

UNITED STATES AIR FORCE CENTER FOR UNCONVENTIONAL WEAPONS STUDIES OUTREACH JOURNAL

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Feature Item

Featured Item: "Combined Arms Countering Weapons of Mass Destruction". Published by the Department of the Army; June 2017

https://fas.org/irp/doddir/army/atp3-90-40.pdf

ATP 3-90.40 is a product of lessons learned and observations collected from the challenges faced during the execution of WMD elimination. The need for this doctrine was identified under the realization that CWMD is not a CBRN mission enabled by maneuver forces: rather, it is a military operation conducted by combined arms teams and enabled by CBRN, explosive ordnance disposal (EOD), and other technical elements.

ATP 3-90.40 has 5 chapters and 3 appendixes:

- Chapter 1. Provides an introduction to the fundamentals and important terms associated withCWMD executed as combined arms teams.
- Chapter 2. Discusses planning considerations for the conduct of CWMD operations.
- Chapter 3. Focuses on the control portion of activity 3 of the CWMD construct.
- Chapter 4. Focuses on the defeat, disable, and dispose portion of activity 3 of the CWMD construct.
- Chapter 5. Discusses the considerations for safeguarding the force and managing consequences, which is activity 4 of the CWMD construct.
- Appendix A. Provides systems and reporting techniques for CWMD operations.
- Appendix B. Focuses on the disposition of WMD and materials.
- Appendix C. Provides recommended contents of a target folder.

Unless stated otherwise, masculine nouns or pronouns do not refer exclusively to men.

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US NUCLEAR WEAPONS

Scout Warrior (Minnetonka, MN)

Air Force to "Cyber-Secure" Nuclear Arsenal

By Kris Osborne

July 1, 2017

Modernizing computer networks for the nuclear arsenal is part of the current Air Force plan to build as many as 400 new Inter-Continental Ballistic Missiles, or ICBMs, to serve through the 2070s.

The Air Force is seeking more interactions with private sector firms to build better networks for securing nuclear weapons computer systems, service officials said.

Air Force engineers say protection of computer networks is well established in many ways, but that the service needs to widen its scope with greater focus on IT dimensions to its nuclear arsenal's command and control apparatus.

"Information technology that touches weapons systems needs to be cyber secure, updated and patched. Worldwide nuclear systems are one example of where we need to get an overhaul," Peter Kim, Air Force Chief Information Security Officer, told Scout Warrior in an interview.

The need to adjust nuclear arsenal computer systems was further emphasized in a recently announced U.S. Air Force Scientific Advisory Board Study on the topic that will be released in 2017.

"Today's dependences on cyber systems were not prevalent when legacy nuclear systems were fielded, nor were today's cyber threats, including supply chain concerns," the study's outline states.

Modernizing computer networks for the nuclear arsenal is part of the services' current plan to build as many as 400 new Inter-Continental Ballistic Missiles, or ICBMs, to serve through the 2070s. The Air Force is now assessing industry proposals to build the new ICBMs, from Northrop Grumman, Boeing and Lockheed Martin.

The study preview goes on to indicate that the Air Force will benefit from a clearer understanding of how nuclear weapons' security can be achieved in today's increasingly digital environment.

Initiatives to look at securing computer networks for nuclear weapons comprise a key part of an Air Force program aimed at better connecting with private sector innovators.

The Air Force effort, which involves strengthening email encryption and computer-virus protections, is operating within part of a broader Defense Department effort referred to as Defense Innovation Unit – Experimental, or DIUx, Kim said.

Thus far, DIUx centers have been announced by Defense Secretary Ashton Carter in Silicon Valley, Austin, Texas and Boston, Mass., Kim added.

"There needs to be innovative technologies that can help us be more productive, safe and secure with cyber security," he explained.

Among other things, the Air Force is seeking partnerships designed to address potential vulnerabilities with operating systems, infrastructure and various computer networks.

http://www.scout.com/military/warrior/story/1725859-can-enemies-hack-us-nuclear-weapons

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Airforce-technology.com (London, UK)

USAF Removes Last of 50 Minuteman III ICBMS and Meets NST Requirements

Author Not Attributed

July 4, 2017

The US Air Force (USAF) has removed the last of 50 Minuteman III intercontinental ballistic missiles (ICBMs) from the final launch facility located in the F E Warren Air Force Base missile complex, Wyoming, US.

As part of the New START Treaty (NST) agreement signed with Russia in 2010, the US is reducing its nuclear arsenal across the airforce and the navy.

The US and Russia must meet the treaty's central limits on strategic arms by 5 February next year, the US Department of State stated.

To meet NST requirements, the US military must deploy 400 ICBMs, 60 bombers and 240 submarine-launched ballistic missiles (SLBMs).

To date, a total of 50 deployed ICBMs have been removed from the three missile complexes in the US states Wyoming, Montana and North Dakota.

Air Force Global Strike Command senior arms control analyst Ken Vantiger said: "This last pull completes all of the Air Force initiatives.

"We finished six major NST force structure initiatives in a six-year period at a cost of \$52m. This was \$30m under budget and ahead of schedule from what was initially programmed."

The treaty also restricts the US to have 1,550 nuclear warheads on deployed ICBMs, deployed SLBMs, and deployed heavy bombers equipped for nuclear armaments.

The US must also have only 800 deployed and non-deployed ICBM launchers, SLBM launchers, and heavy bombers equipped for nuclear armaments.

Each empty launch facility remains connected to the ICBM network and fully operational. All maintenance and security requirements will be performed on these 50 empty sites, the USAF stated.

http://www.airforce-technology.com/news/newsusaf-removes-last-of-50-minuteman-iii-icbms-to-meetnst-requirements-5860111

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The Guardian (London, UK)

US Nuclear Base Inspection Results Made Secret to Conceal Failures, Critics Claim

Author Not Attributed

July 3, 2017

'Pass-fail' grades declared off-limits, which the Pentagon says is to prevent adversaries from learning too much about nuclear weapons vulnerabilities

The Pentagon has thrown a cloak of secrecy over assessments of the safety and security of its nuclear weapons operations, a part of the military with a history of periodic inspection failures and bouts of low morale.

Overall results of routine inspections at nuclear weapons bases, such as a "pass-fail" grade, had previously been publicly available. They are now off-limits. The change goes beyond the standard practice of withholding detailed information on the inspections.

Thestated reason for the change is to prevent adversaries from learning too much about US nuclear weapons vulnerabilities. Navy Capt Greg Hicks, spokesman for the joint chiefs of staff, said the added layer of secrecy was deemed necessary.

"We are comfortable with the secrecy," Hicks said on Monday, adding that it helps ensure that "as long as nuclear weapons exist, the US will maintain a safe, secure and effective nuclear stockpile".

Critics question the lockdown of information.

"The whole thing smells bad," said Steven Aftergood, a government secrecy expert with the Federation of American Scientists. "They're acting like they have something to hide, and it's not national security secrets.

"I think the new policy fails to distinguish between protecting valid secrets and shielding incompetence," he added. "Clearly, nuclear weapons technology secrets should be protected. But negligence or misconduct in handling nuclear weapons should not be insulated from public accountability."

The decision to conceal results from inspections of how nuclear weapons are operated, maintained and guarded follows a secret recommendation generated by in-depth Pentagon reviews of problems with the weapons, workers and facilities making up the nation's nuclear force.

But the problems that prompted the reviews three years ago weren't created by releasing inspection results. The problems were actual shortcomings in the nuclear force, including occasional poor performance, security lapses and flawed training, driven in part by underspending and weak leadership.

The overall results of such inspections, minus security-sensitive details, used to be publicly available.

They provided the initial basis for Associated Press reporting in 2013 and 2014 on missteps by the Air Force nuclear missile corps.

The AP documented security lapses, leadership and training failures, morale problems and other issues, prompting the Pentagon under then defense secretary Chuck Hagel to order an in-depth study by an independent group. The review, published in November 2014, found deeply rooted

problems and recommended remedies still in the works. In parallel, Hagel ordered what he called an internal review of the nuclear problems. Its findings and recommendation are secret.

Without commenting on the decision to classify inspection grades, Hagel said in an email exchange that excessive government secrecy is dangerous.

"Trust and confidence of the people is the coin of the realm for leaders and nations," Hagel wrote to the AP. "That requires an openness even on sensitive issues. Certain specifics must always stay classified for national security reasons but should be classified only when absolutely necessary. When you close down information channels and stop the flow of information you invite questions, distrust and investigations."

Of the two reviews conducted in 2014, the secret report is the one that contains the recommendation to further restrict release of inspection results, according to several officials, including Joseph W Kirschbaum, director of defense capabilities and management at the Government Accountability Office, the congressional watchdog.

In effect, the Pentagon used the cover of classification to obscure its decision to make nuclear inspection results secret.

The added layer of secrecy did not come to light until an Air Force personnel office posted on its website on 14 June a notice that the "grade", or overall result, of a nuclear inspection could no longer be mentioned in any personnel documents such as enlisted and officer performance reports, citations or award nominations.

The change is even broader, however. It prohibits any mention of inspection results in any unclassified defense department document.

The new rule started going into effect in phases in March, affecting the Navy, which operates the ballistic missile submarine segment of the nuclear force, and the Air Force, which operates land-based nuclear missiles and nuclear bombers.

The Pentagon made the change by rewriting an "instruction" issued by the chairman of the joint chiefs of staff's office. The revision isn't publicly available.

Hicks, the joint chiefs spokesman, said the instruction is not classified but is authorized for "limited" distribution, keeping it from release. An AP request for a copy was denied.

Asked why the instruction was revised, Hicks said the 2014 Pentagon review recommended that the Air Force "adopt the Navy's policy" on classification of nuclear inspection results. "The elevated security classification" limits the amount of "potentially vulnerable information to adversary forces", he added.

The Pentagon has never asserted that reporting on nuclear inspection results has compromised nuclear security.

https://www.theguardian.com/us-news/2017/jul/03/us-nuclear-weapons-base-inspections-offlimits

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Stockholm International Peace Research Institute (Stockholm, Sweden)

Global Nuclear Weapons: Modernization Remains the Priority

Author Not Attributed

July 3, 2017

The Stockholm International Peace Research Institute (SIPRI) today launches its annual nuclear forces data, which highlights the current trends and developments in world nuclear arsenals. The data shows that while the overall number of nuclear weapons in the world continues to decline, all of the nuclear weapon-possessing states are in the process of modernizing their nuclear arsenals and will not be prepared to give them up for the foreseeable future.

At the start of 2017 nine states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea—possessed approximately 4150 operationally deployed nuclear weapons. If all nuclear warheads are counted, these states together possessed a total of approximately 14 935 nuclear weapons, compared with 15 395 in early 2016 (see table 1).

Nuclear weapon reductions slow down, investment levels rise

The decrease in the overall number of nuclear weapons in the world is due mainly to Russia and the USA—which together still account for nearly 93 per cent of all nuclear weapons—further reducing their inventories of strategic nuclear weapons. However, despite the implementation of the bilateral Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START) since 2011, the pace of their reductions remains slow. At the same time, both Russia and the USA have extensive and expensive nuclear modernization programmes under way. The USA, for example, plans to spend \$400 billion in 2017–26 on maintaining and comprehensively updating its nuclear forces. Some estimates suggest that the USA's nuclear weapon modernization programme may cost up to \$1 trillion over the next 30 years.

'The projected increases in US spending are not unexpected,' said SIPRI Associate Senior Fellow Hans Kristensen.* 'The current US administration is continuing the ambitious nuclear modernization plans set out by President Barack Obama.'

The other nuclear weapon-possessing states have much smaller arsenals, but have all either begun to deploy new nuclear weapon delivery systems or announced their intention to do so. China has started a long-term modernization programme focused on making qualitative improvements to its nuclear arsenal. India and Pakistan are both expanding their nuclear weapon stockpiles and developing their missile delivery capabilities. North Korea is estimated to have enough fissile material for approximately 10–20 nuclear warheads, which is an increase on the estimates for previous years. North Korea carried out an unprecedented number of flight tests of different missile systems in 2016 with mixed results.

'Despite the recent progress in international talks on a treaty banning nuclear weapons, long-term modernization programmes are under way in all nine states,' said SIPRI Senior Researcher Shannon Kile. 'This suggests that none of these states will be prepared to give up their nuclear arsenals for the foreseeable future.'

https://www.sipri.org/media/press-release/2017/global-nuclear-weapons-modernizationremains-priority

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US COUNTER-WMD

South China Morning Post (Hong Kong, China)

Could the US Defend Itself Against Kim Jong-Un's Missiles? Not Everyone Agrees

Author Not Attributed

July 6, 2017

Not everybody asserts as confidently as the Pentagon that the US military can defend the United States from the growing threat posed by North Korea's intercontinental ballistic missile capability.

Pyongyang's first test on Tuesday of an ICBM with a potential to strike the state of Alaska has raised the question: how capable is the US military of knocking down an incoming missile or barrage of missiles?

Briefing reporters on Wednesday, Pentagon spokesman Navy Captain Jeff Davis said: "We do have confidence in our ability to defend against the limited threat, the nascent threat that is there."

Davis cited a successful test in May in which a US-based missile interceptor knocked down a simulated incoming North Korean ICBM. But he acknowledged the tracking programme was not perfect.

"It's something we have mixed results on. But we also have an ability to shoot more than one interceptor," Davis said.

An internal memo also showed that the Pentagon upgraded its assessment of US defences after the May test.

Despite hundreds of billions of dollars spent on a multi-layered missile defence system, the United States may not be able to seal itself off entirely from a North Korean intercontinental ballistic missile attack.

Experts caution that US missile defences are now geared to shooting down one, or perhaps a small number of basic, incoming missiles. Were North Korea's technology and production to keep advancing, US defences could be overwhelmed unless they keep pace with the threat.

"Over the next four years, the United States has to increase its current capacity of our deployed systems, aggressively push for more and faster deployment," said Riki Ellison, founder of the Missile Defence Advocacy Alliance.

The test records of the US Missile Defence Agency (MDA), charged with the mission to develop, test and field a ballistic missile defence system, also show mixed results.

MDA systems have multiple layers and ranges and use sensors in space at sea and on land that altogether form a defence for different US regions and territories.

One component, the Ground-based Midcourse Defence system (GMD), showed a success rate just above 55 per cent. A second component, the Aegis system deployed aboard US Navy ships and on land, had about an 83 per cent success rate, according to the agency.

A third, the Terminal High Altitude Area Defence, or THAAD, anti-missile system, has a 100 per cent success rate in 13 tests conducted since 2006, according to the MDA.

Lockheed Martin Corp is the prime contractor for THAAD and Aegis. Boeing Co is the lead contractor for GMD.

Since US president Ronald Reagan's administration in the 1980s, the US government has spent more than US\$200 billion to develop and field a range of ballistic missile defence systems ranging from satellite detection to the sea-based Aegis system, according to the Congressional Research Service.

Funding for MDA was on average US\$8.12 billion during Barack Obama's administration that ended on January 20. President Donald Trump has requested US\$7.8 billion for financial year 2018.

Last month, Vice Admiral James Syring, then director of the Missile Defence Agency, told a congressional panel that North Korean advancements in the past six months had caused him great concern.

US-based missile expert John Schilling, a contributor to the Washington-based North Korea monitoring project 38 North said the pace of North Korea's missile development was quicker than expected.

"However, it will probably require another year or two of development before this missile can reliably and accurately hit high-value continental US targets, particularly if fired under wartime conditions," he said.

Michael Elleman, a fellow for Missile Defence at the International Institute for Strategic Studies, said that although North Korea was several steps from creating a dependable ICBM, "There are absolutely no guarantees" the United States can protect itself.

In missile defence, "Even if it had a test record of 100 per cent, there are no guarantees."

http://www.scmp.com/news/asia/east-asia/article/2101460/could-us-defend-itself-against-kim-jong-uns-missiles-not

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The Diplomat (Tokyo, Japan)

US, ROK Conduct Precision-Strike Drill in Response to North Korean ICBM Launch

By Franz-Stefan Gady

July 5, 2017

The U.S. Army and Republic of Korea military personnel test fired missiles in response to North Korea's most recent ICBM test.

The U.S. Army and the Republic of Korea (ROK) military conducted a precision-strike exercise in response to North Korea's purported first-ever flight test of an intercontinental ballistic missile on July 4, United States Forces Korea (USFK) said in a statement.

"This exercise utilized the Army Tactical Missile System (ATACMS) and the Republic of Korea Hyunmoo Missile II, which fired missiles into territorial waters of South Korea along the East Coast," according to USFK. "The system can be rapidly deployed and engaged. The deep strike precision capability enables the ROK-U.S. Alliance to engage the full array of time critical targets under all weather conditions." The ROK military currently operates two variants of the Hyunmoo missile, the Hyunmoo 2A and 2B ballistic missiles. Both are surface-to-surface missiles with an estimated maximum range of 300 kilometers and 500 kilometers respectively, each capable of carrying a payload of up to 997 kilograms.

As I reported previously, South Korea is also working on fielding an extended range Hyunmoo 2 missile with an estimated range of 800 kilometers. The last test launch of this new missile, likely to be designated the Hyunmoo 2c, took place on June 23 and was overseen by South Korean President Moon Jae-in. The new missile is expected to become operational by the end of 2017.

The new Hyunmoo missile will "be a key component in our kill chain to counter possible North Korean missile attacks," according to a ROK government spokesperson on June 23. It will be an integral part of South Korea's deterrence strategy, known as Korea Massive Punishment & Retaliation (KMPR). As I explained elsewhere:

In the event of a North Korean nuclear attack (or even signs of preparations for one), KMPR specifically calls for surgical strikes against key leadership figures of the communist regime and military infrastructure with the missiles part of a so-called kill chain consisting of integrated information, surveillance, and strike systems, as well as the Korea Air and Missile Defense (KAMD) system.

The U.S. and ROK militaries have deployed near the intra-Korean border dozens of US-made surface-to-surface precision-guided Army Tactical Missile Systems (ATACMS) capable of hitting the North Korean capital Pyongyang. The ATACMS is a surface-to-surface missile with an estimated range of around 300 kilometers.

On July 5, South Korea's military also released a video showing a ROK Air Force F-15K Slam Eagle fighter jet firing a Taurus KEPD 350 long-range precision-guided cruise missile successfully destroying its target, according to Yonhap news agency. South Korea received its first lot of air-launched Taurus cruise missiles, with a range of over 500 kilometers, in October 2016. The ROK military's Taurus arsenal is estimated at 170-180 missiles.

http://thediplomat.com/2017/07/us-rok-conduct-precision-strike-drill-in-response-to-north-korean-icbm-launch/

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Phys.org (Isle of Man, UK)

Researchers Develop Yeast-Based Tool for Worldwide Pathogen Detection

Author Not Attributed

June 28, 2017

Columbia University researchers have developed a tool that is likely to revolutionize the way we detect and treat pathogens in everything from human health to agriculture to water. Using only common household baker's yeast, they've created an extremely low-cost, low-maintenance, on-site dipstick test they hope will aid in the surveillance and early detection of fungal pathogens responsible for major human disease, agricultural damage and food spoilage worldwide.

The study appears in the June 28 issue of Science Advances.

"Our biosensor allows us to detect a pathogen for less than one cent per test; it is easy to use, cheap to produce and doesn't require cold-storage facilities," said Principle Investigator and Columbia University Chemist Virginia Cornish. "It stands to impact agriculture and health, especially in developing countries, where it is arguably needed the most. We're excited about the possibilities."

The project began as a search to find a cost-effective, simple way to detect cholera, but quickly evolved to address other needs.

"We realized that the same household baker's yeast people use every day to brew beer and make bread could be programmed to detect a myriad of targets," Cornish said. "We can now alter the DNA of the baker's yeast to give it new functions that make it useful for a variety of applications. The prospect of using this technology in rural communities with little access to high-tech diagnostics is particularly compelling."

Around the globe, fungal pathogens present an increasingly urgent public health burden, causing an estimated two million deaths annually and inflicting devastating losses on plant crops and population decline in animal wildlife. Still, fungal pathogens and the diseases they cause are often neglected and research to combat them is underfunded.

"Fungal pathogens are known as 'hidden killers,'" Cornish said, adding that the devastation is most pronounced in resource-poor areas where efforts to reduce infections have been hampered by the scarcity of cost-effective fungal diagnostics. While monitoring of global pathogen burden has been mostly limited to a small number of specialized centers, she explained, more effective surveillance could be established by making cheap diagnostics accessible at the point-of-care. Traditional diagnostics often rely on costly reagents, cold-chain distribution, specialized equipment and technical personnel, all of which are largely unattainable on-site.

To address this problem, and in close collaboration with experts in public health, Cornish and a team of her students swapped out naturally-occurring cell surface receptors of Saccharomyces cerevisiae, or baker's yeast, with pathogen-specific receptor proteins. They started by building a biosensor for the detection of Candida albicans, a human fungal pathogen (a type of yeast) that occurs naturally in the human gut, but can cause serious medical problems and even death if the population gets out of control.

After replacing bakers yeast's natural receptor with that of C. albicans, the researchers then altered its DNA to enable production of lycopene, the pigment responsible for the red coloring of tomatoes. This allowed the engineered yeast to turn red when in the presence of a target molecule, in this case, C. albicans fungus pheromones.

The experiment was a breakthrough success. The sensor turned red when exposed to the fungal target. The team had developed a functional, simple, highly-specific, one-component sensor using only yeast.

Next, the researchers successfully tested their assay for the ability to detect ten additional major pathogens, including Paracoccidioides brasiliensis, a fungus responsible for a progressive tropical disease affecting the mucosa in the nose, sinuses and skin, and Botrytis cinerea, a grey mold that causes substantial crop loss worldwide. In each case, the test functioned accurately without sacrificing any of the sensitivity and specificity attainable with other, significantly more expensive tests.

With an operational assay in-hand, the team set out to make it versatile and user-friendly, designing a one-step rapid dipstick prototype, much like an at-home pregnancy test, that can be used in complex samples, including whole blood, serum, water, urine and soil.

"New research in the area of synthetic biology has given us the ability to leverage live cells in the development of much more specific and helpful tools than we have had in the past," Cornish said. "Our assay can be cheaply made, economically produced at large-scale, widely distributed as a stable dried product for household use, robustly applied to complex samples, is not reliant on cold-chain storage, and can be readily detected by the eye without additional equipment, making it a compelling and completely feasible tool for surveillance of pathogens around the globe. This is critical for human health, food security, bioterrorism, and maintenance of biodiversity."

The Columbia team is currently in conversations with global health non-profits and worldwide research, technology, development and citizen groups to determine the needs of specific countries. They believe there are many more applications for their sensor, including use in virus and bacteria detection, and a biosensor for cholera, a potentially-lethal diarrheal disease caused by the ingestion of food or water contaminated with the bacterium Vibrio cholera, is in the works to aid in African surveillance efforts.

"The possibilities, as we see it right now, are limitless," Cornish said. "We've just opened the door to this exciting new technology. It's the beginning of a journey rich with potential."

Cornish's student research team, all co-first authors on the paper, are Nili Ostrov, Miguel Jimenez and Sonja Billerbeck. Other co-authors are: James Brisbois and Joseph Matragrano, also of Columbia University; and Alastair Ager, of Columbia University's Mailman School of Public Health, and the Institute for Global Health and Development, Queen Margaret University, Edinburgh, UK.

https://phys.org/news/2017-06-yeast-based-tool-worldwide-pathogen.html

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Defense Media Activity (Fort Meade, Maryland)

Cracking The Case on Nerve Agent Detection

Author Not Attributed

June 22, 2017

Modern crime fighters solve cases by using fluorescence methods to visualize fingerprints or trace amounts of blood that are undetectable to the naked eye. New research funded by the Defense Threat Reduction Agency's Chemical and Biological Technologies Department focuses on adapting similar methods to improve early detection of deadly nerve agents, giving warfighters and civilians increased response time during an attack.

Current chemical detectors are either complex instruments requiring technical user training, or rely on special low-cost detection paper which may give false positives depending on environmental factors. Fluorescence-based detection may be instrumental in closing these gaps by providing an accurate, easy-to-use tool to help warfighters and first responders quickly identify threats.

Nerve agents work by disrupting the mechanisms that allow nerves to communicate with organs. A common family of these agents, organophosphorous compounds, include two main classes: fluoride-containing "G series" and sulfur-containing "V series". Professor Eric Anslyn, Ph.D., at the University of Texas at Austin (UT Austin), is developing new detection techniques by targeting the fluoride ions released by G-series agents, such as sarin, soman and cyclosarin.

Managed by DTRA CB's Anthony Esposito, Ph.D., UT Austin researchers introduced a novel approach to visually detect fluoride ions through three steps: generation, amplification and sensing.

This approach enhances detection capabilities for the Department of Defense by successfully merging multiple, complex reactions for accurately detecting trace amounts of harmful toxins.

The team is using diisopropyl fluorophosphate (DFP), a nerve agent surrogate, to mimic response before testing the methodology against toxins. The new approach is ultrasensitive due to an autoinductive cascade, a process that generates six fluoride ions for each ion released in the initial reaction between the DFP and benzaldoxime. This process makes detection of trace amounts of toxins possible.

Utilizing both colorimetric and fluorescent detection, fluoride ions are tracked throughout the cascade. Both detection techniques demonstrate promise for detecting G series nerve agents and may provide warfighters with quicker and more accurate detection methods.

Anslyn's team is continuing to explore novel methodologies for visual identification of nerve agents. Currently, the team is studying a new auto-inductive cascade that uses benzoyl fluoride rather than benzaldoxime in an effort to increase the reaction speed of nerve agents. These efforts will allow warfighters to quickly identify threats and shorten response time, improving both warfighter and public safety.

For more information, read the Modern crime fighters solve cases by using fluorescence methods to visualize fingerprints or trace amounts of blood that are undetectable to the naked eye. New research funded by the Defense Threat Reduction Agency's Chemical and Biological Technologies Department focuses on adapting similar methods to improve early detection of deadly nerve agents, giving warfighters and civilians increased response time during an attack.

https://www.dvidshub.net/news/238772/cracking-case-nerve-agent-detection

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US ARMS CONTROL

Arms Control Wonk (Washington, DC)

Second Time Is Not a Charm for the Nuclear Ban Treaty

By Jon Wolfsthal

June 29, 2017

So the well-intended states and civil society groups in New York have produced a second draft of the nuclear weapons ban convention. The draft shows real work, and drafters deserve credit for some notable improvements. However, aside from questionable nature of the exercise to begin with, the second draft retains many of the specific problems associated with the first and raises new, serious questions. I remain concerned that the ban risks doing real damage to the nonproliferation and disarmament landscape and hope that further efforts to the draft reduce those to a minimum. It seems clear the ban is going to happen, so the question is how to ensure it doesn't do any further damage to the nonproliferation and disarmament landscape.

The biggest concerns in the second draft include:

Article I commits state parties not to "[c]arry out any nuclear weapon test explosion or any other nuclear explosion." As with the Comprehensive Test Ban Treaty, there may be different interpretations about what this means? Does it include only full-up nuclear weapon tests with

yields, or would it apply to sub-critical tests? Some states such as Egypt have sought to ensure the ban would cover stockpile stewardship efforts and it is not clear on this reading what is in and what is out. What about internal confinement fusion, such as the effort at the National Ignition Facility (NIF)? It is also unclear how the Treaty would verify or enforce such provisions. There is nothing as it relates to verification on testing in the ban draft, either. Why have it in at all?

Article I also states that parties will prohibit "[a]ny stationing, installation or deployment of any nuclear weapons or other nuclear explosive devices." This would mean no NATO or US ally that benefits from extended deterrence and who might in a time of conflict want or need to station US weapons on their territory can be a member of the Treaty. This is not a surprise of course, but it does display – as they have said all along – that the drafters' intent is to delegitimize nuclear possession and operations, including deterrence and reassurance. Of course, this facet of the treaty could be used to put pressure on US extended deterrent allies while having no impact on, for example, Russia's reliance on tactical nuclear weapons which are stationed close to Europe. It also immediately raises the question about Ukraine. Russia claims the Crimea as Russian territory, but Ukraine and the rest of the world does not recognize their illegal annexation of that areas. Were Russia to deploy nuclear weapons in the Crimea, as they claim is their right, would Ukraine be in non-compliance of the Ban treaty should it sign? This is more of a question than a critique, but one that serious security officials will have to address.

Article 3 tries to address an earlier concern about IAEA safeguards. The initial draft relied on NPT original standards, including the INFCIRC 153 agreement. The new draft seeks to dodge this question by stating that parties will be required to "at a minimum, maintain safeguards obligations undertaken pursuant to international legally binding instruments to which it is party at the time of the entry into force of this Treaty for it, without prejudice to any higher level of standards that it may adopt in the future."

While this would fall under the do no harm category, it would also mean it does no good. For over 2 decades, responsible states have sought to increase the effectiveness of IAEA safeguards by encouraging the adoption of the Additional Protocol. I believe it reflects poorly on the advocates of the ban to pass on the strongest opportunity to adopt a new global standard for safeguards when they claim to seek a serious step to reduce the nuclear dangers facing the world. How can such a treaty say that anything less than the best, most effective and comprehensive steps to deter any diversion of nuclear materials or facilities is acceptable? The challenge, of course, is that non-nuclear weapon states do not want to adopt any new obligations but are in fact seeking to force nuclear weapon states to do exactly that. It is not offering more for more, but offering nothing for more. This strikes me as the weakest part of the drafting effort to date and I suspect this will be a major liability for the ban should anything less than the AP be adopted in the final text. Why would the Treaty signatories want to ensure a standard that has been proven inadequate to ensure the IAEA can do their jobs is maintained?

Article 4 of the draft states that "[a]ny State Party that owns, possesses or controls nuclear weapons or other nuclear explosive devices shall immediately remove from operational status its nuclear weapon systems and destroy as soon as possible any nuclear weapons or nuclear explosive devices it owns, possesses or controls. That State Party shall submit, no later than sixty days after the submission of its declaration, a time-bound plan for the verified and irreversible destruction of its nuclear weapons programme to be negotiated with the States Parties or with a competent authority designated by the States Parties." It further states that the IAEA shall be responsible for verification of the fulfillment of these plans. This raises massive questions for me. What is operational deployment? Can mobile missiles be put in garrison? Is that enough? What about de-mating ICBM warheads but leaving them otherwise intact and able to redeploy? How to address tactical nuclear weapons or cruise missiles that are not stored near aircraft? These are sticky issues and subject to national definition in most cases. I am not sure anyone would accept the U.S. definition, and I am sure we would not accept, say, Pakistan or Russia's definitions.

Also, how long can a time-bound plan be and still be time-bound? Can a state lay out a plan for 10 years? Ok, how about two years? Can a state lay out a two-year plan, and then withdraw 3 months short of the deadline and remain in compliance with the agreement? It is not clear to me that this is a recipe for adding nuclear states to the convention, although it was clearly intended to leave a pathway open to future membership by nuclear weapon states. I have made clear in a variety of fora that when a nuclear weapon state is prepared to disarm, as they eventually should, it will be via an elaborate effort that will involve the highest verification standards and intrusive access by other states and or international inspectors. I would rather have that effort be undertaken as part of the NPT with its near universality than a new convention with lesser credentials, regardless of its good intent. My opinion is that the Treaty should stick with a simple "get rid of your nuclear weapons and then you can join" approach. Simpler, less problems, more serious and consistent. The current plan opens up a big can of nuclear worms.

Moreover, and I admit I may be missing it by not being in New York,but it is not clear that there is any direct requirement for verification of actual disarmament activities under the ban. Article 4 does state that parties who disarm will ask the IAEA to verify the fulfillment of the obligations under the treaty and to further non-diversion of materials. It appears this means that the IAEA would be asked to verify the completeness of a declaration, but not be part of the disarmament activities itself. It is not immediately clear whether the IAEA or anyone else would have a role in verifying dismantlement of materials, nor does this come close to addressing the massive uncertainties associated with verifying dismantlement of nuclear weapons in existing weapon states. For example, what if the material unaccounted for (MUF) in a former nuclear weapon states is 200 kilograms of plutonium? How will those factors be addressed? Who decides if a reactor produced 9000 kilograms of plutonium or 9050? I am not throwing monkey wrenches, but asking how these very challenging issues are to be addressed? It is also reasonable to ask who will pay for the massive increase in expenses and operations by the IAEA for this task?

To pursue disarmament, states must be prepared to allow intrusive verification, and states who are being asked to take security actions based on those commitments, the verification must be especially stringent. For interim steps over the past few decades, this could be achieved because there were other nuclear options for ensuring security. But as we pursue a nuclear end game, the intrusiveness and requirements go up exponentially. I worry the ban's efforts here are sadly inadequate.

There are other lesser concerns, but for now I will address only one – withdrawal. Article 18 sets a withdrawal procedure of three months, after notification to the Depository states. This creates a massive risk of escalation should a states seek to use the treaty and its protections to prepare for a nuclear breakout with only three months warning time. Moreover, as the Treaty has no way to ensure that banned weapons-related research might be taking place, a state could produce massive quantities of HEU in metallic form, and produce workable warhead designs and quickly seek to mate the two. While this could take place even today, it seems that such a short withdrawal procedures repeats past mistakes and should be dramatically extended.

I have really benefited from the reporting and insights from my colleagues including ,of course Gaukhar, Andrea, Alicia and Beatrice (the four horsewomen of the ban, anyone). I am sure they will help me understand where I am just being dense and where, perhaps, I am not.

https://www.dvidshub.net/news/238772/cracking-case-nerve-agent-detection

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Huffington Post (Washington, DC)

How Do You Measure Commitment To The Iran Nuclear Deal?

By Arvand Mirsafian

July 3, 2017

While Iran's targets are technical and verifiable, the targets for U.S. compliance are not.

As the two-year anniversary of the Joint Comprehensive Plan of Action (JCPOA) approaches, uncertainty over the Trump administration's commitment to the Iran nuclear deal is growing, heightening the tensions in the Middle East. At a Senate hearing on June 13, Secretary of State Rex Tillerson remarked that although Iran was complying with the JCPOA, the bar for Iranian compliance was "pretty low." The remark came a day before another Senate hearing where the secretary confirmed that the administration's Iran-policy was still under review — including the administration's stance toward the nuclear deal.

But Secretary Tillerson has it somewhat backward. If the bar is low for anyone, it is arguably low for the U.S.

The JCPOA obligates Iran to abide by specific and verifiable targets, such as reducing its numbers of centrifuges by two-thirds, cutting its stockpiles of enriched uranium by 97 percent and destroying the core of the Arak reactor and redesigning the facility with international supervision.

Continuous and independent inspections by the International Atomic Energy Agency ensure that Iran is committed to the deal. Sanctions were waived only after compliance was confirmed by the parties. Indeed, former Deputy Secretary of State Tony Blinken called the inspection regime "one of the most intrusive [...] in the history of arms control."

While Iran's targets are technical and verifiable, the targets for U.S. compliance are not. Consequently, whereas it is clear to the JCPOA signatories and the rest of the international community what Iranian non-compliance would look like, it is not as obvious what precisely constitutes U.S. compliance, or non-compliance.

Although the U.S. has waived nuclear sanctions, those sanctions are not lifted until years down the road and non-nuclear sanctions remain on the books, limiting Iran's access to the international financial system and therefore its benefits from the deal. This was a concern for the Obama administration which understood that the absence of economic growth after Implementation Day posed a threat to the deal's sustainability.

The previous administration therefore undertook what was dubbed a "road show," with former Secretary of State John Kerry and other officials sitting down with foreign banks to walk them through what is and is not permissible under the JCPOA. However, these sessions — intended to resolve lingering concerns among banks that they could run afoul of existing sanctions — have been discontinued by the Trump administration. Statements, such as Tillerson's criticism of the deal's efficacy, only serve to fuel doubt over the administration's position toward the JCPOA and have practical implications. The looming uncertainty over the Trump administration's commitment to the deal has deterred foreign companies from investing in the Iranian economy. Congress is also considering passing additional sanctions that risk interfering with the U.S.'s obligations under the nuclear deal.

While some legitimate criticism can be leveraged against elements of the JCPOA, the administration's actions only serve one purpose: to undermine the credibility of the nuclear deal from within. When dissected, their criticism targets not only the deal, but also the concept of diplomatic talks with Iran. Understanding the consequences of walking away from the deal that enjoys support among the rest of the P5+1, the administration appears instead to be launching ungrounded statements against the JCPOA to undermine its credibility.

By entering in negotiations with Iran, the Obama administration recognized that Iran had to come out of the shadows if stability was to be achieved in the region and that diplomatic talks were a prerequisite for solving many of the issues in the Middle East. Concurrently, the Obama administration saw the region's geopolitical significance diminish in light of rising powers in the East that realistically could threaten the American-led order and tried to refocus U.S. foreign policy accordingly. The Trump administration's apparent opposition to the JCPOA is a miscalculation of where U.S. strategic interests primarily lie that risks entangling the country further in Middle East warfare.

Rather than criticizing Iran's compliance with the deal, the Trump administration would do well to examine its own commitment to the deal — and the geopolitical consequences to the U.S. and the region if it failed to sustain the JCPOA. The U.S. cannot afford continued regional instability and possible isolation from some of its allies, both of which pose long-term threats to American interests in the region.

http://www.huffingtonpost.com/entry/how-do-you-measure-commitment-to-the-iran-nucleardeal us 595ad0f0e4b02734df33d923

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The Nation (Lahore, Pakistan)

Future of CTBT Starts Becoming Questionable: Expert

Author Not Attributed

July 6, 2017

Consulting Advisor for policy and outreach to the Executive Secretary of the Comprehensive Nuclear-Test-Ban Treaty Organisation (CTBT) Tariq Rauf has observed that future of the CTBT is becoming questionable with every passing year.

The former Head of Verification and Security Policy Coordination, Office reporting to the Director General, International Atomic Energy Agency (IAEA), Tariq Rauf, made these observations during a talk organised by the Pakistan Strategic Studies Institute Islamabad (SSII) on Wednesday.

He explained that the ratification of the treaty mainly depends on countries' political decisions, which is the reason the treaty could not enter into force.

He said that China has not ratified the treaty because the US has not done so. Rauf emphasised that signing and ratifying the treaty is the sole sovereign decision of the states, no international

organisation can compel states to become parties to the treaty. He said the CTBT is the barrier to develop nuclear weapons. He said the treaty was negotiated in Geneva and opened for signature in September 1996. Since then, 183 countries have signed the Treaty and 166 countries have ratified it. For entry into force, he explained that 44 states, mentioned in the Annex 2 of CTBT have to ratify the treaty. He said out of 44 states, all have signed with the exceptions of the Democratic People's Republic of Korea (DPRK), India, and Pakistan. Five of the 44 Annex 2 States have signed but not ratified the CTBT; they are China, Egypt, Iran, Israel, and the United States.

The United States and China are the only remaining NPT Nuclear Weapon States that have not ratified the CTBT.

During his presentation, Rauf discussed issues related to Nuclear-Non-proliferation and gave an overview of various types of nuclear weapons. He said that states test nuclear devices for various reasons including to demonstrate capability, to test new weapons, to provide confidence in reliability of stockpiled weapons, to test effects of nuclear weapons on various types of military equipment and for peaceful purposes for example making excavations etc.

He emphasised that there is no difference between peaceful nuclear explosions and nuclear weapon tests. Besides banning nuclear tests and explosion everywhere by everyone in the environment, the CTBT also bans peaceful nuclear explosions, he added.

While closing the talk, Dr Mazari emphasised that CTBT is not a discriminatory treaty. However, Pakistan has not signed the treaty as India is not a signatory to the treaty. She stressed that signing the CTBT is a political and strategic decision at the end of the day. Dr Mazari said that Pakistan's nuclear deterrence credibility is contingent upon updating the nuclear weapons and on India's expensive military programme.

She said that India has the fastest growing nuclear weapon programme in the world and reminded that since the nuclear tests of India and Pakistan in 1998, Islamabad has been suggesting to New Delhi a bilateral/regional arrangement on non-testing of nuclear weapons to which it has never agreed.

http://nation.com.pk/national/06-Jul-2017/future-of-ctbt-starts-becoming-questionable-expert

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Sputnik (Moscow, Russia)

Killing INF Treaty to Unleash New Nuclear Arms Race - Ex-Pentagon Official

Author Not Attributed

June 27, 2017

Former US Defense Department senior analyst Chuck Spinney claims that the United States will open the flood gates to a new wave of spending on strategic nuclear weapon systems if the White House withdraws from the venerable INF treaty.

The United States will open the flood gates to a new wave of spending on strategic nuclear weapon systems if the White House withdraws from the venerable Intermediate-Range Nuclear Forces (INF) Treaty, former US Defense Department senior analyst Chuck Spinney told Sputnik.

On Monday, Politico reported that US lawmakers sent a proposal to the White House urging the administration to withdraw from the INF arms control treaty that was negotiated by President Ronald Reagan and President of the Soviet Union Mikhail Gorbachev in 1987.

"Essentially, this lunacy opens the door for a Pershing II follow on and possibly a new Ground Launched Cruise Missile," Spinney said. "Trashing the intermediate range nuclear treaty opens the money spigot for the only weapons not now included in the across the board nuclear modernization program."

Successive US administrations and congresses were sleep-walking into a new and avoidable nuclear arms race with Russia, Spinney cautioned.

A new generation of intermediate-range nuclear missiles could be based in Eastern Europe or Taiwan, South Korea and other countries, Spinney observed.

Scrapping the INF treaty would reopen the way for the US Army to rearm and re-equip its forces with shorter-range nuclear-armed missiles and launch a new weapons spending spree, Spinney predicted.

"A very attractive piece of such a program is that it would give the Army a piece of the offensive nuclear action. Currently offensive nuclear weapons are monopolized by Navy [and] Air Force and that weakens the Army leverage in the Pentagon budget battlefield," he said.

For the US armed forces, power came out of the size of the financial appropriations they could control that had bene approved by Congress, Spinney explained.

The United States and the American people would not be made safer by abandoning the INF Treaty but the powerful military-industrial lobby within the country looked likely to have its way in scrapping the 30-year-old agreement, Spinney acknowledged.

Spinney added that this insane approach provides yet another example of how domestic policies "trump a rational foreign policy."

The Politico report acknowledged that officials within the US Departments of State and Defense and on the National Security Council recognized the value of the United States remaining within the INF.

The 1987 treaty prohibits the development, deployment or testing of ground-launched ballistic or cruise missiles with ranges between 300 and 3,400 miles. Russia is party to the INF treaty, as the Soviet Union's successor state. The treaty was implemented in 1991, with inspections continuing until 2001.

Russian Foreign Minister Sergey Lavrov has repeatedly said that Moscow was in full compliance with the INF treaty. According to Lavrov, Moscow had its own concerns over Washington's compliance with the INF Treaty and that the Russian side had repeatedly called on US partners to substantially discuss the most controversial points related to the agreement's implementation.

In February, US media reported that Russia had deployed nuclear cruise missiles in violation of the INF Treaty. In March, US Joint Chiefs of Staff Vice Chairman Gen. Paul Selva said in a congressional testimony that the United States aims to "look for leverage points" seeking Russia's compliance with the treaty.

https://sputniknews.com/military/201706271054996988-inf-kill-nuclear-arms-race/

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ASIA/PACIFIC

The Guardian (London, UK)

How the US Could Respond to North Korea's Nuclear Threat

By Tom McCarthy

July 5, 2017

Experts weigh in on a possible US reaction to North Korea's successful intercontinental ballistic missile test, from further sanctions to diplomacy

Public urgency about the threat of North Korea developing a reliable long-range nuclear weapon capable of striking the US was sharpened by news of what Pyongyang and outside analysts say was a successful intercontinental ballistic missile test.

Any immediate US response must take into account the ability of North Korea to instantly launch a devastating strike against allies in Japan and South Korea, including the almost 30,000 US troops stationed on the Korean peninsula, with chemical, biological or possibly nuclear weapons. Conflict with China lurks as an additional grave concern.

What should or can the US do? Over the past two weeks, judging by his Twitter account, Donald Trump appears to have abandoned his original policy on North Korea, which was to rely on China to pressure its neighbor and trading partner to scrap its nuclear program.

While some experts stated clearly months ago that Trump's policy would not work, other influential voices, such as an independent taskforce convened last year by the Council on Foreign Relations, strongly supported such a policy, urging US officials to "undertake a major diplomatic effort to elevate the issue to the top of the US-China bilateral relationship".

The options currently on the table for the US break down roughly into four categories: sanctions and embargoes; diplomacy and concessions; cyber sabotage; and other military options. Here is a summary of expert opinion and analysis on each.

Sanctions and embargoes

North Korea has been the target of various financial and trade sanctions, including sanctions targeting the country's key coal exports and an oil embargo, since it conducted its first nuclear test in 2006.

After the death of American exchange student Otto Warmbier following his detention in North Korea last month, the US expanded its sanctions policy to include secondary sanctions on a Chinese bank and two Chinese individuals for providing North Korea with access to international markets.

"We should be sending teams all over the world to shut down financial assets, enforce sanctions and interdict materials the regime uses for weapons," wrote Wendy R Sherman, the chief US negotiator in the Iran nuclear deal. "We should press the United Nations to do more."

But North Korea's economy has not been crippled by sanctions, thanks in part to the continued trade with China.

"North Korea is far better off now than it was 11 years ago, and worlds apart from the famine of the 1990s," wrote Benjamin Silverstein in The Diplomat. "Food insecurity prevails in North Korea but the country has not seen widespread starvation since the late 1990s."

And "if we were going to impose crippling sanctions" Van Jackson, a defense expert at Victoria University, told the Asia New Zealand foundation, "the time to do it would have been well before it had nuclear-capable missiles, not after."

Diplomacy and concessions

"Negotiate or else," Jim Walsh of the MIT security studies program advised in a piece last week published by Axios:

"During the nuclear age, dozens countries started down the path to nuclear weapons but reversed course. And there are cases where countries acquired or inherited nuclear weapons gave them up outright. Often, that happy result was accomplished not through war but diplomacy – agreements that stopped or rolled back a nuclear weapons program."

"Opening dialogue is neither a reward nor a concession to North Korea; it is simply the only realistic way to reduce the growing dangers," reads a new Guardian piece in support of negotiations:

"Technological solutions – disabling launches through electronic or cyber attacks, or intercepting missiles – will be at best only partially successful. Sanctions may be part of the answer, but history shows that they are not in themselves a solution. The administration has flirted repeatedly with military options, and there is a grave risk that its interest in them may revive, despite the immense dangers. The prospects of destroying the nuclear arsenal – still less conventional stockpiles – would be low, the prospects of devastating repercussions for Seoul high and the chances of a wider destabilisation of the region significant...

However Jackson, the Victoria University analyst, doubts the efficacy of diplomacy. In Jackson's analysis, "nothing much will change in the coming days and months unless 1) the US attacks; 2) the US imposes secondary sanctions on Chinese firms...; or 3) the US pivots its North Korea policy away from denuclearisation and figures out how to live with a nuclear-armed North Korea."

Cyber warfare

The US has been keeping up a secret program of cyber attacks and other nonconventional warfare against North Korea since 2014, David Sanger and William Broad first reported in the New York Times in March.

"Advocates of the sophisticated effort to remotely manipulate data inside North Korea's missile systems argue the United States has no real alternative because the effort to stop the North from learning the secrets of making nuclear weapons has already failed," the journalists wrote. "The only hope now is stopping the country from developing an intercontinental missile, and demonstrating that destructive threat to the world."

The problem with cyber attacks, electronic warfare and industrial sabotage, the authors noted, is that the arsenal "carries no guarantees" of effective prevention, as the world saw on Tuesday.

Military options

In response to the North Korean provocation, US and Korean forces undertook a joint live-fire missile exercise on Wednesday. A joint statement afterwards warning of possible military action.

"Self restraint, which is a choice, is all that separates armistice and war," the statement said. "As this Alliance missile live fire shows, we are able to change our choice when so ordered by our Alliance national leaders. It would be a grave mistake for anyone to believe anything to the contrary."

The military options on the table range from beefing up the South Korea-based THAAD (Terminal High-Altitude Area Defense), a wider attack on North Korea or even an attempt to assassinate the North Korean leader.

National security adviser HR McMaster appears to have moved in a matter of weeks toward military action. On 29 June, following the death of Warmbier and continued North Korean test activity, McMaster warned, "The threat is much more immediate now and so it's clear that we can't repeat the same approach – failed approach of the past."

The Wall Street Journal editorial board openly urged regime change, writing: "Only a much tougher strategy aimed at toppling the Kim regime, with or without China's help, has a chance of eliminating a threat that puts millions of American lives at risk. The best option is a comprehensive strategy to change the Kim regime, as former undersecretary of state Robert Joseph has argued."

In contrast, Daniel Larison of the American Conservative wrote: "Seeking regime change in North Korea would be extremely dangerous and foolish. It would put millions of lives in jeopardy by risking war with the current regime. In the very unlikely event that this policy somehow 'worked' as intended, it would still create massive upheaval that would swamp South Korea with an unmanageable refugee crisis."

Summarizing the situation in the Atlantic, Mark Bowden breaks down military options into either the complete devastation of Pyongyang or a "turn the screws" approach to hit selected reactors or nuclear test sites – attacks designed somehow to avoid all-out war. Bowden spoke with experts who said the "devastation" scenario was politically not feasible on a global scale and maybe not militarily doable anyway.

Bowden wrote:

"Suppose that US forces could be positioned secretly, and that President Moon were on board. Suppose, further, that Pyongyang's nukes could be disabled swiftly, its artillery batteries completely silenced, its missile platforms flattened, its leadership taken out—all before a counterstrike of any consequence could be made. And suppose still further that North Korea's enormous army could be rapidly defeated, and that friendly casualties would remain surprisingly low, and that South Korea's economy would not be significantly hurt. And suppose yet further that China and Russia agreed to sit on the sidelines and watch their longtime ally fall. Then Kim Jong Un, with his bad haircut and his legion of note-taking, big-hat-wearing, kowtowing generals, would be gone. South Korea's fear of invasion from the North, gone. The menace of the state's using chemical and biological weapons, gone. The nuclear threat, gone.

Such a stunning outcome would be a mighty triumph indeed! It would be a truly awesome display of American power and know-how.

What would be left? North Korea, a country of more than 25 million people, would be adrift."

In lieu of straightforward solutions to the North Korea conundrum, the US leadership has at times reverted to silence.

"The United States has spoken enough about North Korea," US secretary of state Rex Tillerson said in a statement after a missile launch in early April. "We have no further comment."

https://www.theguardian.com/world/2017/jul/05/north-korea-nuclear-threat-us-responsedonald-trump

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South China Morning Post (Hong Kong, China)

US Ready to Use Military Force Against North Korea if Diplomacy Fails, Trump's UN Ambassador Says

By Robert Delaney

July 6, 2017

US ambassador Nikki Haley seeks UN Security Council resolution aimed at halting all violations of sanctions against North Korea

The US will use military force to stop North Korea from developing the capability to strike another country with a nuclear weapon if diplomatic solutions fail, US Ambassador to the United Nations Nikki Haley said.

Haley's delegation plans to introduce "in the coming days" a new UN Security Council resolution aimed at halting all violations of existing sanctions against North Korea. The ambassador also threatened that the US government will cut off trade with countries that continue to trade with the reclusive nation.

The trade threat appeared to be a jab at China, which US President Donald Trump has accused of undermining efforts aimed at subduing Pyongyang's weapons programme by trading with the country.

"There are countries that are allowing, even encouraging, trade with North Korea in violation of UN Security Council resolutions," Haley said. "Such countries would also like to continue their trade with the United States. That's not going to happen. Our attitude on trade changes when countries do not take international security threats seriously. "

Haley made the comments during an emergency meeting that she and her South Korean and Japanese counterparts Cho Tae-yul and Koro Bassho called in response to North Korea's recent launch of what the US military determined was an intercontinental ballistic missile. Haley called the latest missile test "a new escalation of the threat".

Shortly after the launch, US Secretary of State Rex Tillerson called it a "new escalation of the threat" to the US. UN Secretary-General António Guterres called the launch "another brazen violation of UN Security Council resolutions" which "constitutes a dangerous escalation of the situation".

China's UN Ambassador Liu Jieyi, who presided over Wednesday's meeting in his capacity as Security Council president – a position that rotates monthly – didn't acknowledge Haley's trade threat. Instead, Liu backed Russia's Deputy UN Ambassador Vladimir Safronkov, who rejected Haley's threat to use military force.

Liu also called for the US to cancel joint military exercises with South Korea's military and plans to deploy a missile defence system in South Korea.

While calling North Korea's recent ICBM test launch "unacceptable" and "a flagrant violation", Liu said the US missile defence system in South Korea "undermines the security interests of countries in the region, including China".

Safronkov's was the most forceful rejection of Haley's proposals among the Security Council members.

"It's utterly clear to us that any attempt to justify a military solution is inadmissible," said Safronkov, who warned the council to "leave behind the dangerous logic of confrontation". In response, Haley challenged Russia to veto the new resolution she plans to put forward.

"If you are happy with North Korea's actions, veto it," said Haley, who urged Safronkov's delegation to "vote with the international community".

"If you choose not to, we will go our own path."

Throughout efforts by the US, South Korea and Japan to tighten Security Council sanctions and issue "secondary sanctions" or those that violate existing resolutions, North Korea has maintained that it is developing weapons in response to joint military exercises conducted by Washington and Seoul.

Last month, North Korea's deputy permanent representative to the UN, Kim In-ryong, said Guterres had not responded to requests to convene an "international forum of legal experts" to discuss the legal justification for UN sanctions implemented and tightened in recent years – most recently in November 2016.

Kim said his delegation had also sent several petitions to the UN Security Council seeking an emergency meeting to discuss the US-South Korea war games.

http://www.scmp.com/news/china/diplomacy-defence/article/2101452/us-ready-use-militaryforce-against-north-korea-if

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The Diplomat (Tokyo, Japan)

North Korea Announces That It Has Successfully Tested Its First-Ever ICBM

By Ankit Panda

July 4, 2017

North Korea reaches a major milestone in its ballistic missile development.

On Tuesday, July 4, North Korean state media announced that the country had carried out its firstever flight test of an intercontinental ballistic missile.

According to North Korea's Korean Central News Agency, Kim Jong-un approved the launch of a Hwasong-14 intercontinental ballistic missile, which is also known as the KN-14.

The Hwasong-14 missile involved in Tuesday's test has been a known system for some time and first appeared in a North Korean military parade. It remains unclear if the missile is a two- or three-stage ICBM. The system uses liquid propulsion.

During a special broadcast on Tuesday, hours after the launch, North Korea's national broadcaster noted that the launch was successful, that the system is an intercontinental system, and that the missile traveled to a range of 934 kilometers, matching earlier estimates from South Korea and Japan.

The North Korean announcement added that the missile reached an altitude of 2,800 kilometers and flew for 39 minutes.

Extrapolating a maximum range from the observed flight on Tuesday, the missile would likely be capable of striking most of Alaska, but likely not Hawaii or the continental United States.

The announcement added that North Korea could now target any part of the world and had finally overcome the threat of an attack by the United States through deterrence.

An initial North Korean ICBM test is a major regional development in Northeast Asia that will bear not only on U.S. alliances in the region, but also affect the policy options available to the United States.

North Korea had noted earlier this year that it had "entered the final stage of preparation for the test launch of [an] intercontinental ballistic missile" in 2016. Shortly thereafter, North Korean officials noted that an ICBM test could occur at any time.

U.S. President Donald J. Trump, in a tweet in January, during the presidential transition period, noted that "North Korea just stated that it is in the final stages of developing a nuclear weapon capable of reaching parts of the U.S. It won't happen!"

http://thediplomat.com/2017/07/north-korea-announces-that-it-has-successfully-tested-its-first-ever-icbm/

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38 North (Washington, DC)

North Korea Finally Tests an ICBM

By John Schilling

July 5, 2017

Americans do like to celebrate Independence Day with a spectacular fireworks display, but a test flight of an intercontinental ballistic missile (ICBM) is a bit more than we usually expect. But that's the surprise Kim Jong Un claimed he had for us this Fourth of July, and it is a worrisome one. North Korea's news agency, KCNA, has released a video of the launch, and asserted a maximum altitude of 2,802 kilometers before impacting in the sea 933 km downrange and 39 minutes later. The governments of the United States, South Korea and Japan have made statements confirming the launch and approximate level of performance. If true, this is a successful demonstration of a missile with intercontinental range, possibly one capable of reaching targets in the continental United States. We hadn't expected this to happen this soon. However, it will probably require another year or two of development before this missile can reliably and accurately hit high-value continental US targets, particularly if fired under wartime conditions. For now, it is a more uncertain threat. But an uncertain threat to the US mainland can still be a powerful deterrent, and it probably won't take years for us to see the diplomatic and political implications of that threat.

Interestingly, the Russian defense ministry claims that the maximum altitude was only 510 km. The first report from the US Pacific Command claimed that the apogee was at least 2,500 km, but called the missile an intermediate-range ballistic missile (IRBM) even though a 2,500 km apogee would give a range well beyond the 5,500 km threshold for an ICBM. These inconsistencies should serve as a reminder that these are all preliminary reports of a very recent event. Whose figures are most accurate, we don't know. Nothing can yet be said with certainty, and some of what we are being told may be quite wrong. But, acknowledging that uncertainty, we will at least tentatively assume that the claims of a 2,500+ km apogee and 37+ minute flight time are accurate.

As with most of North Korea's recent long-range missile tests, this one used a so-called "lofted" trajectory to keep the missile from overflying neighboring countries while still demonstrating high performance. If the data is correct, preliminary trajectory reconstructions indicate that if the missile were fired on a more efficient trajectory it would reach a range of anywhere from 6,700 to 8,000 km. David Wright, who provided the 6,700 km figure, acknowledges that his early analysis

did not include the effect of the Earth's rotation and the performance would probably be higher if the missile were launched in an easterly direction. The United States, of course, is to the east of North Korea. By any standard, this is the performance of an intercontinental ballistic missile. Fired from North Korea, it probably couldn't reach the contiguous United States, but Hawaii and Alaska would be within reach.

The missile, which North Korea calls the Hwasong-14, is very similar to a liquid-fueled missile first displayed on parade in late 2015 and later identified as the KN-14. One key difference is that the KN-14 used a dual first stage engine, while the missile just tested used a single main engine with four smaller verniers for control. The dual-engine configuration was probably never more than an interim design, depending on a limited supply of Cold War surplus Russian hardware. The new single engine is very similar to one used in last month's test of the Hwasong-12 (a.k.a. KN-17), and is likely a new North Korean design. Indeed, given the timing, it looks very much like the Hwasong-12 was being used to develop and test key technologies for the Hwasong-14, minimizing the chance of a politically embarrassing failure in the first flight of a North Korean ICBM.

Another key difference is that the upper stage and particularly the reentry vehicle have been reshaped. The original blunt reentry vehicle of the KN-14 has either been redesigned, or enclosed in a hollow payload fairing. A payload fairing would modestly improve the aerodynamics of the missile in early flight, giving a small increase in performance. Payload fairings on ICBMs are also used to cover multiple warheads and/or decoys and other penetration aids, but this missile does not have the performance to carry multiple warheads or more than a very minimal set of decoys.

Finally, while the Hwasong-14 appears to be carried by the same transporter used to parade the KN-14 through the streets of Pyongyang, it isn't being used to launch the missile. Instead, the transporter simply erects the missile on a small, expendable launch stand, and drives away to a discrete distance. This will slow down launch operations to some degree, but greatly reduces the probability of an expensive and possibly irreplaceable missile transporter being destroyed in a failed test. North Korea may retain the ability to launch directly from the transporter in wartime operations. Even if they don't, the missile is still at least somewhat mobile and so difficult to destroy in a preemptive strike.

It is probably reasonable to consider this missile a variant of the previously-displayed KN-14, rather than an entirely new missile. At a minimum, it is part of a common family with the KN-14 and KN-17. We can speculate on whether this test was successful or partially successful. It was probably at least partially successful. But we don't know whether the North Koreans were hoping to reach a greater range. If their propaganda threats reflect their targeting plan, then they still can't reach places like the US naval base in San Diego and certainly can't come anywhere near the East Coast of the United States—at least not with this missile in its current form.

If it was only partially successful, that may mean the North Koreans have other homework to do, particularly if the missile didn't reach its expected degree of accuracy. A missile needs to shut down its engine in a precisely-controlled fashion to hit even as large a target as a naval base or a city, and that needs to be tested. If instead the missile runs out of fuel even a few seconds early, another test is required. Irregular performance of the heat shield on the reentry vehicle is also common in early ICBM testing; it is rare for the warhead to actually burn up, but common for it to be thrown far off course. It will probably require additional testing to correct for that. If, in addition to a warhead, North Korea hopes to include even a minimal system of decoys and penetration aids, those will likely need a very extensive test program and may not be available in the first operational version of the missile.

Finally, a single test cannot demonstrate a missile's reliability. And it isn't just the missile's reliability that needs to be demonstrated. The launch crews will need to demonstrate that they can

reliably launch the missile on short notice, under combat conditions and possibly with US or South Korean missiles already on the way. They will need to train and practice operating the missile's transporter and associated support systems at remote sites and conduct very hazardous propellant loading operations without the facilities of a missile test range. Having done this with some degree of success, once, under ideal conditions, doesn't mean they can do it in the middle of a war tomorrow.

A key issue that is still unclear is what level of reliability North Korea aims to achieve. For instance, if it were to try and launch a Hwasong-14 in combat later this year, there's a better than even chance that it wouldn't work even though the same design worked well enough under the ideal conditions of a test launch. The missile could simply fail to launch, might possibly explode or could just fly far off course and hit nothing of importance. But it could also work well enough to destroy a city—and with enough mobility that nobody could be confident of destroying it before launch. However, if North Korea's immediate goal is deterrence, then that may be good enough.

But it probably won't take them more than a year or two to learn how to operate this missile reliably and accurately in combat, and to incorporate whatever design modifications or performance enhancements this test may call for. We had thought that we would have until perhaps early 2020 to prepare for a North Korean ICBM capability, but it turns out they were working on a different timetable. That has serious strategic, diplomatic and political implications for the very near future. For instance, starting today, US military commanders cannot be 100 percent certain that a war on the Korean peninsula won't stretch at least as far as Hawaii or Alaska. Soon, US allies will wonder if this is going to affect US commitments to defense and stability in the region. And the US political leadership is going to have to figure out what to do about that.

http://www.38north.org/2017/07/jschilling070517/

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EUROPE/RUSSIA

The New York Times (New York, NY)

European Nuclear Weapons Program Would Be Legal, German Review Finds

By Max Fisher

July 5, 2017

A review recently commissioned by the German Parliament has determined that the country could legally finance the British or French nuclear weapons programs in exchange for their protection. The European Union could do the same if it changed its budgeting rules, the study found.

The German assessment comes after months of discussion in Berlin over whether Europe can still rely on American security assurances, which President Trump has called into question. Some have called for considering, as a replacement, a pan-European nuclear umbrella of existing French and British warheads.

The assessment provides a legal framework for such a plan. Britain or France, it finds, could legally base nuclear warheads on German soil.

The document states that "President Trump and his contradictory statements on NATO" have led to fears "that the U.S. could reduce its nuclear commitment" to Europe.

While the review is only an endorsement of the plan's legality — not a determination to take action — it is the first indication that such an idea has escalated from informal discussion to official policy-making channels.

Few analysts believe that Germany or the European Union is on the verge of pursuing a replacement nuclear umbrella. Most German officials still oppose such a plan, which would face steep public opposition and diplomatic hurdles. Even proponents consider it a last resort.

Nonetheless, analysts say, the review indicates the growing seriousness with which Germany is preparing for the possible loss of the American guarantees that have safeguarded and united European allies since World War II.

"Someone wanted to see whether this could work," said Ulrich Kuhn, a German nuclear analyst at the Carnegie Endowment for International Peace. "It suggests people consider this a possibility."

While few are convinced Germany could overcome its taboo against nuclear weapons anytime soon, the existence of the assessment suggests that under pressure from Mr. Trump and growing Russian aggression, the taboo has eroded to an extent.

"The fact that they're asking the question in itself is pretty important," said Vipin Narang, a Massachusetts Institute of Technology political scientist who studies nuclear states.

"What's the line? 'Amateurs worry about strategy, professionals worry about logistics,' " Mr. Narang added, saying that the assessment, by evaluating fine-grain legal questions, "is getting into the logistics" of a European nuclear program.

Germany, the assessment finds, could be granted shared control over deploying those warheads under something called a "dual key" system, an arrangement that currently applies to American warheads based there. This would be intended to signal that the weapons would be used to protect all of Europe.

The legal review was requested last year by Roderich Kiesewetter, a lawmaker, a former colonel and a foreign policy spokesman with Germany's governing party. Mr. Kiesewetter's office said it was unclear why the assessment was made only now, months later.

Mr. Kuhn suggested that the timing could be related to the French presidential election, which elevated Emmanuel Macron, a pro-European centrist who has advocated closer defensive cooperation between France and Germany.

Mr. Macron was elected on May 7. The legal review was concluded on May 23. It is unclear how long after that the findings were made public.

Any version of this plan would likely hinge on French-German cooperation. Britain's nuclear program is small and submarine-based. Its pending exit from the European Union could also preclude British involvement.

France's nuclear program, larger and more advanced, would be better suited to replace American capabilities, particularly the small, battlefield warheads that would be most useful in repelling a potential Russian invasion.

German financing and basing for the program would be intended to demonstrate its function as a guarantor of European security. Officials in Poland, an informal security leader among Eastern European states, have expressed support in public comments.

Some versions of the plan, including one floated by Mr. Kiesewetter this winter, would see the European Union co-finance the French nuclear umbrella in order to demonstrate France's commitment to use the warheads in defense of all member states.

Still, analysts say that securing legal authority is only a small, initial step, and one that might suggest Germany's desire to avoid, more than pursue, such a drastic option.

Mr. Narang compared the document to a review by the Japanese government in the 1960s. Tokyo, fearing the United States might withdraw its protection, issued a report outlining how Japan could build a small nuclear arsenal of its own.

Mr. Narang said the Japanese study was intended both to dissuade the Americans from withdrawing and to prepare a fallback in case they did. Germany, he added, today faces a similar dilemma.

While it is unclear whether Japan would have really followed through, the country did develop something called a "turnscrew" capability, which left it only a few months from converting civilian nuclear materials into warheads.

"These legal findings are part of that insurance hedging," Mr. Narang said, referring to the technical term for when countries seek alternatives to existing alliances.

Even if allies have little intention of breaking from the status quo, he added, the act of planning for a worst-case situation makes it easier to imagine and, if necessary, pursue.

https://www.nytimes.com/2017/07/05/world/europe/germany-nuclear-weapons.html
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Euronews (Lyon, France)

Nato Fears Could Push Europe Towards More Nuclear Weapons

By Chris Harris

July 3, 2017

Fears the US will withdraw its security umbrella from Europe could push countries to develop their own nuclear weapons, according to a group that monitors global arsenals.

France and the United Kingdom are the European Union's only nuclear powers, both having fewer than 5% of the number of warheads held by the US and Russia.

But experts say that could change amid Donald Trump's threats to reduce the US's commitment to NATO.

President Trump thinks the U.S. pays too much to guarantee European countries' security and has urged NATO members to spend more on defence.

"Trump's statements and general style so far appear to have increased concern in Europe and Asia about US security commitments, including providing a nuclear umbrella," Hans Kristensen, associate senior fellow at the Stockholm International Peace Research Institute (SIPRI) told Euronews.

"If those concerns continue and deepen, they could potentially cause some of those countries to reevaluate whether they need to develop nuclear weapons for their own security."

The latest statistics on the nuclear weapons reveal the US and Russia both have around 7,000 warheads each.

The pair, which own 93 percent of the world's nuclear weapons, are on track to meet a 2018 deadline to reduce their stockpiles.

While France and the UK have maintained or reduced their capabilities, three Asian countries – India, Pakistan and North Korea – have upped theirs.

SIPRI says while overall the number of warheads is on a downward trend, all nine nuclear powers are modernising their arsenals.

It says the U.S. plans to spend \$400 billion (349 billion euros) over the next decade to maintain and upgrade its nuclear forces.

"The projected increases in U.S. spending are not unexpected," added Kristensen. "The current U.S. administration is continuing the ambitious nuclear modernisation plans set out by President Barack Obama."

Trump has said the U.S. must strengthen and expand its nuclear capacity "until such time as the world comes to its senses regarding nukes".

"Although Trump can't directly affect other countries' nuclear arsenals, his policies can certainly influence how they view the need for nuclear weapons," said Kristensen.

"An increase or significant improvement of the US nuclear arsenal is likely to help fuel modernization plans in other countries.

"That's not to say they wouldn't modernise their forces if the United States didn't, but US improvements can drive requirements in those countries to compensate or match the US capabilities."

http://www.euronews.com/2017/07/03/nato-fears-could-push-europe-towards-more-nuclearweapons

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The Guardian (London, UK)

Russia Begins Cleaning Up the Soviets' Top-Secret Nuclear Waste Dump

By Shaun Walker

July 2, 2017

When the Soviet Union collapsed a vast store of spent nuclear fuel was abandoned in the Russian Arctic – an environmental disaster waiting to happen. Decades later an international clean-up has finally begun

As the Rossita pulled away from the pier at Andreyeva Bay, sounding a long boom of its horn, a military band struck up a jaunty march. On board the ship were nine sealed metal casks, each four metres high and weighing 45 tonnes, containing canisters of spent nuclear fuel. Dozens of Russian and foreign nuclear specialists looked on applauding, as the chilly rain of a northern summer fell on the bay deep inside the Russian Arctic.

The ceremony, held on Tuesday afternoon, marks the culmination of a long international project to begin removing nuclear fuel from the site, formerly a top-secret Soviet installation. Nuclear specialists say Andreyeva Bay contains the largest reserves of spent nuclear fuel in the world, in fragile conditions that have disturbed the international community for years.

During the Cold War period, nuclear submarines were refuelled at sea, and the spent nuclear fuel was then shipped to Andreyeva Bay, where it was placed in a special storage facility to cool off before being transported to a reprocessing plant at Mayak, in the Urals. But in the early 1980s, leaks sprung up in the storage system, causing high levels of radioactive contamination.

When the Soviet Union collapsed, transfers of the spent fuel ceased, and about 22,000 spent nuclear fuel caskets were left at Andreyeva Bay in leaky dry storage units, creating the potential for an environmental catastrophe.

"I've been all over the world to pretty much every country that uses nuclear power and I've never seen anything so awful before," said Alexander Nikitin, a former naval officer and environmentalist who has been monitoring the site for years.

"With nuclear material, everything should be done very carefully, and here they just took the material and threw it into an even more dangerous situation."

In the decade after the Soviet collapse, the main concern was that poorly maintained facilities could lead to an onsite disaster. Nearly 250 nuclear submarines were decommissioned in the aftermath of the Soviet collapse, and facilities such as Andreyeva Bay were left in a perilous state.

"There wouldn't have been a big explosion, but it could still have been something serious," said Nikitin. "With nuclear fuel, once processes start, you have no way of knowing how they will develop."

Over the next decade, security fears also increased. "Before 9/11, nobody would really think anyone would be crazy enough to try to handle spent nuclear fuel, but with the new type of terrorist threat we face, this became a bigger worry," said Balthasar Lindauer of the European Bank for Reconstruction and Development (EBRD), which has managed the donor funds from western countries to help with the clean-up.

The facility at Andreyeva Bay was one of many top-secret installations in the Soviet Arctic. A twohour drive from the regional centre of Murmansk along a road cut out of mossy rocks, still dusted with snow in late June, the entire area around Andreyeva Bay is closed to all foreigners and even Russians who are not registered there. A heavily armed military checkpoint on the outskirts of town keeps out all those who do not have security clearance. This is partly because Russia has a working nuclear submarine base on the other side of the bay at Zaozyorsk.

It might seem odd that, as Russia ploughs more money into its current military budget, western nations who see Moscow as a military threat are helping to fund the clean-up of the mess the Soviet military left behind. 13 countries have provided €165m in funding since 2003 for nuclear decommissioning in Russia's north-west. There have also been a number of bilateral projects, with Britain, Norway and other countries funding a long project to help clean up Andreyeva Bay.

The Norwegian foreign minister, who was present at Tuesday's ceremony, said the funding for the project was committed nearly two decades ago, when Russia was in no economic state to deal with the problems alone. He also pointed out that the Andreyeva Bay facility is only about 40 miles from the Norwegian border, making the decommissioning issue one in which Norway has long taken a strong interest.

"Nuclear challenges recognise no borders, and it is in our common interest to deal with nuclear waste now rather leaving the problems to future generations," said the Norwegian foreign minister, Børge Brende.

A suite of new buildings has been constructed around the area where the spent nuclear fuel caskets are kept, replacing the decaying structures that stood there previously. Work to load canisters into the giant protective casks can now be done using specially commissioned machinery.

The Rossita, a ship constructed for the task, will take the huge fuel casks to Murmansk, where they will be put on fortified trains which will proceed under armed guard on the long journey from the Arctic to the Mayak reprocessing site. At the Mayak facility, the spent fuel will be recycled and the Russians say they will turn it into fuel to be used in civilian nuclear reactors.

Specialists at the plant estimate it could take 10 years to remove all the fuel. About half of the caskets have some kind of surface damage to their containers and will be dealt with after the non-problematic batches have been removed.

"This is the end of a long process, but also the beginning of another long stage in the clean-up," said Marina Kovtun, the governor of Murmansk region. "Despite international tensions, work went on every day. Everyone who was working on this project understood that they were doing this for all of humanity and for protecting our environment."

Indeed, in the current climate of hostility between Russia and the west, it was an unusual tale of bonhomie and cooperation, as the ceremony included the flags of 10 western nations as well as the Russian tricolour.

"The Barents Sea is maybe the cleanest sea in the world, and if something had happened here, it would have affected the whole Arctic," said Brende. "This process is not completely without risk, but compared to doing nothing, the risks are now much lower."

https://www.theguardian.com/environment/2017/jul/02/russia-begins-cleaning-up-the-sovietstop-secret-nuclear-waste-dump

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Sputnik (Moscow, Russia)

Russia Has Appropriate Response to Possible US Withdrawal From INF Trea ty

Author Not Attributed

June 26, 2017

Russia is able to respond adequately in the case the United States leaves the Intermediate-Range Nuclear Forces Treaty (INF Treaty).

However, before the government starts discussing the measures which may be taken, Moscow should wait until Washington makes a decision on the issue, head of the Russian State Duma Defense Committee Vladimir Shamanov told Sputnik Monday.

On Saturday, the Politico news outlet reported, citing several congressmen, that the Trump administration was considering the proposal of Congress to withdraw from the INF Treaty with Russia.

"We should wait for the decision. Without a doubt, we have an appropriate response [to the withdrawal]," Shamanov said.

The lawmaker also stressed that none of the parties had anything to gain if Washington decided to withdraw from the treaty.

"I think it will make it worse for everyone because it will cause an attempt of the arms race, and nobody will benefit from it," Shamanov noted.

President of the Soviet Union Mikhail Gorbachev and US President Ronald Reagan signed the INF Treaty in 1987. Russia is party to the treaty, as the Soviet Union's successor state. The 1987 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 in 1991, with inspections continuing until 2001.

Russian Foreign Minister Sergey Lavrov has repeatedly said that Moscow was in full compliance with the INF treaty. According to Lavrov, Moscow had its own concerns over Washington's compliance with the INF Treaty and that the Russian side had repeatedly called on US partners to substantially discuss the most controversial points related to the agreement's implementation. In February, US media reported that Russia had deployed nuclear cruise missiles in violation of the INF Treaty. In March, US Joint Chiefs of Staff Vice Chairman Gen. Paul Selva said in a congressional testimony that the United States aims to "look for leverage points" seeking Russia's compliance with the treaty.

https://sputniknews.com/politics/201706261054975567-russia-inf-treaty-response/

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EUROPE/RUSSIA

Middle East Monitor (London, UK)

Regime: Syria Completely Disposed Of Chemical Weapons

Author Not Attributed

July 4, 2017

Syria has completely disposed its chemical weapons, Syrian News Agency (SANA) reported, quoting the Syrian Deputy Foreign Minister, Fayssal Mikdad.

"I affirm in the name of the Syrian Arab Republic that Syria disposed of its chemical program completely. There are no longer any chemical weapons in Syria, or any toxic chemical materials or gases that could be used in military operations," Mikdad said in a press conference held yesterday in Damascus.

Mikdad asserted that Syria had requested the disposal of its chemical materials outside the country so that there can be no doubts about them being destroyed or not, adding that some ships came from Denmark, the US, Britain, and other states to carry out this process.

He pointed out that the Organization for the Prohibition of Chemical Weapons (OPCW) has acknowledged that Syria has disposed of everything related to the chemical issue.

The Syrian official went on to say that after the Khan Sheikhoun incident, Syria invited the UN General Secretariat and the OPCW to investigate the incident.

The recent developments in Syria, he added, are the best for the Syrian state since the beginning of the crisis, as the Syrian Army and its allies are advancing and reconciliations are taking place in several areas.

https://www.middleeastmonitor.com/20170704-regime-syria-completely-disposed-of-chemical-weapons/

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Organization for the Prohibition of Chemical Weapons (The Hague, Netherlands)

OPCW Fact-Finding Mission Confirms Use of Chemical Weapons in Khan Shaykhun on 4 April 2017

Author Not Attributed

June 30, 2017

In a report released by the Organisation for the Prohibition of Chemical Weapons (OPCW), the OPCW Fact-Finding Mission (FFM) confirmed that people were exposed to sarin, a chemical weapon, on 4 April 2017 in the Khan Shaykhun area, Idlib Province in the Syrian Arab Republic.

The FFM's mandate is to determine whether chemical weapons or toxic chemicals as weapons have been used in Syria; it does not include identifying who is responsible for alleged attacks. An advance team for the FFM was deployed within 24 hours of being alerted to the incident. For security reasons, the FFM was unable to visit Khan Shaykhun. The rapid deployment to a neighbouring country, however, enabled the team to attend autopsies, collect bio-medical samples from casualties and fatalities, interview witnesses and receive environmental samples.

A rigorous methodology was employed for conducting an investigation of alleged use of chemical weapons that took into account corroboration between interviewee testimonies; open-source research, documents, and other records; and the characteristics of the samples including those provided by the Government of the Syrian Arab Republic.

The Fact-Finding Mission report has been shared with States Parties to the Chemical Weapons Convention and the OPCW's Executive Council, which will consider the FFM's findings at an Executive Council meeting scheduled for 5 July 2017.

The report has also been sent to the United Nations Security Council through the UN Secretary-General and the OPCW-UN Joint Investigative Mechanism.

The Director-General stated: "The OPCW FFM has confirmed the use of sarin, a nerve agent, at the 4 April incident in Khan Shaykhun in Syria. I strongly condemn this atrocity, which wholly contradicts the norms enshrined in the Chemical Weapons Convention. The perpetrators of this horrific attack must be held accountable for their crimes. In this context, the work of the Joint Investigative Mechanism assumes high importance."

The OPCW-UN Joint Investigative Mechanism was established by the UN Security Council (Resolution 2235, 7 August 2015) with the mandate to identify "to the greatest extent feasible" individuals, entities, groups, or governments who were perpetrators, organisers, sponsors or otherwise involved in the use of chemicals as weapons in Syria, where the OPCW FFM determines

or has determined that a specific incident involved or likely involved the use of chemicals as weapons.

Background

In response to persistent allegations of chemical weapon attacks in Syria, the OPCW Fact-Finding Mission (FFM) was set up in 2014 with an on-going mandate "to establish facts surrounding allegations of the use of toxic chemicals, reportedly chlorine, for hostile purposes in the Syrian Arab Republic". The FFM has previously confirmed with a "high degree of confidence" the use of chlorine and sulfur mustard as weapons.

The FFM is required to study available information relating to allegations of use of chemical weapons in Syria, including information provided by the Syrian Arab Republic and others. The FFM employs investigative methods to determine if chemical weapons have been used. It interviews witnesses and obtains environmental and bio-medical samples and physical evidence for analysis.

The OPCW Fact-Finding Mission undertook a preliminary assessment of all available information immediately after reports of the incident in Khan Shaykhun and issued a status update on 12 May 2017 to States Parties of the Chemical Weapons Convention and others.

Principal methods for collecting and evaluating the credibility of information included: research into incidents and existing reports; assessment and corroboration of background information; conduct of interviews with relevant medical care providers, alleged casualties and other individuals linked to the reported incident; the review of documentation and records provided by interviewees; the assessment of the symptoms of victims as reported by interviewees; and the collection of bio-medical specimens and environmental samples for analysis.

The 192 countries that are party to the Chemical Weapons Convention have condemned any use of toxic chemicals as a weapon by anyone anywhere in any circumstances as a violation of international law, and have expressed their conviction that those responsible should be held accountable.

The Organisation for the Prohibition of Chemical Weapons is a treaty-based international organisation that operates according to a strict confidentiality regime, which governs the operations of the Organisation, protects the integrity of its investigations, ensures the security of its technical experts, and determines what information can be made public. The OPCW is responsible for the implementation of the Chemical Weapons Convention, which comprehensively prohibits the use, development, production, stockpiling and transfer of chemical weapons.

https://www.opcw.org/news/article/opcw-fact-finding-mission-confirms-use-of-chemicalweapons-in-khan-shaykhun-on-4-april-2017/

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Deutsche Welle (Bonn, Germany)

German, Iranian Foreign Ministers: Iran nuclear deal must stay

By Jefferson Chase

June 26, 2017

After meeting with Iranian Foreign Minister Mohammad Zarif, Sigmar Gabriel said Germany would resist any questioning of the deal. Zarif also commented on the US travel ban, but human rights issues went unmentioned.

As one of a group of signatories to the so-called Iran Nuclear Deal, in which international sanctions against the country have been lifted in return for Tehran agreeing to forgo nuclear weapons, Germany has been unsettled by intimations by US President Donald Trump that the US might pull out of the arrangement. So it was no accident that German Foreign Minister Gabriel spent much of the press conference following talks with Zarif addressing the issue.

Gabriel said the deal had prevented an "unrestricted nuclear arms race" in the Gulf region and described his country's support for it as unwavering.

"We stand behind this agreement and want to support all the parties in their efforts to fulfill it," Gabriel said. "As the Federal Republic of Germany and as Europeans we would oppose any attempts to call it into question."

Gabriel added that according to the International Atomic Energy Agency, Iran has been meeting its obligations under the deal. Zarif thanked Germany for helping lift what he called the "unjust sanctions."

"From the very beginning, Germany played an important role in the negotiations," Zarif said. Aside from Germany, the nuclear deal included all the permanent members of the United Nations and the European Union.

In a statement German Economy Minister Brigitte Zypries echoed Zarif's calls for economic ties between the two countries to be further expanded. German exports to Iran in 2016 totalled around 2.6 billion euros (\$2.9 billion).

Punished for the deeds of others?

The Iranian foreign minister also commented on the Supreme Court decision in the US that partially sanctioned Trump's entry ban on people from six Muslim-majority countries, including Iran, that the US president claims sponsor terrorism.

Using the colloquial name for Trump's executive order, Zarif said that the "Muslim ban" would encourage rather than deter terrorism and was aimed at the wrong groups.

"It's regrettable," Zarif said. "The citizens from the countries on the list have never participated in any acts of terrorism against the United States and yet they are punished for acts of terrorism by the citizens of other countries. The problem is that, for some, support for terrorism is measured by how much money they spend buying arms from the US and not by actual acts of terrorism."

Gabriel did not comment on the issue.

You can't choose your neighbors

Gabriel and Zafir said that they had also discussed the Middle East diplomatic crisis that has seen Saudi Arabia, Bahrain, Egypt and the United Arab Emirates break off relations and impose embargoes on Qatar.

Ahead of his visit to Berlin, Zafir had urged Europe to take a greater role, but Gabriel was somewhat non-committal, saying only that Germany, together with the US, supported efforts by the emir of Kuwait to get the two sides to the negotiating table.

Iran has supported Qatar in the conflict, but Zarif said that both sides in the conflict had no choice but to learn to live side by side.

"Neighbors are not a choice - they're a fact," said Zarif. "A fact of geography is a fact of geography."

Worlds apart

Critics of Iran accuse Zarif of being a slick diplomat who conceals the harsher policies of his government behind a media-friendly smile.

Gabriel acknowledged that on a range of issues, including Iran's consistent calls for the eradication of Israel, the two countries were "worlds apart."

"But that shouldn't lead us to question an area in which we've achieved success," Gabriel added. "We shouldn't misuse conflicts in other areas, many of which existed before the nuclear deal, to call the nuclear deal into question."

Outside the German Foreign Ministry anti-Iranian demonstrators erected mock gallows to protest against Tehran's human rights abuses and support for Syrian leader Bashar al-Assad in that country's bloody civil war. They chanted "Zarif must go" and held up signs calling for an end to state executions in Iran.

http://www.dw.com/en/german-iranian-foreign-ministers-iran-nuclear-deal-must-stay/a-39440941

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Tehran Times (Tehran, Iran)

Ayatollah Khamenei urges more missile work

Author Not Attributed

July 5, 2017

"Do work on missiles to the extent you can. Look how sensitive the enemy is to the missile issue," the Leader told the top officers.

"The enemy should be slapped."

The Leader also referred to the recent missile attack at Islamic State's strongholds in Syria, saying, "You did excellent job."

Ayatollah Khamenei praises IRGC missile attack on ISIS as "excellent job".

The firing of six missiles into Islamic State's strongholds in eastern Syria on June 18 by IRGC left dozens of terrorists killed and injured.

The swift avenge came after ISIS suicide bombers and gunmen stormed the parliament and the mausoleum of Imam Khomeini on June 7, killing 18 and injuring at least 56.

http://www.tehrantimes.com/news/414848/Ayatollah-Khamenei-urges-more-missile-work Return to top

INDIA/PAKISTAN

Pakistan Observer (Islamabad, Pakistan)

How Recent NSG Plenary Was Significant?

By Maimuna Ashraf

July 1, 2017

The twenty-seventh Plenary Meeting of the Nuclear Suppliers Group (NSG), an elite nuclear cartel to control nuclear commerce, which was held in Switzerland last month on June 22 and 23, 2017 ended inconclusively on the issue of non-NPT state's membership. India was struggling to whittle away the resistance for paving way into the group however the country's print media headlines concluded the entry status as 'stalled and awaited'. The outcome of this plenary session on the enlargement of cartel's memberships does not come as a surprise because no major breakthrough for India's accession to NSG was expected for foreseeable future, viewing no change in China's position and blatant slant among the members of cartel over the criteria for accepting new or Non-NPT countries into its fold.

The stringent division was observed on Grossi Proposal as well, which was presented last year and showed clear inclination in India's favor as against Pakistan. Reportedly, more than twenty states are defying US pressure currently and insisting to adopt an objective and universal criteria for inclusion of non-NPT states in the cartel. The view from Pakistan maintains that persuasive diplomatic outreach by Pakistan spread the realization on international level about the possible repercussions of further exceptions for India. Conversely, the resilience from Indian side for NSG candidature was also manifested. However, notwithstanding U.S. efforts for India's exceptional and unconditional entry, the stalemate still persist on offering an exclusive treatment to India.

So what was discussed in the recent plenary meeting and how it was significant? Other than highlighting the central role of NSG and its contribution to the international nuclear nonproliferation architecture with NPT at its centre, the member states of group reassessed stock of developments since last plenary meeting. Whilst NSG discussed the 'technical, legal and political aspects of the participation of the non-NPT states of the NSG', eight significant issues were focused in the discussion. At first, diverse views were exchanged on the technical issues imperative for the implementation of the control lists and various proposals were considered to update the NSG control list. On next, the discussion took place to upgrade the NSG guidelines in order to keep pace with evolving global security landscape. Moreover, the policies regarding transparency were debated and information was exchanged for best practices on licensing and enforcement. In addition, the Participating Governments welcomed the growing number of states that have harmonized their national export control systems with the NSG guidelines and control lists. Lastly and more significantly, NSG relationship with India was discussed and all aspects of the implementation of the 2008 statement on Civil Nuclear Cooperation with India were considered. India was granted special waiver from its rules governing civilian nuclear trade that paved the way for India-US nuclear deal.

Critics argue the problem with this exceptionalism is that a lot of fissile material that is being imported extensively for India's civilian nuclear program is going into its civilian unsafeguarded stream and could possibly be using for its weapon program. Consequently there exists a big hole in India's separation plan that keeps one guessing. This is a critical issue that has also been highlighted in recent literature and a number of countries are also aware of this concern. It is also clear from the recent Belfer Centre report by Mansoor Ahmed, titled "India's Nuclear Exceptionalism", that the ability for India to import its fissile material for civilian purpose has enabled it to use its indigenous stock of fissile material exclusively for weapon purpose.

So India's ability to increase the inventory of nuclear weapons has gone up tremendously. Akin apprehensions were raised in King's College report titled "India's Strategic Nuclear and Missile Programmes". This depicts that negative narrative about Pakistan as the fastest growing nuclear program is a deception and debatable. The fact of the matter is that the number of nuclear facilities and fissile material stocks in Pakistan are much lesser as compared to India's especially after it was given the waiver in 2008. Hence it is impossible for Pakistan to have a nuclear program that is growing faster than that of India. Consequently, the debate about India's growing nuclear program and exceptional treatment rekindled lately and probably the issue will be discussed again in next meeting as NSG members decided to meet again to discuss the issue of non-NPT state's candidature in November.

This is yet to see that what consensus Participating Governments will reach on admission of new states into its fold, however Pakistan feels encouraged by the increasing number of states supporting neutral formula and realizing Pakistan's concerns about India's exceptional treatment. It is hoped that NSG members would adopt an impartial criteria for all non-NPT countries in future. Otherwise another exemption for India would accelerate arms race in South Asian region by infuriating Pakistan to expand its nuclear capabilities and will also question international efforts to curb proliferation. To conclude, criteria-based NSG membership is a mutually beneficial proposition because it will benefit the strategic restrain, the stability in South Asia, the Non-proliferation regime, NPT and NSG.

https://pakobserver.net/recent-nsg-plenary-significant/

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Financial Express (Uttar Pradesh, India)

Pakistan Cautions Against Expansion of Nuclear Capabilities

Author Not Attributed

June 30, 2017

Pakistan told the UN Security Council that declared plans by a nuclear-weapons state to expand its nuclear capabilities would renew an arms race and seriously set back global disarmament efforts, the media reported.

Pakistan told the UN Security Council that declared plans by a nuclear-weapons state to expand its nuclear capabilities would renew an arms race and seriously set back global disarmament efforts, the media reported. Speaking in the Security Council debate on 'Global efforts to prevent the proliferation of weapons of mass destruction by non-state actors', Pakistan's Ambassador to the UN Maleeha Lodhi on Wednesday criticised one of the P-5 states that had vowed to "greatly strengthen"

and expand nuclear capabilities by outmatching and outlasting potential competitors", Dawn News reported.

"This would renew a nuclear arms race," she warned. She was apparently alluding to US President Donald Trump's statement in which he had announced increasing the US defense budget. Lodhi argued that disarmament and non-proliferation were organically linked and criticized those nuclear-weapon states that were neither willing to give up their large inventories of nuclear weapons nor their modernisation programs, even as they pursued non-proliferation with messianic zeal. She pointed out that grant of discriminatory waivers to some and making exceptions out of power or profit considerations was a key challenge to non-proliferation norms and rules.

These "special arrangements", she warned, carried obvious proliferation risks and opened up the possibility of diversion of the material intended for peaceful uses for military purposes, in addition to undermining regional strategic stability, reports Dawn news. The envoy also made a strong case for Pakistan's Nuclear Suppliers Group (NSG) membership by highlighting her country's credentials as a credible global partner in international non-proliferation efforts.

She expressed Pakistan's commitment to the Security Council resolution 1540 and said that Islamabad had submitted its fifth national implementation report as a manifestation of that commitment. She called for the strengthening of the non-proliferation regime through transparent, objective and non-discriminatory criteria that ensured equal treatment of applicants for the NSG's membership.

http://www.financialexpress.com/world-news/pakistan-cautions-against-expansion-of-nuclearcapabilities/742403/

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Firstpost (New Delhi, India)

India Adds 10 More Nuclear Warheads to Its Arsenal, Develops Tech For Strike-Back: SIPRI Report

Author Not Attributed

July 5, 2017

Though not a leader in terms of total number of nuclear warheads, falling behind Pakistan and China, India has continued on its efforts to increase its arsenal of nuclear weapons while continuously upgrading technology for an assured strike-back, the Stockholm International Peace Research Institute (SIPRI) said in its annual report.

According to the report, India is believed to have added nearly 10 more nuclear warheads to its arsenal, which was estimated at 110-120 in 2016.

The indigenous Agni-V missile, which is India's latest road-mobile, canister-launched ballistic missile with a reported intercontinental range and capability of reaching significant targets in China, also finds mention in the report.

"India is gradually expanding the size of its nuclear weapon stockpile as well as its infrastructure for producing nuclear warheads," the report said while referring to India's decision to build six fast breeder reactors over the next 15 years, which, the it claims, "will significantly increase its capacity to produce plutonium for weapons."

Two of these reactors are expected to be built at Kalpakkam, around 70 kilometres from Chennai while the locations for four others have not been ascertained as yet.

India has so far not released any official figures of its warheads even though it continues to follow the principle of minimum credible deterrent and a no-first use policy, the report added.

The SIPRI report also states that India is currently working on a new unsafeguarded gas centrifuge facility, which, though motivated by its plans to build new naval propulsion reactors, could be used to blend its current plutonium arsenal with uranium secondaries.

The report states that India is highly focussed at developing "the naval component of its triad of nuclear forces in pursuit of an assured second-strike capability" while citing the recent induction of India's first indigenously built nuclear-powered submarine INS Arihant. The submarine, it says, is capable of carrying two-stage 700-kilometre, range SLBM.

"India is also developing a more advanced SLBM that will have a range of up to 3,500 kilometres," the report added.

http://www.firstpost.com/india/india-adds-10-more-nuclear-warheads-to-its-arsenal-developstech-for-strike-back-sipri-report-3775089.html

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Voice of America (Washington, DC)

Pakistan Enhances Range of Controversial 'Tactical' Nuclear Weapon

By Ayaz Gul

July 5, 2017

Pakistan's military announced Wednesday that it has successfully undertaken a series of flight tests of its battlefield nuclear-capable NASR missile this week, enhancing the rocket's flight maneuverability and extending its range to 70 kilometers from 60.

"This weapon system will augment credible deterrence against prevailing threat spectrum more effectively, including anti-missile defenses. NASR is a high precision weapon system with the ability of quick deployments," the Pakistan army's media wing said when it released details of the flight testing process.

The development of Pakistani tactical nuclear weapons is a source of concern for the United States because their smaller size increases the risk of a nuclear conflict with rival India, non-proliferation experts say.

Pakistani officials say that smaller weapons would deter their bigger neighbor from imposing a sudden, limited and lightning assault with conventional forces under New Delhi's "Cold Start" doctrine.

Pakistan army Chief General Qammar Javed Bajwa, who has witnessed the Nasr flight tests, referred to the Indian doctrine.

"Nasr has put cold water on Cold Start. War must be avoided at all costs and our strategic capability is a guarantee of peace against a highly militarized and increasingly belligerent neighbor," the army statement quoted Bajwa as saying. "Our [nuclear] capability is only meant to ensure, no one thinks war remains an option," the general said.

Pakistan's relations with India have deteriorated in recent years and military clashes along the disputed Kashmir border have lately become routine.

The disputed Himalayan region has triggered two of the three wars between India and Pakistan and it remains the primary source of regional tensions.

https://www.voanews.com/a/pakistan-enhances-range-of-controversial-tactical-nuclearweapon/3929249.html

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COMMENTARY

War on the Rocks (Washington, DC)

The Six Day War and the Nuclear Coup That Never Was

By Guy Laron

June 29, 2017

On the eve of the June 1967 war in the Middle East, a small group of men in the Israeli elite considered a doomsday scenario. They all supported Israel having an overt nuclear strategy, but the dovish prime minister, Levi Eshkol, had resisted. Now, with war looming, they felt that their hour had come. Behind the scenes, these bureaucrats, scientists and officers prepared the ground for using Israel's ultimate weapon: the nuclear bomb.

Three weeks ago, The New York Times revealed part of that story which the newspaper described as the "last secret" of the Six Day War. The truth is, evidence of these events has been out in the open for several years now. Yitzchak Yaacov, a top scientist who served as a senior officer in the Israeli army, had published his memoirs detailing the deliberations for the secret operation already in 2011. Based on this book as well as several interviews, Amir Oren, military correspondent for Haaretz, wrote in the same year a long analysis of the decision-making process surrounding this chapter in Israel's history. And in 2014, Oxford University Press published a monograph by Or Rabinowitz that distilled all these Hebrew-language sources into an English-language text.

To understand what transpired on the eve of the Six Day War, we have to go back to the debates of the late 1950s and early 1960s. Prime Minister David Ben-Gurion and his young disciples at the Ministry of Defense – Chief of Staff Moshe Dayan as well as Chief-Of-Staff and General Director Shimon Peres – argued forcefully for a Jewish bomb. In their view, the Arab-Israeli conflict was insoluble with Israel being "a castle under siege." An atomic bomb could deter their Arab foes from harassing Israel. Nevertheless, Finance Minister Levi Eshkol was a skeptic. He believed that the money invested in building the nuclear reactor at Dimona should have been spent on social services. Like other security experts, such as Minister of Labor Yigal Allon, Eshkol maintained that the international community would never allow Israel to use the bomb, and therefore Israel must rely on its conventional capabilities. As long as Ben-Gurion was in power, his policies prevailed. However, in June 1963, Ben-Gurion stepped down and Eshkol succeeded him.

Eshkol could not shut down the nuclear project: That would have been a declaration of war against Ben-Gurion who remained active in politics. Eshkol, however, was not enthusiastic about letting Israel's nuclear project reach its final destination. He refused, for instance, to allow a nuclear test. This effectively left Israel as a nuclear threshold state. And this is how things remained up until May 15, when Egypt sent its troops into the Sinai and a regional crisis, which would end with the Six-Day War, began.

As the crisis unfolded, at REFAEL, Israel's top-secret technology agency, teams started working around the clock to assemble Israel's first atomic bomb. Gen. Ezer Weitzman, deputy to the chief of staff, sent an urgent telegram to Washington. In it, he demanded that Col. Yitzchak Yaacov, who was at the time at RAND on a fellowship, return immediately to Israel. Yaacov was the technical expert who could find solutions to the question of where and how to use the bomb. Weitzman, who previously had been commander of the Air Force, was a vocal and early supporter of developing a nuclear option, even advocating its use. For instance, Weitzman insisted that Israel buy Mirage jets from France rather than Vautour bombers because the former had the ability to carry a nuclear bomb. And he brushed aside all those officers that argued the Vautours were much more suitable to the mission of destroying Egyptian airfields.

When Yaacov landed back in Israel, he was ordered to "prepare everything he had" including Israel's most destructive weapon. Yaacov gained the impression that several generals were worried that Egypt would use chemical weapons against Israeli troops or launch missiles with chemical warheads against Israeli cities. There wasn't a shred of evidence that the Egyptians were making preparations to do either. In fact, the Israelis sent an agent, Wolfgang Lutz, to spy on the German scientists who helped Egypt launch its missile program. In the mid-1960s, Lutz reported back in the most emphatic way possible that Egypt's attempt to manufacture missiles was going nowhere. Indeed, Yaacov himself later admitted he did not believe the Egyptian missiles were operational.

Nevertheless, talking about doomsday scenarios seemed to justify using doomsday weapons. A few days after he came back from the United States, Yaacov went to see the Chief of Staff, Yitzchak Rabin. Rabin had just resumed normal duties after suffering a nervous breakdown. Still morose, he asked no questions and signed a form authorizing Yaacov to plan an operation to detonate a nuclear device at the other side of the border. Yaacov went to REFAEL to survey the efforts to create a nuclear device and started brainstorming with the commander of Israel's best commando unit – Sayeret Matkal. At some point along the way, the operation received a code name: Samson. Yaacov did not know whether the prime minister was aware of any of these activities.

In any case, the small community of bureaucrats and scientists that dealt with Israel's nuclear project seemed to be on the verge of overcoming Eshkol's opposition to a nuclear test. As long as Eshkol prevented them from conducting one, they could not be sure that the bomb would work. However, there were signs that the prime minister was still trying to avoid war altogether and by doing so, stop Operation Samson before it started.

On May 26, two Egyptian MiGs, during a reconnaissance flight, passed over Israel's reactor in Dimona. Weitzman believed that he could use this event to pressure the prime minister to begin the war. Weitzman told Eshkol that the sortie over Dimona was a sign of an impending Egyptian attack on the reactor, perhaps that very day. Israel must strike at Egypt first, Weitzman insisted, if it was to save the reactor from a direct hit. It was a spurious argument. The Israeli reactor was buried deep underground, beneath tons of steel and concrete, and the compound itself was defended by surface-to-air Hawk missiles and planes that were patrolling the sky. Damaging a reactor under these terms was impossible. The Israelis later learned this themselves when they tried to bomb the Egyptian reactor at Inshas during the Six Day War. Israeli pilots had attacked it numerous times: Despite being superb professionals, they could not even scratch it. The Egyptians were well aware that the Israeli reactor was a heavily protected target. They flew quickly and at high-altitude above Dimona. They could barely see the compound let alone aim to hit it. Motti Hod, the commander of the Air-Force, did not believe the Egyptians had any chance of harming the reactor. But Weitzman gambled that Eshkol would not know any of that. On May 26, he demanded immediate action. However, Eshkol was unperturbed. He reminded Weitzman that Foreign Minister Abba Eban was still in Washington. Do you want to start a war without coordinating with the Americans, asked Eshkol?

Five days later, the picture completely changed when Washington let it be known that it would turn a blind eye to an Israeli attack on Egypt. Eshkol was under a lot of pressure to appoint Moshe Dayan, the former chief of staff, as minister of defense. Eshkol, a moderate with the look of a nondescript banker, seemed too vacillating to the Israeli public. Dayan, who led Israel to victory in 1956, with his famous eye patch and decisive demeanor, seemed like the right person to oversee the military during a time of great distress. As long as there was a chance to avoid war, Eshkol resisted because he knew that Dayan would demand an immediate authorization to attack. On June 1, it was clear that war had become unavoidable and Eshkol agreed to invite Dayan into the government. Dayan lost no time. The same day he appointed Tzvi Tzur, his confidant, as a special assistant. Part of Tzur's portfolio was the nuclear complex.

Tzur had been well aware of the efforts to create and use a nuclear device even before assuming office. After receiving the green light from Dayan, Tzur appointed Yaacov and Israel Dostrovsky, director general of Israel's Atomic Energy Commission, to head a special committee that would oversee Samson. The shape of the coming operation became more and more concrete. Yaacov chose a site in which the device would be detonated – near the large Egyptian compound at Abu Ageila. Yaacov and Dostrovsky even flew there by helicopter and surveyed the area. Before being detected by Egyptian jets, the two were able to spot a canyon where the device could be hidden. According to the emerging plan, two helicopters were to carry the device and land it, while a group of paratroopers would act as diversion against Egyptian units camping nearby.

Amazingly, the Samson operation was never discussed at the cabinet level. It remained hidden from sight, as the ministers discussed and approved only a conventional attack on Egypt. On the morning of June 5, 1967, the first day of the Six Day War, the Israeli Air Force wiped out Egypt's air force. Yaacov maintains that exactly at that time, all the men involved in Operation Samson were in a state of high readiness. However, as soon as it became known that Egypt was about to face certain defeat, Samson was canceled. All these perpetrations were for naught. Years later, Tzur took great care to distance himself from the whole affair. He claimed that he had been involved merely in examining the feasibility of such an operation, not in actually planning it.

The operation was an extremely dangerous, one might say even reckless, endeavor. It was not for nothing that the operation received a code-name invoking the biblical hero who brought the walls of the temple down, killing himself and his enemies in the process. The site chosen was a few dozen kilometers from the border and it was highly likely that poisonous fallout could be swept by winds into Israel's territory. Yaacov, however, insisted that on the eve of war everything had been set to go. To his last day, he regretted that Israel did not demonstrate its nuclear capabilities.

This was not the last attempt to use the Arab-Israeli conflict to force the Israeli government to allow a nuclear test. Six years later, during the second day of the Yom-Kippur War, on October 7, 1973, Dayan tried to convince then Prime Minister Golda Meir to allow the use of nuclear weapons. Dayan made a rather gloomy presentation of the dire situation in the northern front and was exaggerating for effect. After most of the other participants in the meeting had already left, Dayan, nonchalantly, his hand on the door knob as if he was about to leave, suggested that Golda could authorize preparations for the use of the ultimate weapon. Dayan even made sure the director of the Atomic Energy Commission, Shalhevet Frayer, was there. However, two other ministers who attended the meeting, protested loudly and Meir told Dayan "to forget about it." And indeed, as in 1967, Israel did just fine during the Yom Kippur War without using nuclear weapons. In both cases, proponents of an overt nuclear strategy tried to artificially insert the use of nuclear weapons into the campaign in order to show that they were useful. On both occasions, they inflated the danger that Israel faced in order to bolster their argument. Ironically, Israel's experience during its two most consequential wars proved the very opposite: Israel could succeed without employing nuclear weapons. The Jewish state's impressive conventional capabilities were enough to carry it to victory.

https://warontherocks.com/2017/06/the-six-day-war-and-the-nuclear-coup-that-never-was/

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South China Morning Post (Hong Kong, China)

Dialogue is the Only Way to Rein In North Korea

Author Not Attributed

July 6, 2017

China alone cannot solve the crisis that threatens regional and global security; Donald Trump's responsibility is clear-cut: he has to reach out to Kim Jong-un

North Korea's successful test-firing of a long-range ballistic rocket breaches a barrier that the world has long dreaded, but was an inevitability given Washington's refusal to negotiate with the regime. Even as the reality settled in that leader Kim Jong-un could perhaps now target the US mainland with a nuclear missile, American President Donald Trump held on to a tried-and-failed strategy. His initial response was to call on China to "end this nonsense once and for all" and he then sought an urgent meeting of the United Nations Security Council. But diplomacy has always been the only viable way to handle the threat.

China and Russia, North Korea's neighbours and closest allies, well know that. Neither wants the regime to collapse and have to deal with the consequences, nor do they or the region want to get dragged into another catastrophic Korean war. President Xi Jinping (習近平) and his Russian counterpart Vladimir Putin, meeting in Moscow, urged all sides to quell tensions, with North Korea being called on to freeze its nuclear programme and the US and South Korea to halt military drills. Such actions would create an environment for much-needed dialogue.

Trump's call for China's help avoids the truth that North Korea's weapons are intended to target the US and its allies, South Korea and Japan. Pyongyang has long sought a peace treaty with Washington to formally end the war, with the conditions laid out during four years of failed six-party talks brokered by Beijing. In the absence of negotiations, North Korea has pushed ahead with its nuclear and missile programmes and the US and UN Security Council have responded with bans and economic and diplomatic sanctions.

There is no certainty that North Korea has a missile-ready nuclear weapon. Just as with the rocket, though, the regime claims to have developed one and proof lies in testing. But the world need not sit by and wait for such an eventuality; it should instead be pressing for dialogue. China has joined in the sanctions, but there are limits and its most useful role can be in bringing sides together. Trump's responsibility is clear cut: he has to reach out to Kim.

http://www.scmp.com/comment/insight-opinion/article/2101449/dialogue-only-way-rein-north-korea

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Russia Matters (Cambridge, MA)

Open Letter to President Donald Trump and President Vladimir Putin

By Des Browne, Wolfgang Ischinger, Igor Ivanov and Sam Nunn

June 29, 2017

With relations between Russia and the West deteriorating and becoming more dangerous every day, former British Defense Secretary Des Browne, former German Ambassador to the United States Wolfgang Ischinger, former Russian Foreign Minister Igor Ivanov, and former US Senator Sam Nunn have written a letter to Presidents Donald Trump and Vladimir Putin urging the two leaders to use the July 7-8 G20 meeting in Hamburg, Germany, to work together on areas of existential common interest, chief among them reducing nuclear and other military risks and preventing catastrophic terrorist attacks.

Browne, Ischinger, Ivanov and Nunn recommend four urgent steps that can be taken now to "stop the downward spiral in relations and reduce real dangers," including: a new Presidential Joint Declaration declaring that a nuclear war cannot be won and must never be fought; a new NATO-Russia Military Crisis Management Group; a new joint initiative to prevent terrorists from acquiring weapons of mass destruction; and discussions on cyber dangers related to strategic warning systems and nuclear command and control. The letter was publicly released Tuesday, June 27, in Moscow, Europe and Washington.

Dear President Putin and President Trump,

The chasm between Russia and the West appears to be wider now than at any point since the Cold War. In the absence of new initiatives, the knot of distrust is being tightened, choking off the ability of governments to discuss, let alone advance, steps essential for improving the security of all people living in the Euro-Atlantic region.

Your first meeting in Hamburg will be a unique opportunity to underscore that, despite significant differences, the United States, Russia, and Europe can and must work together on areas of existential common interest -- chief among them reducing nuclear and other military risks, and preventing catastrophic terrorist attacks.

The starting point could be a new Presidential Joint Declaration by the United States and the Russian Federation declaring that a nuclear war cannot be won and must never be fought. This would make clear again that leaders recognize their responsibility to work together to prevent nuclear catastrophe, and would be positively received by global leaders and publics.

A second step could be to increase military-to-military communication through a new NATO-Russia Military Crisis Management Group. Restarting bilateral military-to-military dialogue between the United States and Russia, essential throughout the Cold War, should be an immediate and urgent priority. The focus of these initiatives should be on reducing risks of a catastrophic mistake or accident by restoring communication and increasing transparency and trust.

A third step could be to collaborate to prevent ISIS and other terrorist groups from acquiring nuclear and radiological materials through a joint initiative to prevent WMD terrorism. There is an

urgent need to cooperate on securing vulnerable radioactive materials that could be used to produce a "dirty bomb." Such materials are widely available in more than 150 countries and are often found in facilities, such as hospitals and universities, that are poorly secured.

Fourth, discussions are imperative for reaching at least informal understandings on cyber dangers related to interference in strategic warning systems and nuclear command and control. This should be urgently addressed to prevent war by mistake. That there are no clear "rules of the road" in the strategic nuclear cyber world is alarming.

Russia, the United States, and Europe are confronting a range of significant issues today. But none should distract from urgently pursuing practical steps now that can stop the downward spiral in relations and reduce real dangers. The steps we have identified here are a good place to begin. We respectfully urge you to start now in Hamburg.

https://www.russiamatters.org/analysis/open-letter-president-donald-trump-and-presidentvladimir-putin

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Bulletin of the Atomic Scientists (Chicago, IL)

Ignore Bill Gates: Where Bioweapons Focus Really Belongs

By Filippa Lentzos

July 3, 2017

Bioterrorism seems to be back in fashion. In the past, it has received bursts of attention that arose from particular incidents—the "anthrax letters" sent through the mail to US politicians and media outlets in 2001, for instance, or the purchase of plague bacteria by white supremacist Larry Wayne Harris in 1995. This time, it's an unlikely individual calling attention to the bioterror threat—Bill Gates, the Microsoft founder turned philanthropist. Over the last several years, the world's richest man has spent vast sums of money on global health, and in the last few months he has turned his attention to bioterrorism. At a high-profile security summit in Munich in February, he warned that bioterrorism could kill tens of millions. At a London security meeting a couple of months later, he said terrorists could wipe out 30 million people by weaponizing a disease such as smallpox.

I disagree. At a stretch, terrorists taking advantage of advances in biology might be able to create a viable pathogen. That does not mean they could create a sophisticated biological weapon, and certainly not a weapon that could kill 30 million people. Terrorists in any event tend to be conservative. They use readily available weapons that have a proven track record—not unconventional weapons that are more difficult to develop and deploy. Available evidence shows that few terrorists have ever even contemplated using biological agents, and the extremely small number of bioterrorism incidents in the historical record shows that biological agents are difficult to use as weapons. The skills required to undertake even the most basic of bioterrorism attacks are more demanding than often assumed. These technical barriers are likely to persist in the near- and medium-term future.

Gates does a disservice to the global health security community when he draws media and policy attention to amateurs such as terrorists. Where biological weapons are concerned, the focus should remain on national militaries and state-sponsored groups. These are the entities that might have the capability, now or in the near future, to develop dangerous biological weapons. The real threat

is that sophisticated biological weapons will be used by state actors—or by financially, scientifically, and militarily well-resourced groups sponsored by states.

So far, state-level use of biology to deliberately inflict disease or disrupt human functions has been limited by the strong international norm against biological weapons enshrined in the 1925 Geneva Protocol and the 1972 Biological and Toxin Weapons Convention. These two biological cornerstones of the rules of war uphold the international prohibition against the development, production, stockpiling, and use of biological weapons. But this norm may not survive indefinitely.

Another factor significantly limiting the use of biological weapons is their lack of perceived military utility. In the near-to-medium term, however, advances in science and technology may enable the development of more capable and more accessible biological weapons. These weapons might allow attacks to be targeted more precisely. Attribution would become more difficult. These technical developments—paired with changes in the social context around biological weapons—may lower barriers to the development and use of biological weapons.

Technical advances. Several current advances in science and technology are particularly prone to misuse in bioweapons. For example, new developments in microbiological, immunological, and epidemiological research could lead to the production of more "useful" bioweapons. The pathogenicity or virulence of pathogens can now be increased. Immunity against pathogens can be disrupted, and resistance to prophylactic or therapeutic interventions can be conferred. The host range of a pathogen can be altered, enhancing a host population's susceptibility to a pathogen, or increasing the stability and transmissibility of a pathogen.

Gene editing and engineering technologies form another area of concern. These technologies could, for instance, enable the construction of dangerous pathogens from scratch, assist in the design of modified or radically new pathogens, or permit the reconstitution of an eradicated or extinct pathogen. Pharmacogenomics and genomic biomarker research could tailor drug responses to particular genetic groups, and might enable selective and more precisely targeted "genetic weapons." Neurobiological research could enable the precise manipulation of bioregulators such as hormones, neurotransmitters, or signalling factors, which would then function as biological weapons controlling vital homeostatic systems such as temperature, sleep, blood pressure, heart rate, and immune response. Finally, new technologies could improve the yield, speed, or availability of bioweapons production; enhance the capabilities of sprayers or drone swarms; facilitate the use of non-living vectors such as nanomaterials; enhance delivery platforms for getting pathogens, molecules and drugs into the body; and advance self-assembled nanodevices and DNA origami (that is, complex nanostructures created by folding DNA) with the potential to transport biomolecules to targets within the body.

Changing social context. At the same time, a number of factors are converging to lower barriers to biological weapon development and use. First is the shifting geopolitical environment. Over the last quarter-century, the United States has clearly been the world's dominant power. Now the unipolar global power structure is evolving into an increasingly multipolar international system. The most clearly rising power today is China, but there are others: India and Brazil, to name two. In this new world order, contemporary norms, international structures, and enforcement mechanisms largely shaped by Washington are likely to change, and treaties such as the Geneva Protocol and the Biological and Toxin Weapons Convention may start to lose their significance.

A second factor lowering barriers is the evolving nature of conflict and warfare. The character of military challenges that confront states is changing. Hybrid warfare—which blends conventional warfare with subversive, irregular warfare and cyber warfare—is increasingly likely to complement classic military confrontation. Under these conditions, with uncertainty and insecurity growing, some states may develop novel bioweapons for covert use in small-scale operations; in

such instances, it would be hard to confirm or attribute use of biological weapons. Likewise, states may develop novel biological weapons for overt use against unprepared adversaries when they become involved in conflicts so serious that the advantages of using banned biological weapons are perceived to outweigh the political costs and military risks of resorting to proscribed weapons. Also, states outmatched by adversaries in conventional weaponry might see novel bioweapons as a way to gain asymmetric advantages and compensate for strategic imbalances.

How to defend? Because of the changing technical and social contexts around biological weapons today, the risk is very real that barriers to biological weapon development and use will be lowered. The international community must respond to this threat decisively.

First, the Biological and Toxin Weapons Convention must be modernized and its growing irrelevance countered. The treaty was agreed in 1972, deep in the Cold War; its relevance for the 21st century now must be assured. The norm against biological weapons embodied within the treaty is exceptionally strong. No state openly admits to pursuing a bioweapons capacity, and membership in the treaty continues to grow. But while the treaty is not failing, it is not flourishing either, and it needs strengthening.

Second, any breaches in the norm against biological weapons, or any actual use of biological weapons, must be met with a collective and convincing response. The continual use of chemical weapons in Syria has had a deteriorating effect on the norm against the use of those weapons. The international community must redouble its efforts to ensure that the same thing does not happen with biological weapons. Likewise, the international community must increase its capacity to investigate allegations of use. If methods for attributing or confirming who was behind an attack are enhanced, the operational advantages of "stealth" biological weapons may be reduced.

Finally, national biodefense capacities must be developed. If good ways of defending against future biological weapons existed, these weapons would become less attractive. But biodefense efforts must be transparent—it is in biodefense that the potential is greatest for permitted activities to cross the line, inadvertently or intentionally, into prohibited activities. States with biodefense programs, therefore, have a special responsibility to demonstrate that their programs are not used as cover for offensive programs—and also to ensure that their programs are not perceived as cover for anything offensive, as this might provide other states with a justification for initiating or continuing their own offensive warfare programs.

States with biodefense programs must therefore:

- Ensure that their biodefense activities are subject to stringent biosafety and biosecurity regulations, enshrined in national law.
- Enact national legislation implementing the Biological and Toxin Weapons Convention.
- Ensure via regular review that their biodefense activities are in compliance with the convention.
- Annually declare their biodefense programs in confidence-building submissions to the convention, and also increase transparency by participating in interactive information exchanges such as on-site peer review exercises with other states.

Bill Gates means well. But the right intentions and a lot of money don't necessarily make people safer from bioweapons. Indeed, amid the very real bioweapons dangers that may emerge in the coming years, drawing attention to misplaced concerns about bioweapons in the hands of terrorists may only make the world less secure.

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