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Featured Item: *“Saudi Arabia’s Nuclear Ambitions and Proliferation Risks”*. Authored by Sarah Burkhard, Erica Wenig, David Albright and Andrea Stricker; published by the Institute for Science and International Security; March 30, 2017; 41 pages.

http://isis-online.org/uploads/isis-reports/documents/SaudiArabiaProliferationRisks_30Mar2017_Final.pdf

The Kingdom of Saudi Arabia has an uneasy relationship with Iran. The Iran nuclear deal, or Joint Comprehensive Plan of Action (JCPOA), which went into effect in January 2016, has limited Iran’s sensitive nuclear program and subjected it to greater international monitoring. Many hoped that the JCPOA would also ease regional security tensions between Saudi Arabia and Iran, yet they have actually increased despite the deal. The JCPOA has also not eliminated the Kingdom’s desire for nuclear weapons capabilities and even nuclear weapons, but rather reduced the pressure on Saudi Arabia to match Iran’s nuclear weapons capabilities in the short term. In that sense, the deal has delayed concerns about nuclear proliferation in Saudi Arabia.

However, there is little reason to doubt that Saudi Arabia will more actively seek nuclear weapons capabilities, motivated by its concerns about the ending of the JCPOA’s major nuclear limitations starting after year 10 of the deal or sooner if the deal fails. If Iran expands its enrichment capabilities, as it states it will do, Tehran will reduce nuclear breakout times, or the time needed to produce enough weapon-grade uranium for a nuclear weapon, to weeks and then days. With these concerns, the Kingdom is likely to seek nuclear weapons capabilities as a hedge. A priority of the administration of Donald J. Trump is to prevent Saudi Arabia from developing such capabilities, in particular acquiring reprocessing and uranium enrichment facilities. The administration’s stated commitment to better enforce and strengthen the JCPOA provides a sounder foundation to achieve that goal.

Saudi Arabia has little nuclear infrastructure today, and acquiring nuclear weapons is a difficult process for any country. At this point in time and at its current pace of nuclear development, Saudi Arabia would require years to create the nuclear infrastructure needed to launch a nuclear weapons effort. Our open source research, which includes translations from Arabic of official Saudi statements, nuclear infrastructure plans, and domestic research, shows that Saudi Arabia is not likely to have launched any domestic covert nuclear programs to create the wherewithal to build nuclear weapons. Instead, like other cases of proliferant states and territories, such as South Africa, Iran, and Taiwan, it appears that Saudi Arabia is concentrating on building up its civilian nuclear infrastructure. It is acquiring nuclear or nuclear-related facilities and committing to placing them under international inspections according to international norms. Saudi Arabia has thus far embarked on a path to seek civil nuclear assistance from several nations, including Russia, South Korea, and China. It is also researching civil nuclear applications and developing a robust nuclear engineering and scientific workforce.

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Any research on the weaponization of nuclear material would of course be cause for international alarm, as it was in the case of Iran and its secret program to develop a nuclear weapon. However, preventing proliferation in Saudi Arabia should focus first on preventing enrichment and reprocessing capabilities, even in the absence of work on a nuclear weapon. Nuclear suppliers should reach consensus on not exacerbating security concerns in the Middle East by agreeing not to sell Saudi Arabia sensitive fuel cycle capabilities. Moreover, Western governments should enhance their efforts to monitor, detect, and prevent the illicit spread of enrichment and reprocessing capabilities to Saudi Arabia.

A major uncertainty in this analysis is the nuclear relationship between Pakistan and Saudi Arabia. Although reports that Pakistan has promised Saudi Arabia nuclear weapons appear inaccurate, some level of agreement relating to nuclear cooperation appears likely.

Based on other proliferation cases, unresolved, chronic security concerns can foster nuclear weapons development. For many cases, only the resolution of such concerns led to the avoidance of nuclear weapons. Thus, in the long term, diplomatic and other initiatives should be aimed at regional threat reduction efforts to prevent Saudi Arabia and other Middle Eastern nations from seeking nuclear weapons. Perhaps more important, remedying the relatively short-term nature of the Iran deal's nuclear constraints is critical in preventing Saudi Arabia from building a nuclear weapons capability over the next five to 15 years.

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The Guam Daily Post (Tamuning, Guam)

Advocate Hopes For Guam Survivors of US Nuclear Bomb Tests to Receive Help

By Manny Cruz

April 3, 2017

"You know what our decontamination process was back then? They (higher-ups) told us to jump in the ocean to wash ourselves off – that was our decontamination process." – Robert Celestial, advocate for radiation survivors

Radiation compensation advocate Robert Celestial said this year could be promising for Guam radiation survivors and veterans exposed to U.S. atomic bomb testing decades ago.

Earlier this year, Idaho Sen. Mike Crapo introduced Bill 197, which adds Guam to the list of "downwind states" included in the Radiation Exposure Compensation Act, or RECA.

The measure, among many things, fully funds the medical expenses of people suffering from radiation exposure linked to the Department of Defense's radioactive bomb tests in the continental U.S. and the Pacific.

Locally, Vice Speaker Therese Terlaje is pushing just compensation for affected people through two separate resolutions that support the Senate's Mark Takai Atomic Veterans Healthcare Party Act, and the FOSTERS Act, which would provide Agent Orange status to Vietnam War-era veterans and civilians.

Between 1946 and 1962, the U.S. conducted 67 reported nuclear bomb tests in the Marshall Islands, east of Guam.

Celestial has been advocating for compensation for Guam veterans and civilians for more than a decade.

Celestial has also documented jet streams flowing from the Marshall Islands to Guam during that time, which carried radiation toward the Marianas.

Guam was also a stopping point for U.S. Navy ships coming from the Marshall Islands after detonations to decontaminate, according to Celestial.

"Our island and our people – were undoubtedly exposed," Celestial said at the National Association of Social Workers conference on March 29.

The Army veteran has first-hand experience with nuclear radiation.

Between 1977 and 1980, Celestial, alongside other Pacific Islander and Asian Army personnel, helped fill the U.S. military's Runit Dome in the Marshall Islands with nuclear waste and affected debris.

"You know what our decontamination process was back then?" he asked the NASW audience rhetorically. "They (higher-ups) told us to jump in the ocean to wash ourselves off – that was our decontamination process."

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Many of his comrades have succumbed to their illnesses, like Ed Blas, whom Celestial said passed away four years ago.

"He was with me back then," Celestial said. "He had so many diseases: kidney failure, diabetes, spinal cancer. I know there are others from Guam who helped with the cleanup process. I hope they'll come to the public hearing on Tuesday."

Celestial said he came back to Guam in 1992 after living in the United States with his wife, after being told he only had four more years to live.

"I remember I passed out on the golf course and they sent an ambulance to pick me up," Celestial recalled. "The doctor said 'What the hell do you think you're doing out there?' and I told him I was going to enjoy my last few years," he joked.

While Celestial lives, he said he'll continue to fight for just compensation for radiation-affected veterans and civilians.

Celestial is also the Guam commander of the National Association for Atomic Veterans.

https://www.postguam.com/news/local/advocate-hopes-for-guam-survivors-of-us-nuclear-bomb-tests/article_b104af06-177b-11e7-872d-1371429b545b.html

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Scout.com (Minnetonka, MN)

Air Force Reviews Vendor Bids to Build New ICBMs Engineered With High-Tech Upgrades

By Kris Osborn

April 3, 2017

Air Force plans to build at least 400 new high-tech ICBMs intended to preserve millions of lives by ensuring annihilation of anyone choosing to launch a nuclear attack. The idea is to prevent major power wars.

The commander of U.S. Strategic Command, Air Force Gen. John E. Hyten, said the United States has about the right numbers of nuclear weapons, but they need to be modernized.

A Pentagon statement said the General asked reporters to imagine what the world was like in the six years preceding the atomic bombings of Hiroshima and Nagasaki. "In those six years, the world in conflict killed somewhere between 60 million and 80 million people," he said. "That's about 33,000 people a day, a million people a month."

The world has seen bloody conflicts -- Korea, Vietnam, Desert Storm, Enduring Freedom and Iraqi Freedom were awful, but nowhere near the level of carnage the world had experienced, he said.

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“The submarines are the most survivable element of it; the ICBMs are the most ready; the bombers are the most flexible,” he said. “When you put those pieces together, it gives our nation the ability to withstand any attack and respond if we are attacked, which means we won’t be attacked.”

The Future of ICBMs

The Air Force is now evaluating formal proposals from three vendors competing to build hundreds of new, next-generation Intercontinental Ballistic Missiles designed to protect the US homeland well into the 2070s and beyond, service officials said.

Submissions from Northrop, Boeing and Lockheed are now being reviewed by Air Force weapons developers looking to modernize the US land-based nuclear missile arsenal and replace the 1970s-era Boeing-built Minuteman IIIs.

If one were to passively reflect upon the seemingly limitless explosive power to instantly destroy, vaporize or incinerate cities, countries and massive swaths of territory or people -- images of quiet, flowing green meadows, peaceful celebratory gatherings or melodious sounds of chirping birds might not immediately come to mind.

After all, lethal destructive weaponry does not, by any means, appear to be synonymous with peace, tranquility and collective happiness. However, it is precisely the prospect of massive violence which engenders the possibility of peace. Nuclear weapons therefore, in some unambiguous sense, can be interpreted as being the antithesis of themselves; simply put – potential for mass violence creates peace – thus the conceptual thrust of nuclear deterrence.

It is within this conceptual framework, designed to save millions of lives, prevent major great-power war and ensure the safety of entire populations, that the U.S. Air Force is now vigorously pursuing a new arsenal of land-fired, Inter-Continental Ballistic Missiles, or ICBMs

In an interview with Scout Warrior several months ago, Lt. Gen. Jack Weinstein, Deputy Chief of Staff for Strategic Deterrence and Nuclear Integration, cited famous nuclear strategist Bernard Brodie as a way to articulate the seismic shift in thinking and tactics made manifest by the emergence of nuclear weapons.

Considered to be among the key architects of strategic nuclear deterrence, and referred to by many as an “American Clausewitz,” Brodie expressed how the advent of the nuclear era changes the paradigm regarding the broadly configured role or purpose of weaponry in war.

Weinstein referred to Brodie’s famous quote from his 1940s work “The Absolute Weapon: Atomic Power and World Order.” --- “Thus far the chief purpose of our military establishment has been to win wars. From now on, its chief purpose must be to avert them. It can have almost no other useful purpose.”



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The success of this strategy hinges upon the near certainty of total annihilation, should nuclear weapons be used. ICBMs are engineered to fly through space on a total flight of about 30 mins before detonating with enormous destructive power upon targets.

“If another nation believes they can have an advantage by using a nuclear weapon, that is really dangerous. What you want to do is have such a strong deterrent force that any desire to attack with nuclear weapons will easily be outweighed by the response they get from the other side. That's the value of what the deterrent force provides,” Weinstein said in an exclusive interview with Scout Warrior.

Although Weinstein did not take a position on the prior administration's considerations about having the U.S. adopt a No First Use, or NFU, nuclear weapons policy, Air Force Secretary Deborah James has expressed concern about the possibility, in a news report published by Defense News. Limiting the U.S. scope of deterrence, many argue, might wrongly encourage potential adversaries to think they could succeed with a limited first nuclear strike of some kind.

Ground-Based Strategic Deterrence

It is within the context of these ideas, informing military decision-makers for decades now, that the Air Force is in the early stages of building, acquiring and deploying a higher-tech replacement for the existing arsenal of Minuteman III ICBMs.

Weinstein pointed out that, since the dawn of the nuclear age decades ago, there has not been a catastrophic major power war on the scale of WWI or WWII.

“When you look at the amount of people who died in WWI and then the number of people who died in WWII, you're talking about anywhere between 65 and 75 million people. WWI killed about 1.8 percent of the world's population. WWII killed 2.8 percent of the world's population. “What you want is to have a really strong capability so that they're used every day to prevent conflict. If you use one, then you've failed,” Weinstein said.

Weinstein added that, in total, as many as 45 million people died during WWII.

“All you need to do is look at pictures of what Dresden looked like and what Stalingrad looked like. These are major powers fighting major powers,” he said.

Nevertheless, despite clear evidence in favor of deploying nuclear weapons, modernizing the US arsenal has long been a cost concern and strategic liability for US strategic planners. In fact, Weinstein said there is concern that both Russian and Chinese nuclear arsenals are now more modern and advanced than existing U.S. Minuteman IIIs.

The new effort to build ICBMs, what the Air Force calls “Ground Based Strategic Deterrence,” aims to construct durable, high-tech nuclear-armed missiles able to serve until 2075.



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The new weapons will be engineered with improved guidance technology, boosters, flight systems and command and control systems, compared to the existing Minuteman III missiles. The weapon will also have upgraded circuitry and be built with a mind to long-term maintenance and sustainability.

“Solid rocket fuel ages out after a period of time. You need to have an upgraded guidance package for sustainability and warfighting requirements. Looking at the current technology, it has moved faster than when these were first developed. Civilian industry has leapfrogged so we want the ability to use components that have already been developed,” Weinstein added.

Northrop Grumman and Boeing are among the major vendors planning to compete for the opportunity to build the new weapons; the Air Force released a formal Request For Proposal to industry at the end of last month.

Citing a Congressional Research Service report, a story in National Defense Magazine says the GBSD the program is expected to cost \$62 billion from 2015 through fiscal year 2044. That breaks down to about \$14 billion for upgrades to command-and-control systems and launch centers, and \$48.5 billion for new missiles, the report says. In keeping with the NEW START Treaty, the US plans to field 400 new missiles designed to replace the aging 1960s-era Minuteman IIIs.

The new ICBMs will be deployed roughly within the same geographical expanse in which the current weapons are stationed. In total, dispersed areas across three different sites span 33,600 miles, including missiles in Cheyenne, Wyoming, Minot, North Dakota and Great Falls, Montana.

“If you look at the ICBM field, it's 33,600 square miles. That's how big it is. We sometimes say it's the size of the state of Georgia. It was developed that way for a specific reason. You didn't want them too close together. You wanted it so if the adversary were to attack at one time, you'd still have ones that would survive,” Weinstein explained.

<http://www.scout.com/military/warrior/story/1693945-air-force-details-future-of-nuclear-weapons>

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The Wire (New Delhi, India)

Will a New UN Treaty Transform Nuclear and International Affairs?

By John Burroughs

April 4, 2017

This is the first multilateral negotiation on nuclear weapons since the Comprehensive Nuclear Test Ban Treaty was adopted in 1996.

Is a paradigm shift now underway on nuclear weapons at the UN? That was the question posed as about 130 nations gathered this past week to begin negotiations on a treaty prohibiting nuclear weapons, leading to their total elimination. The treaty would prohibit

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development, possession and use of nuclear weapons, but would not contain detailed provisions relating to verified dismantlement of nuclear arsenals and governance of a world free of nuclear arms.

This is the first multilateral negotiation on nuclear weapons since the Comprehensive Nuclear Test Ban Treaty (CTBT) was adopted in 1996. It is also the first ever such negotiation relating to the global elimination of nuclear arms, despite the fact that the first UN General Assembly resolution, in 1946, called for the elimination of weapons of mass destruction.

The hope of the nations leading the negotiations, including Costa Rica, whose ambassador, Elayne Whyte, is president of the negotiating conference, is that the second session, to be held from June 15 to July 7, will succeed in adopting a treaty. The idea is to strike while the iron is hot.

What makes the initiative at first hard to grasp is that it involves countries whose acquisition of nuclear weapons is already barred by the nuclear Non-Proliferation Treaty (NPT) and by regional nuclear-weapon-free zone treaties.

The nuclear-armed states (US, UK, France, Russia, China, India, Pakistan, North Korea, Israel) are not participating, nor are almost all states in military alliances with the US. The aim, nonetheless, is to set a global standard stigmatising nuclear arms and laying the foundation for their universal and permanent elimination.

The initiative grew out of three conferences on the humanitarian impact of nuclear explosions organised by the governments of Norway, Austria, and Mexico, in 2013 and 2014. The straightforward message is that the consequences of use of nuclear weapons are morally unacceptable and also incompatible with international humanitarian law barring the use of weapons causing unnecessary suffering and indiscriminate harm.

Therefore, nuclear weapons should be explicitly prohibited by treaty, as have other weapons including biological weapons, chemical weapons, landmines and cluster munitions. The initiative also builds upon the regional nuclear weapon free zone treaties, to which most of the negotiating states belong.

The Donald Trump administration has carried forward the Barack Obama administration's policy of opposing the negotiations. An alarming related development is that Christopher Ford, a former US Special Representative for non-proliferation now serving on the National Security Council, has stated that the administration is reviewing "whether or not the goal of a world without nuclear weapons is in fact a realistic objective, especially in the near to medium term." Ford, a lawyer, knows very well that the US is legally bound by Article VI of the NPT to pursue in good faith negotiations on effective measures relating to nuclear disarmament.

A common objection made by US allies is that a nuclear ban treaty will undermine the NPT. Participating states reply: How? We are negotiating an effective measure relating to nuclear disarmament as Article VI requires of all NPT states parties.

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The first week of negotiations revealed a broad convergence in favour of a relatively simple prohibition treaty. Only a few countries advocated negotiation in this forum of a comprehensive convention addressing all aspects of nuclear disarmament. Many other countries see negotiation of a comprehensive convention as a step to be taken later, when at least some nuclear-armed states are ready to participate.

There remain significant issues to be resolved concerning the provisions of a prohibition treaty, including issues relating to threat of use of nuclear arms and to testing. My organisation, the International Association of Lawyers Against Nuclear Arms (IALANA), advocates for inclusion of a prohibition of threat of use.

In our view, that would confirm and specify existing international law and, as Chile and South Africa also said, help to delegitimise nuclear deterrence. An opposing view is that the illegality of threat of use would be implicit in the prohibitions of possession and use and is already adequately covered by the UN Charter.

IALANA also calls for the treaty to prohibit design and testing of nuclear weapons, capturing a whole suite of activities from computer simulations to explosive testing. The treaty will help set the template for future disarmament agreements, and therefore should be reasonably comprehensive.

Many governments support the inclusion of a prohibition of at least testing. Some governments maintain, however, that it is captured by the prohibition of development and note that explosive testing is banned by the yet to enter into force CTBT.

A knotty issue is how to handle possible later participation in the treaty by nuclear-armed states. The basic options are to require that they denuclearise prior to joining the treaty, or to provide that they may join the treaty if they have accepted a time-bound obligation verifiably to eliminate their arsenal. Participation by nuclear-armed states in a ban treaty in the near term is entirely theoretical, and may not happen even when they do decide to eliminate their arsenals. Still, negotiators want to make it clear that all states are welcome and encouraged to join the treaty.

The initiative and the negotiations have been marked by close cooperation between governments and civil society, notably the International Campaign to Abolish Nuclear Weapons, and with the International Committee of the Red Cross. Civil society was given ample opportunity to comment throughout the first week.

Such cooperation has never before occurred in the nuclear sphere. Also noteworthy is that the negotiations are taking place in a UN process over the opposition of the permanent five members of the Security Council, perhaps a harbinger of democratisation of the UN.

Diplomats and civil society organisations involved in the negotiations are clearly energised, even passionate, and determined to work constructively.



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If all goes well, members of a ban treaty, working together with civil society, will become a potent collective actor that will transform nuclear and international affairs for the better.

<https://thewire.in/120976/will-new-un-nuclear-treaty-transform-nuclear-international-affairs/>

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Sputnik (Moscow, Russia)

US Needs to Modernize Entire Nuclear Triad - STRATCOM Commander

Author Not Attributed

April 4, 2017

The US Strategic Command chief called for modernizing strategic bombers, intercontinental ballistic missiles and ballistic missiles launched from submarines.

The United States needs to take steps to upgrade its entire nuclear triad in the domains of air, sea and land, US Strategic Command (STRATCOM) commander Gen. John Hyten said in a congressional testimony on Tuesday.

"The primary focus of our deterrence modernization efforts must address the entire nuclear infrastructure," Hyten stated. "Nearly all elements of the nuclear triad operating beyond their designed service life."

The US nuclear triad consists of three components: strategic bombers, intercontinental ballistic missiles and ballistic missiles launched from submarines.

Hyten said the United States should first modernize the platforms, such as intercontinental ballistic missiles (ICBM), submarines, and nuclear-capable heavy bombers, then upgrade nuclear weapons, and finally modernize the nuclear command and control architecture.

In March, Joint Chiefs of Staff Vice Chairman Gen. Paul Selva stated that the United States must modernize its nuclear triad in order to deter or respond to a nuclear attack of potential adversaries like Russia or China.

The US government seeks to modernize all three legs of the nuclear triad over the coming decades at an estimated cost of \$1 trillion.

<https://sputniknews.com/military/201704041052287677-us-nuclear-triad-stratcom-hyten/>

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The Telegraph (London, UK)

Donald Trump Says US Prepared to Go it Alone on North Korea Nuclear Threat

By Roland Oliphant and Nick Allen

April 3, 2017

The US will take unilateral action to eliminate the North Korean nuclear threat if China does not help bring pressure to bear on Pyongyang, Donald Trump has warned.

Mr Trump, who will meet Xi Jinping, the president of China, for the first time on Thursday, said the US would go it alone if Beijing refuses to cooperate, but refused to say whether he implied taking military action against the hermit dictatorship.

"China has great influence over North Korea. And China will either decide to help us with North Korea, or they won't," Mr Trump said in an interview with the Financial Times.

"If they do, that will be very good for China, and if they don't, it won't be good for anyone."

"If China is not going to solve North Korea, we will. That is all I am telling you," he added.

Conventional thinking is that China would have to take a lead role in imposing further sanctions on the regime in Pyongyang because of its economic leverage.

Mr Trump has been deeply critical of China in the past, especially its trade policy. However, he said he hoped that would not stand in the way of a deal being reached at the summit with Mr Xi at the US president's Mar-a-Lago resort in Florida next week.

"I have great respect for him. I have great respect for China. I would not be at all surprised if we did something that would be very dramatic and good for both countries and I hope so," he told the paper.

Nikki Haley, the US ambassador to the UN, also issued a stark warning saying America would "no longer take excuses from China".

Mrs Haley said: "They need to show us how concerned they are. They need to put pressure on North Korea. The only country that can stop North Korea is China, and they know that.

"China has to cooperate. This is now down to, do we want to continue to see these ballistic missile attacks from North Korea or does China want to do something about it?"

Mrs Haley spoke as the US took over the rotating presidency of the Security Council. She added: "We're going to say what we think, and we're going to move the ball and that's what this is about."

Concern has been mounting about the North Korean missile program in the US for some years. Barack Obama's administration identified North Korea as the top national security issue for Mr Trump's administration during the handover of power.

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Some US security officials believe Kim Jong Un's regime may have a nuclear-armed missile capable of hitting the United States within four years.

South Korean intelligence warned last week that another nuclear test by the North is imminent, with analysts suggesting Pyongyang may seek "overshadow" the US-Chinese summit in Florida with a show of force.

South Korean government sources told the Korea JoongAng Daily that preparations at the North's Punggye-ri nuclear proving grounds would be completed before the weekend.

Last month, North Korea fired a missile into the sea off the east coast of the Korean peninsula just as Mr Trump was hosting Shinzo Abe, the Japanese prime minister, at Mar-a-Lago.

Rah Jong-yil, a former head of South Korean intelligence, told the Telegraph that China could tackle the issue "very easily by closing the border entirely and completely strangling all business and economic traffic between the two countries."

Last week US senator John McCain said only Beijing could control Kim Jong-un, who he branded "crazy fat kid."

Mr McCain told MSNBC earlier this month: "China is the only one that can control Kim Jong-un, this crazy fat kid that's running North Korea. They could stop North Korea's economy in a week."

On Thursday Mr Trump had warned the summit would be "very difficult".

He said: "The meeting next week with China will be very a difficult one in that we can no longer have massive trade deficits and job losses. American companies must be prepared to look at other alternatives."

The summit is taking place at Mar-a-Lago, Mr Trump's palatial club in Florida which has been called the "Winter White House"

His son-in-law and senior adviser Jared Kushner has emerge as a key architect of the summit along with Cui Tiankai, the Chinese ambassador.

The two men chose Mar-a-Lago as the venue and have reportedly worked closely on crafting a joint statement the two leaders will deliver.

Mr Kushner and his wife Ivanka, Mr Trump's daughter, were said to have been invited to the Chinese Embassy in February.

Ash Carter, US Defence Secretary under President Barack Obama, said he doubted Beijing would cooperate.



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He said: "I've been working on the North Korea problem since 1994 and we have consistently asked Chinese leaders, because they uniquely have the historical and the economic relationship with North Korea, to make a difference. They haven't used that influence, and so it's hard for me to be optimistic with that."

Mr Carter, speaking on Sunday shortly before Mr Trump's comments, warned a US pre-emptive strike against North Korea's nuclear weapons risked triggering an invasion of South Korea.

"I'm confident of the outcome of that war, which would be the defeat of North Korea," he said. "But I need to caution you, this is a war, an intensity of violence associated with it, that we haven't seen since the last Korean War.

"Even though the outcome is certain, it is a very destructive war so one needs to proceed very carefully here."

Mr Trump said he believed Brexit would be a "great deal" for the UK and also "really good" for the European Union.

His view on whether other countries would leave the EU appeared to have moderated, and he now believed they were less likely to.

He said Europe seemed to be "really holding" and had done a "better job" since the UK voted to leave.

<http://www.telegraph.co.uk/news/2017/04/02/donald-trump-says-us-prepared-go-alone-north-korea-nuclear-threat/>

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Cleveland Patch (Cleveland, OH)

Battelle Partners With Nanotherapeutics Inc To Expedite Medical Developments

By Damita Thomas

April 6, 2017

The organizations will partner to bring together research to help the DoD protect deployed military forces from CBRN threats.

Battelle and Nanotherapeutics, Inc. announced today that the organizations have entered an alliance to bring together core research, development, test and evaluation (RDT&E) and manufacturing capabilities needed to expedite the development of medical countermeasures urgently required by the Department of Defense (DoD) to protect deployed military forces from CBRN threats.

Chemical and biological weapons continue to threaten warfighter and civilian populations in war zones such as Syria. With the rising threats of terrorism, they also are a potential homeland security threat. In order to better protect the warfighter, the DoD urgently needs

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new countermeasures, including vaccines, post-exposure prophylactics and treatments for acute exposure reactions.

Battelle has provided RDT&E facilities and expertise to support DoD medical countermeasure programs for decades, while in 2013 the DoD awarded Nanotherapeutics a contract to build a state-of-the-art manufacturing facility in which to provide all the core services necessary to establish a Medical Countermeasure Advanced Development and Manufacturing (MCM ADM) capability.

“The alliance between the two companies will enable faster and more effective development of medical countermeasures to protect and treat military populations against chemical, biological, radiological and nuclear attacks and outbreaks of naturally occurring emerging and genetically engineered infectious diseases,” said Dr. Prasad Rajee, President and CEO for Nanotherapeutics, Inc.

Historically, many commercial companies have shied away from participating in this space, primarily due to the challenges of developing these products along with the low anticipated return on investment (ROI). However, the recent expansion of the Food and Drug Administration Priority Review Voucher Program to include CBRN threat agents increases potential ROI, while the Nanotherapeutics/Battelle Strategic Alliance significantly reduces potential risks for companies desiring to develop medical countermeasures to CBRN threats.

“Battelle is in a unique position to provide a much-needed bridge between commercial companies interested in medical countermeasure development and the government agencies that need them,” said Julie Swick, Vice President and General Manager of Battelle’s Life Science Research business.

<https://patch.com/ohio/cleveland/battelle-partners-nanotherapeutics-inc-expedite-medical-developements>

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iHLS Blog (Israel)

New Player in The Sensor Tech Revolution

Author Not Attributed

April 3, 2017

The American Institute for Manufacturing Integrated Photonics (AIM Photonics), a public-private partnership, recently announced a new Defense Department project. The AIM Photonics initiative will help researchers develop sensors that can be employed by photonics-based systems for use in a wide range of applications, such as environmental monitoring, disease diagnosis, detection of chemical and biological weapons, and to ensure food safety.

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According to the report by sunyncse.com, the \$900,000 U.S. Department of Defense (DoD) project, along with an additional \$1.41 million in matching funds from AIM Photonics industrial members, will support a consortium of private and public partners led by the University of Rochester.

Professor Ben Miller, the principal investigator of the project, explained: "Sensors represent the interface between the real world and data. Developing a universal set of protocols to design, manufacture, modify, and integrate sensors into photonics systems will not only advance this technology, but also present a tremendous economic opportunity".

The project will focus on developing the part of the sensor that interacts with what is being detected so that these components can be mixed and matched by manufacturers to build systems that identify a wide range of chemical or biological targets.

Individual photonics sensors can also be miniaturized and packed together in a small space, allowing for the creation of systems that can scan for multiple biological or chemical agents simultaneously. This approach could give rise to new technologies such as a "lab on a chip" that would allow researchers and clinicians to scan for several different proteins in a single blood sample, or enable municipalities to continuously monitor drinking water for dangerous toxins, for example.

"Integrated photonics is a key piece of the 21st-century technology revolution," said Michael Liehr, CEO of AIM Photonics. "Sensors enabled with the power of integrated photonics will play an integral part of our lives by greatly improving the quality of life for future generations. We are proud to partner with the DoD, the University of Rochester, and our industrial and academic members in the development of this critical technology."

"The city of Rochester and the State of New York are honored to support the manufacturing of this important sensor technology which will benefit citizens of Rochester, NY, and individuals worldwide," said Robert Duffy, Chairman of AIM Photonics Leadership Council and President and CEO of the Greater Rochester Chamber of Commerce.

<http://i-hls.com/2017/04/new-player-sensor-tech-revolution/>

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International Business Times (London, UK)

Scientists Create Biological Shield to Protect Against Chemical Weapons – Including Sarin Gas

By Hannah Osborne

April 4, 2017

Nanoparticle-wrapped enzyme can be administered before exposure to nerve gas and pesticides in mice.

Scientists in the US and Russia have created a 'biological shield' that can protect against chemical weapons – including sarin, which is suspected to have been used in an attack in the Idlib province of northern Syria on Tuesday [4 April].

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Sarin is an extremely potent nerve agent that is considered a weapon of mass destruction. It is estimated to be 26 times more deadly than cyanide and VX. Current reports indicate the latest attack in Syria had killed 58 people and injured many more.

Researchers from the University of North Carolina at Chapel Hill and Moscow State University have now announced a potent enzyme that can reverse and prevent poisoning by pesticides and nerve gas. While their trial was carried out on mice, the team hope it could one day offer protection and treatment to people exposed to these toxins.

Publishing their findings in the Journal of Controlled Release, scientists were working on an enzyme called organophosphorus hydrolase. At present, animals and humans can be treated with this only after exposure. While early administration is effective at reversing symptoms. However, chemicals like VX and sarin gas work so quickly victims only have seconds to get the treatment.

The drug – atropine combined with pralidoxime – has been used to treat organophosphate-based toxins since WWII. However, they cannot be given to people in advance because of the major shock it causes in the body, the effect of which can be lethal.

Greene Shepherd, a specialist in clinical toxicology, who was not involved in the research, explained: "Two milligrams of atropine is a typical starting dose to counter organophosphate poisoning and it will make your heart to nearly jump out of your chest. A healthy person could probably survive it, but having something that could be administered in advance of exposure would be a very big deal."

In the study, researchers developed a way to wrap the enzyme into a nanoparticle. This could then be administered before, during and after exposure to organophosphate-based toxins. In mice, the team showed how their nanozyme circulated in the blood for 17 hours after one dose.

They believe this timeframe could be extended by making the nano wrapping even smaller, making it even better at hiding from the body's immune system (the enzyme is seen as a foreign invader so the body's natural response is to attack and clear it).

Any potential trial in humans is still a long way off. "Further evaluation of nano-OPH as a catalytic bioscavenger countermeasure against organophosphorus chemical warfare agents and pesticides is warranted," they wrote.

However, study leader Alexander Kabanov said the results are promising: "It could provide complete protection even if injected many hours before exposure to a lethal dose of toxin. The enzyme is so effective that just one molecule of the enzyme can decompose several thousand of molecules of toxin every second, so the nanozyme appears to be effective at much lower doses than other potential treatments."

<http://www.ibtimes.co.uk/scientists-create-biological-shield-protect-against-chemical-weapons-including-sarin-gas-1615288>

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The Economic Times (New Delhi, India)

'No defence' against multiple Russian missiles: US general

Author Not Attributed

April 4, 2017

The United States and its allies would have "no defense" against large numbers of ground-launched cruise missiles of the type recently deployed by Russia, a top US general warned Tuesday.

The United States has repeatedly accused Russia of deploying a land-based cruise missile system in contravention of a 1987 US-Russia arms control deal, known as the Intermediate Nuclear Forces Treaty (INF.)

General John Hyten, who heads the US military's Strategic Command, told lawmakers that a single ground-launched cruise missile is not a significant threat, but the calculus changes if multiple missiles are launched.

"We have no defense for it, especially in defense of our European allies," Hyten told the Senate Armed Services Committee.

"That system can range and threaten most of the continent of Europe depending on where it is deployed. ... It is a concern and we're going to have to figure out how deal with it as a nation."

US officials have not described the missile deployed by the Russians, but experts say it could be easily tipped with a nuclear warhead.

The 1987 INF treaty put an end to a mini-arms race triggered by the Soviet Union's deployment of SS-20 nuclear missiles targeting Western European capitals.

Russia says it has not violated the INF treaty, but has accused Washington of doing so itself.

Russia is modernizing its entire nuclear force, and Hyten said the breaching of the INF treaty was a "concern" that "we're going to have to consider as we look forward to how we deal with Russia."

The general also warned about the growing threat to America's satellites, an essential component of its global security apparatus.

China and Russia are developing technologies to target the satellites in the event of a conflict, he said.

<http://economictimes.indiatimes.com/news/defence/no-defence-against-multiple-russian-missiles-us-general/articleshow/58014896.cms>

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The Hill (Washington, DC)

Mattis says response coming soon on Russia arms treaty violation

By Ellen Mitchell

April 1, 2017

Defense Secretary James Mattis on Friday hinted at Russian interference in the U.S. election and said a decision will come soon on how to respond to the country's alleged violations of a nuclear arms control agreement.

"Russia's violations of international law are now a matter of record," Mattis said at a press conference in London, "from what happened with Crimea to other aspects of their behavior in mucking around other people's elections and that sort of thing."

Mattis was responding to a reporter who asked whether it was time for the United States to exit the Intermediate-Range Nuclear Forces (INF) Treaty banning nuclear and conventional ground-launched ballistic and cruise missiles with a range of 300 to 3,400 miles.

The U.S. has accused Russia of developing and fielding such a weapon. Russia denies it has violated the treaty.

"On the INF issue, we are in consultation with our allies and we're still formulating the way ahead," Mattis said. "It'll be addressed, I think, very, very soon as a matter of highest-level concern."

British Defense Minister Michael Fallon, who spoke alongside Mattis, said the INF Treaty came up in their discussions.

Mattis made clear that whatever the Russian threat, the United States will maintain Article 5 — which commits NATO countries to help any member state under attack — "as absolute bedrock of the NATO alliance and we will ... act accordingly if Russia chooses to be a strategic competitor."

The former U.S. Central Command head also responded to recent reports of Russia providing support to the Taliban in Afghanistan, confirming that the Pentagon has seen Russian activity in the area.

"I'm not willing to say at this point if that is manifested in the weapons and that sort of thing, but certainly what they're up to there in light of their other activities gives us concern," Mattis said.

He added that the United States has sought to engage with Russia on a political or diplomatic level, "but right now Russia is choosing to be a strategic competitor, and we're finding that we can only have very modest expectations at this point of areas that we can cooperate with Russia, contrary to how we were just, 10 years ago, five years ago, it's no longer a cooperative engagement with them."

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Fallon, meanwhile, reiterated President Trump's push for NATO members to live up to defense spending commitments.

Trump has repeatedly criticized European nations that have yet to put forward 2 percent of their total gross domestic product to NATO defense spending. Only the United States and four European nations meet the 2014 goal: the United Kingdom, Poland, Greece and Estonia.

"Making that NATO alliance fitter and faster, fairer burden-sharing is the key here," Fallon said. "Secretary Mattis and I have agreed that others must now raise their game, and those failing to meet the 2 percent commitment so far should at least agree to year-on-year real terms increases."

Mattis and Fallon also agreed "that NATO must modernize and streamline its military structures to ensure faster decisions and take a 360-degree view of all the security threats that face us," the British defense minister added.

Secretary of State Rex Tillerson the same day reportedly gave NATO allies two months to either meet the group's defense budget guidelines or offer up a schedule for doing so.

"Allies that do not have a concrete plan to spend 2 percent of GDP on defense by 2024 need to establish one now. Allies that have a plan to reach the 2 percent guideline need to accelerate efforts and show results," Tillerson said in Brussels at his first meeting with his NATO counterparts.

<http://thehill.com/policy/defense/326719-mattis-says-response-coming-soon-on-russia-arms-treaty-violation>

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RealClear Defense (Washington, DC)

Stopping the Unstoppable: How will the U.S. Defeat Missiles of the Future?

By Collin Meisel

April 4, 2017

Earlier this year, former U.S. Chief of Naval Operations Admiral Jonathan Greenert asserted that current ballistic missile defense technology would "reac[h] the asymptote of our limits" within "about ten years." This fact stands in stark contrast to another cold reality: the offensive ballistic missile capabilities of U.S. adversaries only appear to be accelerating. Despite critics' calls to shy away from investing in ballistic missile defense (BMD) to address this threat, the U.S. must continue to vigorously research and develop revolutionary BMD technologies. Otherwise, it risks allowing the balance of offensive and defensive ballistic missile capabilities to grow increasingly asymmetric as defensive technological progress becomes asymptotic.

As then-Commanding General of U.S. Army Space and Missile Defense Command Lieutenant General David L. Mann testified before the Senate Armed Services Strategic Forces Subcommittee last April, "many foreign ballistic and cruise missile systems are progressively incorporating advanced countermeasures" to defeat present BMD systems.

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For example, along with integrating “maneuverable reentry vehicles, [maneuverable independent reentry vehicles], decoys, chaff, jamming, and thermal shielding” technologies into its ballistic missile arsenal, China has constructed the world’s largest hypersonic wind tunnel to realize its goal of developing a hypersonic re-entry vehicle. Russia reportedly has plans to deploy its own hypersonic glide vehicle by 2020. For context, these hypersonic weapons can travel at speeds up to Mach 10 – more than double the speed of most current BMD systems.

In light of these developments, Keith B. Payne, head of Missouri State University’s Graduate Department of Defense and Strategic Studies, has postulated that “U.S. ICBM survivability will once again become a concern” if nothing is done. Given the central role, ICBMs play in nuclear deterrence, this is a scary prospect indeed.

How will the U.S. address the looming gap in BMD capabilities? The Missile Defense Agency (MDA) is developing three primary solutions: directed energy weapons, railguns, and “left-of-launch” capabilities.

Directed energy weapons (DEW), including lasers and high-power microwaves, provide one potential answer to the threat posed by hypersonic glide vehicles and other ballistic missile enhancements. DEW provides the ability to engage targets at the speed of light, but are limited to line-of-sight engagements and must overcome atmospheric attenuation caused by inclement weather or scattering from intentionally released high albedo gasses. MDA is actively working to overcome these challenges and eventually plans to “deploy lasers on high altitude, long endurance Unmanned Aerial Vehicle (UAV) platforms,” according to MDA Director Vice Admiral James D. Syring. Utilized for boost-phase intercept – which engages targets before they reach hypersonic speeds or enable other countermeasures – this system has the potential to revolutionize BMD.

Railguns, another platform currently being explored by MDA, also act to close the speed gap created by hypersonic attacks. Presently capable of firing projectiles reaching speeds beyond Mach 5, railguns allow for multiple attempts at destroying missiles as they approach. While current railgun systems face questions regarding the endurance of their components, the ability to engage fast-moving targets on their final approach remains a vital component of MDA’s full spectrum BMD system.

Finally, left-of-launch capabilities – methods meant to stop a missile attack before it can take place, including cyber weapons – “remain a novel adjunct to wider antimissile efforts,” according to former Vice Chairman of the Joint Chiefs Admiral James A. Winnefield Jr. In fact, there has been some speculation whether cyber weapons were used to thwart North Korea’s failed missile test on March 22 of this year. Regardless of the role left-of-launch tactics play in MDA’s BMD toolkit, the unlikelihood that the U.S. will be able to stay ahead of every attack means, according to Winnefield, there will always be a need for a “solid right-of-launch capability.”

None of this is to say that development and deployment of the BMD technologies described above will mark an end to the missile proliferation threat as we know it. It will not. However, it will narrow the gap between offensive and defensive ballistic missile

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capabilities, and provide a modicum of stability to regions presently outside of an effective BMD umbrella. If Admiral Greenert's estimation is to be heeded, the U.S. has less than ten years until it lies outside of this umbrella as well. The clock is ticking.

http://www.realcleardefense.com/articles/2017/04/04/stopping_the_unstoppable_how_will_the_us_defeat_missiles_of_the_future_111095.html

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The Hill (Washington, DC)

Top general: Russia treaty under review is not the one Trump attacked

By Rebecca Kheel

April 4, 2017

The commander of U.S. Strategic Command (Stratcom) on Tuesday said he's reviewing a landmark arms treaty in light of Russia's violations of the deal.

Separately, Russia is on track to comply with the New START Treaty, and the military is not reviewing that agreement despite President Trump's criticisms of it, Stratcom commander Gen. John Hyten told the Senate Armed Services Committee.

"I have not been directed to review the New START agreement," Hyten said Tuesday. "I am reviewing the INF agreement based on the recent Russian activity."

The 1987 Intermediate-Range Nuclear Forces (INF) Treaty is a landmark deal between Russia and the U.S. that banned ground-launched ballistic and cruise missiles with ranges between 500 and 5,500 kilometers.

The U.S. has publicly accused Russia of violating the treaty multiple times in recent years, most recently this year when the U.S. military publicly accused Russia of deploying a nuclear-tipped cruise missile.

It is unrelated to the 2010 New START Treaty, which requires both the U.S. and Russia to draw down to 1,550 deployed nuclear warheads by February 2018.

President Trump has dismissed New START as one of former President Obama's "bad deals," calling it a "a one-sided deal."

But Hyten's testimony Tuesday that he hasn't been instructed to review the treaty suggests Trump hasn't backed up his criticism with a change in policy.

Hyten said all indications are that Russia will meet its obligations by 2018.

"The next key date is 2018," Hyten told the committee. "I know we're on track, and the reports I get from the intelligence community and from the State Department is the Russians are on track as well."

He also reiterated his support for the treaty.

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“I’ve stated on the record multiple times — I’ll say it on the record again today — I support the limits that are in the New START Treaty,” Hyten said. “I also look out the future and understand there are nonaccountable weapons, especially on the Russian side, that we need to start addressing. But from a strategic weapons perspective I support the limits of the New START Treaty.”

Meanwhile, the military is continuing to decide how to respond to Russia’s violations of the INF treaty, Hyten said, adding that a response will have to be part of an overall strategy to deal with Russian aggression.

“This breach of the INF Treaty that caused the deployment of a ground launched cruise missile is a concern to us because we have not seen that for quite some time,” he said. “It’s another element we’re going to have to consider as we look forward to how we deal with Russia.”

Hyten added that the United States “has no defense” for multiple ground-launched cruise missiles.

“We have no defense for it, especially in defense of our European allies,” he said. “That system can range and threaten most of the continent of Europe depending on where it is deployed. We’ll talk about that in detail in the closed hearing tomorrow, senator. But it is a concern and we’re going to have to figure out how deal with it as a nation.”

<http://thehill.com/policy/defense/327163-top-general-military-reviewing-arms-treaty-violated-by-russia-not-reviewing>

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The New York Times (New York, NY)

North Korea’s Nuclear Strength, Encapsulated in an Online Ad for Lithium

By David Sanger and William Broad

April 3, 2017

While experts doubt the declaration last year by Kim Jong-un, North Korea’s leader, that the country had tested a hydrogen bomb, intelligence estimates provided to President Trump in recent weeks say Mr. Kim is working on it.

The online ad reads like something only a metallurgist could love: an offer to sell 22 pounds of highly pure lithium 6 every month, set for delivery from the port of Dandong, China.

But it caught the attention of intelligence agencies around the world for a simple reason: Lithium 6 offers a fast way to turn an ordinary atom bomb into a hydrogen bomb, magnifying its destructive power by up to 1,000 times. The seller listed in the ad — who even provided his cellphone number — was identified in a recent United Nations report as the third secretary in the North Korean Embassy in Beijing.

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When President Trump meets with President Xi Jinping in Florida this week, administration officials say, his top agenda item will be pressing China to sign on to the most powerful set of economic sanctions ever imposed on North Korea over its nuclear weapons and ballistic missile programs. Mr. Trump has repeatedly vowed to stop the North's nuclear efforts, telling *The Financial Times* in an interview published on Sunday: "If China is not going to solve North Korea, we will. That is all that I am telling you."

But experts say the offer to sell excess lithium is evidence that North Korea has produced so much of the precious material that it is too late to prevent the nation from becoming an advanced nuclear power.

If that is the case, Mr. Trump may find little success in borrowing from the playbook of the four presidents before him, who fruitlessly tried, with differing mixes of negotiations, sanctions, sabotage and threats of unilateral strikes, to force the North to give up its program. And it remains unclear exactly what the president meant when he said he would "solve" the problem of North Korea.

While experts doubt the declaration last year by Kim Jong-un, the North's leader, that the country had tested a hydrogen bomb, intelligence estimates provided to Mr. Trump in recent weeks say the mercurial young ruler is working on it. The acceleration of Mr. Kim's atomic and missile programs — the North launched four ballistic missiles in a test last month — is meant to prove that the country is, and will remain, a nuclear power to be reckoned with.

For Mr. Trump, that reckoning is coming even as his strategy to halt the North's program remains incomplete and largely unexplained, and as some experts say the very idea of stopping Pyongyang's efforts is doomed to failure. Mr. Trump's budget is expected to include more money for antimissile defenses, and officials say he is continuing a cyber- and electronic-warfare effort to sabotage North Korea's missile launches.

The president's insistence that he will solve the North Korea problem makes it hard to imagine a shift toward acceptance of its arsenal. But in private, even some of his closest aides have begun to question whether the goal of "complete, verifiable, irreversible disarmament" — the policy of the Obama and Bush administrations — is feasible anymore.

"We need to change the fundamental objective of our policy, because North Korea will never willingly give up its program," Michael J. Morell, a former deputy director of the C.I.A., and James A. Winnefeld Jr., a retired admiral and a former vice chairman of the Joint Chiefs of Staff, wrote last week on the website *The Cipher Brief*.

"Washington's belief that this was possible was a key mistake in our initial policy thinking," added the two men, experienced hands at countering the North. The United States and China, they argue, should abandon the idea of denuclearizing the Korean Peninsula and turn to old-fashioned deterrence.

Similarly, Robert Einhorn, a former senior State Department nonproliferation expert, writes in a new report for the Brookings Institution that a "dual-track strategy involving both pressure and negotiations" would be more likely to "bring China on board." The technique is reminiscent of what was used to push Iran into nuclear negotiations.



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But Mr. Einhorn cautioned that “while the complete denuclearization of North Korea would be the ultimate goal of negotiations, there is virtually no prospect that it could be achieved in the near term.”

The Chinese appear unlikely to make more than token efforts to squeeze North Korea, fearing the repercussions if the regime were to collapse, and Mr. Kim has made it clear that he is not about to negotiate away what he sees as his main protection against being overthrown by the United States and its allies.

“China will either decide to help us with North Korea, or they won’t,” Mr. Trump said in the Financial Times interview. If the Chinese fail to act, he added, “it won’t be good for anyone.”

It is unclear how close North Korea is to constructing a hydrogen bomb. But Siegfried S. Hecker, a Stanford University professor who once directed the Los Alamos weapons laboratory in New Mexico, and has visited the North’s main nuclear complex, said the ad for lithium 6, while surprising, was a reminder that North Korea, though a backward country, was still capable of major technical advances.

“I can’t imagine they’re not working on true thermonuclear weapons,” Dr. Hecker said in an interview.

As Mr. Trump and Mr. Xi meet on Thursday and Friday, Mr. Kim, on the other side of the world, may have a plan of his own for the summit meeting: Satellite photographs suggest he is preparing for a sixth nuclear test. Workers have dug a deep tunnel, which can block radioactive leaks if carefully sealed, leaving intelligence experts struggling to estimate the North’s progress.

American intelligence officials, and their South Korean and Japanese counterparts, are debating whether the next blasts will mark major steps down the road to a true thermonuclear weapon.

The lithium 6 ad is evidence that Mr. Kim is following a road map that the United States drew up back in 1954. That was when it tested its first thermonuclear weapon fueled by the isotope. The blast, code-named Bravo, was the most powerful the United States ever detonated. In minutes, its mushroom cloud rose to a height of 25 miles.

Though difficult to make, hydrogen bombs became the symbol of Cold War power — they are awesomely destructive and relatively cheap. The weapon relies on a small atom bomb, inside a thick metal casing, that works like a match to ignite the hydrogen fuel. For decades, bomb makers have used lithium 6 as a standard way of making hydrogen fuel for nuclear arms.

Last month, two Los Alamos scientists argued that the rocky North Korean test site the United States monitors could confine explosions of up to 282 kilotons — roughly 20 times as strong as the Hiroshima blast. Although a hydrogen bomb can be that powerful, so can large atom bombs. Previously, the largest blasts at the site were in the Hiroshima range.

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When Mr. Kim declared last year that the North had set off a hydrogen bomb, there was no evidence to back up the claim, such as enormous shock waves felt around the globe. More likely, experts said, Mr. Kim's scientists had created a "boosted" atomic bomb in which a tiny bit of thermonuclear fuel resulted in a slightly higher explosive yield but fell well short of a true hydrogen bomb.

"It's possible that North Korea has already boosted," said Gregory S. Jones, a scientist at the RAND Corporation who analyzes nuclear issues. Like other experts, he pointed to the nation's two nuclear blasts last year as possible tests of small boosted arms.

A next logical step would be for the North to turn the material it was advertising online, lithium 6, into a more complex kind of thermonuclear fuel arrangement for a much more powerful bomb. The first Soviet thermonuclear test, in 1953, used that method. It was more than 25 times as strong as the Hiroshima bomb.

"It's a big step," Dr. Hecker, the Stanford professor, said of a true hydrogen bomb, adding that it was perhaps beyond the North's skill. But over all, he said, the North has shown technical savvy in carefully pacing its nuclear tests, suggesting that it would eventually learn the main secrets of nuclear arms.

"They've done five tests in 10 years," he said. "You can learn a lot in that time."

As for the excess lithium 6, any interested buyers may have a hard time answering the ad.

The street address given in the advertisement does not exist. The phone has been disconnected or no one answers. But if the operation really is being run out of the North Korean Embassy in Beijing, it should not be hard for Mr. Xi to find out: It is about two and a half miles down the road from the compound where he lives.

<https://www.nytimes.com/2017/04/03/us/politics/north-korea-nuclear-trump-china.html>

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The Australian (Sydney, Australia)

North Korea War 'May Be Only Option'

By Michael Evans and Rhys Blakely

April 4, 2017

The US is "rapidly and dangerously" edging closer to taking military action against North Korea's nuclear missile program, a former general close to President Trump says.

Jack Keane, a four-star general who declined a role in the cabinet, said: "A pre-emptive strike against launch facilities, underground nuclear sites, artillery and rocket response forces and regime leadership targets may be the only option left on the table. We are rapidly and dangerously moving towards a military option."



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Mr Trump is trying to work out how to defuse what his advisers say is his biggest foreign threat — the prospect of Kim Jong-un developing a nuclear missile capable of reaching Los Angeles.

At the weekend he told The Financial Times: “If China is not going to solve North Korea, we will.”

The comments set an uncompromising tone for his first meeting with President Xi of China, North Korea’s sole ally in Asia. Mr Trump will host Mr Xi at his Florida country club on Thursday, at which trade and Pyongyang’s evolving atomic arsenal will dominate their agenda. Mr Trump’s aides have refused to say that military action against North Korea is off the table. His priority will be putting pressure on China to co-operate with the strictest economic sanctions ever imposed on North Korea, say officials.

They believe that Mr Kim is on course to develop the capability to hit the continental US with a nuclear missile within four years. In January, before his inauguration, Mr Trump said on Twitter: “North Korea just stated that it is in the final stages of developing a nuclear weapon capable of reaching parts of the US. It won’t happen!”

However, any pre-emptive military strike against North Korea’s nuclear capabilities would risk retaliation against Seoul, which is within range of North Korean artillery.

US troops in Guam, Japan and South Korea would also be targets. Twenty years ago — before Pyongyang acquired nuclear weapons — the military commander of US forces in South Korea estimated that a war with the North would cost a million lives.

In Washington analysts doubt whether the “irreversible disarmament” of North Korea, which was the aim of the Obama and Bush administrations, remains feasible. Long-term containment is seen by some as more realistic. Last week Michael Morell, a former deputy director of the CIA, wrote: “We need to change the fundamental objective of our policy, because North Korea will never willingly give up its [nuclear] program.”

Yesterday Theresa May distanced the UK from Mr Trump’s threat of action. Speaking on a flight to Jordan, the British prime minister said that it was “crucial” to work through the UN security council. Britain would “encourage China to look at this issue of North Korea and play a more significant role in terms of North Korea ... I think that’s where our attention should focus.”

The White House has expedited a review of US options on North Korea in time for Mr Xi’s visit. Potential steps include increasing pressure on China to use its leverage over Mr Kim, through so-called secondary sanctions on Chinese businesses and individuals who deal with the North Korean nuclear program. The US could also fine Chinese banks. Covert operations, including cyberattacks on nuclear facilities — a tactic used by the US against Iran — are possible.

Most ordinary people in South Korea favour negotiations with the North. US security analysts have urged Mr Trump to offer Mr Kim incentives to freeze its nuclear program.

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Diplomatic progress could be rewarded with a reduction of military exercises between the South and the US. China, it is said, would be more likely to back a strategy combining pressure with negotiation. Talks could be convened between China, North Korea, South Korea and the United States to negotiate a treaty formally ending the Korean War.

Last May Mr Trump said that he could hold negotiations with Mr Kim. “Who the hell cares? I’ll speak to anybody,” he said. “There’s a 10 per cent or 20 per cent chance I could talk him out of having his damn nukes, because who the hell wants him to have nukes?”

The US has also hinted at increased humanitarian support for North Korea’s crumbling economy. In January Washington sent \$1 million in aid to North Korea. The aid, which was sent on Barack Obama’s final day in office and announced during Mr Trump’s first week in the White House, was the first US humanitarian assistance to the North since 2011.

At the weekend, however, tensions rose. On Friday the US issued fresh sanctions against a North Korean business and 11 agents working in Russia, China, Vietnam and Cuba, accusing them of seeking to procure components for the country’s nuclear and missile programs. On Saturday North Korea said that the US was flirting with war by conducting “madcap” military drills in the region.

General Keane was sceptical that diplomacy and sanctions would work to disarm Mr Kim. “Our last three presidents spanning over 20 years have failed to stop the North Korean nuclear program,” he said.

He was asked to serve in the Trump cabinet but declined, citing the recent death of his wife, but is still an influential voice and lobbied Mr Trump to appoint James Mattis as defence secretary. He discounted the possibility of using Beijing. “Our attempts to leverage China [in the past] have failed miserably,” he said.

Victor Cha, of the Center for Strategic and International Studies, a think tank in Washington, said: “Kim Jong-un has shown no interest in dialogue with any partners, including China, South Korea, Japan, Russia and the United States — in the US case, despite numerous attempts by the previous administration to establish contact.”

The Trump team, General Keane said, would be the fourth White House administration to try to coerce China to force North Korea to denuclearise. “Hopefully they will succeed. North Korea’s reckless march towards war, destabilising the Korean peninsula and the Trump team’s commitment to stop them may finally be the nexus that is indeed persuasive to the Chinese to get serious about North Korea,” he said.

However, he said: “Sanctions have not worked against North Korea and I doubt more sanctions will and I don’t believe sanctions against China will work any better.”

<http://www.theaustralian.com.au/news/world/the-times/former-us-general-warns-preemptive-strike-against-north-korea-only-option/news-story/548dc42a5a83a25ff1d3b304c8ac6afe>

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38North.org (Washington, DC)

Possible Evidence of the Failed March 22 Missile Test

By Joseph Bermudez

April 3, 2017

Reports originating from South Korean and US sources indicate that at 7:00 AM (local time) on March 22, North Korea failed in an attempt to launch a ballistic missile. These reports stated that “North Korea fired one missile from an area near the Wonsan Air Base this morning but it’s presumed to have failed...” and that the missile “...appears to have exploded within seconds of launch.”

The type of missile was not released, but the Kalma Ballistic Missile Launch Site—adjacent to the Kalma International Airport (formerly known as the “Wonsan Airbase”)—is where North Korea conducted multiple tests of its Musudan (Hwasong-10/KN-07) intermediate-range ballistic missile (IRBM) in 2016. The reporting on this failed test was slower to come out and more ambiguous than normal, with no additional information provided subsequently.

No commercial satellite imagery of the area is available from the day of the attempted test, but an image from March 28 shows evidence of a massive 110-meters-in-diameter irregular circular explosion scar on the secondary runway leading to the Kalma Ballistic Missile Launch Site. While we cannot be certain, it is highly probable that this explosion scar represents the announced missile launch failure, as it did not appear in imagery from March 19.

The missile was likely either being transported to the nearby processing building (and then onto launch positions on the beach), or being raised for launch, when it suffered a catastrophic failure. The primary reasoning behind this assessment includes:

- Kalma is an international airport, but the only activity observed here during the past two years has been flight operations from a single mixed squadron of MiG-21 and MiG-19 fighter aircraft. These flight operations almost always take place from the primary runway, not the secondary runway. If an aircraft exploded while taking off or landing, the explosion scar would be oblong in shape and would generally fade out in the direction of travel.
- If the explosion were caused by a fuel truck, the explosion scar would typically be oblong and heavily stretch out perpendicular to the vehicle’s path of travel, with concentrations of dark patches.
- An explosion of a ballistic missile being transported or elevated for launch would tend to be large and in an irregular circular pattern, similar to the explosion scar seen in the March 28 imagery.
- The observed explosion scar is only 400 meters away from the building used for processing the Musudan IRBMs and transporter-erector-launchers (TELEs) before

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previous tests, and 650 meters from the two 24-meter-by-17-meter concrete-paved launch positions.

There is very little evidence of debris at or around the site, suggesting that a sizeable cleanup effort was undertaken immediately after the explosion. While no significant activity is seen at the processing building, small groupings of equipment or supplies are noted at the beach launch positions on March 28.

Though unconfirmed, previous use of this area for Musudan testing, as well as the large circular explosion scar near the processing building and launch positions, suggest that this failed test was for further Musudan development.

<http://38north.org/2017/04/jbermudez040317/>

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Yonhap News Agency (Seoul, South Korea)

U.N., OPCW Chiefs Warn N. Korea Over Use of Chemical Weapon

Author Not Attributed

April 4, 2017

The heads of the United Nations and the Organization for the Prohibition of Chemical Weapons (OPCW) have sent a letter to North Korea, issuing a warning over the regime's use of a prohibited chemical weapon in the recent assassination of the North Korean leader's half brother, according to the foreign ministry here on Tuesday.

The letter signed by U.N. Secretary-General Antonio Guterres and OPCW Director-General Ahmet Uzumcu was sent to North Korean Foreign Minister Ri Yong-ho on March 30 in link with the use of VX nerve agent in the killing of Kim Jong-nam, foreign ministry spokesman Cho June-hyuck said in a press briefing.

Kim, the elder half brother of North Korean leader Kim Jong-un, was killed at Kuala Lumpur International Airport on Feb. 13 after two women rubbed the fatal chemical on his face. The Malaysian police said several North Koreans were behind the killing.

The spokesman said the dispatched letter urged North Korea to join the Chemical Weapons Convention (CWC), a global arms control treaty which prohibits the production and use of chemical weapons. North Korea is one of a few countries that are not a signatory of the CWC.

"There actually exists the threat of chemical weapons use," Cho said, quoting the content of the letter. "All chemical weapons should be condemned and those who are involved should also be punished," the letter also said.

Signing into the CWC means a country should discard all its chemical weapons and come under surveillance by the OPCW, which administers the treaty, Cho also said.



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The recent assassination freshly reminded the international community of the significance of the chemical weapons threat posed by North Korea.

South Korean Foreign Minister Yun Byung-se called for a strong response from the international community to the threat during the Conference of Disarmament held in Geneva on Feb. 28.

<http://english.yonhapnews.co.kr/northkorea/2017/04/04/0401000000AEN20170404012800315.html>

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The Slovak Spectator (Bratislava, Slovakia)

Slovakia May Be Used for Smuggling Hazardous Substances

Author Not Attributed

April 4, 2017

While Slovakia is not a target of chemical weapons, the substances needed for them may be smuggled through the country.

The Slovak Police Corps along with the Ukrainian police have been cooperating in detecting illegal CBRN (chemical, biological, radiological and nuclear) materials at the Slovak-Ukrainian border for three years.

There are tens of thousands of dangerous chemicals that can be produced by an individual at home, said Mário Kern of the Police Corps Presidium's Detection of Hazardous Materials and Environmental Crime Division at the press conference in Horný Smokovec (Prešov Region), as reported by the TASR newswire.

Crimes concerning the trafficking of illegal CBRN materials are almost always international.

"As some cases of smuggling uranium have emerged and high-risk substances were discovered among people engaged in illegal transport across the border ... it turned out that we needed to improve our exchange of information," said Kern, as quoted by TASR.

Special security-detection equipment was purchased as part of the project, staff were trained and threat analyses were carried out, stated Kern.

"Slovakia isn't a target country for terrorist attacks, but it can be used for transporting hazardous substances," he said, as quoted by TASR.

Kern went on to say that there are tens of thousands of hazardous chemicals available at the moment.



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“Many of them can be bought easily,” he explained, as quoted by TASR. “Then it’s just a matter of chemical knowledge, if you can mix it or not, and like this it’s possible even to produce substances for manufacturing chemical weapons.”

The Slovak police have high quality equipment for detecting dangerous substances, according to Kern.

“People may not even know that we’re checking vehicles and people,” Kern added, as quoted by TASR. “And this is the main goal, because if someone knew about this, he or she could avoid the checks.”

Slovakia also cooperates with other European countries such as France, Iceland and the Czech Republic in this regard. The cross-border cooperation project, which is about to come to an end, was funded by a grant provided via the Norwegian Financial Mechanism and co-financed from the Slovak budget to the tune of €1.14 million.

<https://spectator.sme.sk/c/20500324/slovakia-may-serve-as-transit-country-for-smuggling-hazardous-substances.html>

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Foreign Policy (Washington, DC)

If Germany goes nuclear, blame Trump before Putin

By Maximilian Terhalle

April 3, 2017

Yes, Berlin has reason to fear the Kremlin’s aggression. But the U.S. president’s refusal to provide a security umbrella is the real problem.

Donald Trump has put Germany’s security at risk. His campaign trail claim that NATO was “obsolete” eroded the alliance’s most important resource — its credibility. But his repetition of the same comments as U.S. president has been a five-alarm fire for German strategists and for anyone else who cares about the future of Europe.

NATO is not just the world’s most powerful and long-standing military alliance, which has successfully deterred the potential enemies of its members for seven decades. It is a guarantor of Germany’s national security and a precondition of its continued existence as a politically independent state in Europe. And nobody disputes that NATO’s backbone is the United States’ superior and vast military capacities. They protected Germany against Soviet aggression during the Cold War and have deterred revisionist Russia’s repeated demonstrations of force over the last decade. And at the core of this deterrent are nuclear weapons, many of them stationed in Germany itself.

That leaves Germany with a very serious debate ahead: whether to continue relying on a United States that is now committed to signaling its unreliability or to begin pursuing its own nuclear deterrent — either on its own or as part of a new European security structure. Rudolph Herzog’s recent Foreign Policy article presented a simple view of this argument, where proponents of the idea, such as myself, were represented as adventurous cowboys

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blind to the lessons of history. But the debate is far more complicated, and more critical, than Herzog portrayed. This is a debate triggered not by indulgent fantasies but by the potential of a strategic vacuum at the heart of the continent.

The withdrawal of this security guarantee, as repeatedly suggested by Trump (to the delight, or perhaps at the prompting, of Vladimir Putin), would expose Germany and its neighbors to an increasingly revisionist and aggressive Russia, intent to redress the collapse of the Soviet Union that cost Russia its imperial possessions in Eastern Europe. We can't be blind to the signs of Russian aggression. Look at the fate of Crimea in 2014, annexed by Russia in a fit of pique at Ukraine's refusal to be a vassal state, or the Russian nuclear weapons in the exclave of Kaliningrad (the former Königsberg) now pointing at German targets.

Russia is unlikely to invade Germany itself. But if the power balance swings in favor of Russia and against Western Europe, that leaves small states like the Baltics in danger from Putin's revanchist ambitions. With the whip hand in Eastern Europe, Putin would be able to pressure or frighten Western Europe into accepting his authoritarian view of the world. Smaller states would swing toward the Russian side, leaving Germany dangerously exposed. For both moral and realist reasons, Germany needs to shield Eastern Europe against Trump — and nuclear weapons are the only way to guarantee its neighbors independence.

Putin is one tweetstorm by Trump away from having the conventional and strategic military upper hand in Europe. Putin is one tweetstorm by Trump away from having the conventional and strategic military upper hand in Europe. German Chancellor Angela Merkel cannot sustain her sanctions regime, backed by the EU, if the United States retreats from Europe, precisely because Putin knows that her very effective use of economic power ultimately rests on American military power standing at the ready in the background. But if NATO goes, the weakness of German and European diplomacy, faced with a revisionist great power, becomes conspicuously clear.

If this really were to happen, German nuclear weapons would be the most powerful way to compensate for the American withdrawal and the best means to even out the military imbalance that Trump would have created in Russia's favor. If this really were to happen, German nuclear weapons would be the most powerful way to compensate for the American withdrawal and the best means to even out the military imbalance that Trump would have created in Russia's favor. The inherent terror of nuclear weapons means even a relatively small German program could be a mighty deterrent against Russia's 7,000 nuclear warheads.

In his piece, Herzog argues that nuclear weapons go against Germany's post-World War II efforts to act as a global moral leader. But Germany's European neighbors don't want lecturing but a more engaged and militarily active Germany. The Baltic states openly demanded German panzer battalions during the Crimean crisis. Even the powerful conservative Polish politician Jaroslaw Kaczynski, formerly an outspoken Germanophobe, publicly welcomed the idea of a German-driven "European nuclear superpower" in February.

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World War II has no real political weight in today's relations between Germany and its eastern (and western) neighbors anymore. Rather, today's perception of the Russian-driven security dilemma in Eastern Europe determines the views of the Eastern European countries whose courage helped bring down Soviet oppression in the late 1980s. Central and Eastern Europe share this perception of threat from Russia, and, as Kaczynski indicated, this means nuclear power projection on the part of Berlin would be accepted as legitimate.

We might ask why the Germans don't figure something out with the British and the French, both of whom already own nuclear weapons. But the U.K.'s and France's nuclear stockpiles are partly outdated, too small, and largely tactical (i.e., short-range). And, critically, would the two countries really step in and shield Germany and Eastern Europe against a Russian attack? Extended deterrence is a fine thing — as long as it works when push comes to shove. The question that the U.K. and France would most likely ask themselves in such a scenario is why not stay out and make peace with Russia, rather than risk war for the sake of interests in Eastern Europe that they see as distant from their own concerns. Such a self-protective reaction would be understandable (and predictable). But it also underlines Germany's need to acquire nuclear weapons that provide it the ability to independently protect itself and its neighbors to the east.

It's true that Germany is a signatory to the Nuclear Nonproliferation Treaty. This tremendously important international treaty requires all "have-nots" of nuclear weapons to refrain from acquiring them while the "haves," in turn, make sure that no one else gets them. That is a valid statement, as long as the foundations that made it unnecessary for Germany to even consider nuclear weapons and sign the treaty still exist. But with NATO becoming "obsolete," the times are rapidly and drastically changing. If the power conditions that made Germany's position as a "have-not" justifiable are removed, the country cannot be obliged to remain unprotected in the face of a heavily nuclear-armed Russia. Other countries, like Japan, may remain shielded by the United States — but if Europe is abandoned, a responsible, and deeply realistic, government can't afford this degree of self-denial.

All this talk of a Berlin deterrent has another purpose, which outsiders — even the Economist — have not fully appreciated. Proponents of a German nuclear deterrent are fully aware that despite the U.S. president's final executive power, making NATO "obsolete" would require the more explicit approval of the administration's top echelons. Starting the debate has been a reminder to the more cautious or wiser elements in the U.S. government of the stark consequences of abandoning NATO. The United States doesn't want Germany to have nuclear weapons, and preventing Bonn — and eventually Berlin — from getting them has been one of the side benefits of NATO.

This is not to say that the nuclear proposal was critical in taming Trump's wild talk for the moment. Other factors may have pushed and pulled the administration much more strongly to cautiously re-appreciate the strategic value of NATO. Still, with Merkel having to deny any such nuclear plans in public early this year, it is not unlikely that the debate was noted in the United States. Certainly this was the case at NATO itself when its (American) deputy secretary-general, Rose Gottemoeller, rejected the idea and instead reassured the European public that the new U.S. president was aware of his long-standing obligations and the benefits for international stability.

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Nuclear weapons are expensive, contentious, potentially contagious, and dangerous. Germany is in no rush to get them. But if the shelter of the U.S. nuclear umbrella is removed while Russian weapons are still pointed at Berlin, it will have no choice.

<https://webcache.googleusercontent.com/search?q=cache:j3IULLIFpRgJ:foreignpolicy.com/2017/04/03/if-germany-goes-nuclear-blame-trump/+&cd=2&hl=en&ct=clnk&gl=us>

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Russia Today (Moscow, Russia)

US Has 'No Defense' Against Russian Cruise Missiles – STRATCOM Chief

Author Not Attributed

April 4, 2017

NATO and the United States have “no defense” against land-based cruise missiles if Russia deploys them in any quantity, the chief of US Strategic Command told senators, arguing the US must respond to Russian threat “from the position of strength.”

Appearing before the Senate Armed Services Committee on Tuesday to report on STRATCOM programs, Air Force General John E. Hyten argued for fully funding the modernization of the US “nuclear triad” lest the American atomic arsenal fall behind the weapons developed by Russia, China and North Korea.

Senators appeared particularly interested in Russian nuclear capability, which Hyten described as “a primary element of their overall national security strategy.”

“We have to meet strength with strength,” he told the committee, as one never wants to negotiate with potential adversary from a position of weakness.

The US “has only effectively dealt with Russia from the position of strength,” Hyten said.

The general agreed with committee chairman Sen. John McCain (R-Arizona) that Russia’s deployment of land-based cruise missiles would violate the 1987 Intermediate-Range Nuclear Forces (INF) treaty, adding that the system would be a threat to most of Europe “depending on where it is deployed.”

“We have no defense for it, especially in defense of our European allies,” Hyten said. “It is a concern and we’re going to have to figure out how deal with it as a nation.”

Hyten told the senators he has always considered Russia as an adversary, and that the US needed to respond to “every step that Russia takes.” Moscow has been “aggressively” modernizing its nuclear weapons since 2006, while the Obama administration’s 2010 nuclear review aimed to downsize the atomic arsenal.

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“Even though our adversaries have modernized their nuclear capabilities, we still have an effective deterrent,” he said. “The question is, ‘Will we have an effective deterrent 10 years from now and 20 years from now?’ The answer to that has to be yes.”

For this to happen, the US needs to build 100 new B-21 stealth bombers, as well as new cruise missiles and gravity bombs for them; a dozen Columbia-class nuclear submarines, to replace the aging Ohio-class boats; and finally develop and field a replacement for the Minuteman III silo-based missiles, Hyten told the committee.

To ensure every system comes on line in time would require an increase in spending from the current 3.5 percent of the Pentagon’s budget to 6 percent over the next 30 years, the general added.

“Deterrence is going to be expensive,” Hyten said. “But war is always more expensive than deterrence.”

The Obama administration put the price tag of modernizing the US nuclear arsenal at \$355 billion by 2023. Critics have said the actual figure could rise to over \$1 trillion.

McCain has led a chorus of Russia condemnations since the New York Times reported in February, that Moscow had deployed two battalions of SSC-8 land-based cruised missiles, one in an unknown location and the other near Volgograd. However, the Times admitted that the launchers were almost identical to those used for the short-ranged Iskander missiles, which are legal under the INF treaty.

Moscow has dismissed US accusations of INF treaty violations as unsubstantiated. “The Russian leadership has repeatedly confirmed its adherence to the commitments under the INF Treaty. There have not been violations from our side,” Foreign Minister Sergey Lavrov told Russia's Argumenty i Fakty weekly in a recent interview.

Russia considers the US to have violated the INF by installing the Aegis Ashore missile defense system in Romania, which became operational last year. The system’s MK-41 launchers are capable of firing Tomahawk cruise missiles.

<https://www.rt.com/usa/383513-stratcom-nuclear-triad-russia/>

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The Independent (London, UK)

Russia Launches Most Powerful Nuclear Attack Submarine Yet

By Loulla-Mae Eleftheriou-Smith

April 5, 2017

Russia has unveiled its army’s most powerful submarine to date, capable of carrying hundreds of torpedoes and reaching speeds of up to 31 knots.

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The new Yasen-class nuclear powered attack submarine, called the Kazan, is armed with torpedoes and long-range Kalibr cruise missiles. The ship was launched at the Sevmash shipyard in Severodvinsk, northern Russia.

According to Russia's state news agency TASS, the new submarine has been designed to destroy an enemy's submarines, surface ships, naval bases and ports, among other targets.

The ship reportedly carries a crew of up to 90 men and can be at sea for 100 days. It measures at around 139 metres long and can reach depths of around 600 metres underwater.

The vessel has space for eight Oniks and Kalibr cruise missiles and 300 torpedoes, and can reach speeds of up to 31 knots.

A single-shaft steam turbine nuclear power unit is understood to be part of the ship's design, giving it a capacity of 43,000 horse power, and its arsenal is thought to be capable of hitting targets up to 1,500 miles away, The Mirror reported.

The Russian military had fallen on hard times after the 1991 Soviet collapse when it was forced to scrap many relatively new ships and keep most others at harbor for lack of funds. The military has revived its strength thanks to a sweeping arms modernization program amid tensions with the West over Ukraine.

At the launch of the new submarine, Admiral Vladimir Korolyov claimed the new ship is the most modern in the world, emphasising how hard it is to track due to its low-level noise.

"It represents the cutting edge of nuclear submarine design," he said.

The launch comes at a time when Russian submarines combat patrols have reached levels not seen since the Cold War. Crews spent more than 3,000 days on patrol last year, which Admiral Korolyov called "an excellent level".

The submarine is expected to be placed in service by next year and Russia's navy intends to commission a total of seven of the submarines to be put into service by 2023.

<https://www.independent.co.uk/news/world/europe/russia-nuclear-attack-submarine-yasen-class-tass-kalibr-cruise-missiles-east-europe-severodvinsk-a7667511.html>

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Iran News Update (Pontoise, France)

Nuclear Fears Regarding Saudi Arabia

Author Not Attributed

April 4, 2017

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Saudi Arabia is being accused of seeking nuclear weapons technology in response to the threat from Iran.

According to a new report by The Institute for Science and International Security, the Saudi Government has accelerated research into nuclear programs and has begun building a team of experts.

They label the Saudi Kingdom a nuclear "newcomer" and say it is pushing to arm itself with new technologies. The Washington DC-based group writes that "since nuclear action was scaled back in Iran, it has increased in the Saudi kingdom."

Iran signed a landmark nuclear deal known as the JCPOA with world powers including the US, the UK, France and Russia in 2015. Many economic sanctions on Iran were lifted as part of an agreement that Iran would restrict and limit its sensitive nuclear activities.

The deal limited Iran's sensitive nuclear program and subjected it to greater international monitoring by the IAEA. The nuclear deal with Iran (JCPOA) was put together to calm tensions in the area, but some are concerned about Saudi Arabia's nuclear intentions.

Because, it is claimed by the organisation, which monitors global proliferation issues, that in nearby Saudi Arabia, a new threat is growing.

GETTY

It said, "Saudi Arabia is in the early stages of nuclear development. It also claimed Saudi will "more actively seek nuclear weapons capabilities" in retaliation to the situation in Iran.

But currently Saudi Arabia seems to be is focused on civilian nuclear uses.

Saudi Arabia has previously stated its intention to build at least 16 nuclear reactors in the coming years. Saudi Arabia unveiled their plans to build 16 nuclear power reactors over the next 25 years at a cost of more than \$80 billion. It projects the nuclear capacity by 2040 will be able to provide 15% of the power then, along with solar capacity. There are also plans for small reactors for desalination.

The six member states of the Gulf Cooperation Council (GCC), Kuwait, Saudi Arabia, Bahrain, the United Arab Emirates (UAE), Qatar and Oman, announced In December 2006 that the Council was commissioning a study on the peaceful use of nuclear energy. France agreed to work with them on this, and Iran pledged assistance with nuclear technology.

Currently Saudi Arabia's energy comes from oil and gas, and there is a large demand for desalination, currently fueled by oil and gas.

In February 2007 the six states agreed with the IAEA to cooperate on a feasibility study for a regional nuclear power and desalination program in Saudi Arabia.

<http://www.irannewsupdate.com/news/nuclear/3650-nuclear-fears-regarding-saudi-arabia.html>

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BBC News (London, UK)

Syria 'chemical attack': What we know

Author Not Attributed

April 7, 2017

At least 80 people have been killed in a suspected chemical attack on the rebel-held town of Khan Sheikhoun in north-western Syria.

Hundreds suffered symptoms consistent with reaction to a nerve agent after what the opposition and Western powers said was a Syrian government air strike on the area on Tuesday morning.

The Syrian military denied using any chemical agents, while its ally Russia said an air strike hit a rebel depot full of chemical munitions.

What happened?

Activists and witnesses say warplanes attacked Khan Sheikhoun, about 50km (30 miles) south of the city of Idlib, early on Tuesday, when many people were asleep.

Mariam Abu Khalil, a 14-year-old resident who was awake, told the New York Times that she had seen an aircraft drop a bomb on a one-storey building.

The explosion sent a yellow mushroom cloud into the air that stung her eyes. "It was like a winter fog," she said. She sheltered in her home, but recalled that when people started arriving to help the wounded, "they inhaled the gas and died".

Hussein Kayal, a photographer for the pro-opposition Edlib Media Center (EMC), told the Associated Press that he was awoken by the sound of an explosion at about 06:30 (03:30 GMT). When he reached the scene, there was no smell, he said. He found people lying on the floor, unable to move and with constricted pupils.

Mohammed Rasoul, the head of a charity ambulance service in Idlib, told the BBC that he heard about the attack at about 06:45 and that when his medics arrived 20 minutes later they found people, many of them children, choking in the street.

The Union of Medical Care and Relief Organisations (UOSSM), which funds hospitals in rebel-held Syria, said three of its staff in Khan Sheikhoun were affected while treating patients in the streets and had to be rushed to intensive care.

Victims experienced symptoms including redness of the eyes, foaming from the mouth, constricted pupils, blue facial skin and lips, severe shortness of breath and asphyxiation, it added.

A Medecins Sans Frontieres (MSF) medical team supporting the Bab al-Hawa hospital, near the Turkish border, confirmed similar symptoms in eight patients brought there from Khan Sheikhoun.

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How many victims?

Rescue workers and opposition activists posted photos and videos on social media that showed victims exhibiting the symptoms described by doctors, as well as many people who had died.

The EMC posted photos showing what appeared to be at least seven dead children in the back of a pick-up truck. There were no visible traumatic injuries.

Another photo published by the group showed the bodies of at least 14 men, women and children on a street outside a hospital in Khan Sheikhoun.

The opposition-run health directorate in Idlib province - which is almost entirely controlled by rebel fighters and al-Qaeda-linked jihadists - says at least 84 people were killed, including 27 children and 19 women. Another 546 people were injured.

It was also not immediately clear whether anyone was killed when Khan Sheikhoun's main hospital was struck by a rocket on Tuesday afternoon.

The source of the projectile was not clear, but the EMC said warplanes had targeted clinics and the headquarters of the Syria Civil Defence, whose rescue workers are known as the White Helmets.

What were they exposed to?

The World Health Organization said on Wednesday that the likelihood of a chemical being responsible was "amplified by an apparent lack of external injuries reported in cases showing a rapid onset of similar symptoms, including acute respiratory distress as the main cause of death".

"Some cases appear to show additional signs consistent with exposure to organophosphorus chemicals, a category of chemicals that includes nerve agents."

The Organisation for the Prohibition of Chemical Weapons (OPCW) expressed serious concern about the reports and said a fact-finding mission was "in the process of gathering and analysing information from all available sources".

The OPCW will not be able to confirm anything until samples are tested at an accredited laboratory, but a doctor at a hospital in the town of Sarmin who treated some of the casualties believes it was the nerve agent Sarin.

"All the patients had the same symptoms - difficulty in breathing, weakness," Dr Abdulhai Tennari told the BBC. "They had very huge secretions in their respiratory tracts, which induced suffocation."

He noted that when the most serious cases were given an antidote for Sarin poisoning, atropine, their conditions became stable and they survived.



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MSF said the patients' symptoms were "consistent with exposure to a neurotoxic agent such as Sarin". Its medical teams also reported that victims smelled of bleach, suggesting they had been exposed to chlorine as well.

On Thursday, Turkey's health ministry said the initial results of post mortems carried out on three victims under WHO supervision suggested that they "were exposed to a chemical substance (Sarin)". They suffered "pulmonary oedema [build-up of fluid], increase in the lung weight and blood in the lungs", it added.

What does the Syrian government say?

A Syrian military statement published by state media categorically denied the use of "any chemical or toxic substance" in Khan Sheikhoun on Tuesday, adding that the military "has never used them, anytime, anywhere, and will not do so in the future."

Russia, which has carried out air strikes in support of President Assad since 2015, meanwhile said the Syrian air force had struck Khan Sheikhoun "between 11:30am and 12:30pm local time" on Tuesday, but that the target had been "a large terrorist ammunition depot" on its eastern outskirts.

"On the territory of the depot, there were workshops which produced chemical warfare munitions," it added, without providing any evidence. "Terrorists had been transporting chemical munitions from this largest arsenal to the territory of Iraq."

The ministry said the chemical munitions had also been used during the final stages of the battle for control of the northern Syrian city of Aleppo last autumn, asserting that the symptoms of the victims were "the same".

Is Russia's explanation credible?

Hamish de Bretton-Gordon, a former commanding officer of the British Armed Forces Joint Chemical Biological Radiological Nuclear (CBRN) Regiment, said it was "pretty fanciful".

"Axiomatically, if you blow up Sarin, you destroy it," he told the BBC.

Experts say the explosion resulting from an air strike on a chemical weapons facility would most likely incinerate any agents. Sarin and other nerve agents are also usually stocked in a "binary manner", which means they are kept as two distinct chemical precursors that are combined just before use, either manually or automatically inside a weapon when launched.

"It's very clear it's a Sarin attack," Mr de Bretton-Gordon added. "The view that it's an al-Qaeda or rebel stockpile of Sarin that's been blown up in an explosion, I think is completely unsustainable and completely untrue."

He also noted that chlorine was the only chemical believed to be used in attacks in Aleppo over the past year.



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A recent report by Human Rights Watch said government helicopters had dropped bombs containing chlorine on rebel-held areas of Aleppo on at least eight occasions between 17 November and 13 December, killing nine civilians.

Hasan Haj Ali, commander of the Free Idlib Army rebel group, called Russia's claim a "lie" and said rebel fighters did not have the capability to produce nerve agents.

The UK's representative to the UN, Matthew Rycroft, also told the Security Council that his country had seen nothing to suggest that any non-state actors in Syria had the sort of chemical weapons that would have been consistent with the symptoms.

The French envoy, Francois Delattre, meanwhile said there was "no fire" after the air strike, even though a strike on an ammunition depot "would have caused a fire".

It was also not clear why there was five hours' difference between the time of the strike reported by multiple witnesses and that stated by Russia.

Moscow's short account gave no evidence for its suggestion that a group was sending chemical weaponry to Iraq. The so-called Islamic State group, which has used sulphur mustard in Syria and Iraq, is not present in Khan Sheikhoun.

What is Sarin?

Sarin is highly toxic and considered 20 times as deadly as cyanide.

As with all nerve agents, Sarin inhibits the action of the acetylcholinesterase enzyme, which deactivates signals that cause human nerve cells to fire. This blockage pushes nerves into a continual "on" state. The heart and other muscles - including those involved in breathing - spasm. Sufficient exposure can lead to death via asphyxiation within minutes.

Sarin is almost impossible to detect because it is a clear, colourless and tasteless liquid that has no odour in its purest form. It can also evaporate and spread through the air.

Has Sarin been used in Syria before?

The Syrian government was accused by Western powers of firing rockets filled with Sarin at several rebel-held suburbs of the capital Damascus in August 2013, killing hundreds of people.

President Bashar al-Assad denied the charge, blaming rebel fighters, but he did subsequently agree to destroy Syria's declared chemical arsenal.

Despite that, the OPCW and UN have continued to document the use of chemicals in attacks.



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A joint investigation concluded in October that government forces had used chlorine as a weapon at least three times between 2014 and 2015. It also found Islamic State militants had used the blister agent sulphur mustard.

<http://www.bbc.com/news/world-middle-east-39500947>

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Financial Tribune (Tehran, Iran)

US Senators Seeking to Sabotage Nuclear Agreement

Author Not Attributed

April 4, 2017

Only two years ago, six world powers, including Washington and Moscow, ratified a historic treaty guaranteeing that Iran's nuclear activities will remain peaceful. Now, promises made by the US as part of the deal stand in danger of being circumvented by the administration of President Donald Trump.

Although the president cannot, as he has admitted, dismantle the multilateral treaty, he can take steps to renege on promises made by the US that are incorporated into the 2015 Joint Comprehensive Plan of Action, signed by China, Russia, France, Germany, the UK, the US and the European Union, to limit Iran's nuclear program in exchange for sanctions relief, Sputnik wrote in an article on Monday. A group of US senators is now seeking to undermine the landmark deal.

Tehran has been observed to date as honoring its end of the bargain, quickly spiriting disputed materials out of the country and shutting down or converting some of its nuclear facilities.

Managing a delicate balancing act, Iranian President Hassan Rouhani, a moderate, has juggled the anger of staunch critics against calls by more reasonable constituents seeking an end to sanctions that have had a crippling economic effect.

But the group of US senators, noting that Saudi Arabia has chosen to purchase US weapons instead of Russian arms, and echoing claims by Riyadh that its arch-rival Tehran is actively supporting terrorism, is seeking to find ways to encourage Trump to renew the sanctions against Iran that are set to expire under the 2015 accord.

The charge is being led by Senator Bob Corker, who on March 23 introduced a bill titled "Countering Iran's Destabilizing Activities Act" to the US Senate Foreign Relations Committee. As of last Tuesday, it had 25 co-sponsors, of which 11 were Democrats. The National Iranian American Council was quick to decry the bill, asserting that it would "place President Trump's trigger-happy finger on the ignition switch of a deadly conflict with Iran."

Cooler heads may yet prevail, however. During his confirmation hearing, US Secretary of Defense James Mattis was reported to have expressed his support for the treaty.

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European Union High Representative for Foreign Affairs Federica Mogherini stressed that during a recent meeting with US Secretary of State Rex Tillerson, the latter had promised that Washington would adhere to the agreement.

<https://financialtribune.com/articles/national/61705/us-senators-seeking-to-sabotage-nuclear-agreement>

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Jerusalem Online (Jerusalem, Israel)

Intelligence Agents Return from Syria Claiming Assad Still Possesses Deadliest Chemicals

By Judith Abramson

April 4, 2017

In the wake of the airstrike in Idlib in which dozens were killed, intelligence agents told Channel 2 News that despite Assad's declaration, his regime is still stockpiling some of the world's deadliest weapons of mass destruction, including nerve gas.

Following the chemical weapons attack in Syria today (Tuesday) in which dozens — including children — were killed, officials from a Western intelligence source who returned from Syria told Channel 2 News that the threat posed by Syrian President Bashar al-Assad's regime is extremely grave. Despite his declarations, his army still possesses several of the most dangerous unconventional substances in existence.

According to these sources, the use of chemical weapons such as chlorine by Assad's army is not new. However, the airstrike that took place this morning in Idlib claiming dozens of lives utilized sarin nerve gas: a lethal gas that has been defined by the UN as a weapon of mass destruction and has been prohibited for use and collection by the Chemical Weapons Convention.

Chemical weapons have not been used in Syria since 2013, when Assad's army murdered more than 1,000 people in Damascus suburbs. Afterwards, the Syrian regime agreed to destroy the unconventional weapons in its possession following international pressure. However, according to the intelligence sources who spoke with Channel 2 News and from testimonies coming out of Syria, Assad apparently kept stockpiles of the deadly gas and other substances.

"We recognize an increased use of chemical substances in the fighting within Syria," the intelligence sources noted. "Inspectors check every complaint on the ground. The Syrian army itself conducted several chemical airstrikes - mainly chlorine, usually by dropping from helicopters. But this time, nerve gas was used and this is extremely grave."

<http://www.jerusalemonline.com/news/middle-east/the-arab-world/assad-regime-stockpiling-weapons-of-mass-destruction-27657>

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Los Angeles Times (Los Angeles, CA)

What happened to Syria's chemical weapons?

By Matt Pearce

April 6, 2017

There's a mystery at the heart of an apparent chemical weapons attack in Syria this week: Syria's government, suspected of carrying out the attack, was supposed to have gotten rid of all its chemical weapons in 2014.

A year earlier, President Obama said Syria had crossed a "red line" by allegedly using sarin gas near Damascus and Aleppo, killing at least 100 to 150 people. But rather than take military action, Obama agreed to a Russian deal to dismantle Syria's chemical weapons program.

Syria's foreign minister has denied that the country's forces use chemical weapons in its battle with opposition rebels and Islamic State militants, both of whom seek the overthrow of President Bashar Assad. But the effectiveness of the Obama deal is now under new examination.

How are chemical weapons regulated?

The wartime use of chemical weapons was banned by the Geneva Protocol in 1925 after more than 90,000 soldiers were killed during World War I by materials including chlorine and mustard gas.

But nations including the United States and the former Soviet Union amassed stockpiles of chemical weapons throughout the 20th century. They largely went unused, with a major exception during the Iran-Iraq war in the 1980s. That's around when U.S. officials first reported that Syria had produced its own substantial chemical weapons stockpile.

The signing of the international Chemical Weapons Convention in 1993 began a phase of worldwide disarmament as almost every nation joined the pact. Syria was one of the few nations that didn't, which raised concerns after the country tipped into civil war in 2011 and chemical weapons were repeatedly used in the conflict.

Investigators have accused both the Syrian government and Islamic State of using chemicals in the fight.

The Syrian deal

The deal between the U.S. (an Assad opponent) and Russia (an ally) was struck in September 2013. Under the agreement, Syria gave a manifest of its chemical weapons and facilities to the Organization for the Prohibition of Chemical Weapons, the global chemicals watchdog, which moved quickly to decommission the declared facilities and weapons.

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By the end of 2014, all of Syria's declared chemical weapons were destroyed, along with 24 of Syria's 27 declared production facilities. (The other three have not yet been destroyed yet due to instability, according to inspector reports.)

Yet some officials were skeptical. In February 2016, James R. Clapper, Obama's Director of National Intelligence, testified to the U.S. Senate Armed Services Committee that Syria had not declared its entire chemical weapons program to inspectors. International monitors continued to receive reports of smaller chemical attacks throughout 2016.

On Jan. 12, in the closing days of the Obama administration, the U.S. Treasury department unveiled sanctions against Syrian military, security and research officials accused of being connected to Syria's chemical weapons program or with chemical attacks in recent years.

The recent attack

Tuesday's attack in the northern Syrian town of Khan Sheikhoun left at least 70 people dead and hundreds more affected, with many of them struggling to breathe, according to the World Health Organization, citing medical groups working in Syria. U.S. officials reported seeing fixed-wing Syrian aircraft dropping bombs over the town around the time of the suspected gassing.

U.N. officials called it the largest chemical weapons attack in Syria since 2013. With many hospitals damaged due to fighting, local emergency rooms were overwhelmed and some patients were taken to hospitals in southern Turkey, the WHO reported.

Doctors Without Borders, the international aid organization, said it's possible at least two different chemicals were used in the attack — sarin gas and chlorine. The Organization for the Prohibition of Chemical Weapons said its investigators have begun gathering information.

Markus Binder, a chemical weapons expert at the University of Maryland, said he still had basic questions about the attack that need to be confirmed, including exactly what chemicals were used and whether the Syrian government carried out the attack.

Nor did the use of chemicals make immediate sense, given that the government has been using explosives that often kill civilians.

"Why now?" Binder said. "It puzzles."

<http://www.latimes.com/world/middleeast/la-fg-syria-chemical-weapons-20170406-story.html>

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Daily O (India)

What Are the Odds of India's Nuclear First Strike Against Pakistan?

By Rajit Ojha

April 4, 2017

Atomic stuff is exotic and esoteric but at the end of the day, certain universal rules still apply.

Forget a nuclear winter setting in as a result of an India-Pakistan atomic exchange anytime soon, instead we find ourselves in the middle of a nuclear summer, as "The Gray Lady" is the latest entity to hot up the Great NFU debate.

Although, why we are debating whether India is abandoning its policy of no first use of nuclear weapons at this juncture is extremely puzzling.

The NYT piece quotes "circumstantial evidence" in the form of a "triad" of statements — by former NSA Shiv Shankar Menon, a retired head of India's Strategic Forces Command (SFC), Lt Gen BS Nagal, and then defence minister Parrikar — as the trigger.

But how is any of this new? The key provocateur in the latest rerun of this debate, Vipin Narang of MIT, had already highlighted this triad in November 2016, so what has changed since then except a high-profile think tank event that needed some radioactive grist so as not to appear run of the mill?

Another contention is that India has now moved away from using nuclear weapons for counter value targeting (essentially cities) to counter force targeting (essentially military targets).

But why would Indian planners regard these as mutually exclusive in the first place, especially when the doctrine is centered around massive retaliation?

Moreover, the Indian doctrine goes further than even ambiguous US threats in Desert Storm by promising nuclear retaliation for biological and chemical weapon attacks.

The enemy's chemical and biological weapon facilities — which in this context fall under a counterforce definition — have always been in the cross hairs.

Also, is Rawalpindi — home to Pakistan Army's general headquarters as also millions of civilians — a counterforce target or a countervalue target? What about Karachi?

Pakistan's most populous city is also a base for its submarines, now supposedly armed with cruise missiles with nuclear warheads, giving them a nascent second-strike capability.

Counterforce versus countervalue distinctions only go so far, and the lines blur frequently.

Coming back to the triad of statements, let's consider Parrikar's. His maverick pronouncements on NFU led to his own ministry immediately distancing itself from them.

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This is a man who once said India must "neutralise terrorist through terrorist", but we didn't see counter-terrorism experts confirming the return of CIT-X and CIT-J as an instrument of the Indian policy.

Why then should his nuclear pronouncements be taken seriously?

How are Lt Gen Nagal's strong words suggesting that an NFU posture was somehow "morally wrong" proof that India is shifting to a first-use posture?

If anything, his angst seems to suggest status quo, why else would he be channelling his inner Sundarji and advocating a change of what he perceives is a flawed policy.

Primarily, extracts from Shiv Shankar Menon's book have been cited as the most credible evidence of a change in status quo.

Narang offers Menon's statement that "Pakistani tactical nuclear weapons use [or imminent use] would effectively free India to undertake a comprehensive first strike against Pakistan" as the clincher.

Unfortunately, he is mixing up Rules of Engagement (ROE) that exist at the tactical level with a shift in doctrine.

Menon's statement on "imminent use" is consistent with a positive indication of hostile intent.

"Do Not Fire Until Fired Upon" is a Hollywood catchphrase and does not apply to real world ROE, which almost always prioritises intent over action. Look no further than the US Navy's shootdown of Libyan Mig-23s in 1989 that it is a standard practice to be the first to fire if "hostile intent" is assessed and self-defence becomes the priority.

Yes, nuke stuff is exotic and esoteric but it's still warfare at the end of the day and certain universal rules still apply.

Regardless, if we think a first strike will neutralise all Pakistani nuclear strike capability, that's just a chimera.

For India to adopt a Pakistani version of a nuclear first strike — a nuclear response to an overwhelming conventional attack — makes little sense given the respective military capabilities of the two nations.

None of this is to say that a greater debate about India's nuclear weapons posture isn't required. In fact, there is an overwhelming need for it; but I daresay on more vexing issues.

Watch this space to know what that might look like.

<http://www.dailyo.in/politics/india-pakistan-nuclear-war-n-arms-exchange/story/1/16522.html>

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Gulf Times (Doha, Qatar)

Islamabad Calls for N-restraint in S Asia

Author Not Attributed

April 5, 2017

Pakistan has told the United Nations that peace and stability in South Asia cannot be achieved without resolving underlying disputes, agreeing on measures for nuclear and missile restraint, and instituting conventional forces balance.

“Our conduct continues to be defined by restraint and responsibility, and avoidance of an arms race [in South Asia],” ambassador Maleeha Lodhi said in a speech to the UN Disarmament Commission yesterday.

She said there was a lack of progress on the part of nuclear-weapon states in fulfilling their legal nuclear disarmament obligations, which could be further impeded by countries “greatly strengthening and expanding [their] nuclear capabilities”. Another key challenge, Dr Lodhi said, was granting discriminatory waivers to some, which constitute nuclear double standards.

Many states, she said, particularly in South Asia, continued to pursue the policies of proliferation with military expenditures rising and conventional weapons inventories expanding.

“Disruption of strategic stability in South Asia by induction of nuclear weapons in our neighborhood fundamentally challenged my country’s security,” she said, in an obvious reference to the 1974 Indian nuclear test.

“We were left with no option but to follow suit in order to restore strategic stability in the region and deter all forms of aggression.”

The ambassador emphasised the discriminatory nature of the proposed fissile material cut-off treaty and the urgency of providing legally binding assurances to non-nuclear- weapon states.

Lodhi told the delegates that Pakistan had the requisite credentials and expertise to be part of international export control bodies and has therefore, as a first step, sought membership of the Nuclear Suppliers Group (NSG).

“As the NSG deliberates on the legal, technical and political aspects of membership of non-NPT countries, it must establish and adhere to a transparent, objective and non-discriminatory criteria that ensures equal treatment of non-NPT applicants for the Group’s membership,” she said.

<http://www.gulf-times.com/story/543296/Islamabad-calls-for-N-restraint-in-S-Asia>

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Deccan Herald (Bangalore, India)

India May Be Rethinking Nuclear First Strikes

By Max Fisher

April 3, 2017

This comes against a backdrop of long-simmering tensions between India and Pakistan.

India may be reinterpreting its nuclear weapons doctrine, circumstantial evidence suggests, with potentially significant ramifications for the already tenuous nuclear balance in South Asia.

New assessments suggest India is considering allowing for pre-emptive nuclear strikes against Pakistan's arsenal in the event of a war. This would not formally change India's nuclear doctrine, which bars it from launching a first strike, but would loosen its interpretation to deem pre-emptive strikes as defensive.

It would also change India's likely targets, in the event of a war, to make a nuclear exchange more winnable and, therefore, more thinkable. Analysts' assessments, based on recent statements by senior officials, are necessarily speculative. States with nuclear weapons often leave ambiguity in their doctrines to prevent adversaries from exploiting gaps in their proscriptions and to preserve flexibility. But signs of a strategic adjustment are mounting.

This comes against a backdrop of long-simmering tensions between India and Pakistan — including over state-sponsored terrorism and the disputed territory of Jammu and Kashmir — which have already led to several wars, the most recent in 1999.

The new interpretation would be a significant shift in India's posture that could have far-reaching implications in the region, even if war never comes. Pakistan could feel compelled to expand its arsenal to better survive a pre-emptive strike, in turn setting off an Indian buildup. This would be more than an arms race, said Vipin Narang, a Massachusetts Institute of Technology professor.

"It's very scary because all the 'first-strike instability' stuff is real," Narang said, referring to a dynamic in which two nuclear adversaries both perceive a strong incentive to use their warheads first in a war. This is thought to make nuclear conflict more likely.

Hints of a high-level debate over the nuclear doctrine mounted with a recent memoir by Shivshankar Menon, the national security adviser from 2011-14. "There is a potential gray area as to when India would use nuclear weapons first" against a nuclear-armed adversary, Menon wrote.

India, he added, "might find it useful to strike first" against an adversary that appeared poised to launch or that "had declared it would certainly use its weapons" — most likely a veiled reference to Pakistan.

Narang presented the quotations, along with his interpretation, in Washington recently, during a major nuclear policy conference hosted by the Carnegie Endowment for International Peace. "There is increasing evidence that India will not allow Pakistan to go first," he told a gathering of international government officials and policy experts.

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Menon's book, he said, "clearly carves out an exception for pre-emptive Indian first use in the very scenario that is most likely to occur in South Asia."

Should India sustain a nuclear attack, its doctrine calls for a major retaliation, most likely by targeting its adversary's cities. When this policy was announced in 2003, it fit the threat posed by Pakistan's arsenal of long-range, city-destroying weapons.

Since then, Pakistan has developed smaller warheads designed for battlefield use. These were meant to address Pakistan's India problem: The Indian military is much larger, virtually ensuring its victory in an all-out war.

Such weapons could be used against invading Indian troops, halting a war before it could be lost. This would exploit a gap in India's doctrine: It is hard to imagine that India would escalate to total nuclear war, as its doctrine commands, over a small battlefield strike on Pakistani soil.

This created a Pakistan problem for India: Its chief adversary had made low-level nuclear war thinkable, even potentially winnable. Since then, there have been growing hints of debate over modifying the Indian doctrine.

Another reason analysts suspect change: India's doctrine initially served to persuade the US to drop economic sanctions it had imposed over nuclear tests. Given President Donald Trump's softer stance on proliferation, that impetus may no longer apply.

Menon, in his book, seemed to settle on an answer to India's quandary: "Pakistani tactical nuclear weapon use would effectively free India to undertake a comprehensive first strike against Pakistan," he wrote.

The word "comprehensive" refers to a nuclear attack against an adversary's arsenal, rather than its cities. It is meant to instigate and quickly win a nuclear exchange, leaving the other side disarmed. Taken with a policy of pre-emption, these two shifts would seem to address India's Pakistan problem, in theory persuading Pakistani leaders that a limited nuclear war would be too dangerous to pursue.

For India, Narang said, "you can really see the seductive logic" to such an approach. This would be "really the only pathway you have if you're going to have a credible nuclear deterrence." Shashank Joshi, a fellow at the Royal United Services Institute, said he suspected Menon was signaling something subtler: a warning that India's strategy could adapt in wartime, potentially to include first strikes. That distinction may be important to officials, but it could be lost on Pakistani war planners who have to consider all scenarios.

Use it or lose it

Joshi, in a policy brief for the Lowy Institute, an Australian think tank, tried to project what would happen if India embraced such a policy, or if Pakistan concluded that it had.

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First would come the arms race. The fear of a first strike, Joshi wrote, “incentivises Pakistan to undertake a massive nuclear buildup, in order to dispel any possibility of India disarming it entirely.” India, whatever its strategy, would feel compelled to keep pace.

Second comes the tightening of nuclear tripwires, Joshi warned, as “this reciprocal fear of first use could pull each side in the direction of placing nuclear forces on hair-trigger alert.”

Finally, in any major armed crisis, the logic of a first strike would pull both sides toward nuclear escalation. “If Pakistan thinks India will move quickly, Pakistan has an incentive to go even quicker, and to escalate straight to the use of the longer-range weapons,” Joshi wrote. This thinking would apply to India as well, creating a situation in which the nuclear arsenal becomes, as analysts dryly put it, “use it or lose it.”

The most optimistic scenario would lock South Asia in a state of mutually assured destruction, like that of the Cold War, in which armed conflict would so reliably escalate to nuclear devastation that both sides would deem war unthinkable.

This would be of global concern. A 2008 study found that, although India and Pakistan have relatively small arsenals, a full nuclear exchange would push a layer of hot, black smoke into the atmosphere.

This would produce what some researchers call without hyperbole “a decade without summer.” As crops failed worldwide, the resulting global famine would kill a billion people.

“Maybe it is this Reaganesque strategy,” Narang said, comparing India’s potential strategic shift to President Ronald Reagan’s arms race with the Soviet Union. “But Pakistan has a much bigger security problem than the Soviet Union did. And that can blow back real quick.”

<http://www.deccanherald.com/content/604368/india-may-rethinking-nuclear-first.html>

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Zee News (Noida, India)

Worried Pakistan says change in India's N-strike policy highly irresponsible, dangerous

Author Not Attributed

April 7, 2017

Pakistan on Thursday termed the change in India's nuclear arms usage policy as "highly irresponsible and dangerous", and said it will "not help in promoting strategic restraint and stability in a nuclearised South Asia".

"Pakistan has long maintained that the ambiguous no-first-use declaration is not verifiable and hence nothing more than an empty political statement," said Foreign Office spokesman Nafees Zakaria.

The spokesman added that such ambiguous declaration cannot substitute for verifiable arms control and restraint measures.

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"Pakistan has to consider capabilities and not intentions, which can change anytime," said Zakaria in its weekly briefing.

Recent reports suggested India may be considering revisiting its "no-first strike" policy, allowing its nuclear establishment to carry out a pre-emptive nuclear strike against Pakistan in the event of a war.

According to a media report, this would not only formally change India's nuclear doctrine, which bars it from launching a first strike, but would loosen its interpretation to deem pre-emptive strikes as defensive.

Earlier, former Defence Secretary Lt. Gen. (ret'd) Naeem Khalid Lodhi claimed that Pakistan possesses second strike capability against India.

The second strike provides a military with the capability to hit back at an enemy in a situation where its land-based nuclear arsenal had been neutralised.

The nuclear deterrence, said the former Defence Secretary, had been augmented by the second strike capability, efficient delivery systems and effective command and control system.

Pakistan in January 2017 attained the credible "second strike capability" after successfully test-firing nuclear capable submarine-launched cruise missile (SLCM) Babur-III.

US Ambassador to United Nations Nikki Haley recently voiced concerns over the India-Pakistan tensions, saying Washington wanted to play a role in de-escalation.

The move, however, was promptly rejected by India, which has for long argued that Kashmir is a bilateral dispute, and will not accept any third-party mediation over it.

Pakistan, on the contrary, has welcomed the offer of mediation to resolve the longstanding issue. "The world's concerns have been developed in the backdrop of the deteriorating human rights situation in Jammu and Kashmir," he said.

"We welcome the statement of Ambassador Nikki Haley, expressing concerns over the rising tensions between Pakistan and India and the offer of mediation."

The spokesperson regretted that India reacted negatively to the US offer.

"India wants to speak of terrorism! We also insist on speaking of terrorism, which forms one of the elements of the comprehensive dialogue process.



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We need to address the Indian-sponsored terrorism in Pakistan. Kulbhushan Jadav and many other examples are irrefutable proof of Indian involvement in Pakistan," he said.

<http://zeenews.india.com/india/pakistan-says-change-in-indias-nuclear-strike-policy-highly-irresponsible-dangerous-1993647.html>

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Global Times (Sierra Leone)

MPs Host BWC Workshop

By Amadu Daramy

April 1, 2017

MPs were this week engaged in a regional West Africa Parliamentary workshop to promote ratification and implementation of the Biological and Toxin Weapons Convention (BWC) at Committee Room No1 in Parliament.

In his presentation, the Executive Secretary at Nuclear Safety and Radiation Protection Authority NSRPA who doubles as National Liaison-International Atomic Energy Agency IAEA and Focal Point EU CBRN Risk Mitigation Centres of Excellence, Mr. Josephus J Kongo, informed that biological agents are used in medical and scientific research, chemical agents are used for industrial purposes, agricultural research, medical or pharmaceutical purposes related to protection against toxic chemicals.

Mr. Kongo hastened to note that we live with these materials each day and most of them are beneficial for the existence of mankind as they are used to address socio economic needs. He said we cannot do without the beneficial uses of some of the CBRN agents/materials, but that some could be used for malicious purposes that could cause significant harm to the general public and the environment. Some of the CBRN agents he said could be used to manufacture weapon of mass destruction.

The use of these CBRN agents and materials "can produce risk which will be difficult and expensive to mitigate", adding that the risks could come from criminal activities, accidental activities or natural origin. He therefore maintained that there is an absolute need for global approach to monitor and regulate their uses to ensure that they are used without harm to people and the environment. The workshop, he said was part of the global approach to prevent the use of biological agents for the production of weapon of mass destruction.

Mr. Kongo further noted that there are conventions to prevent the production of weapon of mass destruction besides the Biological Weapon Convention BWC. He named the following conventions including but not limited to the Nuclear and Radiological agents for production of weapon of mass destruction; Organization for the Prohibition of Chemical Weapon OPCW or simply Chemical Weapon Convention CWC; the Non Proliferation Treaty NPT relating to nuclear weapon; Agreement on the Privilege and limits of the IAEA; Vienna Convention on Civil Liability for Nuclear Damage; Convention on the Physical Protection of Nuclear Material CPPNM; Amendment to the Convention on the Physical Protection of Nuclear Material CPPNM-AM; Convention on Early Notification of a Nuclear Accident; convention on Assistance in the case of a Nuclear Accident or Radiological Emergency and many more.

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Mr. Kongo said the purpose of the above conventions is to achieve effective progress towards general and complete disarmament under strict and effective international control including the prohibition and elimination of all types of weapons of mass destruction.

<http://globaltimes-sl.com/mps-host-bwc-workshop/>

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Morocco World News (Rabat, Morocco)

Morocco Elected Vice-President of the UN Fight Against Nuclear Weapons

By Amira El Masaiti

April 2, 2017

Morocco was elected Vice-President of the United Nations' conference to negotiate a legally binding instrument to prohibit nuclear weapons, leading toward their total elimination in New York on March 30.

Morocco's Permanent Representative to the United Nations, Omar Hilale, will represent Africa during all UN negotiations to boycott nuclear weapons. The announcement was made by the president of the conference, Elayne Whyte Gomez, in a plenary session.

The Kingdom will sit alongside South Africa, as the representatives of all African countries, while Austria will represent Western Europe. Iran will stand in for Asia, New Zealand for Oceania and Chile for Latin America. Together, they will conduct the negotiations, which started Monday, March 27, said Gomez.

More than 100 countries and hundreds of NGO participated in UN's talks on the global nuclear ban, despite objections from Britain, France, Israel, Russia, US, and declination from China, India and Pakistan. The US and France explained their opposition in October, noting there is a necessity to make progress in stages, without disturbing the strategic balance of weapons.

In recent years, no progress had been made toward the ban of nuclear weapons, despite commitments by the major nuclear powers to work toward a boycotting of these weapons under the 1968 Non-Proliferation Treaty (NPT), said Beatrice Fihn, director of the International Campaign to Abolish Nuclear Weapons. She added that "there was disappointment with Obama's administration, which made some pledges, but then ignored most of them. And now there are raised worries with the new US president."

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Pope Francis addressed a letter to the UN urging the abolishment of nuclear weapons, explaining that “the international community is called upon to adopt forward-looking strategies to promote the goal of peace and stability and to avoid short-sighted approaches to the problems surrounding national and international security.”

<https://www.moroccoworldnews.com/2017/04/212730/morocco-elected-vice-president-un-fight-nuclear-weapons/>

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The American Interest (Washington, DC)

Nuclear Deterrence: Still the Bedrock of US Security

By Ash Carter

April 6, 2017

The U.S. government must stay the course on plans to correct decades of underinvestment in its nuclear deterrent.

Nuclear deterrence and the mission of those who work on the nuclear enterprise have never been far from my mind since I first worked in the Pentagon in 1981. In those Cold War days, when nuclear weapons and the need for deterrence often made newspapers headlines here and abroad, one of my first defense-related jobs was working as a physicist on missile defense and the then-current but infeasible Strategic Defense Initiative, and on basing options for the Missile Experimental (MX), which ultimately became the Peacekeeper ICBM. Later, after the end of the Cold War, I ran the Pentagon’s Nunn-Lugar program, which removed and eliminated nuclear weapons in Russia, Ukraine, Kazakhstan, and Belarus.

While much has changed in the more than 35 years since I first served in the Pentagon, nuclear deterrence remains crucial to our nation’s defense and to strategic stability. Even if nuclear weapons fortunately make fewer headlines than they did during the Cold War and immediate post-Cold War days, the people, capabilities, and systems that comprise America’s nuclear force remain the bedrock of the nation’s security. In light of dramatic changes in the nuclear security environment against an unchanged backdrop of the terrible destructiveness of nuclear weapons and the ineffectiveness of defenses against them, the Defense Department took steps in recent years, culminating in my time as Secretary of Defense from 2015 to 2017, to recapitalize the nation’s nuclear force to ensure safe, secure, and effective deterrence well into the future.

These investments and this recapitalization are not intended to stimulate competition with anyone else; and it is clear they are not having that effect. Indeed, those worried about the start of a new arms race miss the lesson of the past two decades: Despite decades of American and allied reserve—for 25 years our nations have refrained from building anything new—many countries, including Russia, North Korea, and more, have been doing just that. And some of these nations are even building some new types of weapons. So those who suggest that the U.S. recapitalization is a major stimulus to other powers to build more do not have the evidence of the past 25 years on their side.

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The Enduring Role of Nuclear Deterrence

It is a remarkable achievement that in the more than seven decades since August 1945, nuclear weapons have not been used again in war. But that is not something that can ever be taken for granted. Nuclear weapons remain the single most fearsome and dangerous technology created by humankind. And for that reason, the Defense Department's highest priority mission is nuclear deterrence. To that end it has long devoted enormous resources, thought, and energy to prevent their use in war.

In all the years since the Manhattan Project, no one has ever found a perfect defense against these weapons. As a result, only through our own nuclear enterprise can we hope to deter nuclear attacks that would result in enormous devastation. Deterrence is a simple concept, at once elegant and crude, but it rests on a complicated, human-intensive, and technology-intensive system of systems. As a result, the Defense Department dedicates some of its best people and most advanced technology to this mission.

As to the human inputs, thousands of men and women across the country, in uniform and as civilians, contribute to the nuclear deterrence mission. The workforce that keeps the nation's nuclear enterprise safe, secure, and effective is composed of operators, enablers, maintainers, planners, communicators, security forces, engineers, and facilities personnel on Defense Department bases and installations; scientists, engineers, and technicians in the Department of Energy weapons labs; and many more, including in the defense industry. Each member of that workforce is key to the nation's deterrence effort.

Technologically, there are also many different pieces to this system. It is built on the bedrock of the "triad:" the nation's ICBMs, bombers, and sea-launched ballistic missiles.¹ Just as critical to the mission is the network of capabilities that enable nuclear command and control, communications, and integrated tactical warning and attack assessment—satellites, radar systems, ground stations, command posts, control nodes, communications links, and more—that ensure the triad all works assuredly but only on command, and cannot misfire either by mistake or by the deliberate act of a malevolent insider.

Together, this system of systems provides the one person whom the nation has entrusted with the immense nuclear decision-making responsibility—the President of the United States—the best possible picture of information, so that the President can make the most informed decision possible to keep our country safe and prevent nuclear war. The confidence—of Presidents and Washington policymakers, the nation's allies and partners, and our potential adversaries—that every part of this system is working as smoothly as it should is what makes nuclear deterrence effective. Ensuring that knowledge demands unparalleled excellence from every person involved with the Defense Department's nuclear force.

Much has changed since the end of the Cold War, and for that we can be grateful. Through extensive negotiations with Russia, the U.S. nuclear stockpile is 85 percent smaller than it was at its Cold-War peak. And in today's security environment, which is dramatically different from that of the past generation and still more different from the generation before that, the United States faces a nuclear landscape that continues to evolve. Many of

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these changes, however, are adverse, and are also less predictable going forward than during the Cold War.

One feature of the landscape that has assuredly not changed is the nature of nuclear deterrence itself: It still depends on the perception of America's potential adversaries about our will and ability to act. At a strategic level, the Defense Department's nuclear forces are still intended to deter large-scale nuclear attack against the United States. And U.S. security commitments to our allies in the Asia-Pacific, the Middle East, and Europe, and as part of the North Atlantic Treaty Organization (NATO) have not altered.

The nuclear posture also continues to do much more. It contributes to convincing potential adversaries that they will not be able to escalate their way out of a failed conventional aggression. It helps ensure that, in a regional conflict, a losing state will not be tempted to build and escalate to nuclear weapons use in order to cause the United States and its allies to back down. The U.S. nuclear posture also assures allies that extended deterrence guarantees are credible, which enables many of them to forgo developing nuclear weapons themselves, despite their own strategic predicaments and the relative technological ease of developing these weapons. And should deterrence ever fail despite our best efforts, the Defense Department's nuclear posture provides the President with options to achieve U.S. and allied objectives, a responsibility that every President must take with the utmost seriousness.

In some other respects, however, today's nuclear landscape is dramatically different than it was during the Cold War. Our deterrent must adapt accordingly to continue to preserve strategic stability and nuclear restraint in this new landscape and ensure that the threshold for nuclear use does not lower.

While the United States has built no new types of nuclear weapons or delivery systems for the past 25 years, and while our allies in Asia, the Middle East, or NATO have not either, many other states have done just that. Russia has long been a nuclear power, but Moscow's recent saber-rattling and building of new nuclear weapons systems raises serious questions about its leaders' commitment to strategic stability, their regard for the long-established abhorrence of the use of nuclear weapons, and their respect the profound caution that Cold War-era statesmen—Russian and American alike—showed with respect to brandishing nuclear weapons.

Russia is investing in new ballistic missile submarines, heavy bombers, and the development of a new ICBM. These investments by themselves would not be novel, even if they necessitate continued, strong American deterrence. But they are also paired with novel concepts for how nuclear weapons could be used and some entirely new and even bizarre types of nuclear weapons systems, suggesting an increase in Russia's reliance on nuclear weapons in its strategic planning instead of the decrease that the United States has long sought.

Meanwhile, North Korea continues to proceed with a 15-year breakout of nuclear weapons and missiles that will likely pose an increasing threat to the United States and its allies. North Korea has conducted tests of land-based ballistic missiles and submarine-launched ballistic missiles. It continues to develop its KN08 road-mobile ballistic missile, which, while still untested, could become capable of delivering a warhead to the continental United States. And in 2016 alone, North Korea conducted its fourth and fifth nuclear tests.

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In view of North Korea's breakout, the United States and its allies have continued to build more robust ballistic missile defenses to stay ahead of the North Korean threat, including deploying additional and improved Ground-Based Interceptors in Alaska, and agreeing with our Korean allies to deploy the Terminal High-Altitude Area Defense system, or THAAD, in the Republic of Korea, enhancing existing defenses in the Republic of Korea, Japan, Guam, and afloat. While not a perfect protection against nuclear attack, missile defenses contribute to deterrence by complicating the analysis of a potential adversary that a nuclear attack will succeed. The United States must continue to back up those defenses against North Korean missile attack with extended deterrence: the commitment that any attack on America or its allies (in this case South Korea and Japan) will not only be defeated, but that any use of nuclear weapons will be met with an overwhelming and effective response. The United States also maintains ever-improving conventional defense forces on the Korean Peninsula, which reinforce South Korean forces that also continue to improve.

Russia and North Korea are two countries that, albeit very different in kind and capabilities, stand out in today's evolving nuclear landscape. There are others as well. While China has generally conducted itself professionally in the nuclear arena, refraining from saber rattling, at the same time it has increased its arsenal in both quality and quantity. China is developing a road-mobile ICBM capable of carrying multiple reentry vehicles, an intermediate-range ballistic missile that will likely have both nuclear and conventional variants, and it is constructing an additional nuclear-powered ballistic missile submarine to join the four that it has already commissioned.

Iran's nuclear aspirations have been constrained at least temporarily, and transparency over its activities has been increased, by the 2015 nuclear accord. The Joint Comprehensive Plan of Action, as long as it continues to be implemented and honored, will verifiably prevent Iran from acquiring a nuclear weapon.

India has shown responsible behavior with its nuclear technology generally over several decades but continues to expand its arsenal. Pakistan's nuclear weapons, meanwhile, are entangled in a history of tension with India. The United States works with Pakistan to ensure stability, yet its nuclear arsenal also continues to grow in scale and scope. As the breakup of the Soviet Union and the subsequent Nunn-Lugar program illustrate, in all states and emphatically in Pakistan, both internal political turmoil and command-and-control shortcomings are a constant source of danger.

Despite the actions of some states, today's nuclear environment is not nearly as bad as it might have been. Indeed, non-proliferation and arms control initiatives, including President Obama's Nuclear Security Summits and the Nunn-Lugar program, have slowed the wider spread of nuclear weapons and prevented the dangers of loose nuclear weapons. Such actions have contributed measurably to the nuclear peace that uneasily settled over the world in 1945.

Nevertheless, the changing nuclear landscape and significant investments by many other countries in new nuclear weapons systems pose challenges to that peace. While other actions in defenses and non-proliferation are critical, it will also be necessary to ensure nuclear deterrence on behalf of the United States long into the future. To that end, the

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United States must stay the course on the plan of correcting decades of underinvestment in its nuclear deterrent dating back to the end of the Cold War, when funding for the nuclear enterprise dropped dramatically.²

Over the past 25 years, the United States made only modest investments in basic nuclear sustainment, life-extension, and operations. The Department of Defense nuclear enterprise funding remained fairly constant during this period, roughly \$15 billion per year in an annual overall defense budget now at about \$580 billion. But almost all of this money has been devoted to the manning and maintenance of Cold War systems, not to investment in recapitalization of existing stores, let alone new types of systems. In consequence, many of the U.S. arsenal's capabilities have aged.

Indeed, in the coming decades, the military's bombers and 1970s-era ICBMs will reach the point at which their lifespan can no longer be extended. At nearly thirty years old, the B-2 bomber is the newest system in the U.S. triad. The air-launched cruise missile is already decades beyond its planned service life, its reliability is degrading, and its viability is increasingly challenged by advanced air defenses. And the nation's nuclear-armed submarines will irreversibly age out of service beginning in 2027.

Looking back, it is clear that we were right to choose not to maintain the massive arsenal or the level of spending on nuclear forces of the Cold War years. But it is just as apparent that the Defense Department cannot further defer recapitalizing Cold-War era systems if we are to maintain a safe, secure, and effective nuclear force that will continue to deter potential adversaries that are making improvements in their air defenses and their own nuclear weapons systems. The choice is not between replacing these platforms or keeping them, but rather between replacing them and losing them altogether. The latter outcome would, unfortunately, result in lost confidence in our ability to deter. The United States cannot afford this in today's security environment or in any reasonably foreseeable future security environment.

Even more troubling than the aging of the physical elements of the nuclear enterprise were signs that the Defense Department had not been treating the nuclear mission as its highest priority. Both an independent and an internal review of the nuclear enterprise conducted in 2014 indicated gaps between what leadership expected of the nuclear force and what the Defense Department was doing to support the personnel who meet those exceptionally high expectations.³ Indeed, these reviews found that the manning, equipment, and quality of training for the nuclear mission did not always meet standards required for the Defense Department's highest-priority mission.

A Nuclear Recapitalization Plan

As a result, it had become clear in recent years that the Defense Department required a significant recapitalization effort, one that invested in every element of the triad as well as the people responsible for maintaining the nuclear force at the highest possible levels of safety, efficacy, and efficiency. Beginning with the latest budget proposal of my tenure as Secretary, the Defense Department budget planned to invest a total of \$19 billion in 2017, and \$108 billion over the five years thereafter, to sustain and recapitalize the nuclear force and associated strategic command, control, communications, and intelligence systems. This funding included increases for manpower, equipment, vehicles, maintenance, technological efforts to help sustain the bomber fleet, and more.

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Additionally, the budget also fully funded the first stages of plans to ensure that the capabilities required to sustain nuclear deterrence do not become obsolete. This included replacing old ICBMs with new ones that will be less expensive to maintain; keeping strategic bombers effective at their nuclear as well as conventional missions in the face of more advanced air defense systems, in part by replacing aging air-launched cruise missile with a more effective version called the long-range standoff weapon and in part by completing the new B-21 bomber (which is principally directed toward non-nuclear missions but is nuclear capable); replacing the F-16s in the dual-capable aircraft fleet with F-35s and the B61-12 gravity bomb; and building replacements for the Ohio-class ballistic missile submarines.

Of course, the Defense Department must also ensure that it has the people for its nuclear force to succeed. Therefore, on the recommendation of nuclear enterprise reviews, the Pentagon renewed investments in the people carrying out this mission. For example, during my last year as Secretary, I visited with some of the men and women at Minot Air Force Base where the Department has recently expanded childcare options, kept fitness centers open 24 hours a day, and provided new assignment incentive pay and special assignment duty pay for military personnel. These sorts of improvements are critical because deterrence is not credible unless the Defense Department has the right people to man, equip, operate, secure, and support the nuclear enterprise.

Taking care of the nuclear force's people and investing in its capabilities will cost money of course, but most people do not realize that funding for the nuclear enterprise is a relatively small percentage of total defense funding. I am confident the nation will make the right investments in the coming years for two reasons. First, if the United States does not replace these systems, quite simply they will age to the point of becoming unsafe, unreliable, and ineffective. Second, while these investments are usually referred to simply as nuclear "modernization," that's only true in the sense of sustaining deterrence. None of these investments is intended to change the underlying concept of deterrence or how it works; no one can do that in any event.

In a changing world, the U.S. government and the Department of Defense have begun the process of re-ensuring our nuclear deterrence, the bedrock of the nation's security. After a quarter-century of investing too little, the Defense Department and I recognized that it has become necessary to take steps to sustain nuclear deterrence, and ultimately ensure that nuclear weapons are never used. Indeed, even as we all wish to live in a world without nuclear weapons, it is also true—as President Obama noted many times—that goal may not be realized within our lifetimes. Even more, given what we see in today's security environment, it is also likely that our children, and their children, will also live in a world where nuclear weapons still exist.

Thus, although nuclear weapons do not get the same amount or kind of media attention they did when I started my career at the Defense Department three decades ago, they will remain critically important to the nation's security for years to come.

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To ensure our deterrence in light of changes in technology and in the nuclear security environment, the Defense Department must continue to take the necessary steps—and make the critical innovations and investments—to ensure safe, secure, and effective nuclear deterrence for decades to come.

<https://www.the-american-interest.com/2017/04/06/nuclear-deterrence-still-the-bedrock-of-us-security/>

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Project Syndicate (Prague, Czechia)

Will Nuclear History Repeat Itself in Korea?

By Michael Mandelbaum

April 4, 2017

As Chinese President Xi Jinping's first summit with US President Donald Trump takes place at Trump's luxurious Florida estate Mar-a-Lago, at least part of the discussion will invariably focus on one of the world's most impoverished places: North Korea. Despite more than two decades of on-again, off-again negotiations, North Korea's nuclear weapons program is pushing the world toward a strategic watershed much like the one that the West faced 60 years ago, when the United States and the Soviet Union faced off against each other in Europe.

The US and its allies successfully navigated the challenge of Europe in the twentieth century without war. But to achieve comparable success in East Asia today, Trump must persuade Xi to adopt a different policy toward North Korea.

When the US and the Soviet Union became rivals after World War II, each had a way of deterring the other from attacking. The Soviet Union had – or was widely believed to have – a large advantage in non-nuclear forces, which the Kremlin could use to conquer Western Europe. The US, with its monopoly on nuclear weapons, could launch a nuclear strike from Europe on the Soviet homeland.

Then, in 1957, the launch of Sputnik made it clear that the Soviet Union would soon be able to deliver a nuclear strike on the US mainland, calling into question the effectiveness of American deterrence. Was it credible that, in response to an attack on Western Europe, the US would make war on the Soviet Union, thus inviting a nuclear attack on its own territory? America and its allies had four possible solutions to this novel and dangerous problem: preemption, defense, proliferation, and deterrence.

Preemption – an attack on the Soviet Union's nuclear weapons – would have started WWII, a distinctly unappealing prospect. And, as the Soviet nuclear arsenal grew, the US government ruled out defense against a missile attack: because it could not deflect every incoming nuclear explosive, it would be safer if neither side tried to build ballistic missile defenses. President Richard Nixon's administration therefore negotiated and signed the 1972 Soviet-American Anti-Ballistic Missile (ABM) Treaty, effectively banning such systems.

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The third option, acquisition of nuclear armaments by potentially threatened countries, was based on the assumption that a government would be willing to use such weapons to defend its own country, if not another one. French President Charles de Gaulle invoked this logic to justify his country's nuclear weapons program, although he also had other reasons for wanting France to join the nuclear "club." By this logic, however, West Germany, too, needed a nuclear arsenal; and, given Germany's twentieth-century history, no one, least of all the Germans, desired such an outcome.

So the West opted to reinforce the status quo, with the US seeking to enhance the credibility of its policy of deterrence in Europe by stating, publicly and frequently, that it would indeed defend its allies, despite the risk that this would lead to an attack on its own territory. The US backed up its stance by deploying nuclear weapons on the European continent, and by stationing troops on the front lines in Germany as a "trip-wire": an attack there would trigger US participation in any war the communist side might begin. This strategy worked: for whatever combination of reasons, the Soviet Union never launched a westward attack of any kind.

Six decades later, a similar challenge looms on the Korean Peninsula. Since the end of the Korean War in 1953, a US military presence has helped deter a North Korean attack on the South, while the communist North has deterred the US as well: its massive artillery deployments along the demilitarized zone dividing the peninsula could devastate South Korea's capital, Seoul, with its ten million people, in retaliation for any US attack.

North Korea's nuclear weapons program threatens to upset that balance, by giving its regime the capacity, through the long-range ballistic missiles it is testing, to strike the West Coast of the US, thereby raising a new version of an old question: would the US risk Los Angeles to protect Seoul? The US and its Asian allies have the same four options as the Atlantic Alliance had 60 years ago.

They can attempt to live with North Korean long-range nuclear missiles, relying on deterrence. Peace, and the safety of millions of Americans, would then depend on the prudence and rationality of North Korea's 33-year-old dictator, Kim Jong-un, a young man with a taste for grotesque executions of family members and close associates.

In the past, such an outcome has seemed unacceptable to US national security experts. In June 2006, William Perry, a former defense secretary, and Ashton Carter, a future one, argued in *The Washington Post* that if North Korea deployed on its territory a nuclear-armed missile capable of hitting the US, the US should attack and destroy it.

But, like the status quo, attacking the North's nuclear arsenal would carry enormous risks. Such an attack would likely trigger a second Korean War. The North would surely lose, and the regime would collapse, but probably not until it inflicted terrible damage on South Korea, and perhaps also on Japan.

Having withdrawn from the ABM Treaty, the US has already begun to deploy missile-defense systems, with the hope of defeating a small-scale nuclear assault (though not a massive attack of the kind Russia could launch). This option, too, carries grave risks. As the

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North Korean nuclear arsenal grows, the effectiveness of missile defense will diminish. Even one nuclear explosion in the US, South Korea, or Japan would be a catastrophe.

If East Asian countries come to doubt the credibility of the US commitment to their defense – and Trump has made clear his reservations about US alliances – they can build their own nuclear weapons, as France did. Japan, South Korea, and Taiwan are certainly capable of doing so rapidly.

But an East Asia in which several countries possessed nuclear weapons would not necessarily be stable. Unlike Europe during the Cold War, it would have several nuclear powers, not just two; and some of them would lack the capacity for “assured destruction” – that is, the ability to absorb a nuclear strike and still inflict devastating damage on the attacker. Without such a capacity, a nuclear-armed country has a much greater incentive than the US and the Soviet Union did to launch a first strike if it suspects that it will be attacked.

Deterrence, preemption, defense, and proliferation: none of the four possible responses to the progress of the North Korean nuclear program inspires confidence. But an important difference between twenty-first-century East Asia and twentieth-century Europe creates a chance to avoid all four: China is in a position to exert powerful pressure on the source of the nuclear threat.

Almost all of North Korea’s food and fuel comes from neighboring China. But, despite its opposition to North Korea’s nuclear weapons program and its lack of enthusiasm for the Kim dynasty, the Chinese government has thus far refrained from applying pressure by threatening to sever the North’s lifeline. China’s bigger fear is the collapse of the Kim regime, which would send a wave of unwanted refugees across its border and could create a new and unwanted neighbor: a reunified Korean state allied with the US.

While the Chinese may have good reasons to prefer the status quo on the Korean Peninsula, continuing to indulge the North Korean leadership’s nuclear ambitions is a risky option. China could find itself surrounded by unfriendly nuclear-armed states, or with a nasty war on its border, or perhaps both.

Trump should emphasize that point to Xi. At the very least, North Korea’s nuclear progress, unless China acts to stop it, will make East Asia a far more dangerous place for everyone, including the Chinese themselves.

Mark Twain observed that everybody talks about the weather, but nobody does anything about it. That has been true of North Korea’s nuclear weapons program for almost a quarter-century. It may not be true for much longer.

<https://www.project-syndicate.org/commentary/north-korea-nuclear-weapons-chinese-pressure-by-michael-mandelbaum-2017-04>

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South China Morning Post (Hong Kong, China)

Opinion: What's Driving World Back to Mad Old Days of Nuclear Weapons?

By Chow Chung-Yan

April 2, 2017

World leaders led by US president Donald Trump seem willing to put social issues on the back burner while they – irrationally – prepare for Armageddon

It can be hard not to lose heart these days after going through daily news headlines. Sometimes history seems to be moving backwards. The absurdity often makes one wonder if the world is going mad.

Among the crazy things that took place this week, here is one that is not getting much attention: the United Nations called for a meeting on Tuesday to continue negotiations for a legally binding ban on nuclear weapons, but nearly 40 countries – including the US, China, Russia, Britain and France – decided to skip it. None of the participants from the 100 countries attending the meeting belong to the group of states in possession of nuclear weapons.

US envoy Nikki Haley explained afterwards that national security concerns required Washington to keep its nuclear weapons because of “bad actors” who could not be trusted. “There is nothing I want more for my family than a world with no nuclear weapons, but we have to be realistic,” she told reporters. “Is there anyone who believes that North Korea would agree to ban nuclear weapons?”

China, Russia, Britain and other nuclear powers did not even talk to the media.

If Kim Jong-un were watching the news, he would probably have a big smirk on his face. Yes, Kim is a cold-blooded power-hungry maniac. But judging from what happened on Tuesday, leaders of the world's major capitals are probably just as callous.

While North Korea is aspiring to build a few nuclear bombs, the big five – US, China, Russia, France and Britain – are sitting on arsenals that between them could destroy this planet many times over. Still, none of them feel they have enough.

For those born in the 1980s or later, the threat of a nuclear war seems remote. But for older generations, such a threat was once very real. From the end of the second world war until the collapse of the Soviet Union in 1989, fears of a nuclear Armageddon were widespread.

At the peak of the cold war, all major powers devoted precious national resources to building their nuclear capacities, with the US and the USSR leading the race. The atomic bombs the US dropped on the Japanese cities of Hiroshima and Nagasaki during the second world war were powerful, but they were mere popguns compared to the thermonuclear weapons of the cold war era.

The cold war stand-off established the Mutual Assured Destruction (MAD) doctrine. According to MAD, major nuclear powers would refrain from direct conflict because a

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nuclear exchange would result in the complete annihilation of both sides. Some historians credited this balance of nuclear deterrence as an important factor behind the longest period of peace in modern history, with no war breaking out between major powers for almost 70 years.

Dread of a nuclear holocaust forced world leaders to cool the hysteria. The end of the cold war brought brief hopes of optimism. But today, the situation is getting more dangerous.

After a brief slump, spending on nuclear weapons by major powers has increased again. Meanwhile, many emerging powers are trying to get their hands on such weapons. It seems that a nation has to own some weapons of mass destruction before it can be truly sit at the “big boys’ table”.

India, Pakistan, Israel and North Korea have all joined the nuclear club, with Iran, Japan and even South Korea at various stages of acquiring membership.

Globally, annual expenditure on nuclear weapons is estimated at US\$105 billion. In comparison, the Office for Disarmament Affairs, the principal UN body responsible for advancing a nuclear-weapon-free world, has an annual budget of US\$10 million.

Two studies, one by the Brookings Institution and another by the Carnegie Endowment for International Peace, recently drew the same conclusion: governments around the world are going to spend a crazy amount of money on nuclear weapons in the next decade.

Together, nine major nuclear countries will spend a staggering US\$1 trillion on new research, production and maintenance of nuclear arms over the next 10 years. At a time of economic crises and imposed austerity measures, world leaders led by US president Donald Trump have decided to cut investment on education, health care and climate change so that we can have more powerful weapons of mass destruction.

Last year, Washington gave the green light to a new generation of “smart” nuclear bombs – the B61-12s – which will be the most expensive ever produced. Moscow and Beijing both expressed concerns and hinted they would respond in kind. This year, Chinese scientists announced a theoretical breakthrough in developing the so-called “N2 bomb” – a new type of weapon of mass destruction that is as strong as a nuclear bomb but produces no radioactive fallout.

The chance of a hot nuclear war among major powers remains astronomically small. The only real reason for them to continue pouring precious resources into the arms race is because they cannot break out of their cold war mentalities.

Today, terrorism, climate change and contagious diseases are much bigger and more realistic threats to the world than invasion by Moscow or a nuclear war between Beijing and Washington.

The only real nightmare is for such weapons to fall into the hands of terrorists.

No matter how much major powers improve their nuclear arsenals, it will not deter terrorists – there is no such thing as nuclear retaliation against people who want to see the world blow up.



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A World Bank study estimated that if governments cut their spending on nuclear weapons by half and used the money on poverty alleviation, it would have been possible to achieve the UN Millennium Development Goal of eradicating extreme poverty and hunger.

It would be naïve to ask the major powers to give up their nuclear weapons, but if they could divert more resources to fighting poverty, terrorism and global warming, we would have a much safer, better world.

<http://www.scmp.com/week-asia/opinion/article/2083538/opinion-whats-driving-world-back-mad-old-days-nuclear-weapons>

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Bulletin of the Atomic Scientists (Chicago, IL)

Can Bill Gates rescue the Bioweapons Convention?

By Gregory Koblenz and Paul Walker

April 3, 2017

Global efforts to combat bioterrorism and strengthen international health security face a major crisis: The 1972 Biological Weapons Convention is in dire financial straits.

The convention provides the foundation for international efforts to prevent states and terrorists from acquiring bioweapons. It is the world's only forum for governments, academics, scientists, nongovernmental organizations, and the private sector to develop strategies for preventing and responding to the threat of bioweapons. But due to the funding crisis, the convention's ability to continue in that role is in serious jeopardy. Meanwhile, as the recent use of chemical weapons by North Korea, Syria, and the Islamic State demonstrates, dictators and terrorist groups remain interested in unconventional weapons.

The need for international cooperation on bioweapons is greater than ever. But a shocking number of treaty members have not been paying their fair share of the budget, leaving the treaty almost \$400,000 in debt. Brazil in particular has been delinquent. It has hardly paid anything over the last decade and it accounts for nearly three-quarters of the total outstanding amount. On March 21, the three official depositaries of the convention—Russia, the United Kingdom, and the United States—issued an unusual joint letter to the treaty's members, warning that the funding crisis threatened two devastating effects: a shutdown of the treaty's implementation body and the cancellation of a key meeting on the convention's future, scheduled for December.

Here's the good news: One individual alive today has the means, and potentially the inclination, to redress the convention's immediate funding crisis. This individual, through a charitable foundation, has already poured tens of billions of dollars into global health. He has also warned that bioterrorism could kill 30 million people in less than a year. This

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individual, of course, is the world's richest man and its most generous philanthropist, Bill Gates.

What's at risk.

The first potential casualty of the funding crisis is the convention's already modest capacity for implementation. Unlike the Nuclear Non-Proliferation Treaty and the Chemical Weapons Convention, which operate with the support of large international organizations, the Biological Weapons Convention relies on just a tiny organization to collect annual confidence-building and compliance reports; organize annual meetings; conduct public outreach; and promote universalization of the treaty. This organization—the Geneva-based Implementation Support Unit (ISU)—operates on a shoestring budget of roughly \$1.4 million a year. The contracts of its three staffers are set to expire by the end of April. If these dedicated individuals are not retained, the convention will lose institutional memory regarding both the treaty itself and the treaty's successes in building an international network to tackle issues at the nexus of health, science, and security.

The second potential impact of the budget crunch is the cancellation of a meeting, scheduled for December, that is intended to overcome the political gridlock that led to a meltdown at the convention's review conference last November. The review conference ended ignominiously—Iran blocked consensus on a reasonable agenda of new activities that would have countered bioterrorism and strengthened global health security over the next four years. The meeting this December is the treaty members' only chance to establish a new round of cooperative activities until the next review conference in 2021. Given the rate at which biotechnology is advancing, four years is too long to wait.

The solution?

Just weeks before Russia, the United Kingdom, and the United States issued their unprecedented letter, Bill Gates had warned at the Munich Security Conference that an outbreak of manmade or natural disease could kill 30 million people and cost the global economy more than \$500 billion. "Imagine if I told you," Gates said, "that somewhere in this world, there's a weapon that exists—or that could emerge—capable of killing tens of thousands, or millions, of people, bringing economies to a standstill, and throwing nations into chaos. You would say that we need to do everything possible to gather intelligence and develop effective countermeasures to reduce the threat. That is the situation we face today with biological threats."

Gates, ever the businessman, pointed out that this dire outcome could be avoided by spending an estimated \$3.4 billion a year on pandemic preparedness. To his great credit, Gates and his foundation have already contributed vast sums to global health. Most recently, the Bill and Melinda Gates Foundation provided \$100 million to help launch a public-private initiative called the Coalition for Epidemic Preparedness Innovations, with the goal of accelerating the development of new vaccines. More active engagement by civil society and high-level political attention from governments—of which this new coalition is only the latest example—have contributed to major advances in global health in recent years.

While global health has experienced a renaissance, the international effort to combat bioweapons has fallen far behind. Global efforts to combat bioterrorism need an infusion of the same resources, fresh ideas, and new approaches that the Gates Foundation has brought



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to global health. Even a modest investment by the Gates Foundation—which provided \$1.2 billion in 2015 alone to global health efforts—could allow the ISU not only to weather its current financial crisis but to dramatically increase its activities across the board. With increased funding the ISU could conduct more robust outreach to the scientific community and private sector, help more states improve their capacity to implement the treaty, and more closely monitor emerging biotechnologies that might be used to make biological weapons. The publicity generated by a donation from the Gates Foundation would also bring much-needed attention to the treaty and might galvanize embarrassed members to pay their debts.

The global health community has achieved great gains over the decades, but a single bioweapon attack could reverse all that. Now more than ever, an ounce of prevention is worth a pound of cure.

<http://thebulletin.org/can-bill-gates-rescue-bioweapons-convention10665>

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ABOUT THE USAF CUWS

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

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

In February 2014, the Center's name was changed to the Center for Unconventional Weapons Studies to reflect its broad coverage of unconventional weapons issues, both offensive and defensive, across the six joint operating concepts (deterrence operations, cooperative security, major combat operations, irregular warfare, stability operations, and homeland security). The term "unconventional weapons," currently defined as nuclear, biological, and chemical weapons, also includes the improvised use of chemical, biological, and radiological hazards. The CUWS's military insignia displays the symbols of nuclear, biological, and chemical hazards. The arrows above the hazards represent the four aspects of counterproliferation - counterforce, active defense, passive defense, and consequence management.

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