 2, 2017

Kaliningrad Oblast – Russia’s westernmost region physically separated from the mainland – has reappeared in the forefront of international security-related discourse. Liberated from virtually complete isolation with the fall of the Soviet Union, this territory was hoped to soon turn into a prosperous “bridge of co-operation” between Russia and the West. The aura of optimism was boosted by such progressive initiatives as “Euro regions” and the Northern Dimension, that were to have facilitated Kaliningrad’s transition from a planned economy towards a free market one and encourage its integration into the Baltic Sea Rim. Alas, this was not meant to happen. Instead of becoming the “Baltic Hong Kong”, the oblast has turned into a heavily militarised “fortress” and a centre-dependent entity, reminiscent of its pre-1991 predecessor. The most recent events have unequivocally shown that Kaliningrad turning into Russia’s most advanced A2/AD “bubble” might be on its way to regaining the title of the most heavily militarised spot in Europe, which creates numerous challenges to the entire region.

What is the A2/AD bubble?

Throughout the history of human warfare, conflicting parties have aspired to diminish offensive potential of an adversary employing a broad range of tools and measures, that included intelligence and information gathering, denial of access to the battlefield, and reducing operative potential once



within it. Irrespectively of relative novelty of the term, some of its key elements have been used in the course of warfare from times immemorial.

Ultimately, technological and scientific advancements coupled with military-strategic analysis have forged so-called “Revolution in Military Affairs” (RMA) that occurred in the early 1990s. Namely, the Gulf War (1990-1991) demonstrated two essential aspects: first, almost total superiority of the US armed forces over any potential adversary; secondly, it triggered an intensive intellectual debate (mainly among the Chinese military strategists) on how this domination can be reduced or levelled down.

It took however some time and a great deal of intellectual effort before the A2/AD “bubble” concept was ultimately coined in 2012. Yet, the notion received a mixed reception attracting much criticism. Some notable figures (including US Admiral John Richardson) tend to dismiss the term as a buzzword and dated phenomenon that enjoys too much attention and should cease to be employed. However, the mainstream of scholars and practitioners do recognise relevancy of the notion that is frequently met in special academic, general and policy-oriented literature.

Speaking of the concept two integral aspects ought to be ascertained: the first part (Anti-Access) aims to prevent an opponent from entering into theatre, whereas the second (Area-Denial) affects movement within it. Combination of these two particles within a single framework leads toward emergence of a new type of warfare that allies both classical and nonlinear methods under the same umbrella.

On the other front, uniqueness of the phenomenon is stipulated by most recent developments that have altered its initial meaning. First, geographic boundaries the term was primarily applied to have shifted from Asia (first China and later Iran), to other regions including Europe, which is inseparable from vigorous militarisation carried out in Kaliningrad oblast and annexed Crimea. Together these pivots are forming a formidable arch of counter-containment stretching from the Baltic to the Black Sea and confronting NATO’s weakest flanks. Secondly, breathtaking pace of technological achievements has added new facets complicating the way A2/AD zone is understood.

Current sources outline five main layers that comprise the A2/AD “bubble” in its most up-to-date form: air, sea, land, space, cyberspace (the importance of this element has grown exponentially within past several years). The lethal capabilities of the “bubble” are secured with: cruise and ballistic missiles; weapons of mass destruction; guided rockets; mortars and heavy artillery; means of Electronic Warfare (EW); air defence and anti-armour systems; submarines.

A party wielding the above-mentioned elements and being able to concentrate/deploy those within a certain area is likely to be able to deny other party entrance to the zone and effectively disrupt its activities therein should penetration occur. Given its natural conditions the Kaliningrad oblast presents an ideal spot for developing an A2/AD “bubble”, which cannot be overrun without a viable risk for the potential attacker to suffer huge losses both in manpower and military equipment as well as losing valuable time. Aside from this, current US strategy of dealing with A2/AD “bubbles” rests on power of its air forces, which might not work when it comes to Kaliningrad.

The milestones of militarisation

In 1994 Estonian President Lennart Meri, speaking in Hamburg predicted the inevitability of Russian neo-imperial expansionism pointing to the Baltic Sea region as one of the main centres of Russian strategic interests. Regretfully, these words were not given proper attention. It seemed at a time that it would take years for Russia to recuperate its military potential, which was clearly seen from the impotence of Russian armed forces during the first Chechen campaign. Furthermore, the example of Kaliningrad oblast bolstered these reflections.

In the 1990s the formerly formidable military bastion of the USSR on the Baltic, the oblast presented a pathetic shadow of itself. The “ailing man” of the Baltic Sea suffered from plummeting living conditions, endemic corruption, smuggling and epidemic of HIV/AIDS bearing virtually no resemblance with what it used to be less than a decade ago. Moreover, provisions of the Treaty on Conventional Armed Forces in Europe (CFE) seemed to have dealt a final blow to the oblast’s military potential. The idea of Kaliningrad becoming a Russian liability, not an advantage in terms of military security, started to dominate the hearts and minds of many prominent domestic and western intellectuals. In spite of this joy and growing hope for the final de-militarisation of the region some genuinely serious developments went unnoticed. In 1994 the Kaliningrad Special Region was created. In 1999 the oblast co-hosted strategic war games under the code name “Zapad”. The year 2001 was marked by a huge international scandal over alleged deployment of nuclear weapons in the oblast. But those incidents were lulled by “pilot region” sentiments and reconciliatory rhetoric emanating from both sides.

Soon, the situation started to spin out of control. In 2005, during the 750th Anniversary of Kaliningrad/Königsberg, Moscow for the first time attempted to use the oblast as a venue for spreading anti-Baltic, anti-Polish and anti-NATO sentiments. The plan suffered an embarrassing defeat, which infuriated the Kremlin and showed that Europe was not as fragmented as the Russian side had hoped. Encouraged by ignorance of the Budapest Memorandum on Security Assurances (1994) and expanding economic ties, Moscow started to speak with European countries using the language of threat and blackmail. Namely, from 2008 on, “Iskander diplomacy” – threatening to deploy Iskander-M mobile ballistic missile system (with killing range of no less than 400 km) in Kaliningrad – became Russia’s lingua franca in communication with European countries. Causing a great deal of uneasiness and alarm among EU member states, Moscow construed this as a sign of fear and indecisiveness. Incidentally, during the “Crimean affair” and the outbreak of hostilities on the Ukrainian southeast the Russian side capitalised on doubt spreading among western countries about the possibility of using its nuclear potential. Thus, informational-psychological and disinformation operations acquired a pivotal role in the Kremlin’s strategy in the interim from 2008/9 to 2013, where Kaliningrad oblast was ascribed a paramount role. Within this period the actual military capabilities of the oblast remained largely unknown due to traditional informational parsimony of the Russian side.

Initially, the official rhetoric contended that the de-militarisation process was on its way, yet Russia’s actual deeds went counter to it. In 2007 Russian froze its participation in talks and consultations pertaining to the CFE that (signed in 1990) symbolised initiation of disarmament in Europe. Secondly, both qualitative and quantitative compounds of strategic and snap exercises either held in Kaliningrad alone or co-hosted was growing. Simple comparison between “Zapad-2009” and “Zapad-2013” makes further discussions on the matter largely superfluous. At the same time, Moscow refrained from comments about using these games as a simulation of an attacks against Poland with Kaliningrad Oblast seen as a springboard. Still, the international reaction to these developments did not correspond to the actual level of threat posed to the whole region. Mainly the three Baltic States and Poland (with some delay) and later Germany along with the Scandinavian states started to draw international attention to the fact that the Baltic Sea region came to the brink of the new lap of militarisation. It was merely a matter of time and good pretext that was to enable Moscow to act with even greater determination in this direction.

The post-Crimea world order and Kaliningrad

Events that occurred in and after 2014 have become the final accord in the process of transformation of the Kaliningrad oblast into the world’s most advanced A2/AD zone.

Intensification of military build-up

Russia deployed “Iskander-M” complexes, the S-400 Triumf (SA-21 “Growler”) surface-to-air missile system, Bal (SSC-6 “Sennight”) and K-300P Bastion-P (SS-C-5 “Stooge”) coastal missile complexes. Equipped with P-800 “Oniks” (SS-N-26 “Strobile”) missiles the Bastion system can deal with targets at a 600-km distance. Potentially, Moscow could also deploy the S-500 Prometey (55R6M “Triumfator-M”) surface-to-air missile system that are said to be capable of destroying stealth warplanes like the F-22, F-35 and the B-2. Also, following successful test of hypersonic missile the “Zircon” (3M22 Tsirkon) in April 2017, Moscow could attempt to beef-up local military capabilities with this invention as well.

#### Prioritisation of Electronic Warfare (EW) capabilities

Following the oblivion that lasted from the late 1970s, the electronic warfare branch started to enjoy significant attention in 2009, when Russian EW troops were created. The breakthrough ensued after 2014. Both the Ukrainian armed conflict and the Syrian civil war witnessed Russia testing various pieces of EW, some of which are unique and do not have analogues anywhere in the world. So far Russia has been particularly active in the Black Sea theater, which however does not mean that the Baltic Sea cannot become the next area where Moscow could (if it has not yet done so) deploy some of its most advanced means of EW. Incidentally, both domestic and external sources have repeatedly claimed that the “Sunflower-E” long-range air- and surface radar and the anti-missile early-warning radar “Voronezh-M” are already on the ground.

#### Restoring naval potential and increasing efficiency of command and control

During the Cold War, the Soviet navy and especially the submarines formed the backbone of the Soviet military might. Following the collapse of the USSR, the Baltic Fleet suffered disastrous losses: the number of submarines decreased from 42 to two, whereas naval forces were reduced to a status of the coastal fleet. The number of personnel was downsized dramatically, yet those who kept their positions were drowning in corruption and smuggling. With the laps of time, however, growing assertiveness of Moscow coupled with worsening relations with Western partners created a necessary pretext for implementing measures aimed to upgrade military capabilities of Russian navy in general, and on the Baltic Sea in particular.

The change of the strategy found its reflection in the Russian “Maritime Doctrine-2015” that replaced the previous document that was expected to last until 2020. Among other key objectives it mentioned security of the Arctic and the “prevention of NATO eastward enlargement” as a cornerstone of Russia’s new maritime policies. The Baltic Sea Fleet (with headquarters in Baltiysk located in Kaliningrad Oblast) is to play instrumental role in pursuing of both tasks. Aside from accretion of locally stationed manpower, the Kremlin has embarked on intensification of re-equipment of the Fleet. Given the fact that the document emphasises essentiality of submarines, Moscow could deploy some of its most advanced pieces to the Baltic theatre, which would have drastic effect on local A2/AD capabilities. After all, “in the Russian naval structure, submarines are the crown jewels for naval combat power”. Moreover, the Swedish side has repeatedly accused Russian submarines to have approached to Swedish coastal line without any permission. The most recent data available suggest that such instances have taken place.

Another line that is frequently obfuscated is concerned with improvement of command and control capabilities on the Baltic. The drastic “decapitation” of the Baltic Sea Fleet that had gained disgraceful reputation of “a nest of crime” was undertaken on June 29th 2016 when the Baltic Fleet commander, Rear Admiral Viktor Kravchuk, and 50 more top-ranking military officials were purged for “distortion of reality and serious shortcomings in the domain of military training, daily routine, living conditions and the lack of care for military personnel”.

Aside from the above-mentioned points, Moscow continues to emphasise a combination of snap and strategic military exercises. Within 2014–2016 the cumulative number of the former exceeded

20 instances (both on land and sea), whereas strategic war games under the code name “Zapad” with increasing geographic scope and number of troops involved must be recognised as a stern warning signifying seriousness of Russian interests in the area stretching from the Arctic to the Black Sea.

During 1990s and early 2000s it was fashionable to speak about Kaliningrad as a puzzle. Now it seems that the puzzle has outgrown into a serious headache. Right after the dissolution of the Soviet Union a chance to achieve full demilitarisation of the Baltic Sea region did exist. This prospect seems to be gone at least for now. With the remilitarisation of Kaliningrad and Russia walking out of the CEF (in March 2015) Moscow has relived itself from any obligations and/or accountability in terms militarisation. Even today Russia wields full military superiority on the North-Western flank over NATO forces and Kaliningrad is one of the key factors that has made this possible. Formerly known as Russia’s “backwater region”, the “Baltic capital of smuggling” and a “former Königsberg”, the current Kaliningrad is nothing more but a pistol pointed at the temple of Europe. There is, however, a huge difference between 2009/2013 and the post-2014 period. Today, the Kremlin has demonstrated its ability to match words with deeds acting promptly, decisively and irrespectively of international reaction.

Russian activities on the Baltic have frightened traditionally peaceful Finland and Sweden, at the same time making Poland and the Baltic states to increasingly look to NATO in search for support and protection. This clash of interests is making the region look like the new powder keg on the map of Europe. Similarly, emergence of new potential tinder boxes such as the Suwałki Corridor (a strip of Polish land between Kaliningrad and Belarus) underscores the essentiality of Kaliningrad in terms of Russian strategic plans and ambitions pinned to the Baltic region. Aside from this, Russia might now be moving in the direction of creating a link between its western and southern military districts using rail connections (primarily, Zhuravka–Millerovo) aimed to bypass Ukraine. This means that the process of militarisation of the Kaliningrad oblast is unlikely to be halted.

<http://www.neweasterneurope.eu/articles-and-commentary/2450-kaliningrad-oblast-russia-s-formidable-a2-ad-bubble>

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RT (Moscow, Russia)

### **Role of Nuclear Arms in Russia’s Military Strategy: Setting the Record Straight**

Author Not Attributed

July 28, 2017

We continue to see efforts to blame Russia for allegedly lowering the threshold for the use of nuclear weapons.

Against the backdrop of current anti-Russian hysterics and groundless accusations of “aggression,” “destabilization,” “interference,” etc., this adds to the false picture. Let’s set the record straight.

The Military Doctrine of the Russian Federation, adopted in 2010 and revised in 2014, is a clear guidebook regarding our military strategy, including the role of nuclear force, in the event of aggression.

According to this document, “the Russian Federation shall reserve the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it and/or

its allies, as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy."

This should leave no doubt in the solely defensive nature of the Russian nuclear force. It has always been and will be in the interest of our country to strengthen the strategic stability that helped keep the peace since the end of the Second World War. Nuclear deterrence remains a fact we have to live with.

Russia has been a consistent advocate of further limitations and reductions of nuclear weapons stockpiles along with strengthening international regimes of arms control and non-proliferation.

One of the examples is the Russia-US new START Treaty, which came into force in 2011. Under this treaty, the sides committed to cutting their nuclear arsenals by a third compared to the previous agreements. One should remember the Bush Administration withdrew from the ABM Treaty, one of the pillars of strategic stability, and was prepared to let the START process go when the previous treaty was about to expire.

Russia is a responsible member of the Non-Proliferation Treaty (NPT) regime and calls upon NATO to cease any activity that contradicts this treaty, including "joint nuclear missions." By Articles I and II of the NPT the nuclear powers pledged not to transfer nuclear weapons, neither directly nor indirectly, to non-nuclear states.

Notwithstanding this obvious failure to comply with international law, the US continues to invite non-nuclear states to participate in nuclear training and exercises, and modernize its nuclear arsenals by creating a new generation of "more suitable to use" nuclear weapons. In addition to the escalation of its military presence in Europe under the pretext of the "Russian threat" (though NATO leadership recently recognized that there is no direct threat from Russia), the US makes an eventual dialogue on further nuclear weapons limitations all but impossible.

<https://www.rt.com/op-edge/397828-russia-nuclear-weapons-strategy/>

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Sputnik (Moscow, Russia)

## **Moscow Sees No Point in Stopping Cooperation With US on Non-Proliferation**

Author Not Attributed

August 2, 2017

*The Russian Foreign Ministry said on Wednesday that Moscow won't refuse to work with the United States on non-proliferation issues until the cooperation can strengthen international and especially Russian security.*

Moscow does not see any reason to refuse to cooperate with the United States on non-proliferation issues, if such cooperation brings mutual benefit, the head of the Russian Foreign Ministry's Department for Non-Proliferation and Arms Control, Mikhail Ulyanov, told RIA Novosti on Wednesday.

"In such matters, we must first of all focus on our own interests. And if interaction with the United States in some areas related to non-proliferation works to strengthen international and especially Russian security, then it hardly has any sense to refuse to engage in such cooperation," Ulyanov said when asked if Moscow intended to stop cooperating with the US on non-proliferation in case of intensification of anti-Russian sanctions.

Reason for Concern: Why US-Russia INF Treaty Dispute Goes 'Against Europe's Interests'



Russian President Vladimir Putin said earlier this year during his annual "Direct Line" Q&A session Russia and the United States can cooperate efficiently on control over the non-proliferation of weapons of mass destruction, adding that the work in this sphere is "extremely importantt."

Russia and the United States have been in a dispute over the 1987 Intermediate-Range Nuclear Forces Treaty (INF). The countries have repeatedly accused each other of violating the INF treaty.

The INF Treaty prohibits the development, deployment or testing of ground-launched ballistic or cruise missiles with ranges between 300 and 3,400 miles. The treaty was implemented by 1991 with inspections carrying on until 2001.

The United States and Russia have repeatedly accused each other of violating the INF treaty.

<https://sputniknews.com/politics/201708021056114354-moscow-us-non-pProliferation/>

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## MIDDLE EAST

Iran News Update (London, UK)

### **Reports of Iran Regime's Revolutionary Guards' Smuggling Contribute to Perception of Nuclear Deal Violations**

Author Not Attributed

August 2, 2017

On Tuesday, a Reuters report highlighted the ongoing arms smuggling activities being carried out by the Iranian Revolutionary Guard Corps. The report quoted anonymous Iranian government sources as saying that the Islamic Republic and the IRGC had worked out new procedures for the transfer of missile components, cash, drugs, and other illicit goods to Yemen's Houthi rebels, whom Iran has supported throughout their two-year war against the democratically elected Yemeni President Abed Rabu Mansour Hadi.

Reuters noted that the United States has reported a significant increase in suspicious maritime activity originating from the Islamic Republic. Much of this activity has proven difficult to track, however, as a result of the carefully designed procedures that Iran has put into place following the previous seizure and deflection of weapons shipments that were bound directly to Yemen from Iran. The new procedures rely on an indirect route for the large weapons caches, taking them near the northern end of the Persian Gulf and frequently into Kuwaiti territorial waters, before portioning the shipments out into small deliveries, to be taken into Yemen via fishing boats and other small vessels that can more easily avoid inspection and pass through an international blockade of the Yemeni warzone.

IRGC Empire

In a further bit to avoid international scrutiny, these shipments tend to originate from smaller Iranian ports, which are less closely monitored by the international community. The Reuters report suggests that this has essentially become standard operating procedure for illicit activities being carried out in the waters around Iran. And this report is in keeping with previous disclosures by the Iranian opposition group the National Council of Resistance of Iran, which learned from its intelligence network inside the Islamic Republic that the IRGC has taken control of the vast majority

of the smaller docks throughout the country, where the hardline paramilitary avoids serious oversight even by its own government.

This speaks to the escalating domestic power of the IRGC, which has a hand in security operations at home as well as paramilitary operations and terrorist support activities abroad. One of the sources interviewed for the Reuters piece pointedly asserted that “no activity goes ahead in the Gulf without the IRGC being involved.” The official went on to point out that the smuggling activities in question involve “a huge amount of money,” implying that this is a further factor in putting them well within the purview of the IRGC.

Other recent disclosures by the NCRI include the release of an in-depth document detailing the emergence of a “financial empire” centered around the IRGC. The NCRI and other staunch critics of the Islamic Republic maintain that the IRGC controls the majority of the country’s gross domestic priority, some of it explicitly and some of it through a series of front companies and independent affiliates in the Iranian business world.

This in turn highlights part of the concern that underlies criticisms being levied against the 2015 Iran nuclear deal by US President Donald Trump and various members of the US Congress, as well as the NCRI and other advocates for assertive international strategies potentially leading to regime change in Tehran. The economic status of the IRGC suggests that it is difficult for Western businesses to enter into business agreements with the Islamic Republic without a serious risk of financing the hardline paramilitary organization. Furthermore, the Reuters report stands among a growing body of evidence pointing to the kinds of activities that could be indirectly financed by Western capital under those circumstances.

#### Exacerbating Western Concerns

The US government is currently in the midst of efforts to diminish that risk, although doing so may court the resentment of European allies whose efforts to expand trade ties with the Islamic Republic may be affected. The US House of Representatives recently passed legislation called the Countering America’s Adversaries Through Sanctions Act, which, among other things, expands all terrorism-related sanctions to the entirety of the IRGC, thereby effectively blacklisting it from doing business with firms that also do business with the United States. The bill is expected to pass the Senate easily before Congress goes on recess in the middle of the month.

But it remains to be seen what other measures might be undertaken by the US government to confront the Iranian regime over arms smuggling, ballistic missile tests, or any number of other frequently criticized activities. The sanctions bill comes at a time when the White House is reportedly engaged in a comprehensive review of its Iran policy, following President Trump’s begrudging certification of Iranian compliance with the nuclear agreement, or Joint Comprehensive Plan of Action.

Trump’s foreign policy team evidently convinced him to avoid singlehandedly cancelling the agreement under current circumstances. The president’s certification is due every 90 days, in absence of which suspended congressional sanctions will be re-implemented. Trump has indicated that he does not believe Iran to be in full compliance and that he would have preferred to trigger the sanctions at the first opportunity. But the International Atomic Energy Agency has dismissed Iranian violations as very minor, meaning that the immediate failure of the agreement could be blamed on the US unless international narratives change.

Notably, the newly disclosed smuggling activity could contribute to the change in these narratives by giving the Trump administration more fuel with which to argue that Iran is defying its obligations. This argument has already gained significant traction from Iranian ballistic missile tests, and the arms smuggling could serve the same role. Certification of Iran’s compliance depends not only upon the regime’s adherence to the nuclear deal itself but also its adherence to associated

agreements that were implemented at the time of the JCPOA's implementation. One of these, United Nations Security Council Resolution 2231, calls upon the Islamic Republic to avoid work on ballistic missiles and other nuclear-capable weapons, and to avoid shipping arms without the expressed consent of the Security Council.

### Ongoing Provocations

The IRGC has carried out several high-profile ballistic missile tests since the conclusion of nuclear negotiations. The international community has also been broadly aware of the IRGC's arms smuggling activity, but the Reuters report confirms that this is still ongoing and that it may even be expanding. At the same time, other recent reports have called attention to the possible connection between that expansion and the recent advancements in North Korean ballistic missile technology, which has reportedly expanded the rogue state's range to as far as Chicago.

Iranian-North Korean collaboration has been observed in both the fields of missiles and nuclear research throughout the years, and there are various indications that this collaboration continues to the present day. UPI highlighted that relationship on Tuesday in a report on the planned trip by a high-ranking North Korean official, Kim Yong Nam, to the Islamic Republic. The visit will coincide with Iranian President Hassan Rouhani's inauguration for a second term, but will also last for several additional days, during which he and his Iranian counterparts are expected to discuss a range of issues including possible joint responses to the Countering America's Adversaries Act, which targets North Korea and Russia as well as Iran.

Iran has already begun its own responses to the emerging sanctions, as explained in another Reuters report that was published on Tuesday. That report notes that for the first time since the agreement went into effect, the Islamic Republic is issuing a formal complaint with a commission set up to mediate disputes over the JCPOA. The complaint alleges that the US sanctions – not the Iranian activities that brought them about – constitute a violation of the nuclear agreement. If the relevant commission does not resolve this dispute, it could be taken to the Security Council, in which both the US and Russia, a close Iranian ally, hold veto power.

But while the formal dispute process takes shape, Iran is reportedly also planning its own retaliatory measures. This was made evident as soon as the House voted on the US sanctions bill, when the Iranian parliament quickly voted to expand the disputed ballistic missile program and expand funding for the IRGC's overseas operations. Furthermore, the Reuters report indicated that Iranian media had vaguely referenced further measures against the US, adding that President Rouhani would soon announce them to the relevant government ministries.

Whatever the specific nature of these measures, they will surely constitute very public defiance of American criticisms, and they may strive to directly provoke the US, either singly or with the help of fellow US adversaries like North Korea. The IRGC has unilaterally undertaken such direct provocations at various times since the conclusion of the nuclear deal, as when it has sent fast-attack boats into close proximity with US Navy vessels transiting the Persian Gulf. Last week it was reported that a new incident of this sort had prompted warning shots from an American ship for the first time since January.

The naval forces of the IRGC technically operate independently of the regular Iranian military. But the latter has seemingly supported IRGC-led missions from time to time. While the IRGC has jurisdiction over the Persian Gulf, the Iranian Navy is responsible for military operations in other waterways, including those that small smuggling vessels would need to pass through on their way from IRGC routes to their final destinations in Yemen. And on Tuesday, the Islamic Republic News Agency published a report boasting that the 47th strategic flotilla of the Iranian Navy had docked at Salalah, Oman, the largest port belonging to Yemen's neighbor to the northeast.

The report included boastful comments from the flotilla's captain regarding hundreds of intercepts it had allegedly carried out. In context with the IRGC disclosures and the overall increase in Iran-US tensions, such reports can easily be viewed as efforts to bolster the perception of Iranian strength in the region, and specifically Iranian strength in the face of international enforcement of the Yemen blockade and Security Council Resolution 2231.

<http://irannewsupdate.com/blog/4049-reports-of-iran-regime-s-revolutionary-guards-smuggling-contribute-to-perception-of-nuclear-deal-violations.html>

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The New York Times (New York, NY)

## **Trump Seeks Way to Declare Iran in Violation of Nuclear Deal**

By David Danger

July 27, 2017

President Trump, frustrated that his national security aides have not given him any options on how the United States can leave the Iran nuclear deal, has instructed them to find a rationale for declaring that the country is violating the terms of the accord.

American officials have already told allies they should be prepared to join in reopening negotiations with Iran or expect that the United States may abandon the agreement, as it did the Paris climate accord. And according to several foreign officials, the United States has begun raising with international inspectors in Vienna the possibility of demanding access to military sites in Iran where there is reasonable suspicion of nuclear research or development.

If the Iranians balk, as seems likely, their refusal could enable Washington to declare Tehran in violation of the two-year-old deal.

Mr. Trump has enormous latitude to abandon the accord. It was never a treaty because President Barack Obama knew that opposition to the agreement in the Republican-dominated Senate was so great that he could never get the two-thirds majority needed for ratification. Instead, he made an executive agreement, one that his successor could eliminate by merely disregarding the accord's requirement to waive sanctions against Iran.

Mr. Trump's instructions followed a sharp series of exchanges last week with Secretary of State Rex W. Tillerson, after Mr. Trump initially balked at certifying, for a second time since he took office, that Iran is in compliance with the agreement. He later reluctantly approved the certification.

Mr. Trump had expected to be presented with options for how to get out of the deal, according to two officials, and in the words of one of them, "he had a bit of a meltdown when that wasn't one of the choices."

Mr. Trump himself made it clear he does not plan to let that happen again.

"We're doing very detailed studies," he told The Wall Street Journal in an interview this week. Later, he added that when the next 90-day review of the deal comes around — mandated by Congress two years ago — "I think they'll be noncompliant."

His aides say they are not so sure of the outcome, and they described the studies Mr. Trump referred to as evenhanded efforts to evaluate the costs and benefits of staying inside the deal — with its sharp limitations on Iran's ability to produce nuclear fuel for at least the next nine years — versus abandoning it.

Some concede that the diplomatic cost of abandoning the agreement would be high. The other parties to the agreement — Britain, China, France, Germany and Russia — do not share Mr. Trump's objections. If the United States withdraws support for the accord, it will be isolated on the issue, much as it is on the climate change agreement.

But the president's mind seems made up. "Look, I have a lot of respect for Rex and his people, good relationship," he said of Mr. Tillerson. "It's easier to say they comply. It's a lot easier. But it's the wrong thing. They don't comply."

Even longtime critics of the deal in Congress have their doubts about the wisdom of abandoning it. In an interview this week with David Ignatius of The Washington Post, the chairman of the Senate Foreign Relations Committee, Bob Corker, Republican of Tennessee, strongly suggested that this is not the moment to abandon something that is largely working.

"What I say to the president, and this is what Tillerson, Mattis and McMaster say," said Mr. Corker, referring to Defense Secretary Jim Mattis and the national security adviser, Lt. Gen. H. R. McMaster, is that "you can only tear the agreement up one time."

Right now, he added, "it's not like a nuclear weapon is getting ready to be developed."

Absent any urgency, he argued for a more nuanced approach. "Radically enforce it," he said of the deal, demanding access to "various facilities in Iran."

"If they don't let us in," Mr. Corker said, "boom."

He added: "You want the breakup of this deal to be about Iran. You don't want it to be about the U.S., because we want our allies with us." Mr. Tillerson, he said, ultimately wanted to renegotiate a deal that would stop Iran from enriching uranium forever — a concession it is hard to imagine Iran ever making.

Some version of Mr. Corker's "radical enforcement" is essentially the strategy that national security officials have described in recent days. They deny they are trying to provoke the Iranians. Instead, they say they are testing the utility of the accord so they can report back to Mr. Trump about whether Iran's interpretation of the provisions of the agreement, and its separate commitments to the International Atomic Energy Agency, would pave the way for international inspectors to go anywhere in the country.

That probably sets the stage for some kind of standoff.

Iran has long said that its most sensitive military locations are off limits. That issue came to a head in 2015 when international inspectors demanded access to Parchin, a military base near Tehran where there was evidence of past nuclear work. A compromise was worked out in which Iran took environmental samples itself, under surveillance by agency inspectors. The inspectors found little, but the precedent of how the inspection was carried out was cited by critics of the deal as evidence that the Iranians could hide work on uranium enrichment or other technology in off-limits military facilities.

It is unclear whether American intelligence agencies possess evidence of potential violations that go beyond suspicions. Several senior intelligence officials have warned there are risks involved in directing the international agency to specific locations, only to discover nothing nefarious. Such an outcome would have echoes, they caution, of the failed effort to find weapons of mass destruction in Iraq in 2003.

One of Mr. Trump's complaints about the 2015 deal is that it covers only nuclear activity, not support for terrorism, or missile testing, or Iran's activities in Syria and Iraq. The State Department complained that an Iranian launch of a missile into space on Thursday violated the spirit of the nuclear accord.

The missile test was the first by Iran since Mr. Trump took office. But such tests of what are essentially carrier rockets are not prohibited.

The missile that was launched is known as a Simorgh, or Phoenix, which experts said was a copy of North Korea's Unha space launch vehicle. Iran's national news channel said the rocket was capable of placing satellites weighing up to 250 kilograms, or about 550 pounds, into a low earth orbit of 500 kilometers, or about 300 miles.

Nader Karimi Joni, a journalist close to the government of Iran's president, Hassan Rouhani, said Thursday's launch was a reaction to the House of Representatives' vote on Tuesday approving a new round of sanctions against Iran. The Senate approved the bill Thursday night.

"Iran is boosting its missile capabilities in order to increase the accuracy, preciseness and range," Mr. Joni said. "Iran will not stop the missile projects."

In a sign of continuing struggles over Iran policy, the White House confirmed that Derek Harvey, the head of Middle East affairs on the National Security Council, was removed from his post on Thursday. No explanation was given, but Mr. Harvey was known to be especially hawkish about Iran's role in the region, and he was appointed by the previous national security adviser, Michael T. Flynn. Mr. Harvey was widely reported to have been at odds with General McMaster, the current national security adviser, on Middle East policy.

<https://www.nytimes.com/2017/07/27/world/middleeast/trump-iran-nuclear-agreement.html>

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Tehran Times (Tehran, Iran)

### **U.S. Seeking to Exit Nuclear Deal at Iran's Expense: Shamkhani**

Author Not Attributed

August 2, 2017

Iran's Supreme National Security Council Secretary Ali Shamkhani has said that the U.S. seeks to pull out of the nuclear deal at the expense of Iran, but Iran will not give Donald Trump this opportunity.

"But of course it does not mean keeping the JCPOA [the Joint Comprehensive Plan of Action] at any cost," he told the Hamshahri newspaper in an interview published on Wednesday.

He said that the JCPOA is valid only if all signatories to it continue to fulfill their commitments.

Shamkhani said that the reason behind the United States' "anger" towards Iran is its failure to change Iran's principled policy toward the Middle East.

He also said that the U.S. hegemonic policies can be countered through reliance on "national power and capabilities".

Elsewhere, he said that the nuclear deal has had no effect in reducing the animosity between Iran and the U.S.

Iran, the European Union, Germany and the five permanent members of the UN Security Council - the United States, Britain, France, China and Russia - finalized the text of the JCPOA in July 2015. The deal went into effect in January 2016.

According to the nuclear deal, referred to as the JCPOA, financial and economic sanctions against Iran must be terminated in exchange for limits on Tehran's nuclear activities.



Trump is facing opposition within his own inner circle about his stance toward the nuclear agreement.

At a press conference on Tuesday, Secretary of State Rex Tillerson acknowledged he and Trump “have differences” on the nuclear deal.

“He and I have differences of views on things like JCPOA and how we should use it,” he said.

The International Atomic energy Agency, as the UN watchdog body tasked to monitor Iran’s compliance with the terms of the JCPOA, has confirmed six times that Tehran has fully honored its commitments to the deal.

<http://www.tehrantimes.com/news/415637/U-S-seeking-to-exit-nuclear-deal-at-Iran-s-expense-Shamkhani>

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Press TV (Tehran, Iran)

### **Senior Iranian Official: Trump’s Signing of Sanctions Attempt to Destroy JCPOA**

Author Not Attributed

August 2, 2017

*A senior Iranian nuclear negotiator says the signing of fresh anti-Iran sanctions by US President Donald Trump is an attempt to destroy the country's nuclear deal with world powers.*

Iranian Deputy Foreign Minister for Legal and International Affairs Abbas Araghchi made the announcement on Wednesday, shortly after Trump signed into law a bill by Congress that imposes new sanctions against Russia, Iran and North Korea.

Iran and the P5+1 group of countries -- the US, the UK, France, Russia, and China plus Germany -- inked the Joint Comprehensive Plan of Action (JCPOA) in July 2015. It lifted nuclear related sanctions on Iran, which, in turn, put certain limits on its nuclear work.

The United Nations nuclear watchdog has invariably certified Iran’s commitment to its contractual obligations since January 2016, when the deal took effect. The US, however, has prevented the deal from fully yielding. Washington has refused to offer global financial institutions the guarantees that they would not be hit by American punitive measures for transactions with Iran.

“The US’ main goal for imposing the sanctions against Iran is to destroy the JCPOA and we will react very intelligently to these measures,” said Araghchi.

Noting that Trump’s move was predictable as Congress had almost unanimously voted for the new sanctions, Araghchi stressed that it showed the US believes the JCPOA has empowered Iran in the region.

“Based on this perspective, the general belief in Washington is that this situation must be reversed and Iran must be put under pressure,” he said, adding that the nuclear deal is a hindrance for such measures.

He noted that imposing fresh sanctions on Iran is an attempt to reduce Tehran’s benefits from the nuclear accord and to negatively affect its “successful implementation.”

The senior Iranian official also said that in a committee chaired by Iranian President Hassan Rouhani several decisions were made over reactions towards Washington’s provocative measures, which will be duly handed over to the Iranian Foreign Ministry and the International Atomic Energy Agency.

“On Monday, the committee for monitoring the implementation of the JCPOA had a meeting in which all aspects of the new measures were discussed and very intelligent responses were designed,” he added.

<http://www.presstv.com/Detail/2017/08/02/530532/iran-us-sanctions-jcpoa-araghchi>

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## INDIA/PAKISTAN

Pakistan Today (Lahore, Pakistan)

### **Int'l Community Urged to Take Notice Of Indian Use of Chemical Weapons in IoK**

Author Not Attributed

July 26, 2017

Azad Jammu and Kashmir (AJK) President Sardar Masood Khan and Prime Minister Raja Farooq Haider Khan here Wednesday called upon the United Nations and world community to take serious note of Indian use of chemical weapons against unarmed Kashmiri people in India-occupied Kashmir (IoK).

They stressed that Indian continued stubborn policy will put the regional peace in serious danger, saying peace is on stake due to aggressive Indian approach.

AJK PM called on AJK president at President House here and exchanged views on multiple issues.

Both the leaders discussed various issues pertaining to ongoing overall political situation of Pakistan, AJK, grave violation of IoK, continued Indian ceasefire violation on LoC, use of chemical weapons of Indian forces in occupied Kashmir against Kashmiri people, arresting of Hurriyet leadership, diplomatic efforts on Kashmir, four mega projects in AJK under CPEC and other developmental projects in Azad Kashmir.

The AJK PM briefed the AJK president in detail regarding the measures of educational package and steps taken for the welfare and rehabilitation of LoC affected people.

Raja Farooq told president Masood that his government was devising a comprehensive educational package, and that the schools would be upgraded according to the performance of teachers and maximum role of students.

The AJK PM said the government will take every possible step towards the betterment of education system and in providing all possible facilities in this regard.

Both the leaders expressed deep concern over the continued Indian ceasefire violation on the LoC, state sponsored terrorism in India-held Kashmir, illegal detention of Hurriyet leadership and use of chemical weapons against civilian population.

PM Raja Farooq said Indian forces are picking the Kashmiri youth from their houses and killing them in fake encounters, terming them 'militants'.

<https://www.pakistantoday.com.pk/2017/07/26/intl-community-urged-to-take-notice-of-indian-use-of-chemical-weapons-in-iok/>

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The Express Tribune (Karachi, Pakistan)

## **Musharraf Says He Had Considered Nuclear Attack on India in 2002**

Author Not Attributed

July 28, 2017

Former military dictator and All Pakistan Muslim League chief General (retd) Pervez Musharraf has revealed he considered using nuclear weapons against India in 2002 – but decided not to because he feared retaliation.

Musharraf, now 73 and living in Dubai, said there was a “danger when nuclear threshold could have been crossed” amid worsening relations between the two countries.

The former military ruler said he had sleepless nights deciding whether he should use the devastating weapon as tensions flared in the wake of an attack on the Indian Parliament in New Delhi that left 14 dead.

According to the Japanese newspaper Mainichi Shimbun, Musharraf said neither Pakistan nor India had nuclear warheads on their missiles at the time meaning it would have taken up to two days to prepare them for launch.

### **Nawaz’s disqualification: It’s good, reacts a happy Musharraf**

He was then asked whether he had asked for warheads to be fixed to missiles, to which he responded: “We didn’t do that and we don’t think India also did that, thank God.”

Earlier this year, Musharraf launched a career as a political analyst on a weekly television talk show, a prominent role for the ex-leader who lives in Dubai and faces several criminal cases at home.

Musharraf, who seized power in a 1999 military coup and stepped down nine years later amid mass protests, was allowed to leave Pakistan last year for health reasons that his lawyer argued prevented him from standing trial on treason and other charges. Musharraf denied the charges.

The criminal cases against Musharraf were lodged by prosecutors under Prime Minister Nawaz Sharif, who was ousted as prime minister in the 1999 coup. Sharif returned to power in elections four years ago.

The cases against Musharraf were seen as a source of tension between the military and Sharif’s government.

<https://tribune.com.pk/story/1468728/musharraf-says-considered-nuclear-attack-india-2002/>

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Firstpost (Mumbai, India)

## **'India-Pakistan Nuke War Not a Realistic Possibility', Says Leading Nuclear Expert Ramamurti Rajaraman**

By Rashme Sehgal

August 1, 2017

Ramamurti Rajaraman, Emeritus Professor of Theoretical Physics at Jawaharlal Nehru University, believes that Pakistan's growing nuclear arsenal is a matter of grave concern for India. He points

out that the development of their NASR tactical missile, which can be loaded onto trucks and lorries, is especially worrisome.

The co-chair of the International Panel on Fissile Materials and a member of the world scientists permanent panel on Mitigation of Terrorist Acts, Rajaraman elaborates on the alarming nuclear story unfolding across the globe, with special emphasis on the sub-continent.

The conflict between India and Pakistan has intensified in the last three years. If the situation worsens, is there a likelihood that India could launch a pre-emptive first strike against Pakistan if it feared an imminent nuclear strike? Of course, this could mean a marked reversal of our no-first use (NFU) policy. On the other hand, if India goes in for more surgical strikes, can Pakistan use a conventional attack as a pretext to attack India?

The conflict between India and Pakistan during the past three years has been limited to Jammu and Kashmir. These conflicts may continue and may also occasionally intensify. There may also be a lot of heated rhetoric from both sides. But I don't think there is any realistic possibility of those conflicts developing into a full-scale war, let alone one with any serious chances of a nuclear strike by Pakistan.

Notice that there has been no mainland attack by Pakistan based terrorists since the 2008 Mumbai attacks. I feel that this is because Pakistan military and its Inter-Services Intelligence do appreciate the fact that the next time there is an attack of that magnitude, India would have to retaliate in a serious manner.

It is true that the Pakistan Army maintains a hostile posture towards India as a matter of policy. But that is done largely for domestic consumption and for maintaining its pre-eminence in the Pakistani power structure.

If push comes to shove, the leadership in both countries are too responsible to let matters go anywhere near a nuclear threshold. So, there is no question of India conducting a pre-emptive strike on Pakistan in anticipation of a nuclear attack from them.

I don't think India will reverse its NFU policy, even though some analysts, for the want of anything better to write about, keep harping on it. That would be a very unwise thing to do diplomatically.

Pakistan has one of the fastest growing nuclear arsenals in the world. Is it receiving active help from China?

Yes, Pakistan is growing its nuclear arsenal fast. That is thanks to their four plutonium producing reactors at Khushab. The Chinese may have helped in the design and construction of those reactors. I don't know one way or the other. But China is helping Pakistan in building a civilian reactor. That is official.

Pakistan's smaller nuclear weapons, including the NASR missile, are being mounted on trucks and lorries to escape detection by satellite imagery? Could these tactical weapons fall into the hands of terrorists?

Yes, the whole NASR program of Pakistan is fraught with new hazards. It represents a very unwise move which raises the level of nuclear danger in the subcontinent for two reasons. Because NASR is a battlefield nuclear weapon, its command and control are in danger of being less rigorous than those of the other 'normal' weapons.

It is not clear if, in order for it to be effective as a battlefield weapon, the field commander would be given some level of on-the-spot decision making on its launch. This also increases the probability of an accidental or hasty launch. In addition, there is also, as you mention in your question, an increased possibility of terrorists getting hold of it in transit or in the heat of battle.

The recent spate of attacks in Europe has highlighted concern about jihadis endangering nuclear facilities. How serious is this threat?

I expect that the Pakistani warheads are stored deep within their military bases and installations. Even if the jihadis knew where they are stored, I don't think there is much chance of their overcoming the rings of security that must surround the nuclear assets of Pakistan.

It is one thing for terrorists to be able to breach the outer gate of a military base, as they have done once or twice, but an entirely different matter to be able to force their way deeper in and capture the weapons.

How much enriched uranium does Pakistan possess?

According to the latest available information from IPFM (The International Panel on Fissile Materials), the most reliable source I know of, Pakistan had about  $3.1 \pm 0.4$  tons of highly-enriched uranium and is continuing to produce more at its plants in Kahuta and possibly a new one at Gadwal.

Some strategists claim Pakistan has built an arsenal of over 200 nuclear warheads. Is that correct?

I don't know which strategists said that, but I doubt it.

How serious is the nuclear threat from China?

The Chinese do make border incursions periodically and are generally aggressive towards India in a lot of ways. We have also had a war with them in 1962. There are reports that some of their intermediate range missiles are pointed towards India. Despite all this, I don't think that there is any real danger of a nuclear threat from China, as things stand now.

It is unlikely that China would attempt anything remotely like that. After all, we also have nuclear weapons and are improving our ability to deliver them on to China. They are unlikely to go beyond constant pinpricks to a regular war, let alone one involving nuclear weapons.

India embarked on its biggest expansion of nuclear capability with the government clearing the construction of ten new nuclear power plants, each with a capability of 700 MW. At present, we have 22 operating nuclear reactors. How many of these can be used for military purposes?

As far as I know, they will be part of the "civilian sector" – in the language of the India-United States nuclear deal. But the deal also allows India to have a military sector which it will not be safeguarded and India is free to decide to place some of the new reactors in the military sector.

Our record of the functioning of nuclear plants can hardly be described as satisfactory. Official records confirm that the Kudankulam facility is functioning at 20 percent capacity.

Yes, the Kudankulam Unit-I has had problems and had to be shut down longer than expected. But such teething problems can arise in the first year of operation. They don't necessarily indicate a permanent problem with the reactor. As far as Kudankulam Unit-II is concerned, it is too early to judge its quality. These Kudankulam reactors are prestige symbols of India-Russian cooperation and I am sure that both sides will try to ensure that these reactors function well.

There is no transparency about the leaks that developed in the Kakrapar plant in Gujarat. Is being opaque a deliberate part of government policy? What is the situation like in Pakistan as far as providing information about their civilian nuclear facilities?

Yes, it is true that our nuclear agency is not famous for its transparency. That is true of some other countries too. The Fukushima reactor tragedy exposed similar problems with the Japanese nuclear establishment. The French have had serious problems with their famous nuclear agency, Areva. I would imagine that the Pakistan nuclear energy establishment is even more opaque than ours.

<http://www.firstpost.com/india/india-pakistan-nuke-war-not-a-realistic-possibility-says-leading-nuclear-expert-ramamurti-rajaraman-3880145.html>

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ValueWalk (New York, NY)

## **India vs Pakistan and China: Nuclear Triangle in Asia**

By Polina Tikhonova

July 26, 2017

A nuclear triangle of India vs Pakistan and China may explode into a global catastrophe as tensions are growing on the Indian subcontinent.

As the death toll from ceasefire violations along the India vs Pakistan border steadily climbs up (11 people have been killed in the flashpoint area this month alone), India is reportedly considering loosening up its no-first use of nuclear weapons doctrine.

In the world so fixated on the nuclear threat from North Korea, an even scarier conflict is boiling on the Indian subcontinent, as experts warn the heated standoff between Islamabad and New Delhi is spiraling into a global nuclear catastrophe. China, which had remained aloof from the conflict between the two nuclear-armed nations, has recently heightened the threat to global stability.

India's No-First Use Nukes Doctrine to be Reconsidered?

As Chinese and Indian forces remain locked in a standoff in their own, no-less-volatile border conflict, the greatest possibility of nuclear war is still hovering over the disputed Kashmir area between India vs Pakistan.

Amid a backdrop of former Indian defense minister Mulayam Singh Yadav warning that Beijing was preparing for a military scenario that involves the use of nuclear warheads to resolve the month-long standoff on the China-Indian border, New Delhi may be considering a reinterpretation of its nuclear doctrine, which currently prohibits the first use of nukes.

The nuclear triangle of Pakistan, India and China is as volatile as ever, with tensions rapidly rising on the line of control on the Pak-Indian border. As the two nuclear-equipped nations continue trading accusations for ceasefire violations, reports of India losing its patience with the no-first use nuclear doctrine continue to mount.

The present nukes doctrine of New Delhi orders the nation to resort to its nuclear arsenal, which includes around 120-130 nuclear warheads, only in the event of retaliation against Pakistan, which owns an estimated from 130 to 140 warheads.

India vs Pakistan Nuclear War Would be Devastating For the World

Earlier this month, the Stockholm International Peace Research Institute's report on nuclear program expansions around the world found that both Islamabad and New Delhi are still actively expanding their nukes stockpiles and improving nuclear capabilities.

But it's not the mere fact that the two nations are expanding their nuclear arsenals that send shivers down the spine, it's the instability of their standoff and the high possibility of the two historic rivals resorting to nukes. Not only would an India vs Pakistan war involving nukes be catastrophic for the entire region, but also devastating for the entire world.

The boiling India vs Pakistan conflict could be hinging solely on a single terrorist attack that would be enough to spark a scary nuclear war between the two enemies. The "main problem" of the



conflict is that no one can predict what actions by India Pakistan considers nuclear-attack-worthy or if a major terrorist attack could prompt the two neighbors to spiral into a catastrophic war involving nukes, as told by RIA Novosti contributor Ilya Plekhanov to Sputnik News.

### The India vs Pakistan Nuclear Conundrum And... Trump

Earlier this year, Islamabad accused New Delhi of expanding its nuclear arsenal and preparing to produce additional 2,600 nuclear warheads, but reports indicate that in fact both India vs Pakistan are polishing their existing nuclear weapons and producing new ones in an apparent preparation for an all-out India vs Pakistan nuclear war.

If any of Pakistan-based terrorist groups launch an assault inside India, it could be enough to ignite an India vs Pakistan nuclear war, experts fear. With the region so concerned about an alleged terrorist threat emanating from Islamabad, a terrorist attack in India by any of Pakistan-based terrorist groups could prompt New Delhi to respond by sending its troops into the neighbor's territory.

While New Delhi would certainly justify a military intervention on Pakistani soil as its attempt to fight terrorism inside the nation, it's unclear how would Islamabad react to this and if it would use nuclear weapons to drive Indian troops out.

After all, Pakistan-based terrorist groups, notably Lashkar-e-Taiba, are no strangers to staging terrorist attacks inside India. In 2008, the terrorist group attacked the Indian city of Mumbai and killed 174 people. New Delhi reportedly considered staging a military intervention inside Pakistan to retaliate for the gruesome attack, but the U.S. was able to persuade the Indian side not to.

With Republican Donald Trump being U.S. President, however, it's unclear what could be the consequences of an India vs Pakistan conflict in the event of a terrorist attack inside India by Pakistan-based terrorist groups. According to Plekhanov, India "believes" it has "much more decision-making freedom in its nuclear policy" now that Trump is in office. "US-Pakistani relations under Trump are also on the decline," the Russia-based analyst said. "Washington has stopped considering Islamabad a reliable ally in the fight against militants in Afghanistan. India, naturally, is reassured by this."

### India, Pakistan, China Nuclear Triangle: Where Is This All Going?

The fact that China is now actively involved in the nuclear triangle even further creates a bigger possibility of a nuclear conflict in the region. Being a close ally of Islamabad, Beijing has for years been a vocal critic of India's growing nuclear program. Now that both China and Pakistan have engaged in heated border conflicts against India, what is the likelihood of the two allied nations teaming up against New Delhi?

India vs Pakistan fought three major wars over Kashmir before acquiring nuclear weapons last century. What is the likelihood of the two nations putting their nukes to use to resolve the Kashmir dispute?

These questions remain unanswered and unpredictable, but the possibility of the Asian border conundrum turning into a global catastrophe remains as high as ever.

<http://www.valuwalk.com/2017/07/india-vs-pakistan-vs-china-nuclear-asia/>

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## COMMENTARY

The New York Times (New York, NY)

### **\$1 Trillion for a U.S. Nuclear Buildup**

Multiple Authors

August 2, 2017

To the Editor:

Re “A Threat to Nuclear Arms Control” (editorial, July 30):

You rightly warn that American plans to spend more than \$1 trillion over the next 30 years upgrading nuclear forces will undermine arms control and fuel a new arms race. But it is not enough to abandon this dangerous, expensive plan to enhance our ability to destroy the world.

United States nuclear policy is based on the belief that nuclear weapons deter their own use: that nuclear-armed states will refrain from attacking one another for fear of the counterattacks they would suffer. Yet we know of more than a dozen instances when nuclear-armed countries began the process of launching their nuclear weapons, usually in the mistaken belief that their adversaries had already done so — more than a dozen times when deterrence failed.

And we are told that North Korea must not obtain a nuclear capability because it cannot reliably be deterred. It is time to abandon this failed policy and to pursue the real security of a world free of nuclear weapons.

IRA HELFAND, LEEDS, MASS.

The writer is co-president of International Physicians for the Prevention of Nuclear War, the recipient of the 1985 Nobel Peace Prize.

To the Editor:

Your assertion that “since setting off the nuclear age, America has been the major, if imperfect, force behind the restraints that exist” ignores the sorry history of the United States’ provocative expansion of its nuclear arms and delivery system programs as well as its rejection of numerous offers from Russia, China and even North Korea to ratchet down the hostilities.

Start with President Harry S. Truman’s rejection of Stalin’s 1946 proposal to ban nuclear weapons under United Nations supervision; to President Ronald Reagan’s rejection of Mikhail S. Gorbachev’s offer to negotiate for the abolition of nuclear weapons, conditioned on Mr. Reagan’s agreeing not to seek military superiority in space with the “Star Wars” program, which Mr. Reagan refused.

Likewise, consider Vladimir V. Putin’s offer to President Bill Clinton to reduce our arsenals to 1,500 or 1,000 each and call on the other nuclear-weapon states to negotiate for their abolition, provided that we stopped developing antimissile bases in Poland and Romania, which Mr. Clinton refused. And President George W. Bush subsequently walked away from the 1972 Antiballistic Missile Treaty negotiated with the Soviet Union.

As for North Korea, it’s clear that its leadership seeks negotiations, not war. North Korea was the only nuclear-weapon state voting for negotiations to ban the bomb last October at the United Nations.

Also, the Senate voted 98 to 2 to impose new sanctions on North Korea, Russia and Iran. What kind of restraint is that?

ALICE SLATER, NEW YORK

The writer serves on the coordinating committee of World Beyond War.

To the Editor:

Proposals by the Trump administration and some in Congress to spend \$1 trillion on a new generation of nuclear weapons are extremely dangerous. Nuclear war cannot be won and must never be fought. The only conceivably justifiable nuclear arsenal is one that permits a secure second (retaliatory) strike.

Instead, weapon designers and war planners have introduced ever more “usable” nuclear weapons. The proposed new nuclear cruise missile would shorten nuclear reaction times and risk miscalculation in a crisis.

The Trump administration recently boycotted United Nations talks to abolish nuclear weapons. The Nuclear Nonproliferation Treaty requires existing nuclear powers to move in that direction in return for abstention by nonnuclear states. Spending a trillion dollars on new nuclear weapons will only buy global insecurity.

DAVID KEPPEL, BLOOMINGTON, IND.

<https://www.nytimes.com/2017/08/02/opinion/1-trillion-for-a-us-nuclear-buildup.html>

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Frontiers in Public Health (Lausanne, Switzerland)

### **Editorial: Biological Engagement Programs: Reducing Threats and Strengthening Global Health Security Through Scientific Collaboration**

By Jeanne Fair

July 12, 2017

It is often said about infectious diseases that a “threat anywhere is a threat everywhere,” and the recent outbreaks of Ebola in West Africa and Zika virus in South America have proven that pathogens know no borders. Not only are they transboundary, pathogens do not discriminate who they infect. In addition to the natural increase in emerging zoonotic infectious diseases worldwide due to changing environmental conditions and globalization, the use of infectious diseases as warfare agents is a threat in today’s world. Early detection remains one of the best ways to prevent small outbreaks becoming epidemics and pandemics. Accurate diagnosis, detection, and reporting of diseases are important components of mitigating outbreaks, and biosurveillance remains the top tool in our toolbox. While vaccines have been important for controlling more common infectious virus diseases, they are less feasible for less common diseases, emerging pathogens, and rapidly evolving microbes. Due to globalization and increased travel, emigration, and migration, biosurveillance is critical throughout the world, not just in pockets of more developed regions.

Building up the capabilities and capacities for biosurveillance is a global challenge. Cooperative biological engagements help address biosurveillance and biosafety gaps in capabilities and reduce threats worldwide, by strengthening biosurveillance globally in a number of ways. The first is in assisting countries and regions to increase their technical expertise for detecting, diagnosing, and reporting on rapidly changing and emerging infectious diseases. Second, cooperation can help strengthen the biosafety and biosecurity of laboratories around the world. Third, biosurveillance can be strengthened by understanding the best strategies for biosurveillance planning, and the potential epidemiology of a disease system within a region. In these instances, collaborative research comes into play to help scientists understand a disease system in the environment and devise the most effective strategy for detecting outbreaks. The articles in the Frontier Topic

“Biological Engagement Programs: Reducing Threats and Strengthening Global Health Security Through Scientific Collaboration” cover each of these primary areas of international collaboration. This topic brings together 148 authors from over 25 countries with the shared mission of reducing the threat of infectious diseases.

Reducing the threat of a nefarious use of pathogens on any human or animal population is a top priority for global security. Specifically, the Global Health Security Agenda (GHSA) is “an effort by nations, international organizations, and civil society to accelerate progress toward a world safe and secure from infectious disease threats; to promote global health security as an international priority; and to spur progress towards reducing infectious diseases”. Working with partner countries around the world, the GHSA will be focused on mitigating the impact of naturally occurring outbreaks and intentional or accidental releases of dangerous pathogens; assisting countries to rapidly detect and transparently report outbreaks when they occur; and employing an interconnected global network that can respond rapidly and effectively. The most important component of the GHSA is international cooperation (Galloway et al.). Galloway et al. present a review of the GHSA and the importance of being proactive in the new era of globalization. In addition, Standley et al. give a history of Cooperative Threat Reduction programs and how cooperative bioengagements can assist in the implementation of the International Health Regulations.

Cooperative engagements and collaborations across borders help foster open communication and sharing of data. Being aware of the transboundary nature of pathogens helps break down the barriers to sharing information between countries, and cooperative engagement programs are designed to build a foundation of trust that can help lessen potential negative aspects of sharing data such as economic or political consequences. The fight against infectious diseases is shared by humanity; reducing individual infections and outbreaks of zoonotic diseases in humans, agricultural animals, and wildlife is a shared goal across the world. Fair et al. present a model for measuring the return on relationships of collaborations and the resulting networks of people that remain in place after trainings or projects are complete.

#### Biosafety and Biosecurity Challenges

Sampling and laboratory analysis for infectious diseases requires a certain amount of infrastructure and unique skills in molecular techniques in virology and bacteriology. Samples may have to be cultured and saved for future reference, and the microbiology environment for working with such pathogens must be both safe and secure. Best practices for biosafety and biosecurity are often learned through previous mistakes in the field and laboratory. Sharing these lessons learned is a critical factor in strengthening the biosafety and biosecurity environment in laboratories around the world. Khan et al. discuss biosafety initiatives and gaps in the BMENA region. In addition, Al Jewari and Koblentz share how to strengthen biosecurity in Iraq and the development of an Iraqi National Biorisk Management System.

#### “One World, One Health” Unification

The One World, One Health (OWOH) agenda is based on the foundation that most pathogens continually circulate in animal species and that there is a constant interplay between agricultural animals, wildlife, the environment, and humans. Therefore, the OWOH agenda is focused on surveillance, biosecurity, and biodiversity developed too limit infectious agents in a synergistic manner with animals, humans, and the environment. The unified and holistic approach to OWOH health was established in 2004 at a New York meeting where 12 principles were defined for multidisciplinary and integrated approaches to health. Over the last decade, the One Health approach has been applied to disease situations around the world and while some sociological challenges have been identified, many success stories can also be told. As a common outcome of biological cooperative engagement projects, Ministries of Health in over 25 countries worldwide

have worked closely with Ministries of Agricultural, leading to more communication, sharing, and cooperation on zoonotic diseases across disciplines. Several papers in this Frontiers Topic review efforts to increase capabilities for biosurveillance such as developing genomic capabilities for detecting pathogens by Cui et al.

#### How Can Research Help Address the Challenge of Outbreaks?

Many of the papers in this Frontiers Topic highlight collaborative research on infectious pathogens of security concern. For example, Bartholomew et al. review the history of building infectious disease research programs with countries of the Former Soviet Union. Scientific research on infectious diseases often focuses on reductionism, or understanding the molecular and physiological mechanisms of host-pathogen interactions. Research may also focus on a higher scale of understanding the disease “system.” Several papers in this collection highlight studies for understanding the diseases systems, such as Kokashvili et al. reporting on *Vibrio* species in the aquatic environment of Georgia, and the epizootology of Lumpy Skin disease in livestock in Azerbaijan by Zeynalova et al.

Cooperative biological engagement research tends to focus on the higher system-level scale since its objective is to increase the effectiveness of biosurveillance. For example, understanding a disease “system” such as Middle East Respiratory Syndrome coronavirus in the Middle East can lead to insights into the transmission events as well as better detection and possible mitigations to stop the infectious cycle. Understanding a disease system may sometimes require gathering information that may appear irrelevant to the disease, but may be critical for comprehending its spread. For example, mapping the distribution of bat species in a region and their migratory patterns can provide vital clues as to how and why disease outbreaks keep occurring or are emerging. Host range and host heterogeneity are important aspects of a disease system, as is identifying dead end hosts, regular host, and potential “super-spreaders.”

With limited monetary resources for biosurveillance, efforts need to be as directed and thoughtful as possible in order to be cost effective and successful. Developing the best strategy for biosurveillance requires knowledge of disease systems and that requires methodical and hypothesis-based scientific research. The last and most critical step is then applying the knowledge learned from scientific studies to inform policies. Blackburn et al. share examples of the applications of research on infectious diseases to policies for mitigating and responding to disease outbreaks. Two other papers by Horn and Hay et al. discuss the challenges of doing cooperative research in austere environments with take-home lessons for all future cooperative science engagements.

#### Global Challenges Require Global Collaboration

Rates of evolution of phenotypic traits in species vary widely in a continuum of slow to rapid evolution. Species may adapt to environmental changes differently and in the instance of climate change, species that are not able to adapt to a rapidly changing environment may be worse off than species that can. Clear evidence is mounting that changes in mean temperature or climate variability are increasing infectious disease risk globally. Cooperation will continue to be important as vectors, hosts, and pathogens shift their ranges and seasonality.

Selection pressures may also force rapid evolution in species with short generation times, such as microbes. Antimicrobial resistance (AMR) is an example of rapid evolution in response to selection pressures, primarily in response to antimicrobial drugs. AMR is now considered a major global threat to public health. In 2015, the World Health Assembly endorsed a global action plan to tackle AMR, with a primary focus on antibiotic resistance. AMR is occurring everywhere in the world, compromising the ability to treat infectious diseases with life-saving drugs of the past such as penicillin. The goal of the global action plan is to ensure, for as long as possible, continuity of

successful treatment and prevention of infectious diseases with effective and safe medicines that are quality-assured, used in a responsible way, and accessible to all who need them. Again, because antimicrobial selection pressures may vary between country and region, international collaboration is required to tackle the challenge of increasing antimicrobial-resistant pathogens. Antimicrobial-resistant microbes also know no borders.

The scientists and authors who have come together in this Frontiers Topic on cooperative biological engagements have a shared passion and mission for both reducing the threat of infectious diseases, and international collaboration and coordination. Coming together across the globe allows for a greater diversity of ideas that then leads to more innovation and creative problem solving. Shared insights from direct experiences and research increase the ability to reduce infectious disease outbreaks. Reducing outbreaks, epidemics, and pandemics potentially saves thousands of lives. While it has always been difficult to “prove a negative” for the effectiveness of programs such as cooperative biological engagements, the success stories are there and the scientific research that comes from such programs is invaluable. We are indebted to the work of everyone involved in such programs around the world, and especially to the authors contributing to this special Frontiers Topic.

<http://journal.frontiersin.org/article/10.3389/fpubh.2017.00148/full>

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38 North (Washington, DC)

## **Regime Change in North Korea: Be Careful What You Wish For**

By Richard Sokolsky and Aaron Miller

August 2, 2017

Is the Trump administration seriously contemplating changing the regime in North Korea? Frankly, the signals are mixed. Ten days ago, at the Aspen Security Forum, CIA Director Mike Pompeo intimated as much, saying that he and other senior officials were ordered by President Trump to find a way to “separate the North Korean regime from its missiles and nuclear weapons.” And indeed, only a few days ago, Vice President Mike Pence said that “all options are on the table” in countering the North Korean threat. But only yesterday, Secretary of State Rex Tillerson declared, “We do not seek a regime change, we do not seek a collapse of the regime, we do not seek an accelerated reunification of the peninsula, we do not seek an excuse to send our military north of the 38th Parallel.” Perhaps this ambivalence and confusion reflects a healthy debate on North Korea policy within the administration. We hope so.

Of course, North Korea is a dangerous regime. It starves, tortures, jails and kills scores of innocent citizens. Its growing nuclear and ballistic missile capabilities threaten US forces in the Asia Pacific region and our allies, and soon they will be able to hit targets in the United States.

But while the urge to rid the world of the regime is understandable, the risks, costs and consequences of acting on this impulse are rarely considered. While much of the discussion of a North Korean regime collapse focuses on its potential to unleash thousands of refugees to China and South Korea and on the enormous economic costs of Korean reunification, the geopolitical and security dangers would be far more consequential for the United States and its South Korean and Japanese allies and for the future stability of Northeast Asia. The following are four reasons why.

### **1. Regime Change is More Complicated than Trump Thinks**

Over the past century, the United States has intervened and interfered in the politics of democracies and authoritarian states alike; and in some very well known cases, such as Haiti, Iran, Guatemala,



Chile and Iraq, have actually changed governments and regimes. Still, even successful efforts at regime change have carried their own fraught and sometimes frightening consequences; changing a regime remains a very complicated business, as recent experiences in Afghanistan, Iraq and Libya demonstrate. As two scholars on regime change have observed, “helping to overthrow a regime doesn’t usually result in a compliant, friendly government in the target state. Rather, it can bring a host of problems, including continued conflict, state collapse, and newly empowered hostile groups.”

North Korea is a veritable black box within a black box. The United States can’t be sure that changing the leadership would improve the situation. More information may be getting out of the country about daily life and economic and social developments than what has been available in past years. But Washington has very little situational awareness of the inside workings of the regime and it would be surprising, to say the least, if the US intelligence community were able to establish and cultivate reliable assets who would be willing, let alone able to cooperate with Washington to remove Kim Jong Un from power. Working with countries in the region will also be very difficult. It is doubtful that the Chinese government could or would even want to orchestrate an internal coup or the assassination of the North Korean leader—and Beijing has more local knowledge than the United States. The same is true for South Korea, now headed by a leader who is deeply interested in engaging the North Korean regime.

With little or no understanding of internal power dynamics or personalities, any plan for a coup de main is unlikely to survive initial contact with the enemy. Decapitation, if it means military strikes against Kim and other leadership targets, would almost certainly unleash North Korean military retaliation against South Korea and US forces stationed there, significantly escalating the risk of a wider conflict and also the unsettling prospects of loose North Korean nukes.

## 2. Meet the New Boss, Same (or Worse) than the Old Boss

It’s hard to imagine that Kim’s successor would be worse. But the fact is very little is known about the handful of regime insiders in the military, intelligence and security establishments who would fill the vacuum left by Kim’s departure. There is no reason to think a replacement would be easier to work with; it could easily be worse, more virulently anti-American, more prone to provocative action and less adept than Kim Jong Un has been so far at dancing on the cliff’s edge. In fact, in most historical cases of regime change, the relationship between the intervening country and the new regime does not improve.

In the case of North Korea, the coup plotters who aided and abetted Washington would likely feel the need to distance themselves from the United States in the aftermath of a coup to avoid being tarred as North Korean “Quislings.” The fact is we have no idea what might emerge in the wake of Kim’s demise or how the North Korean public would react to regime change imposed from the outside. Kim’s successors may prefer the policies he was pursuing rather than the policies the Trump administration would prefer. Moreover, it would be imprudent to assume, as the Bush administration did in invading Iraq, that the North Korean public, which has been indoctrinated in the cult of the Kim dynasty, would greet American and Korean forces as liberators in the wake of regime change. On the contrary, many would resist with armed force—and this opposition would likely force a new North Korean government to accommodate their views.

## 3. Buckle Your Seat Belts

Decapitation or an internal coup would also substantially increase the risk of proliferation and use of nuclear, biological or chemical weapons (NBC) weapons or material. Finding North Korean “loose nukes” would be like looking for a needle in a haystack. Renegade factions opposed to the coup plotters or disgruntled military units could try to exploit the chaos and breakdown of state authority to pilfer NBC weapons out of the country using the North’s well-established smuggling

networks. Even more worrisome, units in control of these weapons, assuming that the United States and South Korea were behind the attack on their country's leadership, could retaliate by launching NBC attacks on the South, triggering a larger-scale conflict that would engulf the entire peninsula.

There is also a significant risk that a decapitation strike or attempted coup, if it led to a collapse of the regime and US/ROK occupation of the country, would fracture the North Korean military, with many units retreating to wage guerilla warfare. The North Korean military has dedicated units that have been trained and equipped for many years for this kind of warfare.

To defeat it, the United States and South Korea would have to deploy significant forces, raising the prospect of large-scale costs and loss of lives as well Chinese military intervention.

#### 4. Shooting Yourself in the Foot

The US overriding national security objective with North Korea is to eliminate or reduce its capacity to threaten the United States and its allies with nuclear weapons. Pyongyang believes the United States is an existential threat to its survival, and sees a nuclear deterrent as essential to its security. Every time a senior US government official publicly declares a goal of regime change, it merely feeds the North's paranoia and reinforces its conviction that it must cling for dear life to its nuclear weapons. In fact, North Koreans believe that in the case of Iraq and Libya, both Hussein and Qaddafi would still be around if they would have had nuclear weapons at the time the United States toppled their regimes.

Publicly talking about regime change could be another case of bluster from the Trump administration to turn up the heat on North Korean and their Chinese patrons. If so, it will neither scare the Chinese into imposing harsher sanctions on the North nor coerce the North Koreans into giving up their nuclear weapons. Trying to topple Kim Jong Un would very probably precipitate a real crisis even worse than the current one. The cruel anomaly of carrying out a coup against North Korea, or taking any action that would set in motion a chain of events that could ultimately result in regime change, could just make an already bad situation a good deal worse whether we succeed or fail.

<http://www.38north.org/2017/08/rsokolskyamiller080217/>

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South China Morning Post (Hong Kong, China)

### **The US Pacific Fleet Commander, Nuclear Weapons, Gene Hackman and the Question of Obedience**

By Alex Lo

July 29, 2017

*Admiral Scott Swift's unfortunate remarks about a nuclear strike on China are disconcerting, but go to the heart of the question of whether there are limits to civilian powers and conditions to soldierly obedience*

The US Pacific Fleet commander walked right into a media maelstrom when he said he would launch a nuclear strike against China next week if he were ordered by his commander-in-chief, President Donald Trump, to do it.

Even though it was a hypothetical question asked by an academic at a security forum in Australia, Admiral Scott Swift's answer was frankly disconcerting.

Mainland internet chat rooms lit up. Understandably, if a top military officer from the world's most powerful nation said he would nuke you to smithereens if he was ordered to by his boss, you might be concerned, too. Some have called the admiral a warmonger.

It's a bit unfair to Swift. He was caught in a no-win situation. If he had said no and that he would disregard his order, it would presumably mean instant dismissal.

In retirement, though, he might get a cushy consultant job from the Chinese. Now, he gets to keep his day job even if it means upsetting a billion Chinese.

Maybe he could have said he would nuke Australia, Japan or South Korea if he was ordered to.

Then we would all get his meaning – he just follows orders, no matter what.

That would get the Chinese off his back but upset America's allies.

US admiral would 'nuke China next week' if Trump ordered it

My question is, would he nuke California, the largest liberal, Democrat and Trump-hating state in the US?

In his own defence, he said that like any US military officer, he submitted to civilian control of the military. And in his exalted post, Swift would take direct orders from the president.

His spokesman subsequently dismissed the question as "ridiculous".

It actually isn't. Rather it cuts right to whether there are limits to civilian powers, and conditions to soldierly obedience. What if your boss is someone like Nero or Trump?

All this reminds me of Gene Hackman, who plays the captain of a nuclear submarine in *Crimson Tide*.

In one scene, he explains to his more thoughtful second-in-command Denzel Washington why the navy pairs the two of them together:

"If someone asked me if we should bomb Japan, a simple 'Yes.' By all means, sir ... [You're] complicated, 'cause that's the way the Navy wants you. Me, they wanted simple ... They gave me a target and a button to push. All I gotta know is how to push it, they tell me when. They seem to want you to know why."

Watch that movie again. It's the best commentary on Swift's unfortunate remarks.

<http://www.scmp.com/comment/insight-opinion/article/2104569/us-pacific-fleet-commander-nuclear-weapons-gene-hackman-and>

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## **ABOUT THE USAF CUWS**

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

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

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

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