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Featured Item

"Redeploying U.S. Nuclear Weapons to South Korea: Background and Implications in Brief"

Written by Amy Woolf and Emma Chanlett-Avery, published by the Congressional Research Service; September 14, 2017

Recent advances in North Korea's nuclear and missile programs have led to discussions, both within South Korea and, reportedly, between the United States and South Korean officials, about the possible redeployment of U.S. nuclear weapons on the Korean Peninsula. The United States deployed nuclear weapons on the Korean Peninsula between 1958 and 1991. Although it removed the weapons as a part of a post-Cold War change in its nuclear posture, the United States remains committed to defending South Korea under the 1953 Mutual Defense Treaty and to employing nuclear weapons, if necessary, in that defense.

The only warheads remaining in the U.S. stockpile that could be deployed on the Korean Peninsula are B61 bombs. Before redeploying these to South Korea, where they would remain under U.S. control, the United States would have to recreate the infrastructure needed to house the bombs and would also have to train and certify the personnel responsible for maintaining the weapons and operating the aircraft for the nuclear mission.

Some who support the redeployment of U.S. nuclear weapons argue that their presence on the peninsula would send a powerful deterrent message to the North and demonstrate a strong commitment to the South. Their presence would allow for a more rapid nuclear response to a North Korean attack. Some also argue that weapons could serve as a "bargaining chip" with North Korea and that their presence would allow for a more rapid nuclear response to a North Korean attack. Those who oppose the redeployment argue the weapons would present a tempting target for North Korea and might prompt an attack early in a crisis. They also argue that nuclear weapons based in the United States are sufficient for deterrence, and that the costs of installing the necessary facilities on the peninsula could detract from conventional military capabilities. Finally, some assess that the cost of installing the necessary storage, security, and safety infrastructure could drain funding from other military priorities and time needed to train and certify the crews could undermine readiness for other military missions. Some analysts also assert that, if the United States believed it needed the capability to deliver nuclear weapons to North Korea in a shorter amount of time than allowed by the current force posture, it could pursue seabased options that would not impose many of the costs or risks associated with the deployment of nuclear weapons on the peninsula.

South Korea's President Moon Jae-in has advocated for more muscular defense options, but does not support the redeployment of U.S. tactical nuclear weapons. The Liberty Korea Party, the main opposition party, has formally called for the move. While some in South Korea believe nuclear weapons are necessary to deter the North, others, including those who maintain hope that North Korea will eliminate its program, argue that their redeployment could make it that much more difficult to pressure the North to take these steps. Further, if North Korea saw the deployment as provocative, it could further undermine stability and increase the risk of conflict on the peninsula.

China would also likely view the redeployment of U.S. nuclear weapons as provocative; it has objected to U.S. military deployments in the past. Some analysts believe that China might respond by putting more pressure on North Korea to slow its programs, while others believe that China might increase its support for North Korea in the face of a new threat and, possibly, expand its own nuclear arsenal. Japan's reaction could also be mixed. Japan shares U.S. and South Korean concerns about the threat from North Korea, but given its historical aversion to nuclear weapons, Japan could oppose the presence of U.S. nuclear weapons near its territory. In addition, any adjustment of the U.S. military posture on the peninsula could create additional security concerns for Tokyo.

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US NUCLEAR WEAPONS

Union of Concerned Scientists (Chicago, IL)

We Visualized the US Nuclear Arsenal. It's Not Pretty.

By Lisbeth Gronlund

September 15, 2017

International security experts often refer to the twin goals of military policy: to minimize the risk of war and to minimize the damage should war start.

Because nuclear weapons are so destructive, the goal must be to eliminate—and not just minimize—the risk of nuclear war, which will require eliminating nuclear weapons.

Until then, it is essential that nations with nuclear weapons minimize both the risk and consequences of a nuclear war.

Numbers matter.

The consequences are directly related to the numbers of weapons used—which is limited by the number of weapons a nation has. Depending on the targets, the use of even a small number of weapons can result in horrific consequences.

For example, climate scientists using the latest climate models find that if India and Pakistan each used 50 of their weapons against the other's cities, fires would inject so much soot into the atmosphere that the global climate would be affected for a decade. The decreased sunlight and lower temperatures would result in lower agricultural productivity and could lead to the starvation of over 1 billion people. This would be in addition to the people directly killed by the weapons.

Policy-makers and military officials often refer to the US nuclear arsenal as “our deterrent,” as if it were some sort of disembodied force rather than actual weapons. A “deterrent” is obviously a good thing, whereas “nuclear weapons” are more problematic. So, let's take a look at what this “deterrent” actually consists of.

We have a new web graphic that displays all the US nuclear weapons. It provides a step-by-step visualization of the weapons the US deploys on land-based missiles in underground silos, on submarines, and on aircraft. All of these 1,740 weapons are ready for use.

But that is not all. The graphic then adds in the weapons the US keeps in storage for potential future use.

It all comes to a whopping 4,600 nuclear weapons.

Take a look—you can find more detail about the arsenal on the final page by hovering over each dot.

Policy matters, too.

Policy is what determines the risk of nuclear war.

As the graphic notes, the US keeps its land-based missiles on hair-trigger alert. Why? To allow the option of launching all these weapons in response to warning of an incoming attack from Russia. The warning is based on data from US satellites and ground-based radars, which is processed by computers.

No problem there, right? Wrong—not surprisingly, there have been false alarms in the past. Even more troubling, it takes only some 25 minutes for a missile to travel between Russia and the US. By

the time the data has been analyzed, the president has about 10 minutes to decide whether or not to launch US missiles.

Which brings us to the next issue highlighted by the graphic: the president has the sole authority to use the 1,740 deployed nuclear weapons—meaning he or she can order an attack of any kind without the input of anyone else. Unless there is reason to think the president is incapacitated (e.g., drunk), the military is obligated to follow orders and launch.

Finally, it turns out that US nuclear weapons are not just a “deterrent” to dissuade other countries from using nuclear weapons first because the US could respond in kind. US policy also allows the first use of nuclear weapons against another country.

The US could reduce the risk of nuclear war by changing these three policies—by removing its land-based missiles from hair-trigger alert and eliminating launch-on-warning options from its war plans; by requiring the involvement of other people in any decision to use nuclear weapons; and by adopting a no-first-use policy. To reduce the potential consequences of war, it would need to dramatically reduce its arsenal.

And taking these steps would still leave the US with a strong “deterrent.”

<http://blog.ucsusa.org/lisbeth-gronlund/we-visualized-the-us-nuclear-arsenal>

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The Washington Post (Washington, DC)

Pentagon chief says he was asked about reintroducing tactical nuclear weapons in South Korea

By Dan Lamothe

September 18, 2017

Defense Secretary Jim Mattis acknowledged Monday that his South Korean counterpart inquired recently about reintroducing tactical nuclear weapons on the Korean Peninsula, a move that could take tensions with North Korea to a new high.

Mattis, speaking to reporters at the Pentagon, confirmed that he and Defense Minister Song Young-moo discussed the weapons during an Aug. 30 visit in Washington. The Pentagon chief did not say whether he'd support such an idea, however. Song has advocated for the move, calling it an “alternative worth a full review.”

Asked about the exchange, Mattis said that “we discussed the option,” but he declined to elaborate. “We have open dialogue with our allies on any issue they want to bring up,” Mattis said.

The United States maintained nuclear weapons in South Korea during much of the Cold War, but President George H.W. Bush ordered their removal after the Soviet Union's fall in 1991. At the time, Bush saw it as a way of bolstering demands that North Korea not pursue its own nuclear weapons.

South Korean President Moon Jae-in has said several times that he is against the return of nuclear weapons, but he faces opposition on that point from many conservative leaders in his country. Tactical nuclear weapons, sometimes called nonstrategic nukes, are designed to strike military targets such as bunkers and tunnels but are still considered immensely powerful in their own right and a potential gateway to larger nuclear attacks.

Some senior U.S. military officials, such as Air Force Gen. Paul J. Selva, vice chairman of the Joint Chiefs of Staff, have advocated generally for more “small-yield” nuclear weapons, arguing that the United States needs the ability to respond to an attack using a smaller nuclear bomb with something of similar size.

But Air Force Gen. John Hyten, who oversees U.S. nuclear weapons as the chief of U.S. Strategic Command, took exception Thursday to calling even smaller nuclear weapons tactical. Speaking with reporters at his headquarters in Nebraska, he called the phrase a misnomer and “actually a very dangerous term” because there are significant consequences to using nuclear weapons in any format.

“To call it a tactical weapon brings into the possibility that there could be a nuclear weapon employed on a battlefield for a tactical effect,” Hyten said. “It’s a not a tactical effect, and if somebody employs what is a nonstrategic or tactical nuclear weapon, the United States will respond strategically, not tactically, because they have now crossed a line, a line that has not been crossed since 1945.”

Mattis said last week that he would not discuss whether he is looking at reintroducing nuclear weapons in South Korea.

“It’s simply a longstanding policy so the enemy ... our adversaries never know where they’re at,” he said. “It’s part of the deterrent that they cannot target them all. There’s always a great big question mark.”

https://www.washingtonpost.com/news/checkpoint/wp/2017/09/18/pentagon-chief-says-he-was-asked-about-reintroducing-tactical-nuclear-weapons-in-south-korea/?utm_term=.5e330086c405

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The Atlantic (Washington, DC)

A Presidential Misunderstanding of Deterrence

By Ankit Panda

September 20, 2017

Trump’s bellicosity undermines his ability to deter the Kim regime’s nuclear weapons and missiles programs.

How are we to make sense of the president of the United States—a man with unitary launch authority for over a thousand nuclear weapons—going before the United Nations General Assembly and threatening to annihilate a sovereign state? That’s exactly what President Donald Trump did on Tuesday, halfway into a long, winding speech on everything from sovereignty to UN funding. “The United States has great strength and patience, but if it is forced to defend itself or its allies, we will have no choice but to totally destroy North Korea,” Trump read carefully from his teleprompter. In one breath, he touted the virtues of the nation-state and sovereignty and, in another, promised the utter destruction of a sovereign state.

While Trump’s apocalyptic rhetoric and threat to commit a horrific act expressly forbidden by international humanitarian law will surely go down in General Assembly history, their underlying logic is undeniably familiar. The remarks echoed similar, countless deterrent threats levied against North Korea by past U.S. presidents with more subtlety and innuendo, perhaps allowing for a more

calibrated and flexible response. But ultimately vowing to “totally destroy” North Korea if America or its allies come under attack is, in fact, not all that sharp a break from existing U.S. policy.

That familiarity, however, shouldn't obscure that this kind of posturing is precisely the kind of rhetorical exercise that can exacerbate North Korea's insecurity and lead to deadly miscalculation—miscalculation that would, now, almost certainly expose Americans, South Koreans, and Japanese, to nuclear attack.

Unlike Trump's off-the-cuff August promise to respond to continued threats from Kim Jong Un with “fire and fury,” his latest words were presumably the product of interagency coordination—or at least considered speechwriting reflecting policy. As a result, they reflect a bona fide U.S. position. “Rocket man is on a suicide mission for himself and for his regime,” Trump added in his speech, using his nickname-of-choice for Kim.

Why is Trump so seemingly vexed by North Korea? His speech came within weeks of Kim's test of what was allegedly a compact thermonuclear device, which yielded an energy level an order of magnitude greater than the regime's previous nuclear tests. Moreover, last week, for the first time ever, North Korea demonstrated its ability to fly a ballistic missile—one perhaps capable of carrying precisely the nuclear device that it claimed to have tested—to the U.S. territory of Guam. The test was also the second ballistic missile launch by North Korea to overfly Japan's territory. (North Korea had previously only launched satellite launch vehicles over Japanese territory.)

For anyone even peripherally aware of North Korea's bellicosity, none of this is new. The Kim regime is a loathsome and serial violator of human rights, leaving its people's interests subservient to its pursuit of what it sees as absolute security under a nuclear umbrella. But the world has dealt with all of this before. Over multiple administrations, senior U.S. officials, including presidents, have threatened to bring grievous harm to North Korea should it ever initiate a war against America or its allies. President Barack Obama, in his first summit with former South Korean President Park Geun Hye in 2013, noted that the United States would defend its ally with the “full range of capabilities available, including the deterrence provided by [its] conventional and nuclear forces.” Similarly, senior U.S. officials regularly promise an “effective and overwhelming” response to any use of nuclear weapons against the United States or its allies by North Korea.

That phrase was emphasized last year by Ash Carter and John Kerry, the then-secretaries of defense and state, respectively, and repeated recently by their successors, Jim Mattis and Rex Tillerson, in a recent Wall Street Journal op-ed outlining Trump's North Korea policy. Clarifying that there are conditions under which North Korea would elicit its own destruction at the hands of the United States, then, has been a part of how Washington talks to and about North Korea. North Korea knows that a nuclear attack against the United States or its allies would lead to massive U.S. nuclear retaliation—total destruction, in other words. These threats, while undoubtedly gruesome, serve two important strategic ends: They reinforce deterrence against North Korea and reassure America's allies that, if attacked, they would be backed by Washington's full military might—including the nuclear weapons at its disposal.

The use of the conditional “if” in the above statements, and even in Trump's General Assembly speech, is critical, as was what came before it. That's why his promise of “fire and fury,” implying that the United States would use nuclear weapons first against North Korea in response to mere threats rather than specific actions, were of such concern.

But Trump's remarks at the General Assembly are cause for concern, too. “Fire and fury” aside, official U.S. language has, of late, grown both more apocalyptic in style and less clear in substance—with implications for deterrence stability. On August 9, for example, on the 72nd anniversary of the nuclear bombing of Nagasaki by the United States, Mattis released a statement noting that North

Korea “should cease any consideration of actions that would lead to the end of its regime and the destruction of its people.” Ultimately, these cavalier threats—some euphemistic and some less so—to “destroy” a country of 25 million people are a reminder of the dirty business that underpins nuclear deterrence and brinkmanship.

As Thomas Schelling observed decades ago, the possession of nuclear weapons meant that “Military strategy could no longer be the science of military victory.” Instead, strategy “would be the art of coercion, intimidation and deterrence.” The implication: Telling your adversaries exactly how you’ll harm them and for what behaviors can be the clearest incentive for them to steer clear of those behaviors.

But let’s be real. Trump’s statement wasn’t a considered attempt at establishing what Schelling called the “balance of terror” between the United States and North Korea. Arguably, the threats of “effective and overwhelming” responses have communicated the consequences of any attack to North Korea now for years; if Pyongyang is familiar with America’s credible threat of massive nuclear retaliation, why rock the boat at the UN with needless braggadocio? Trump’s remarks must be considered along with his administration’s bumbling signaling to Kim, which has given him the impression that everything—ranging from direct diplomacy with fewer preconditions than the Obama administration imposed, to a preemptive strike—remains “on the table.”

Most importantly, however, it’s impossible to make sense of Trump’s threat without considering that second sentence, which implied that Kim—the “Rocket Man”—is on “a suicide mission for himself and for his regime.” The concept of suicide, when applied to nation-states and regimes, comes with a strong implication: That they do not seek survival above all else. Extending that reasoning, a nation-state that does not seek survival but instead seeks suicide cannot be deterred with threats of total destruction. If Kim Jong Un is indeed “suicidal” in his pursuit of nuclear weapons and missiles, he is presumably irrational and, as a result, cannot be deterred.

Trump’s advisors have also intimated that Kim may be similarly irrational. H.R. McMaster, his national security advisor, recently argued that his brutality meant that “classical deterrence theory” didn’t apply to him—never mind that Mao Zedong’s China and the Soviet Union were similarly repressive and characterized as rogue, unstable regimes. Nevertheless, they were deterred.

Both McMaster and Trump are wrong about the Rocket Man. He tests his missiles for entirely rational reasons. Not only does he seek survival above all—that’s his entire reason for building a nuclear arsenal in the first place. As an editorial in North Korea’s state-run Rodong Sinmun observed in August, the regime’s core takeaway from the submission of Iraqi leader Saddam Hussein and Libyan leader Muammar Qaddafi to disarmament efforts—and their ultimate fates—is that “nuclear possessors did not suffer military aggression.” Kim calculates that as soon as he’s able to place that nuclear device he tested on September 3 on the intercontinental-range missile he first tested on July 4 and fly it to the contiguous United States, his survival is guaranteed. That’s how he wins: by forcing Trump into a corner where initiating a regime-change war seeking North Korea’s “total destruction” would instead put Washington on a “suicidal” course. It’s unclear if Trump and his advisors understand this just yet. The repeated threats suggest they either don’t or are content to erode U.S. credibility for little reward.

If sanctions don’t change North Korea’s behavior, and if diplomacy is unpalatable to Trump, and war is an unacceptably costly option, the most likely path is for deterrence to continue to hold between Washington and Pyongyang. Allowing that to happen will not only require the Trump administration to take North Korea’s capabilities seriously, but to communicate its own deterrent threats as clearly as possible.

If Trump wanted to reinforce deterrence with North Korea at the General Assembly podium, all he need to do was succinctly communicate that any use of nuclear weapons would elicit the standard “effective and overwhelming” U.S. response. We know what that means; North Korea does, too. And so do U.S. allies. Instead, Trump delivered another round of inelegant and potentially destabilizing messaging that will only harden Kim’s resolve to continue apace with his ballistic missile and nuclear weapons development, and heighten the prospects for catastrophic miscalculation.

<https://www.theatlantic.com/international/archive/2017/09/trump-kim-north-korea-nuclear- united-nations/540447/>

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Focus Taiwan (Taipei, Taiwan)

U.S. expert opposes stationing U.S. nuclear weapons in Taiwan

By Rita Cheng and Kuan-lin Liu

September 15, 2017

Washington, Sept. 14 (CNA) An expert on Asia-Pacific issues voiced his opposition to stationing nuclear weapons in Taiwan at the Global Taiwan Institute's (GTI) annual symposium Thursday.

A key issue brought up at the GTI's inaugural annual symposium, titled "Upgrading U.S.-Taiwan Relations for the 21st Century," was the idea of the U.S. stationing nuclear weapons in Taiwan, South Korea and Japan to get China to cooperate in handling North Korea.

Abraham Denmark, a former U.S. deputy assistant secretary of defense for East Asia, rejected the idea of dragging Taiwan into the the North Korea problem and said that it would not help in adding pressure on China.

Denmark recommended that the U.S. focus should instead be on strengthening U.S.-Taiwan defense ties and supporting Taiwan's own defense capabilities, which does not include providing the country with nuclear weapons.

Wallace Gregson, a former assistant secretary of defense, Asian and Pacific security affairs, who did not comment on nuclear weapons, was in favor of the U.S. positioning a missile defense system in Taiwan should the threat of North Korea's continued missile tests threaten the country.

He said that talk in certain South Korean media about a redeployment of U.S. nuclear weapons to Japan and South Korea are indicative of the region's lack of trust in the U.S.'s nuclear umbrella -- a guarantee by the U.S. to protect non-nuclear allied states.

On the subject of nuclear weapons, South Korean President Moon Jae-in stated in a separate interview with CNN that he does not agree that South Korea needs to "develop nuclear weapons or relocate (U.S.) tactical nuclear weapons in the face of North Korea's nuclear threat."

<http://focustaiwan.tw/news/aip/201709150015.aspx>

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US COUNTER-WMD

National Public Radio (Washington, DC)

Efforts To Prevent Misuse Of Biomedical Research Fall Short

By Nell Greenfieldboyce

September 14, 2017

For years, the government has been trying to reduce the risk that legitimate biological research could be misused to threaten the public's health, but those efforts have serious shortcomings.

That's the conclusion of a report released Thursday by the prestigious National Academies of Sciences, Engineering, and Medicine that examined existing practices and policies on so-called dual-use biological research.

Since the anthrax attacks of 2001, people working in the life sciences have grappled with what to do about the threat that their well-meaning research might inadvertently provide recipes for those who might want to create bioweapons that could be used in terrorist attacks or warfare.

Simply clamping down on public discussion of such work could threaten the many benefits that come from wide dissemination of basic biological and medical research. But some recent research, such as experiments that made an apparently more contagious form of bird flu, has been hugely controversial.

That incident definitely helped spark discussion, says Harold Varmus, co-chairman of the committee and a professor of medicine at Weill Cornell Medical College.

"The other thing that does stimulate these conversations is the arrival of new kinds of technologies. There's no doubt that a couple of things have brought these matters to greater attention," says Varmus, pointing to advances that let scientists create synthetic organisms and edit genes in unprecedented ways.

The government has tried to mitigate the risks of dual-use research by setting up special committees, issuing new policies for reviewing federally funded research, and putting restrictions on what government-funded scientists can do with certain viruses like influenza. Later this month, for example, a workshop in Chicago will bring together folks from research institutions to talk about best practices and share their experiences.

But the federal government's current policies focus on seven types of experiments with 15 select pathogens and toxins and don't capture the full range of biosecurity concerns that come from the life sciences, the new report says, adding that those policies can also constrain some research that isn't actually worrisome.

What's more, those policies don't apply to researchers working without government funding, and First Amendment protections restrict officials' ability to stop the communication of research results that could be used for bioterrorism, the report says.

The expert committee also found that there's little to no national or international consensus on how to deal with these thorny problems. And no international organization, such as the World Health Organization or the Biological Weapons Convention, has taken this on.

"We are struck by the fact that there's little international attention to this issue, and of course this is a global issue, it's not just a domestic issue," says committee co-chairman Richard Meserve, senior of counsel to the firm Covington & Burling LLP.

Researchers working in the life sciences appear to have little awareness of biosecurity because it isn't taught in any systematic way at colleges and universities, according to the report.

And the editors of journals that publish research findings have no process that lets them seek out government guidance on manuscripts that might raise security concerns.

"One of the things that would promote greater attention to some of these issues would be the kind of unfortunate incident that we would not like to have happen," notes Varmus, who adds, "It's part of our public responsibility as scientists to provide, at least, fora in which such discussions can occur."

<http://www.npr.org/sections/health-shots/2017/09/14/551002229/efforts-to-prevent-misuse-of-biomedical-research-fall-short>

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Los Angeles Times (Los Angeles, CA)

Judge bars public from trial over Homeland Security contract for device to detect bioterrorism

By David Willman

September 11, 2017

A federal administrative judge issued a sweeping order Monday prohibiting members of the public or the news media from seeing any part of a hearing concerning the Homeland Security Department's cancellation of a contract for a technology aimed at reliably detecting bioterrorist attacks.

The order, issued by Judge Allan H. Goodman of the U.S. Civilian Board of Contract Appeals, also bars lawyers, witnesses or anyone else connected with the case from relaying information about the proceedings.

The judge's order came in response to Homeland Security lawyers who voiced displeasure with a Los Angeles Times article reporting on the case, according to persons familiar with the matter.

A Silicon Valley company, NVS Technologies Inc., which held the contract, is seeking to establish that the Homeland Security Department acted in "bad faith" in canceling it.

The company's chief executive, Hans Fuernkranz, was among those who confirmed Monday night that the Homeland Security Department — not the company — sought the order blocking news media coverage of the proceedings.

"We did not initiate it," said Fuernkranz, who is scheduled to testify. "On advice of counsel, I am unable to comment any further," he added.

In a brief interview, J. Gregory Parks, an aide to Goodman, termed the judge's one-paragraph order "fairly comprehensive."

The judge ordered that proceedings would be closed to the public and that "the record will not be disclosed to the public by the board, counsel, the parties, or anyone else who participates in the proceedings and is privy to the contents of the record."

Lawyers for The Times plan to challenge the order.

Homeland Security's lead lawyer on the case, Christopher M. Kovach, did not immediately respond to a telephone message and an email seeking his comment.

The dispute between NVS and the department grows out of an effort by the government to develop technology to accurately and quickly detect attacks using biowarfare agents such as anthrax. The government has spent more than \$20 billion over the last 16 years on efforts to protect against potential bioterrorism, with mixed results.

In 2010, NVS won a contract ultimately worth \$23.4 million to deliver portable devices that could, in less than one hour, determine whether an air sample contained potential bioterrorism agents.

In February 2014, despite positive assessments of the company's progress from Homeland Security's chief medical and science advisor — and other federal scientists whose agencies stood to use the technology — a newly installed official at the department terminated the contract for what he termed the government's "convenience."

The cancellation came a few months before NVS was scheduled to deliver its prototypes for advanced testing at three federal laboratories.

The senior Homeland Security scientist, Segaran Pillai, had reported in June 2013 that "NVS has done a tremendous job in fulfilling our requirements." Pillai, who also is scheduled to testify at the trial, said in his seven-page internal report that continued funding for the project was necessary "to ensure a successful outcome for the nation."

A division director at the Food and Drug Administration, Sally A. Hojvat, who was in line to decide whether to grant regulatory clearance for the NVS device, was similarly enthusiastic.

"We strongly believe the government must take the initiative to make this happen if we plan to have a highly robust diagnostics and surveillance program to capture a potential biological attack early and also to support the clinical intervention/mitigation and save lives," she wrote in a Dec. 4, 2013, email to Pillai.

Homeland Security had originally awarded the contract to NVS because of concerns about the slowness and reliability of a nationwide system called BioWatch.

In its first seven years of existence, BioWatch had falsely warned of dozens of germ attacks in major cities — including at the Democratic National Convention in Denver in 2008.

<http://www.latimes.com/nation/la-na-dhs-gag-order-20170911-story.html>

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The Chronicle (Durham, NC)

Why so deadly? New study looks at how bioterrorism agent replicates

By Xichen Li

September 13, 2017

Duke researchers have discovered a new way to inhibit the infectious bacteria *Francisella tularensis*, infamous for its potential as a bioweapon.

The team of biochemists uncovered that *Francisella tularensis* becomes virulent through its unusual interactions with proteins. Left unchecked, the bacterium can cause the disease tularemia, which can prove fatal if not immediately treated.

"If some group finds a way to make [*Francisella tularensis*] resistant to antibiotics and uses it as a bioweapon, the result would be scary," said Professor of Biochemistry Maria Schumacher, who was involved with the study.

Francisella tularensis is listed as a bioterrorism agent by the Centers for Disease Control, she added. A person only has to inhale 10 microscopic particles of the bacterium to become infected.

Richard Brennan, James B. Duke professor of biochemistry and chair of the biochemistry department, explained that although the human immune system is capable of killing the bacteria, it often isn't able to effectively do so.

If the bacteria invades particularly vulnerable parts of the body, the damage inflicted could be deadly, he said.

Schumacher explained that it takes a series of reactions for the bacteria to be virulent after it infects a host. Researchers had previously been unaware of how this process was regulated for *Francisella tularensis* until now.

"We have found that there's a 'switch' that turns on the entire process," Schumacher said. "That's the key [to stop the virulence]."

The team found that after invading a cell, *Francisella tularensis* interacts with a molecule called ppGpp. ppGpp then binds to a special protein complex, which triggers the bacteria to replicate and spread into other cells.

Schumacher said that their findings could help guide researchers in developing drugs that target ppGpp or its binding to the protein complex—stopping the disease in its tracks.

"[Our study shows] you don't even need to kill the bacterium to cure the disease," Brennan said. "You only need to block the formation of the complex."

Antibiotics are the most common and effective treatment of tularemia at present, Schumacher noted.

To establish the bacteria's activities within the cell, the researchers used x-ray crystallography to identify how proteins react to the infection, said Bonnie Cuthbert, a Ph.D. student in biochemistry and first author of the study.

"What crystallography provides is like a 3-D snapshot of what is actually happening in the protein," she said.

Schumacher explained that although crystallography techniques can eventually provide a wealth of data, it is challenging to first create crystal structures that accurately represent the characteristics of each protein.

"Proteins are like people—every protein is different," she said. "You have to know your protein [to reproduce it in a crystal structure]."

Finding a protein's unique structure can aid researchers in carrying out more complicated experiments as well as designing novel therapies, Brennan added.

Identifying ppGpp's role in the replication process was accomplished with the help of collaborators at Harvard Medical School and University of Wisconsin-Madison.

Cuthbert explained that researchers at the Harvard Medical School first identified ppGpp as a candidate molecule involved in making *Francisella tularensis* virulent, but used Duke's help in unravelling the specifics of its role.

The verification process at Duke required several biochemical experiments including crystallography, she said. Another group of ppGpp researchers at University of Wisconsin-Madison then used some of their own techniques to verify the mechanism Duke's crystal structures had suggested for ppGpp binding.

“As a scientist, I’m really excited when we all independently come to the same result,” Cuthbert said. “It strengthens our original conclusion.”

Cuthbert said that she first became interested in *Francisella tularensis* when she learned that other bacteria do not cause native interactions between proteins like the one ppGpp does to the protein complex.

“What is amazing about science is it’s full of the unexpected,” she said.

<http://www.dukechronicle.com/article/2017/09/why-so-deadly-new-study-looks-at-how-bioterrorism-agent-replicates>

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The Richmond Register (Richmond, KY)

Chemical agent destruction project on schedule

By Kelly McKinney

September 13, 2017

The facility in which the 523 tons of chemical agent at the Blue Grass Army Depot will be destroyed is mostly complete, and activities that will ensure the destruction goes smoothly and safely are more than 50 percent complete.

An update on the progress of the operation was given Wednesday at the quarterly meeting of the Kentucky Chemical Demilitarization Citizens' Advisory Commission and Chemical Destruction Community Advisory Board (CDCAB).

"We're right where we'd thought we'd be at this point," said Jeff Brubaker, site project manager for the Blue Grass Chemical Agent-Destruction Pilot Plant (BGCAPP).

Craig Williams, co-chair of the CDCAB, said he believes the operation is progressing well.

"A significant amount of progress can be seen here," he said.

Supplemental funding, which the project received earlier this year after unexpected cost overruns last year, have been received and allocated to various portions of the project, Brubaker said. BGCAPP received about two-thirds of \$127 million allotted for the chemical neutralization project at Blue Grass Army Depot and the Pueblo Army Depot in Colorado.

Areas of focus for the funds include acceleration of efforts relating to the water oxidation method that will be utilized in after neutralization in destroying the nerve agent-filled weapons and moving equipment relating to the explosive destruction technology that will be used for destruction of the mustard agent-filled weapons out of standby.

Construction on the EDT facility was halted and the equipment put into layup mode when BGCAPP's focus shifted to the main plant last November. The plan was made to destroy the mustard munitions after the main plant has neutralized the nerve agents.

Construction on the EDT facility will resume next month, Brubaker said.

Funding also is being used to pay overtime for about 100 workers at the plant, Brubaker said. The employees are putting in regular 50-hour weeks. Though the project saw some setbacks late last year with the discovery of defective welds, it remains on schedule, with destruction set to begin in 2020 and slated to be completed in 2023, Brubaker said.

A new face has joined the project. Suzanne Milchling became the new program executive officer for Assembled Chemical Weapons Alternatives in late June.

Milchling told those at Wednesday's meeting that she has started an initiative to develop new ways of addressing problems that might arise during the chemical agent destruction project.

"We need to do things differently," she said.

The most important things to focus on as the project progresses are that the destruction is being done safely and in an environmentally conscious way, but being fiscally responsible also should be a goal. Milchling said.

She said she wants for those involved in the project to be ready for whatever situations might arise.

"I want to have a bag of tricks," she said.

The chemical agent destruction project has had a significant impact on the local economy, said Ron Hink, project manager for Bechtel Parsons Blue Grass, the contractor selected to design, construct, systemize, operate and close the chemical destruction plant. The project employees 802 people in Richmond as of right now, and that number will increase.

A little more than \$101.1 million has been spent in Madison and surrounding counties, and almost \$170 million has been spent with Kentucky companies. The local payroll to date is just over \$880 million.

According to literature distributed at the meeting, re-usage of the plant after destruction is complete is possible, though any part of the facility that has been touched by chemical agent must be destroyed. There will be facilities, utilities and site infrastructure representing an investment greater than \$1.5 billion. The decision to reuse will be decided on by the state and the Department of Army Officials.

http://www.richmondregister.com/news/chemical-agent-destruction-project-on-schedule/article_436c0378-98df-11e7-a6e3-1faedc0f82f2.html

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US ARMS CONTROL

VOA News (Washington, DC)

US: Nuclear Ban Treaty Undermines International Security

By Lisa Schlein

September 15, 2017

A senior U.S. arms control official said Friday that Washington would never become a party to the treaty banning nuclear weapons because the accord undermines international security and does nothing to resolve threats posed by North Korea's nuclear weapons program.

The Treaty on the Prohibition of Nuclear Weapons is set to open for signature at the U.N. General Assembly in New York next week. If 50 countries sign it, the treaty will go into force.

The U.S. permanent representative to the Conference on Disarmament, Ambassador Robert Wood, said at a news conference Friday that he considered the treaty a bad idea. He said prohibiting nuclear weapons would not make the world a safer place or reduce stockpiles by even one weapon.

He warned that the treaty would exacerbate divisions that already exist in the nonproliferation and disarmament communities.

"We are now facing the greatest nuclear challenge that we have faced for quite some time in North Korea's nuclear weapons program and its ballistic missile activities," he said. "And, the ban treaty does nothing and cannot do anything to impact and improve the situation with regard to that challenge that we face."

Diplomacy preferred

Wood reiterated the Trump administration's position that all options were on the table in dealing with the North Korean nuclear threat. However, he added, Washington's preference is to go the diplomatic route and give sanctions the opportunity to work.

Other nations, including Israel, India and Pakistan, have developed nuclear weapons in defiance of the Nuclear Non-Proliferation Treaty. The United States does not approve of the programs.

In response to a question from VOA, the ambassador said the United States would never recognize North Korea as a nuclear weapons state.

"North Korea has basically brought the international community to a very dangerous situation and we cannot sit idly by while the North continues to advance its ballistic missile program, its nuclear weapons program," he said. "They are a great threat to peace and international security."

Wood said the U.S. would continue to pressure and isolate the North's government with the hope it will choose a different path, but he warned that patience was running thin.

<https://www.voanews.com/a/united-states-says-nuclear-ban-treaty-undermines-international-security/4030938.html>

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TASS (Moscow, Russia)

Russia meets all international commitments, including INF Treaty — Kremlin

Author Not Attributed

September 19, 2017

The Kremlin spokesman commented on the latest decision of the US Senate allowing Washington not to implement one of the articles of the Russian-US INF Treaty

Russia is committed to all its international obligations, including as part of the Intermediate-Range Nuclear Forces Treaty (INF Treaty), Kremlin Spokesman Dmitry Peskov told reporters on Tuesday.

The Kremlin spokesman commented on the latest decision of the US Senate allowing Washington not to implement some articles of the Russian-US INF Treaty.

"We need to understand what this means and to analyze this information. I don't have any details and I would prefer not to speak about this. But Russia meets all its international commitments," Peskov said.

On Monday, the US Senate approved a bill authorizing \$700 bln in military spending in 2018, including on weapons for Ukraine and increasing US missile defense. The Congress claims that Russia is in violation of its obligations under the INF Treaty, a 1987 nuclear arms control accord between the United States and the Soviet Union.

The bill says that "the United States is legally entitled to suspend the operation of the INF Treaty in whole or in part for so long as the Russian Federation continues to be in material breach." A total of 89 senators backed the decision and another eight voted against.

The bill says that no later than 15 months after the date of the enactment of this act, the US president shall submit to the appropriate congressional committees a report. The document should determine whether Russia "has flight-tested, produced, or is in possession of a ground-launched cruise missile or ground-launched ballistic missile with a range of between 500 and 5,500 kilometers."

If the president determines in this report that Russia "has flight-tested, produced, or is in possession" of any such missile "the prohibitions set forth in Article VI of the INF Treaty shall no longer be binding on the United States as a matter of United States law." The article prohibits the parties to "produce or flight-test any intermediate-range missiles or produce any stages of such missiles or any launchers of such missiles; or produce, flight-test or launch any shorter-range missiles or produce any stages of such missiles or any launchers of such missiles."

"None of the funds authorized to be appropriated or otherwise made available for fiscal year 2018 for the Department of Defense may be obligated or expended to extend the implementation of the New START Treaty unless the President certifies to the appropriate congressional committees that the Russian Federation has verifiably eliminated all missiles that are in violation of or may be inconsistent with the INF Treaty," the document says.

Some \$50 mln will be allocated for the Pentagon for "the development of active defenses to counter ground-launched missile systems with ranges between 500 and 5,500 kilometers" and "counterforce capabilities to prevent attacks from these missiles."

<http://tass.com/politics/966298>

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The American Spectator (Arlington, VA)

Iran: Arms Control Meets the Kübler-Ross Model

By John C. Wohlstetter

September 19, 2017

The mullahs know how to pour SALT on the West's Cold War-era delusions.

In 1969, Swiss psychiatrist Elisabeth Kübler-Ross proposed her famed Five Stages of Grief model. In an eerie resemblance, her model can be applied to Western arms controllers as to how they deal with arms control violations by totalitarian regimes that cheat on agreements they make with Western powers.

The K-R model states that patients diagnosed with a fatal illness go through five stages of grief: (1) denial— rejection of the news as mistaken; (2) anger — "Why me?" plus blaming others; (3) bargaining — searching for a new lifestyle to defer the inevitable; (4) depression — social withdrawal due to inability to cope with the news; and (5) acceptance — the patient is reconciled to imminent mortality.

We may similarly identify the five stages of arms-control grief: (1) denial — our enemy did not violate the arms agreement; (2) anger — blaming arms control skeptics for undermining the agreement by unproven accusations of violation; (3) bargaining — admitting that the enemy did violate the accord, but insisting the violation is insignificant; (4) depression — forced to admit that

the violation will not be corrected due to intransigence of the enemy; and (5) acceptance — declaring that the overriding imperative is to preserve the arms-control process, rather than punish violations — let alone, withdraw from the agreement.

History offers excellent examples of these stages. The best illustrations come from the strategic arms accords reached between the U.S. and the former Soviet Union, in the 1970s and 1980s. The 1972 ABM Treaty forbade construction of centrally located battle management radar stations, because these could defend against massive attacks, and perhaps tempt one side to consider offensive strikes if a potential aggressor felt secure behind such a shield. When in the mid-1980s our spy satellites discovered an immense facility — huge buildings in a complex the size of several football fields — located in Krasnoyarsk, central Siberia, the Reagan administration accused the Soviets of violating the ABM Treaty. The accusation prompted indignant denials from the Soviets, and anger from ABM Treaty advocates, who feared that Reagan wanted out of the accord. To be fair, Reagan did not like the ABM Treaty that Richard Nixon signed, and did indeed want to find an exit ramp, but he was prepared however reluctantly to honor it, albeit complain when the Soviets violated it. After the collapse of the former Soviet Union, former foreign minister Eduard Shevardnadze admitted that the Soviets had indeed violated the treaty. Yet treaty proponents dismissed the violation as trivial, and in the event opposed any exit from the treaty. It took a new president, George W. Bush, not wedded to past concepts, to exercise America's right under the ABM Treaty to give six months' notice of intent to withdraw, and to exit by the end of 2001. Fortunately, Russia then-new president, Vladimir Putin, did not object, thus undercutting ardent arms controllers who opposed American withdrawal.

Illustrative of arms-controller commitment to treaties is the 1979 SALT II accord, which the Carter administration withdrew from Senate consideration after the Soviets invaded Afghanistan later that year, and which by its specific terms was to sunset at the end of 1985. Even after the sunset date, advocates urged that the fact that the Reagan administration complied with its terms — rendered a political necessity in that Congress would not allow withdrawal, having conditioned nuclear modernization on continued compliance — meant that our allegiance had established law by a customary adherence that legally precluded American withdrawal.

Which brings us to Iran and the dismal deal reached by former president Obama in 2016. Palpably eager to reach an accord before the new president took office, Obama serially jettisoned supposedly non-negotiable conditions — e.g., access to all sites, cessation of ballistic missile tests — and thus accepted inability to verify compliance. Given that there were numerous side deals not revealed to the public, one cannot fully audit Iranian compliance. However, the Iranians, like all totalitarians, know that Western powers routinely finesse violations to preserve accords, hoping for better results. Hence it is certain as night follows day that they will violate the accord, knowing that likely they will escape meaningful penalty.

Should we seek a séance with Dr. Kübler-Ross for advice on coping?

<https://spectator.org/iran-arms-control-meets-the-kubler-ross-model/#>

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Reuters (New York, NY)

Russia rebukes Trump over Iran, North Korea, accuses U.S. of missile treaty breach

By Andrew Osborn

September 20, 2017

Russia is “extremely concerned” by U.S. President Donald Trump’s comments questioning the Iran nuclear deal and suspects that Washington itself may have violated a landmark arms control treaty, Foreign Minister Sergei Lavrov said.

Lavrov’s comments, made to Russian reporters at the United Nations in New York and published by his ministry on Wednesday, illustrate how deeply Moscow and Washington are at odds over an array of issues and suggest any attempts to improve already battered relations face an uphill struggle.

Addressing the United Nations General Assembly on Tuesday, Trump said Iran’s 2015 pact with six world powers to curb its nuclear program in return for loosening economic sanctions was “an embarrassment to the United States”. Washington could not abide by an agreement “if it provides cover for the eventual construction of a nuclear program,” Trump said.

Lavrov, whose country is a signatory to the deal, said Russia strongly disagreed with that stance.

“It’s extremely worrying,” he said. “We will defend this document, this consensus, which was met with relief by the entire international community and genuinely strengthened both regional and international security.”

Trump’s threat in the same U.N. appearance to “totally destroy” North Korea if it had to defend itself or its allies also went down badly with Russia, which shares a border with North Korea and believes negotiations and diplomacy are the only way to resolve a crisis over Pyongyang’s missile program.

“If you simply condemn and threaten, then we’re going to antagonize countries over whom we want to exert influence,” said Lavrov, referring to Trump’s comments.

He saved some of his harshest criticism however for what he said was a possible violation by the United States of a landmark 1987 arms control treaty which bans Russian and American intermediate-range missiles on land.

A senior Trump administration official accused Russia earlier this year of violating the same pact -- the Intermediate-range Nuclear Forces (INF) treaty -- something Moscow denied.

But Lavrov said it looked like it was Washington, which is in the midst of a \$1 trillion, 30-year modernization of its aging ballistic missile submarines, bombers and land-based missiles, that was in breach of the same treaty.

“We have suspicions on at least three fronts that the Americans are creating weapons systems which violate or could violate the treaty obligations,” said Lavrov, who said Moscow had relayed its concerns to the United States.

Lavrov has met U.S. Secretary of State Rex Tillerson twice in New York this week.

<https://www.reuters.com/article/us-un-assembly-trump-russia/russia-rebukes-trump-over-iran-north-korea-accuses-u-s-of-missile-treaty-breach-idUSKCN1BV1QE>

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US ARMS CONTROL

The Independent (London, UK)

China 'will not accept North Korea as nuclear weapons state', ambassador warns

By Jeff Farrell

September 16, 2017

Cui Tiankai speaks out hours after Kim Jong-un said his country was on course to achieve nuclear 'equilibrium' with the US

China has warned that it will never accept North Korea as a nuclear weapons state, Beijing's ambassador to the US warned, just hours after Kim Jong-un said his country was on course to achieve that "final goal".

Speaking at a Chinese embassy event in Washington DC, Cui Tiankai also called on Donald Trump's administration to stop sabre-rattling against the secretive communist state.

Instead the US should "resume dialogue and negotiation" over the stand-off, he said.

"Honestly, I think the United States should be doing much more than now, so that there's real effective international cooperation on this issue," he told reporters.

"They should refrain from issuing more threats. They should do more to find effective ways to resume dialogue and negotiation," he said, while adding that China would never accept North Korea as a nuclear weapons state.

His comments came within days of North Korea firing another ballistic missile over Japan that landed in the Pacific Ocean.

It came despite threats by US President Donald Trump that the communist state would feel the "fire and fury" of his armed forces unless it halted its nuclear weapons programme.

Pyongyang shrugged off the rhetoric and launched another deadly Hwasong-12 in its goal to become a nuclear power and reach an "equilibrium" of military force with the US.

Mr Trump described the move as an act of "utter contempt for its neighbours and the entire world" and warned any US response would be "effective and overwhelming".

North Korea on Friday launched its latest ballistic missile – which travelled past Japan's northernmost island of Hokkaido before landing in the sea.

Its leader Kim Jong-un, who was quoted by the state news agency KCNA, later said: "Our final goal is to establish the equilibrium of real force with the US and make the US rulers dare not talk about military option."

In response, President Trump warned that American military options were robust should they be required to respond to threats from Pyongyang.

Speaking at Joint Base Andrews, the Air Force installation outside Washington, Mr Trump said: "America and our allies will never be intimidated. We will defend our people, our nations, and our civilization, from all who dare to threaten our way of life.

"This includes the regime of North Korea, which has once again shown its utter contempt for its neighbours, and the entire world community."

<http://www.independent.co.uk/news/world/americas/china-not-accept-north-korea-nuclear-weapons-state-ambassador-cui-tiankai-washington-us-a7949896.html>

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Cairns Post (Cairns, Australia)

Trinity Inlet hosts training simulation to help combat global Weapons of Mass Destruction trade

By Hayden Smith

September 10, 2017

Cairns's credentials for hosting large-scale defence training activities have been shown in emphatic fashion.

An exercise featuring navy ship *HMAS Toowoomba*, a Japanese aircraft and a Queensland Police boat was held in Trinity Inlet on Saturday morning.

The event formed part of Exercise Pacific Protector 2017, a four-day training initiative focusing on "the proliferation of weapons of mass destruction (WMD), their delivery systems and related materials".

The Trinity Inlet simulation exercise involved the tracking of a ship – in this case the Queensland Police vessel – suspected of carrying materials for such weapons.

Exercise Pacific Protector 2017 has been dubbed a "flagship event" of the Proliferation Security Initiative (PSI), a global effort aimed at countering the "WMD-related trade".

It comes amid growing tensions over North Korea's nuclear missile capabilities.

Defence Minister Marise Payne said Australia took its security responsibilities in the Indo-Pacific region "very seriously".

"We need look no further than North Korea's nuclear and ballistic missile programs to understand the consequences of failing to prevent proliferation activities," she said.

"Pyongyang's provocative and dangerous behaviour in continuing to test nuclear weapons only serves to heighten our sense of purpose in stopping proliferation.

"The Australian Government is very pleased to be working with our regional PSI partners to enhance our ability to conduct and co-ordinate counter-proliferation operations.

"Trade security is a vital concern in the Indo-Pacific, given that the region hosts major trade routes, transshipment hubs and ever increasing volumes of global of trade.

"Exercise Pacific Protector 2017 sends a clear signal to all proliferators that their activities are being monitored and that PSI participants are prepared to take action to stop them by enforcing national and international law."

Australia, Canada, France, Germany, the United States and Japan were among the 20 nations taking part in the training exercise.

Exercise Pacific Protector 2017 was held from Wednesday to Saturday last week.

http://www.cairnspost.com.au/subscribe/news/1/index.html?sourceCode=CPWEB_WRE170_a&mode=premium&dest=http:%2F%2Fwww.cairnspost.com.au%2Fnews%2Fcairns%2Ftrinity-inlet-hosts-training-simulation-to-help-combat-global-weapons-of-mass-destruction-trade%2Fnews-story%2Fb5668b2071959b307512e6813f921fd2&memtype=anonymous

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Arms Control Wonk (Washington, DC)

SAR Image Of Punggye-Ri

By Jeffrey Lewis

September 13, 2017

Last week was pretty awesome — we had a huge “new tools” conference here at Monterey with all kinds of cool space and tech companies like Airbus.

We have a great relationship with Airbus, which made available a pair of images taken with synthetic aperture radar of North Korea’s nuclear test site before and after the most recent nuclear test. SAR is cool. You can see that the explosion visibly displaces the mountain, which demonstrates both how large the explosion was but also that it occurred in the same tunnel complex as the preceding four nuclear tests. This is useful because the relationship between the size of the explosion and the magnitude of the seismic signals is sensitive to the overburden — how much rock is above the explosion.

We are very grateful that Airbus provided the imagery and pretty excited to share it with you. — Jeffrey Lewis

On 3 September 2017 at noon, local time, North Korea conducted its sixth nuclear explosion at the Punggye-ri Nuclear Test site. The magnitude of the explosion, as measured by seismic stations around the world, was an order of magnitude larger than past tests. The CTBTO estimates the size of the explosion, using the magnitude moment scale, at 6.07. The explosion was powerful enough that a secondary seismic event was detected, probably related to a collapse of the cavity created by the nuclear explosion.

While seismic signals can tell us about the size of the explosion, determining the location of the explosion is much more difficult. It is, however, possible to use Synthetic Aperture Radar (SAR) satellites to observe environmental changes as a result of this explosion and to locate where the explosion may have occurred. Radar satellite imagery, collected by the TerraSAR-X satellite, reveals a major ground disturbance and subsidence of the peak of Mount Mantap. This suggests that the explosion occurred within the tunnel complex at Mount Mantap, where North Korea also conducted its most recent four nuclear tests in 2009, 2013 and 2016.

North Korea’s nuclear test site comprises a number of tunnel complexes in mountains surrounding a main support area. Following an initial nuclear explosion in 2006, subsequent nuclear tests have been conducted in a tunnel complex to the North of the support area, under Mt. Mantap. The site contains additional tunnel complexes that may be suitable for nuclear explosions to the south and west of the support area. The Punggye-ri site is capable of hosting nuclear explosions in tunnels with yields of up to a few hundred kilotons.

Unlike conventional satellite imagery which measures visible light, radar satellites measures X-band microwaves, which can detect geo-precise surface changes when collected and processed together. The German TerraSAR-X satellite uses X-band microwaves with a 3.1 cm wavelength, which in this case, provides 1 meter spatial resolution of the targeted site, however, due to the short wavelength, does not penetrate trees and other vegetation enough to measure the exact earth subsidence.

Airbus, the owner of the commercial exploitation rights of the satellite, tasked TerraSAR-X to record imagery of North Korea’s nuclear test site at Punggye-ri before and after the 3 September nuclear test. The satellite imaged the nuclear test site from the same orbital position on differing dates

resulting in a pair of geo-precise images from 26 August and 06 September 2017. Preliminary imagery interpretation concludes the peak itself of Mount Mantap has incurred a visible amount of subsidence; and over 85 acres of the southwest flank of the mountain was displaced by several meters.

The image pair was overlaid and compared; revealing significant changes at Mount Mantap's peak elevation. Prior to the test, Mount Mantap was 2,205 meters high; the mountain has since diminished in height. This subsidence suggests that North Korea conducted yet another test in the tunnel complex under Mt. Mantap despite excavation continuing on an additional tunnel complex to the west of the support area.

The subsidence also demonstrates the magnitude of the event. Similar images were collected before and after North Korea's January 2016 nuclear test but showed no such ground disturbance. Previously, optical satellite images from Planet Labs had shown localized landslides in the Mount Mantap's fluvial plain around the Northern Test Portal at Punggye-ri .

The displacement and subsidence suggests that the explosion occurred within the tunnel complex under Mount Mantap, which offers overburdens up to 900 meters. If the explosion occurred underneath 900 meters of rock, then it could have been in excess of 300 kilotons — although the North Korean nuclear test site is poorly calibrated and such calculations are sensitive to estimates of how deeply the test was buried.

<http://www.armscontrolwonk.com/archive/1203852/sar-image-of-punggye-ri/>

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South China Morning Post (Hong Kong, China)

China calls for peace talks to halt 'vicious cycle' in North Korean nuclear crisis

Author Not Attributed

September 19, 2017

Foreign Minister Wang Yi reiterates Beijing's desire for dialogue in meeting with Russian counterpart to discuss situation

The vicious cycle facing the Korean peninsula was deepening and a resumption of peaceful dialogue was crucial to resolve the crisis, China's Foreign Minister Wang Yi warned on Monday.

Wang made the remarks in talks with his Russian counterpart Sergey Lavrov on the sidelines of the United Nations General Assembly in New York.

US President Donald Trump is expected to press China and Russia to exert more pressure to force North Korea to stop its nuclear ambitions.

China and Russia – both permanent members of the UN Security Council – voted for the new sanctions against North Korea last week, but they are both against tough measures that will topple Kim Jong-un's regime and agreed to cooperate over the matter.

"The current deepening vicious cycle must be broken. Resuming peace talks is an equally important step in implementing Security Council resolutions," Wang was quoted as saying in a Chinese foreign ministry statement.

China's "suspension-for-suspension" proposal, whereby the United States and South Korea would agree to halt joint military drills while North Korea halted missile and nuclear tests, was a practical step to resolve the crisis, Wang said.

Russia's Foreign Ministry said Lavrov and Wang had discussed regional issues, with a focus on North Korea and Syria.

"The sides reiterated their common position that all the problems can be settled only by political and diplomatic means," Russia's TASS news agency reported, citing a statement from the nation's foreign ministry.

Tensions in the region have continued to rise after North Korea fired a missile over Japan on Friday.

The US military staged bombing drills with South Korea on Monday, sending a pair of B-1B bombers and four F-35 fighters from Guam and Japan to join four South Korean F-15K fighters.

China and Russia also started joint naval drills off Vladivostok, in the southern part of the Sea of Okhotsk to the north of Japan.

The White House said on Monday that Chinese President Xi Jinping and Trump spoke over the phone about keeping up the pressure on North Korea using economic sanctions imposed through the United Nations. The two leaders were committed to "maximising pressure" on North Korea, it said.

A senior White House official told reporters said Trump would be "extremely tough" on North Korea when he delivered a speech at the UN General Assembly on Tuesday.

The US would focus on "outcomes, not ideologies", and wanted to "work towards common goals with countries, not to dictate to them how to live, and not to dictate to them what kind of system of government they should have," the official said.

The UN Security Council passed a new round of sanctions against North Korea last week, following Pyongyang's sixth nuclear test, which restricted the regime's oil supply and ban its textile exports.

Beijing has earlier said the root of the North Korea nuclear crisis was a conflict between Washington and Pyongyang, and urged the US to work towards resolving it.

Liu Weidong, a US affairs expert from the Chinese Academy of Social Sciences, said China did not want to see Trump trying to use Sino-US trade ties as a bargaining chip to pressure Beijing to do more to rein in Pyongyang.

"The North Korea crisis is not the only important issue between the two countries. China also hopes the Trump administration doesn't implement policies that damage Sino-US trade relations, since an all-out trade war would surely harm both parties," he said.

Wang Yiwei, an international relations expert from Renmin University, said Beijing hoped to manage the North Korea crisis by working with Washington and avoid nuclear proliferation in the region.

"Beijing hopes to prevent a trade war with Washington and deal with trade and North Korea issues separately, but Washington wants to link the two issues together and demands Beijing to do more on North Korea by threatening trade relations with Beijing," he said.

<http://www.scmp.com/news/china/diplomacy-defence/article/2111823/china-calls-talks-halt-vicious-cycle-north-korean>

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EUROPE/RUSSIA

Scout Warrior (Minnetonka, MN)

How Russia Exploded the Biggest Hydrogen Bomb Ever

By Steve Weintz

September 17, 2017

On July 10, 1961 Soviet Premier Nikita Khrushchev summoned the USSR's top nuclear weaponeers and told them to promptly resume nuclear testing. After roughing up America's young new President Kennedy at a Vienna summit in June, Khrushchev was in a mood, according to Andrei Sakharov, to "show the imperialists what we can do."

For two years while their country joined the United States and the United Kingdom in a voluntary moratorium on nuclear tests, Soviet nuclear scientists, including Andrei Sakharov, the "father of the Soviet hydrogen bomb," developed and refined new weapon concepts and designs. Now they had to deliver big results in very short order. Khrushchev wanted a political spectacle to shock and awe the West, and it had better go right.

The Communist Party's 22nd Congress in October 1961 required something special. It isn't clear who proposed a 100-megaton bomb—Khrushchev or the weaponeers—but at the premier's command the most powerful nuclear weapon ever built had to be ready *in only four months*.

Such a huge bomb came about only because Soviet scientists had a good idea about how to proceed. As Carey Sublette of the Nuclear Weapons Archive website explains, "It is safe to assume that the 100 Mt bomb was a very conservative design - one that pushed no technical envelopes save for size. The two principal reasons for thinking this are the extremely compressed development schedule, and the very high profile of the test."

High-profile indeed. Khrushchev's next move came on August 13, 1961, when East Germany began erecting the Berlin Wall. On August 31 the Premier announced the giant new bomb and the abrupt end to the USSR's voluntary moratorium; a Soviet atmospheric nuclear test followed the day after. The US responded in kind within the month.

With the Cold War escalating no time was spared. Andrei Sakharov's team at Arzamas-16, the "USSR's Los Alamos," skipped the careful mathematical analysis require for H-bomb design and worked out "Big Ivan" on the fly using approximations. At the time the largest device the Soviets had tested yielded much lower, so to achieve 100 megatons Sakharov's team used clustering and staging.

By ganging together eight or more smaller H-bombs and mating them to clusters of thermonuclear fuel capsules, a *really* big bomb could be built without any new technology. The resulting weapon was enormous, an unsophisticated kludge but a robust one. It had to be—failure was not an option.

It even looked like a bomb was supposed to—just much, much bigger. Like Russia's gigantic Tsar Bell and Tsar Cannon, this would be the Tsar Bomb.

Multi-megaton thermonuclear weapons rely on staging. A first-stage fission device generates the heat, pressure and radiation to ignite nuclear fusion in a second-stage fuel vessel, and the more fusion fuel, the bigger the reaction. A third stage can be added by cladding the second stage in weapons-grade uranium metal—the fusion reaction induces nuclear fission in the uranium cladding and adds many megatons of yield. All-up three-stage thermonuclear weapons can be very dirty bombs, with more than half their power coming from fission—resulting in vast amounts of fallout.

The gigantic weapon—over 26 feet long, nearly seven feet in diameter and 27 tons mass—was designed, engineered and fabricated all at once. Assembly and component testing took place inside a workshop constructed over a railroad flatcar. When it was ready a locomotive towed it to the airfield for loading into a specially-modified Tupolev Tu-95N "Bear A" bomber.

Painted a special white reflective white to reduce flash damage from the explosion, the big Tu-95N turboprop bomber was still too small to carry Big Ivan internally. Its bomb bay doors were removed and sections of fuselage cut away to mount the bomb halfway inside the plane, like a giant engorged remora.

For the delivery aircraft to get away from the blast safely the bomb's fall had to be slowed; slowing a boxcar-sized object full of uranium and steel from aviation speeds required a parachute of imperial scale. Big Ivan's drag chute consumed most of the USSR's nylon output for 1961, leaving New Soviet Women to grumble about hosiery as one more thing the workers' paradise lacked.

On October 30, 1961, under the watchful but distant eyes of State Commission Chairman Major General Nikolai Pavlov and a host of dignitaries 600 miles away, the pregnant-looking white Tu-95N and an Tu-16 airborne lab plowed their way towards Novaya Zemlya, a large icebound island in the Arctic Ocean.

As the aircraft approached the Mityushikha Bay test range, Major Andrei Durnovtsev and his crew checked their instruments and donned heavy goggles. At 11:32 am Moscow time the Tu-95N released its weapon then climbed and banked sharply. The Tsar Bomb fell to its glory, its oddly sleek locomotive-sized mass trailing its gigantic parachute as it dropped towards ground zero.

Big Ivan detonated at 13,000 feet and its fireball still nearly reached the ground. Its own shockwave reflected off Novaya Zemlya's surface bounced the five-mile-wide incandescent sphere skywards. Seismometers recorded an impact equal to a magnitude 5 earthquake. Buildings were leveled 30 miles away, windowpanes broken 500 miles distant.

The flash was visible at 600 miles and the thermal pulse felt over 165 miles away. The EMP pulse blacked out radio communications for hundreds of miles for over an hour. An enormous mushroom cloud climbed over 20 miles up through the hole blown in the Earth's atmosphere.

Ground zero was gone. "The ground surface of the island has been levelled, swept and licked so that it looks like a skating rink," a witness reported. "The same goes for rocks. The snow has melted and their sides and edges are shiny. There is not a trace of unevenness in the ground.... Everything in this area has been swept clean, scoured, melted and blown away."

US agencies rated the Tsar Bomba's yield at 57 million tons of TNT equivalent—far and away a world's record that still stands. Soviet scientists arrived at a 50-megaton yield but for decades their nation was happy to accept the higher American figure.

And yet it could have been even more powerful—a full 100 megatons. A month after the Berlin Wall went up Andrei Sakharov decided to substitute the third-stage uranium cladding for steel, reducing the bomb's yield by 50%. As a result, for all its enormous power Big Ivan remains the "cleanest" nuclear weapon ever tested, as it derived more than half its power from nuclear fusion with far fewer radionuclides produced per megaton.

So was the Tsar Bomb really a functional weapon? Most probably not. Its military utility was questionable.

Setting aside its declared political purpose, the Tu-95N bomber—the USSR's only way of delivering the Tsar Bomb—was not a practical delivery platform: NATO fighters would shoot the lumbering plane out of the sky long before it had a chance to drop its huge bomb. You can count on one hand

the number of targets in Europe big enough to merit the Tsar Bomb's attentions. One Tsar Bomb alone could burn down West Germany—if it could get there.

Big Ivan was a one-off, essentially a technical stunt. There are hints that the clean 50-megaton design was considered for weaponization, but nothing concrete. Curiously enough, at about the same time American nuclear weaponeers had, according to Alex Wallerstein, arrived at breakthrough high-yield bomb designs. Had atmospheric nuclear testing continued the US might have tested a 100-megaton weapon half the weight of Big Ivan—light enough to actually fight with.

Some toys are best left in their boxes. Andrei Sakharov came to think so after witnessing the Tsar Bomb's test, and later became the Soviet Union's leading dissident and anti-nuclear sage. That was the Tsar Bomb's biggest effect.

<http://scout.com/military/warrior/Article/How-Russia-Exploded-the-Biggest-Hydrogen-Bomb-Ever-107568839>

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BBC News (London, UK)

Stanislav Petrov, who averted possible nuclear war, dies at 77

Author Not Attributed

September 18, 2017

A former Soviet military officer credited with averting a possible nuclear disaster at the peak of the Cold War has died at the age of 77.

Stanislav Petrov was on duty at a Russian nuclear early warning centre in 1983 when computers wrongly detected incoming missiles from the US.

He took the decision that they were a false alarm and did not report them to his superiors.

His actions, which came to light years later, possibly prevented nuclear war.

Petrov died at his home in Moscow in May but his death has only now been made public.

In an interview with the BBC in 2013, Petrov told how he had received computer readouts in the early hours of the morning of 26 September 1983 suggesting several US missiles had been launched.

"I had all the data [to suggest there was an ongoing missile attack]. If I had sent my report up the chain of command, nobody would have said a word against it," he said.

"All I had to do was to reach for the phone; to raise the direct line to our top commanders - but I couldn't move. I felt like I was sitting on a hot frying pan."

Although his training dictated he should contact the Soviet military immediately, Petrov instead called the duty officer at army headquarters and reported a system malfunction.

If he had been wrong, the first nuclear blasts would have happened minutes later.

"Twenty-three minutes later I realised that nothing had happened. If there had been a real strike, then I would already know about it. It was such a relief," he recalled.

A later investigation concluded that Soviet satellites had mistakenly identified sunlight reflecting on clouds as the engines of intercontinental ballistic missiles.

Petrov, who retired with the rank of lieutenant colonel, died on 19 May but news of his passing became widely known only this month, thanks to a chance phone call.

German film-maker Karl Schumacher, who first brought Petrov's story to an international audience, telephoned him to wish him a happy birthday on 7 September only to be informed by his son, Dmitry Petrov, that he had passed away.

Mr Schumacher announced the death online and it was eventually picked up by media outlets.

<http://www.bbc.com/news/world-europe-41314948>

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Reuters (New York, NY)

Exclusive: From Russia with fuel - North Korean ships may be undermining sanctions

By Polina Nikolskya

September 20, 2017

At least eight North Korean ships that left Russia with a cargo of fuel this year headed for their homeland despite declaring other destinations, a ploy that U.S. officials say is often used to undermine sanctions.

Reuters has no evidence of wrongdoing by the vessels, whose movements were recorded in Reuters ship-tracking data. Changing a ship's destination once underway is not forbidden and it is unclear whether any of the ships unloaded fuel in North Korea.

But U.S. officials say that changing destination mid-voyage is a hallmark of North Korean state tactics to circumvent the international trade sanctions imposed over Pyongyang's nuclear weapons program.

Changing course and the complex chain of different firms --many offshore -- involved in shipments can complicate efforts to check how much fuel is supplied to North Korea and monitor compliance with a cap on fuel imports under U.N. sanctions.

"As part of North Korea's efforts to acquire revenue, the regime uses shipping networks to import and export goods," U.S. Assistant Secretary of the Treasury Marshall S. Billingslea told the congressional Foreign Affairs Committee this month.

"North Korea employs deceptive practices to conceal the true origins of these goods. Pyongyang has been found to routinely falsify a vessel's identity and documentation."

VOYAGE OF THE MA DU SAN

The eight vessels identified in the tracking data set sail from the Far Eastern Russian port of Vladivostok or nearby Nakhodka and registered China or South Korea as their destination with the Information System for State Port Control.

After leaving Russia, they were next recorded off the North Korean ports of Kimchaek, Chongjin, Hungnam or Najin. None went on to China and most went back to Russia.

All had a cargo of diesel, a source at the company that services vessels in Vladivostok said. Their cargo capacity ranged from 500 tonnes to 2,000 tonnes.

One of the vessels was the Ma Du San, owned by North Korea's Korea Kyongun Shipping Co. It took on a cargo of 545 tonnes of marine fuel at Vladivostok's Pervaya Rechka terminal, owned by Russia's Independent Petroleum company (IPC).

Reuters obtained a bill of lading -- a receipt for goods issued when a ship loads up -- dated May 19 showing the Ma Du San's cargo came from Khabarovskiy NPZ, a refinery owned by IPC.

The ship set sail on May 20. Documents filed with Russia's Information System for State Port Control stated its next destination as the Chinese port of Zhanjiang and the bill of lading showed it as Busan in South Korea.

The Ma Du San's next recorded location after Vladivostok was inside the perimeter of the port of Kimchaek -- all the other ships were tracked only in the vicinity of ports. North Korean ships intermittently turn off their transponders, and satellites cannot track them at such times, U.S. officials say.

Allegations outlined in two U.S. Treasury Department sanctions orders and a legal complaint filed by the U.S. government match the information Reuters obtained on the Ma Du San though the U.S. documents do not name the vessel involved.

SANCTIONS BLACKLIST

On June 1, the U.S. Treasury Department included IPC on its sanctions blacklist, saying it provided oil to North Korea and may have been involved in circumventing sanctions.

On Aug. 22, the U.S. government sanctioned two more companies, both registered in Singapore -- Transatlantic Partners and Velmur Management Pte. Ltd.

The legal complaint, also filed on Aug. 22, accused the two firms of money laundering on behalf of sanctioned North Korean banks seeking to buy petroleum products, citing a bill of lading for May 19 for a cargo of diesel sold by IPC to Velmur and loaded in Vladivostok -- the same date as the bill of lading for the Ma Du San.

Andrey Serbin, who represents Transatlantic Partners, said the firm had not received payments from a sanctions-hit bank and that ownership of the fuel changed after it was loaded.

"We sold the fuel to a Chinese company," Serbin, who has been blacklisted by the U.S. government for "operating in the energy industry in the North Korean economy" and working to purchase fuel for delivery to North Korea, said of several shipments where the company acted as middleman.

"There's no way we can control them (the goods)," he said.

Serbin did not identify the vessels Transatlantic Partners loaded fuel on to, but a source in a company that services ships in Vladivostok said the Ma Du San was among them.

The bill of lading named the recipient of the Ma Du San's cargo as a company called LLC Sky Shipping Limited. Reuters was unable to find any record of such a firm.

Velmur said it could not have known where the cargo would end up and did not knowingly help anyone dodge sanctions.

IPC did not respond to a request for comment. Its parent company, Bermuda-registered Alliance Oil Company Ltd., denied having any contractual relations with North Korean companies when U.S. sanctions were imposed on IPC.

The U.S. Treasury and State departments declined to answer questions about Reuters' findings.

Russia's foreign ministry did not respond to questions about fuel exports to North Korea but has said Russia complies with the sanctions. Russia's customs service said it could not provide information about movement of goods across borders.

Since the U.S. sanctions were imposed on IPC, all North Korean-flagged vessels that had been in Vladivostok port have left, according to the tracking data.

They departed with no cargo, an employee with a shipping agent in Vladivostok said. This is confirmed by documents seen by Reuters.

Russian supplies of oil and oil products to North Korea are much smaller than volumes shipped by China, Pyongyang's only major ally. Beijing has acted to reduce the flows, but Russia's trade in all goods with North Korea more than doubled in the first quarter of 2017 to \$31.4 million.

Moscow's trade with Pyongyang is under closer scrutiny following a series of missile launches by North Korea and a test involving what it said was a hydrogen bomb.

<https://www.reuters.com/article/us-northkorea-missiles-russia-exclusive/exclusive-from-russia-with-fuel-north-korean-ships-may-be-undermining-sanctions-idUSKCN1BV1DC>

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Sputnik (Moscow, Russia)

Russia May Prepare Adequate Response If US Withdraws From INF Treaty

Author Not Attributed

September 20, 2017

The senior Russian senator warned that Russia is capable to arrange a decent response if US leaves the Intermediate-Range Nuclear Forces Treaty.

Russia may prepare an adequate response to ensure the country's protection If the United States decides to withdraw from the Intermediate-Range Nuclear Forces (INF) Treaty, the first deputy chairman of Russia's Federation Council Committee on Defense and Security Frants Klintsevich told Sputnik on Tuesday.

"If the United States pull out of the INF Treaty, of course, we will take specific steps with creation of similar weapons related to the intermediate-range and shorter-range missiles with a range of up to 1,500 kilometers... An adequate response will be prepared in order to ensure security of our country, including with the possibility of using the air defense systems," Klintsevich said.

The senior Russian lawmaker also added that such a move of Moscow would be technically feasible.

On Monday, the US Senate passed a new defense policy bill authorizing the Defense Department to begin developing a new conventional road-mobile ground-launched cruise missile system with a range of between 500 (310 miles) to 5,500 kilometers. The document also accused Russia of violating the treaty.

Meanwhile, Europe stands for the extension of the Russia-US 2010 New Strategic Arms Reduction Treaty (New START), as the European security can encounter a significant threat should it not be resumed by 2021, as German Foreign Minister Sigmar Gabriel said earlier this year.

Germany advocates "Moscow and Washington renewing the New START treaty, which expires in 2021," Gabriel said in an article for Germany's Rheinische Post newspaper.

Gabriel also stressed that the Intermediate-Range Nuclear Forces (INF) Treaty was "a milestone of the European security," which is "in danger now." The minister insisted that Washington had to reestablish the dialogue on "strategic stability."

In June, US Under Secretary Thomas Shannon and Russian Deputy Foreign Minister Sergey Ryabkov agreed to hold bilateral New START meetings to discuss issues related to the treaty's implementation.

In February, media reported that US President Donald Trump denounced the treaty in his first phone call with Russian President Vladimir Putin, calling it a bad deal negotiated by his predecessor Barack Obama. In March, the head of US Strategic Command (STRATCOM), Gen. John Hyten, said that a possible cancellation of a nuclear arms reduction agreement between the United States and Russia might trigger an arms race.

Under the New START treaty, signed between Russia and the United States in 2010, Moscow and Washington jointly agreed to decrease the number of deployed nuclear warheads to 1,550 and the number of deployed intercontinental ballistic missiles, submarine-launched ballistic missiles and strategic bombers to 700 by 2018. The agreement is set to expire in 2021 and could be extended if mutual understanding between the countries is reached.

The INF Treaty signed by Soviet President Mikhail Gorbachev and his US counterpart Ronald Reagan in 1987 prohibits the development, deployment and testing of ground-launched ballistic or cruise missiles with ranges between 300 and 3,400 miles. Moscow and Washington have repeatedly accused each other of violating the treaty.

<https://sputniknews.com/military/201709201057537273-russia-inf-us-missile-treaty/>

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MIDDLE EAST

Hurriyet Daily News (Istanbul, Turkey)

US, Israel unite in slamming Tehran

Author Not Attributed

September 20, 2017

The United States and Israel have united in slamming Iran during the annual United Nations General Assembly, with the leaders of both countries directing accusations at Tehran.

Making his debut appearance at the annual meeting, U.S. President Donald Trump accused Iran of exporting "violence, bloodshed and chaos" and of seeking to project its influence in Yemen, Syria and elsewhere in a region rife with sectarian conflicts between Sunni and Shiite Muslims.

"We cannot let a murderous regime continue these destabilizing activities while building dangerous missiles, and we cannot abide by an agreement if it provides cover for the eventual construction of a nuclear program," Trump said late on Sept. 19, as he slammed the 2015 Iran nuclear deal.

The 2015 pact was struck by Iran and six major world powers under which Tehran agreed to restrict its nuclear program in return for loosening of economic sanctions.

The accord was negotiated during the administration of former Democratic President Barack Obama, whose policies Republican Trump frequently criticizes.

“The Iran deal was one of the worst and most one-sided transactions the United States has ever entered into. Frankly, that deal is an embarrassment to the United States, and I don’t think you’ve heard the last of it - believe me,” Trump said in his speech.

Israeli Prime Minister Benjamin Netanyahu, meanwhile, praised Trump’s speech at the U.N., saying that “in over 30 years in my experience with the U.N., I never heard a bolder or more courageous speech.”

During his speech, Netanyahu vowed to fight an “Iranian curtain” descending on the Middle East, pledging to prevent Tehran from ever establishing a permanent foothold in Syria.

“From the Caspian Sea to the Mediterranean, from Tehran to Tartus, an Iranian curtain is descending across the Middle East,” Netanyahu said, claiming that “those who threaten Israel with annihilation put themselves in mortal peril.”

“Israel will defend itself with the full force of our arms and the full power of our convictions,” he added.

“We will act to prevent Iran from establishing permanent military bases in Syria for its air, sea and ground forces,” he said, also vowing to prevent Iran from producing any weapons that could hit Israel.

Tehran was quick to reply Trump’s remarks, with Iranian Foreign Minister Mohammad Javad Zarif calling it an “ignorant hate speech.”

“Trump’s ignorant hate speech belongs in medieval times -- not the 21st century U.N. -- unworthy of a reply,” Zarif said on Twitter.

“Fake empathy for Iranians fools no one,” he added.

Another criticism to Trump came from Russia, with Russian Foreign Minister Sergei Lavrov saying that Moscow is “extremely concerned” by the speech and suspects that the U.S. itself may have violated a landmark arms control treaty.

<http://www.hurriyetdailynews.com/us-israel-unite-in-slamming-tehran.aspx?pageID=238&nID=118209&NewsCatID=359>

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The New York Times (New York, NY)

Trump Says He’s Made a Decision on Iran Nuclear Deal

By Peter Baker and Somini Sengupta

September 20, 2017

President Trump said on Wednesday that he had made a decision on what to do about the nuclear agreement his predecessor negotiated with Iran, but declined to tell reporters what it was.

“I have decided,” he said, repeating the phrase three times. Pressed by reporters, he added: “I’ll let you know. I’ll let you know.”

Mr. Trump’s comments, made as he met with President Mahmoud Abbas of the Palestinian Authority, came the day after he told the United Nations General Assembly that the deal was “an embarrassment for the United States.”

Under United States law, Mr. Trump has until Oct. 15 to certify whether Iran is complying with the agreement, which required it to dismantle much of its nuclear program in exchange for the lifting of international sanctions. Mr. Trump has already certified Iran's compliance twice, and Secretary of State Rex W. Tillerson acknowledged this week that Iran remains in "technical compliance."

But Mr. Trump has made clear that he is reluctant to certify compliance a third time, citing destabilizing activities by Iran that are not directly covered by the agreement, including its ballistic missile program and support for terrorist groups in the Middle East. If he were to decide against certifying compliance, Congress could reimpose sanctions that were lifted as part of the agreement, which would effectively unravel it. If Congress did not act, the agreement could remain in force.

The other five major powers that negotiated the agreement along with President Barack Obama have resisted any effort by Mr. Trump to tear it up.

President Emmanuel Macron of France, speaking to reporters outside the United Nations Security Council chambers on Wednesday, declined to say whether Mr. Trump had shared with him his decision on the Iran deal, but said France favored keeping it "because it's a good one."

Mr. Macron said the agreement should be amended to cover ballistic missiles and extended to last beyond 2025. He also said he favored "an open discussion with Iran about the current situation in the region." But he added, "I think it would be a mistake just to abandon the nuclear agreement without that."

Speaking to the General Assembly, President Hassan Rouhani of Iran on Wednesday praised the nuclear deal as a "model," arguing that the Middle East was safer for it, and said Mr. Trump's threat "undermines international confidence in negotiating with it."

"Imagine for a moment how the Middle East would have looked had the J.C.P.O.A. not been concluded," he said, using the initials for the Joint Comprehensive Plan of Action, the formal name of the deal.

The Iranian president sought to flip the script on the Trump administration's contention that Iran destabilizes the Middle East. He said American taxpayers should ask why billions of dollars spent in the region has not advanced peace, and "has only brought war, misery, poverty" and the "rise of extremism to the region."

"The ignorant, absurd and hateful rhetoric, filled with ridiculously baseless allegations, that was uttered before this august body yesterday," Mr. Rouhani said, "was not only unfit to be heard at the United Nations — which was established to promote peace and respect between nations — but indeed contradicted the demands of our nations from this world body to bring governments together to combat war and terror."

He added: "It will be a great pity if this agreement were to be destroyed by rogue newcomers to the world of politics. The world will have lost a great opportunity."

Nikki R. Haley, the American ambassador to the United Nations, said on Wednesday that Mr. Trump's speech to the General Assembly should not be interpreted as a "clear signal he plans to withdraw" from the deal, but that it showed that he was "clearly not happy" with it.

In an interview with CBS News, Ms. Haley said that given Iran's other activities, the United States was not safer because of the deal, and that Mr. Rouhani should do more to curb Tehran's behavior.

"I think what he needs to do is instead of focusing on us leaving the agreement, he needs to start following the rules," she said. "He's got to stop smuggling arms, he's got to stop all of the meddling they're doing over the Middle East, stop the ballistic missile testing. He is not keeping his end of the deal, and what he's trying to do is put it on us. But we have to keep it on him."

Other Trump advisers sent mixed signals about whether Mr. Trump would pull out of the agreement or seek to revise it. Secretary of State Tillerson suggested that Mr. Trump might try to renegotiate.

“The president really wants to redo that deal,” he told Fox News on Tuesday. “We do need the support, I think, of our allies, the European allies and others, to make the case as well to Iran that this deal really has to be revisited.”

He focused on the provision that allows the deal to expire in a decade. “If we’re going to stick with the Iran deal, there has to be changes made to it,” Mr. Tillerson said. “The sunset provision simply is not a sensible way forward. It’s just simply, as I say, kicking the can down the road again for someone in the future to have to deal with.”

Representative Ed Royce of California, the Republican chairman of the House Foreign Affairs Committee, suggested it would be better to make the agreement work rather than pull out altogether. “I think we should enforce the hell out of the agreement and thereby force compliance on the part of Iran,” Mr. Royce said on CNN on Tuesday.

He noted that once sanctions were lifted, Iran recovered funds that had been frozen in the West, so pulling out now would not recover lost leverage. “They now have this money,” Mr. Royce said. “And so in a way, the toothpaste is out of the tube.”

But Gov. Chris Christie of New Jersey, a frequent outside adviser to Mr. Trump, said he expected the president to pull out of the Iran deal.

“I am just telling you that I know the guy for the last 15 years,” he said, “and if I had to guess, that’s my guess of what’s going to happen, because of what I’ve heard him say during the campaign and what I think he believes philosophically, which is a bad deal is worse than no deal.” Mr. Christie made his comments at a conference hosted by United Against Nuclear Iran, an advocacy group, according to the Jewish Insider newsletter.

<https://www.nytimes.com/2017/09/20/world/middleeast/trump-iran-nuclear-deal.html>

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The Guardian (London, UK)

France tells Trump that quitting Iran nuclear deal risks 'spiral of proliferation'

By Julian Borger

September 18, 2017

The French government will use meetings at the UN this week to try to persuade Donald Trump not to abandon the nuclear agreement with Iran, warning that the deal’s collapse would trigger a “spiral of proliferation” in the Middle East, the French foreign minister said.

Jean-Yves Le Drian said that Iran was abiding by the terms of the 2015 deal, and that verification measures were being “strictly implemented” by the International Atomic Energy Agency (IAEA). Donald Trump, however, has claimed that Tehran has violated the deal, at least “in spirit” and has threatened he would not certify Iranian compliance when the state department is required to report on its implementation on 15 October.

Le Drian argued the deal was vital to global security.

“It’s essential to maintain it to prevent a spiral of proliferation that would encourage hardliners in Iran to pursue nuclear weapons,” the minister told journalists in New York on the sidelines of this week’s UN general assembly.

Trump is due to make his maiden UN speech at the opening of the general assembly on Tuesday, but he took part in his first UN meeting and made his first remarks on Monday at a side meeting about reform of the organisation. He praised the secretary general, António Guterres, describing him as “fantastic”.

“I applaud the secretary general for laying out a vision for reforming the United Nations so it better serves the people we all represent,” Trump said. He extolled the noble goals of the organisation, but warned that in recent years the United Nations had not reached its full potential because of bureaucracy and mismanagement.

“We are not seeing results in line with the investment but I know that under the secretary general, that’s changing and it’s changing fast,” the president said.

In his remarks, Trump – a former property developer and TV reality show host – could not resist a plug for his golden Trump Tower across the road from the UN headquarters. Because of the location, he said, it had “turned out to be such a successful project”.

At a lunchtime meeting in a New York hotel, Trump met the Israeli prime minister, Benjamin Netanyahu, who is lobbying strenuously for the nuclear agreement to be radically revised or abandoned.

“I look forward to discussing with you how we can address together what you rightly call is the terrible nuclear deal with Iran and how to roll back Iran’s growing aggression in the region, especially in Syria,” Netanyahu said at the start of the meeting.

Two hours later, the US president met his French counterpart, Emmanuel Macron, who was expected to make the opposite argument.

“France will try to persuade President Trump of the importance of this choice,” Le Drian said. He was non-committal when asked if the deal could survive if the US abrogated it by imposing new sanctions, while the other national signatories – France, the UK, Germany, China, Russia and Iran – continued to uphold it.

“It would be a great responsibility,” he said, restating the heavy cost of collapse.

The US secretary of state, Rex Tillerson, is due to meet his Iranian counterpart, Mohammad Javad Zarif, for the first time on Wednesday evening at a session of a joint commission established by the signatories of the 2015 nuclear agreement. The meeting will be hosted by the EU foreign policy chief, Federica Mogherini.

In his remarks, Le Drian argued that the crisis over North Korean nuclear and missile tests, showed the importance of upholding the Iran agreement.

“In this period when we see the risks with North Korea, we must maintain this line,” he said. Under the terms of the agreement, Iran accepted strict limits on its nuclear activities and its stockpiles of related materials such as enriched uranium and heavy water, in return for sanctions relief.

In an interview on Sunday, the US national security adviser, HR McMaster, repeated Trump’s assertion that the agreement was “the worst deal ever” and that the US would not strike a similar bargain with North Korea, stripping Pyongyang of all its nuclear weapons and virtually all of its nuclear materials, even if the regime agreed.

“I don’t think so,” McMaster told ABC News. “I think we recognise that there are some significant pitfalls in this deal. What the problem is in North Korea has been for years is, as you know, we’ve negotiated with North Korea before. North Korea has then entered into these weak agreements and then immediately breaks those agreements.”

He claimed that Iran was breaking its agreement by “spinning too many centrifuges, having too much heavy water”.

However, the IAEA did not report any such infractions in its latest assessment of Iran’s activity earlier this month. Iran’s stock of heavy water had risen above the permitted ceilings twice last year, but has since been reduced to well under the agreed caps.

Heavy water can be used in a moderating agent in a certain type of reactor, that generates plutonium as a byproduct. Iran had been building such a reactor before the 2015 agreement, but as part of that deal it was stopped and the core chamber was filled with concrete.

<https://www.theguardian.com/world/2017/sep/18/france-trump-iran-nuclear-deal-jean-yves-le-drian>

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Reuters (New York, NY)

Syria investigator del Ponte signs off with a sting

Author Not Attributed

September 18, 2017

Veteran prosecutor Carla del Ponte signed off from the United Nations Syria investigation on Monday by criticizing the U.N. Security Council and telling Syria’s ambassador his government had used chemical weapons.

The former Swiss attorney general, who went on to prosecute war crimes in Rwanda and former Yugoslavia, said in August she was resigning from the U.N. Commission of Inquiry on Syria because of a lack of political backing.

Bidding farewell to the U.N. Human Rights Council, which set up the Commission of Inquiry six years ago, Del Ponte said she had quit out of frustration.

“We could not obtain from the international community and the Security Council a resolution putting in place a tribunal, an ad hoc tribunal for all the crimes that are committed in Syria,” she said.

“Seven years of crime in Syria and total impunity. That is not acceptable.”

Del Ponte told a Swiss newspaper last month enough evidence existed to convict President Bashar al-Assad of war crimes.

Her departure leaves only two remaining commissioners of the inquiry, Karen Koning AbuZayd and the chairman, Paulo Pinheiro, who said that eventually, a great many people would have to answer “as to why they did not act sooner to stop the carnage”.

“The deadlock at the Security Council on Syria is reprehensible and, at times, bewildering,” he told the Human Rights Council.

Leaving the council, del Ponte told Syria's ambassador that she had been right to quickly reach the conclusion that Assad's government had used chemical weapons during an attack on the town of Khan Sheikhoun in April.

"It was me, mister ambassador," she said.

"I said that in my opinion and based on the elements we already had, the Syrian government was responsible. Today we have the confirmation after an official commission's inquiry. So now, we ask for justice, we ask justice for those victims."

<https://www.reuters.com/article/us-mideast-crisis-syria-investigator/syria-investigator-del-ponte-signs-off-with-a-sting-idUSKCN1BT29Q>

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INDIA/PAKISTAN

Quartz (New York, NY)

Did Pakistan help North Korea develop nuclear weapons? India-US-Japan want to know

By Devjyot Ghoshal

September 18, 2017

That Pakistan helped North Korea develop nuclear weapons is a theory that's been doing the rounds for years.

In 2004, Pakistan's most famous nuclear scientist, Abdul Qadeer Khan, admitted to have transferred nuclear technology to North Korea and other nations, a confession that led to his detainment for five years. These unnerving revelations were reinforced yet again earlier this month by another Pakistani nuclear scientist, Pervez Hoodbhoy.

Now, as Pyongyang's belligerent missile tests continue, India, the US, and Japan seem to want to dig deeper into it.

The signal came from a meeting between the foreign ministers of the three countries at New York's Palace Hotel early on Sept. 18, where North Korea—or the Democratic People's Republic of Korea (DPRK)—was among the issues discussed. "On DPRK, EAM (Indian external affairs minister Sushma Swaraj) deplored DPRK's recent actions and stated that its proliferation linkages must be explored and those involved be held accountable," the Indian foreign ministry said in a statement.

The statement, of course, doesn't name Pakistan. When pressed on the matter at a briefing later in the day, the Indian foreign ministry spokesperson only said: "I think I am giving you enough material (the statement) to figure out what we're talking about."

The reference to Pakistan was clear, in part, as there have been several revelations over the decades about the cooperation between the two nations. As Samuel Ramani, a PhD candidate at the University of Oxford, wrote last year in *The Diplomat* magazine:

Since the 1970s, Pakistan and North Korea have cooperated extensively on the development of ballistic missile and nuclear weapons technologies. Pakistan's strong alliance with China and the legacy of a major scandal linking the Pakistani military to North Korea's nuclear program have prevented Islamabad from joining UN efforts to diplomatically isolate the DPRK.

While economic links between Pakistan and North Korea were established during the early 1970s, the foundations of the modern Islamabad-Pyongyang security partnership were forged during Pakistani prime minister Zulfikar Ali Bhutto's 1976 visit to North Korea.

In particular, Khan's role in dealings with Pyongyang has been under scrutiny. In 2005, TIME magazine said that, according to intelligence officials, "Khan sold North Korea much of the material needed to build a bomb, including high-speed centrifuges used to enrich uranium and the equipment required to manufacture more of them."

Whether Khan was acting alone is unclear, though, in his recent interview, Hoodbhoy was explicit. "It is very hard to believe that AQ Khan single-handedly transferred all technology from Pakistan to North Korea, Libya, and Iran, as it was a high-security installation in Pakistan and guarded with very fearsome amount of policing and military intelligence surrounding it," he told Deutsche Welle.

This is something journalists Adrian Levy and Catherine Scott-Clark, too, brought forth in their book *Deception: Pakistan, the United States, and the Secret Trade in Nuclear Weapons*. "It also looks beyond Khan's confession and presents facts that suggest that successive Pakistani governments have been at least equally complicit with Khan in continuing nuclear proliferation," a CIA compilation says about the book.

Whatever happened, three global powers now seem to want to get to the bottom of it.

<https://qz.com/1080927/did-pakistan-help-north-korea-develop-nuclear-weapons-india-us-japan-want-to-know/>

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Quartz (New York, NY)

Could North Korea's Example Inspire Iran and Pakistan?

By Akhilesh Pillalamarri

September 21, 2017

Is missile defense the way out for the United States?

As North Korea's continued missile launches demonstrate, a country with an advanced missile program in tandem with a nuclear capability can operate at a high level of impunity in defiance of the international community, global sanctions notwithstanding.

What North Korea seems to have discovered, based on lessons from places such as Libya and Iraq, is that the best leverage any state could have against regime change, or international pressure aimed at changing regime behavior, is the possession of nuclear weapons combined with a delivery system that allows such weapons to be deployed against the United States and other Western states. As Dan Coats, President Donald Trump's director of national intelligence, said:

[Kim Jong-un] has watched, I think, what has happened around the world relative to nations that possess nuclear capabilities and the leverage they have and seen that having the nuclear card in your pocket results in a lot of deterrence capability.....The lessons that we learned out of Libya giving up its nukes...is, unfortunately: If you had nukes, never give them up. If you don't have them, get them.

Could North Korea's example form the template of future actions by Iran and Pakistan? Both states are now under renewed pressure by the United States, and may thus deem it in their interests to acquire a deterrent against the United States. There is indication that U.S. President Donald J.

Trump has been looking for a way to withdraw from the Iran nuclear deal for a while, a deal he has repeatedly denounced as “one of the worst and most one-sided transactions the United States has ever entered into.”

Trump recently accused Iran of hiding behind a “false guise of a democracy,” and said on Tuesday that “it is far past time for the nations of the world to confront another reckless regime, one that speaks openly of mass murder, vowing ‘death to America,’ destruction to Israel, and ruin to many nations and leaders....”

As Ted Galen Carpenter points out in *The National Interest*, such rhetoric could push Iran toward the very scenario the nuclear deal has been seeking to avoid; that is, Iran could go nuclear: “If Pyongyang causes the United States to back down, the reasoning goes, Iran will actively pursue the same ambition, regardless of any agreement to the contrary.” Iranian President Hassan Rouhani indicated that if the United States withdrew from the nuclear deal, Iran could reactivate its nuclear activities: “One of the options and choices were one of our counterparts not to remain in the current framework would be to go back to previous activities... This is one option. And that’s not difficult. We can easily go back to previous conditions if counterparts were to not live up to their commitments.”

Pakistan, too, has reason to pursue enhanced nuclear and missile capabilities, though the United States would be more justified in putting pressure on Pakistan, given its record of playing a double-game against American interests in South Asia. Lately, it appears as though Pakistan is at risk of gradually becoming more and more isolated, internationally. The United States is “considering stripping Pakistan of its status as an ally because of a perceived failure to tackle terrorism,” according to reports. Additionally, the United States could designate Pakistan a state sponsor of terror, and conduct unilateral drone strikes on Pakistani territory. All of this could serve to gradually antagonize Pakistan, which has already threatened to retaliate in minor ways, and drive it toward pursuing ICBM range-missiles to complement its nuclear arsenal, just in case; the country moved toward establishing a credible nuclear triad earlier this year.

Although the foreign policy of the United States is partially responsible for North Korea’s rogue actions, and potential future nuclear blackmail from Iran and Pakistan, the United States should nonetheless take active measures toward protecting itself from a nuclear attack from these states. The United States cannot wait for the right alignment of politics, sanctions, diplomacy, and geopolitical alignments to at least take active measures toward negating threats from Iran, Pakistan, and North Korea. While some policy-figures in the United States, such as John Bolton, call for a military option against North Korea; such an option would likely be so costly as to be almost unacceptable, as *The Diplomat’s* Senior Editor Ankit Panda has argued in *The Atlantic*.

Instead, it would be both more effective, and economic, in terms of blood and treasure, for the United States to further invest in effective missile defense, in order to neuter any attempt at nuclear blackmail emanating from states that would threaten the American homeland. The purpose of this should not only be to protect the U.S. homeland from an attack, but to decrease the likelihood of other states using their nuclear weapons as shields behind which to hide. For example, terrorist groups based in Pakistan are generally seen as safe from massive retaliation from India, should they be implicated in a terrorist attack there, as Pakistan has made it clear that a conventional attack on it could be met with a nuclear response.

Investing further in missile defense would go a long way toward preventing the United States from being susceptible to such a scenario, should it arise. As a report by CSIS indicates, investing in missile defense against new threats is the best solution against missile threats from North Korea, Iran, and potentially Pakistan, should diplomatic solutions not be found. A successful missile defense strategy requires more investment and modernization, such as the expansion of the United

States' ground-based midcourse defense (GMD), developed specifically to combat against potential threats from North Korea and Iran.

The GMD system currently allows the United States to destroy missile threats in space. The United States should also consider adding a space-based interceptor layer, an option that has been explored by both lawmakers and the Pentagon. Finally, the United States should also place GMD missile batteries on its east coast, in addition to those on the west coast, which already has several dozen interceptors at a GMD battery that covers Alaska, Hawaii, and the west coast. Missile defense on the east coast would better combat threats from the Middle East in particular, in addition to North Korean provocations against major eastern cities. All of these measures would allow the United States to shore up its missile defense and make it more robust.

While the United States should do its utmost to implement policies that conciliate rather than antagonise states in Asia and the Middle East, it should also take precautions if these states decide to embark on the route of blackmail. Investing American money in ways to defend the United States against missile threats is a far wiser strategy than John Bolton's strategy of starting a war with a nuclear armed power.

<http://thediplomat.com/2017/09/could-north-koreas-example-inspire-iran-and-pakistan/>

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The Nation (Lahore, Pakistan)

Pakistan, India boycott global treaty outlawing nuclear weapons

Author Not Attributed

September 21, 2017

With the North Korean nuclear crisis looming large, 51 countries on Wednesday lined up to sign a new treaty outlawing nuclear weapons that has been fiercely opposed by the United States and other nuclear powers.

The treaty was adopted by 122 countries at the United Nations in July following negotiations led by Austria, Brazil, Mexico, South Africa and New Zealand.

None of the nine countries that possess nuclear weapons - the United States, Russia, Britain, China, France, India, Pakistan, North Korea and Israel - took part in the negotiations.

NATO condemned the treaty, saying that it may in fact be counter-productive by creating divisions.

As leaders formally signed on the sidelines of the annual UN General Assembly, Secretary-General Antonio Guterres hailed as historic the first multilateral disarmament treaty in more than two decades.

But Guterres acknowledged that much work was needed to rid the world of its stockpile of 15,000 atomic warheads.

"Today we rightfully celebrate a milestone. Now we must continue along the hard road towards the elimination of nuclear arsenals," said Guterres.

The treaty will enter into force when 50 countries have signed and ratified it, a process that could take months or years.

"At a time when the world needs to remain united in the face of growing threats, in particular the grave threat posed by North Korea's nuclear program, the treaty fails to take into account these urgent security challenges," the 29-nation Western alliance said.

It added: "Seeking to ban nuclear weapons through a treaty that will not engage any state actually possessing nuclear weapons will not be effective, will not reduce nuclear arsenals, and will neither enhance any country's security, nor international peace and stability.

Rejecting need for nuclear weapons

Foreign Minister Sebastian Kurz of Austria, one of the few Western European nations that is not in NATO, rejected the idea that nuclear weapons were indispensable for security.

"If you look at the world's current challenges, this narrative is not only false, it is dangerous," he told AFP.

"The new treaty on the prohibition on nuclear weapons provides a real alternative for security: a world without any nuclear weapons, where everyone is safer, where no one needs to possess these weapons," he said.

Brazilian President Michel Temer was the first to sign the treaty. Others included South African President Jacob Zuma and representatives from Indonesia, Ireland and Malaysia as well as the Palestinian Authority and the Vatican.

But even Japan, the only nation to have suffered atomic attack and a longstanding advocate of abolishing nuclear weapons, boycotted the treaty negotiations.

Japan is a top target of North Korea, which has triggered global alarm over its rapidly progressing drive to develop nuclear weapons, following its sixth and most powerful nuclear test and the firing of two intercontinental ballistic missiles.

The signing ceremony came a day after President Donald Trump threatened to "totally destroy North Korea" if the United States is forced to defend itself or its allies Japan and South Korea.

Nuclear powers argue their arsenals serve as a deterrent against a nuclear attack and say they remain committed to the nuclear Non-Proliferation Treaty.

That decades-old treaty seeks to prevent the spread of nuclear weapons. It recognizes the right of five nations - Britain, China, France, Russia and the United States - to maintain them, while encouraging them to reduce their stockpiles.

<http://nation.com.pk/national/20-Sep-2017/pakistan-india-boycott-global-treaty-outlawing-nuclear-weapons>

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Deutsche Welle (Bonn, Germany)

Pakistan's indirect role in North Korea's nuclear program

By Sathar Khan

September 14, 2017

Pakistani nuclear physicist, Pervez Hoodbhoy, talks to DW about his country's "nuclear assistance" to Pyongyang, the relevance of the non-proliferation treaty and why the North should be accepted as a nuclear state.

DW: To what extent North Korea owes its nuclear technology to Pakistan?

Pervez Hoodbhoy: Pakistan did transfer centrifuge technology to North Korea. It did not, however, directly contribute to the program because North Korean nuclear program is essentially based on the extraction of plutonium rather than the uranium centrifugation process.

When did Pakistan's "nuclear transfer" to North Korea begin, and when did it end?

It ended in 2003 when Pakistani scientist A Q Khan was caught in the transfer of nuclear technology and subsequently all nuclear transfer came to an end. It is unclear when it began, but it is possible that it started shortly after former Prime Minister Benazir Bhutto came to power in 1989, so in the years after that it must have begun at some point.

Was Pakistani scientist A Q Khan the only person responsible for nuclear proliferation to Pyongyang?

It is very hard to believe that A Q Khan single-handedly transferred all technology from Pakistan to North Korea, Libya and Iran as it was a high-security installation in Pakistan and guarded with very fearsome amount of policing and military intelligence surrounding it. Moreover, the centrifuge weighs half a ton each and it is not possible that these could have been smuggled out in a match box, so certainly there was complicity at a very high level.

But some military generals in Pakistan deny helping out Pyongyang because North Korean nuclear technology is a plutonium-based one unlike Pakistan's.

I think that it is true the North Korean nuclear weapons are plutonium-based and this plutonium bomb is not the same as the uranium bomb. Pakistan did supply centrifuges to Pyongyang, but the relation between the North Korean nuclear program and Pakistan is not direct.

What did Pakistan get in return for "helping" Pyongyang?

In return for the centrifuge that Pakistan supplied to North Korea, it received so-called Dudong missiles. These are liquid-fueled missiles, which were taken over by the A Q Khan laboratory and were renamed "Ghouri" missiles. I think they are part of Pakistan's missile arsenal. These are not as effective as solid-fuel missiles, which do not need much preparation time.

So, certainly there was a quid pro quo. I think both North Korea and Pakistan benefited from this exchange, but not majorly.

Does the A Q Khan "nuclear network" still exist?

It is difficult to say that such network exists now. Pakistan's nuclear program is now under observation and it will be very difficult to smuggle nuclear technology out of the country.

Should the international community accept North Korea as a nuclear power the way it accepted Pakistan?

It is now a fact that North Korea has had six successful nuclear tests, and the last one probably that of a hydrogen bomb. This certainly exceeds what Pakistan has achieved and is on par with India's nuclear program.

There is no doubt that a nuclear North Korea is now reality, so the country should be put in the same category as India and Pakistan.

What measures should the international community take to counter the threat posed by "rogue states" with nuclear capabilities?

The notion of rogue state is something that has been manufactured by those who already possess nuclear weapons. The United States has used this term time and again in relation to Iran and North Korea, and earlier Iraq as well. The term has no legitimacy because the US itself has used nuclear weapons - once in Hiroshima and once in Nagasaki. Moreover, we have seen that the US actions have not been conducive to world peace. Being a superpower does not give the US a license to label other states around the world as "rogue."

Is the Nuclear Non-proliferation Treaty (NPT) still effective and relevant?

The NPT was useful at one point because it did help slowing down the nuclear proliferation. The more countries with nuclear weapons, the more dangerous the world becomes.

But the NPT now has probably outlived its utility. The fact is that nuclear states have not agreed to Article 6 of the NPT and have not moved towards denuclearization. On the contrary, they have created better and more effective nuclear weapons. We therefore need a new and comprehensive treaty.

<http://www.dw.com/en/pakistans-indirect-role-in-north-koreas-nuclear-program/a-40507693>

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COMMENTARY

The Independent (London, UK)

The UN launches its nuclear weapons ban treaty today – if only Trump would sign up

By Kate Hudson

September 20, 2017

The very real danger is that Trump's bellicose approach will lead to more nuclear proliferation not less

Today should be recorded in our history books: the day when the United Nations opens the signing ceremony for the first global nuclear weapons ban treaty. This groundbreaking initiative, backed by 122 states, opens the door to achieving a nuclear-free world and goes beyond the status quo approach of the nuclear Non-Proliferation Treaty.

In these turbulent times, when the US-North Korea crisis is a stark reminder that nuclear war is a real possibility, it's an indication of how seriously the majority of states take this issue. They are tired of decades of prevarication by the nuclear weapons states and, well-understanding the impact a nuclear exchange will have on their own nations, have decided to force progress on the nuclear club. Their concerns are timely.

Yesterday, Donald Trump addressed the United Nations, telling the world that he may “have no choice but to totally destroy North Korea”. This comes after his now well-known promise to unleash “fire and fury” on Pyongyang; the authorisation of US-led military drills over the Korean peninsula; and the deployment of the THAAD missile defence system. North Korea itself has conducted a series of provocative missile launches and last month claimed it had tested its first hydrogen bomb.

Commentators have pointed out the similarities between Trump's UN speech and that given by President George W. Bush in 2002 which named North Korea, Iran and Iraq as the “axis of evil”, terrorist states seeking weapons of mass destruction to threaten the US and its allies. We know how that unfolded with Iraq, but less well-known is that not long after that speech, North Korea announced it would leave the nuclear Non-Proliferation Treaty, on the grounds that it had a “deterrent” need to develop nuclear weapons. This, together with the ever-present consequences of the disastrous war on Iraq, is a stark reminder of the failure of Bush's belligerent approach to solving complex problems – and indeed demonstrates how such an approach makes things incomparably worse. This is not a lesson that Trump has yet learnt.

Donald Trump's decision to talk once more about North Korea and Iran as “rogue regimes” – as well as name-checking a number of others that he deemed sufficiently “evil” to merit action by the “righteous” – not only indicates his bombastic contempt for the international community but a dangerous disregard for the outstanding diplomatic work which resulted in the agreement between Iran, the US and others, limiting the scope of Iran's nuclear power programme to remove the potential for nuclear weapons development.

There is rightly grave concern over the consequences if Trump trashes that valuable and highly regarded agreement. The very real danger is that Trump's approach will lead to more nuclear proliferation not less, more takers for the “deterrent” argument, who note what happened to an Iraq which turned out not to have weapons of mass destruction.

So nuclear brinkmanship – in particular the war of words between the US and North Korean leaders – has led to growing fears about a war that will certainly involve nuclear weapons should it begin. The fears are well founded: there will be no winners from war between the US and North Korea – millions will be killed, not only directly in the blast from the attack, but slowly and terribly, across the world through the impact of radioactive fallout. There is no barrier which can prevent that poison blowing at will across the world, no wall that President Trump can build to protect himself and the American people from that fallout.

The present crisis clarifies what most states have long felt: that the world can only be safe when nuclear weapons are abolished. Living with them is just too dangerous.

Those who would retain nuclear weapons argue that nuclear disarmament is a utopian ideal – a wonderful vision, but impossible to deliver in practice. Others even take the line that nuclear weapons have delivered stability, have kept the peace. But which world do they actually live in? With the present crisis in north east Asia, 16 years of wars in the Middle East, and conflicts and war so numerous that we are unaware of many of them, human suffering on a devastating scale across the globe, grappling with climate change, resource shortages, vast movements of refugees, these arguments have never been less credible or less relevant.

Britain needs to get serious about how it can help address the real security problems that Britain and the global community face, before the global disaster movie that we are increasingly experiencing can no longer be held back. Part of that is facing up to the reality of our nuclear folie de grandeur and abandoning the notion that playing a role in the world has to mean having the capacity to kill millions of people indiscriminately.

Just for a start, we need to sign the global ban treaty, rule out British military involvement on the Korean peninsula, and throw the weight we have into backing the resumption of the Six-Party Talks. To follow any other path is to help take the world down the short road to nuclear catastrophe.

<http://www.independent.co.uk/voices/donald-trump-un-nuclear-weapons-ban-north-korea-war-unga-2017-us-sign-a7956986.html>

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US News & World Report (New York, NY)

The Truth About THAAD

By Lamont Colucci

September 19, 2017

Our missile defense system in South Korea is an important tool for American national security policy.

National security news is dominated by the actions of North Korea. In that context, a great amount of attention has been paid to the THAAD – Terminal High Altitude Area Defense system. THAAD is a necessary and critical step in America's march towards missile defense and securing not only our interests but our allies' well-being. The issue of THAAD cannot be seen to only exist in a vacuum nor as simply a shield against North Korean militarism. It must be viewed as an integral piece to the American projection of power in East Asia, the stability of the region, as a bulwark against Russian and Chinese imperial adventurism and as a material sign of support to our South Korean ally.

According to the Department of Defense, THAAD was deployed to "ensure the security of South Korea" and to "protect alliance forces from North Korea." It is a measure to "improve the missile defense posture of the U.S.-South Korea alliance." Commander of the Eighth U.S. Army Lt. Gen. Thomas Vandal says that THAAD is being installed to "improve our missile defense posture, which is a critical aspect of our defense strategy." The long and short of it is THAAD will aid South Korea in shooting down missiles launched by the North, saving civilian lives and military personnel.

However, it is important to understand that THAAD is an anti-theater ballistic missile system not designed to counter intercontinental ballistic missiles. It is aimed at missiles under a range of 5,500 km and beyond 150 km. It boasts an area protection of 200 km and is capable of multiple launches. Short-range missiles like the SCUDS, a favorite of Saddam Hussein, can be dealt with by the Patriot system. American innovation may again change the situation since THAAD developer Lockheed Martin is working on Extended Range THAAD (THAAD-ER) which could target misses at an altitude of 150 km and travel at hypersonic speeds of Mach 8. This is especially important given the recent announcement that all six launchers will be deployed, rather than two, which was the original position of President Moon in June.

Of note, South Korea has signaled a shift in their defense posture, stressing a more pre-emptive stance rather than a retaliatory one. Naturally, South Korean domestic politics plays a key role, and the election of President Moon may lead to a reassessment of the tough stance taken by President Park. It is important to consider the change in South Korea's policy in recent years as well. There is concern that the current deployment puts Seoul out of THAAD projection, but the answer here lies in the greater number of missile batteries and a multi-layered defense that ultimately embraces strategic missile defense.

THAAD fits into overall American national security policy by enhancing a layered missile defense which already serves to protect alliance troops in South Korea from North Korean ballistic missiles.

It serves as a further check on North Korean power, and it has been stressed repeatedly that it will not be aimed at any third-party countries. This is a U.S. effort by the U.S. military, not an effort by the South Koreans to buy and operate this system themselves. This reinforces the U.S. commitment to defend its own troops, despite attitudes by South Korean politicians. It also provides a useful bargaining chip in the face of North Korea's provocations, including their continuous missile tests.

The first reaction of North Korea to THAAD has been to accuse the U.S. and South Korea of planning a nuclear attack. They threatened to retaliate with enough force to turn South Korea "into a sea of fire and a pile of ashes." China has been resolute in their opposition to the deployment of this system. Their main concern is that they believe it would give "Washington better early warning and tracking of Chinese missiles." And with good reason, as THAAD can cover roughly 2,000 km, which would reach deep into mainland China. According to China's foreign ministry, "The missile system is unhelpful in realizing the goal of denuclearization of the Korean Peninsula is no good for the stabilization of the peninsula, runs counter to the effort of various parties' negotiations, and will severely damage the safety of China and nearby countries and the regional strategic balance." The recent deployment of THAAD to locations in South Korea led Chinese Foreign Minister Wang Yi to use the term "regrettable."

China retaliated against South Korea for their agreement to accept the system by banning imports of 19 Korean cosmetics products, roughly 11 tons of cosmetics. This caused a 1.68 percent dip in AmorePacific stock, the largest cosmetic company in South Korea. They have also put pressure on the affiliates of Lotte, the South Korea company which sold its land to the government for THAAD to sit on. According to reports, China "banned South Korean stars from appearing on its TV shows and rejected a request by airline companies to operate chartered planes bound for South Korea."

It is not surprising that Russia also stressed the negative to THAAD's deployment by claiming that it would trigger an arms race in East Asia. Nor is it surprising that Japan expressed the opposite attitude of the Russians to a system that may assist in thwarting North Korean aggression.

The deployment of THAAD was never a magic bullet, but a necessary component of missile defense, that in concert with more tactical, strategic and ultimately space-based systems can deter, dissuade and destroy an aggressor's ability to threaten American interests, personnel and allies. It enhances American diplomacy by clearly placing American defense assets in harm's way in support of our alliances. It is unfortunate that the Obama administration considered using THAAD as a bargaining chip with China as it is a system that needs to be deployed, enlarged and enhanced.

<https://www.usnews.com/opinion/world-report/articles/2017-09-19/the-big-picture-of-thaad-and-us-missile-defense-on-the-korean-peninsula>

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The Hill (Washington, DC)

War with Iran or North Korea could involve deadly chemical weapons

By Albert Wolf

September 20, 2017

Should the United States end up going to war with either Iran or North Korea, there is another concern from the Iraq war era that has not received much public attention: the possibility that former regime elements may use chemical or biological weapons or set off dirty or nuclear bombs against American and allied troops. Regime holdovers would have potent incentives to use such weapons should the military infrastructure of their respective states be decimated.

Furthermore, they would have nothing to lose, as their wealth and influence is tied to the maintenance of the regime. If the regime falls, so do their livelihoods and grip on power. It is often noted that it is difficult to disperse chemical and biological weapons. While Bashar Assad's use of chemical weapons in Syria is noticed, we don't know how many times he's attempted to launch chemical weapons attacks and failed. Two decades ago, we learned that the Aum Shinrikyo cult attempted multiple chemical weapons attacks in Japan only to be met with abysmal and embarrassing failures. Chemical and biological weapons are difficult to store and successfully disperse.

Dirty bombs are a little different. Their main effect is psychological, with most immediate casualties coming from the initial blast itself. However, their longer term effects will linger, leaving radioactive particulates in the air for years and exposing both American troops and the general public to radiation. Given North Korea's crossing of the nuclear rubicon, it's not unthinkable for a dying regime to make a last stand with its nuclear arsenal.

Former regime elements have potent incentives to gamble for resurrection. The wealth, livelihood, influence and status of holdovers is tied to the survival of the regime they served. If either regime is falling, or falls, they little incentive not to roll the dice. Even if victory is improbable, doing nothing ensures defeat. Should war break out with either, or both, Iran and North Korea, the U.S. can deter such attacks in at least three ways: massive retaliation, asset seizures and war crimes tribunals, and the Desmond Tutu option, also known as amnesty.

Massive retaliation in response to chemical attacks

During the first Gulf War, U.S. Secretary of State James Baker is believed to have implicitly threatened to use nuclear weapons in response to any chemical weapons attack against American or coalition soldiers. Scott Sagan points out that the problem with this is its propensity to beget nuclear proliferation. Furthermore, in the climate of an insurgency, this sort of threat is incredible against a non-state actor. However, the U.S. could credibly commit to conventional massive retaliation. The downside is that, like in Iraq after 2003, it could create sympathy for one-time regime elements which turned into insurgents.

Targeted seizure of assets and war crimes tribunals

A second option is to threaten to seize assets of regime elites and try them for war crimes if they should use chemical, biological or radiological weapons. There are two issues with this option. First, targeted sanctions have been of limited effectiveness, as far as we can tell, in these two regimes. Second, threatening to try individual commanders who deploy such weapons, while normatively appealing, does little to reduce their incentives to gamble for resurrection. Instead, they're likely to follow the path of Saif Al Islam Qaddafi, who despite being accused of war crimes by the International Criminal Court for his actions in 2011, was eventually freed by Khalifa Haftar.

Make a deal (or don't repeat mistakes from Iraq)

Paul Bremer III made what was arguably the biggest mistake in the early days of the American occupation of Iraq: He dissolved the Iraqi military and enacted lustration against all former Ba'ath members. Former soldiers and teachers were barred from employment, turning the slow burn of a Sunni insurgency into an inferno. While the U.S. should not take any of the previous options off the table, dissolution of either the Iranian or North Korean armed forces and subsequent lustration would be counterproductive. Instead, the U.S. should look to examples from World War II, as well as the South African Truth Commission, for inspiration.

If either regime is falling, the Iranian military and its counterpart, the Pasdaran, can be transformed into forces of stability in a crumbling Islamic republic in exchange for amnesty for their members, including Basijis, in exchange for intelligence and information about the whereabouts of the

regime's weapons of mass destruction. Their elite leaders would be allowed to keep their ill-gotten gains. A similar deal should be struck with members of the North Korean military and intelligence services. Such deals were struck after World War II with several former Nazis in Germany and Austria, as well as partisans of Benito Mussolini in Italy. This helps account for the relative success the U.S. had in rebuilding states after World War II.

The old cliché is right: War should be the last resort. However, as the U.S. spars with Pyongyang and Tehran, the likelihood of war increases. As a result, we need to be concerned with the possibility of regime elements using weapons of mass destruction against U.S. troops. Conventional means of deterrence are unlikely to succeed on their own. Instead, the U.S. should attempt to co-opt former regime elements with access to weapons of mass destruction. We should allow them to keep their fortunes and grant them amnesty in exchange for information about their programs and whereabouts of the world's most destructive weapons.

<http://thehill.com/opinion/national-security/351336-war-with-iran-or-north-korea-could-involve-deadly-chemical-weapons>

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38 North (Washington, DC)

Economic Sanctions and the Nuclear Issue: Lessons From North Korean Trade

By Ruediger Frank

September 18, 2017

On September 14, North Korea conducted another test of its Hwasong-12 intermediate-range ballistic missiles (IRBM), flying over Japan for a second time within a month. This comes on the heels of the North's sixth nuclear test, the largest it has conducted to date and commonly believed to have been a thermonuclear device. In addition to the political and technical implications of these events, this steady stream of testing continues to destroy devices presumably worth millions of USD by a country that, by all accounts, is having major economic difficulties.

The latest tests have once again intensified the international debate on how to respond to such events. Knowing military actions could have devastating results, discussion of response options quickly falls back on finding a stronger formula for economic sanctions to stop the funding stream to North Korea's WMD programs. When considering new sanctions measures, it is important to understand three main issues: Where does North Korea get the money for its weapons program? Why have sanctions been unable to stop them? And will more sanctions, for example a ban on the export of oil to North Korea, be effective in curbing the North's nuclear WMD development?

An informed discussion of these questions requires knowledge of hard facts. Unfortunately, these are particularly difficult to acquire in the case of North Korea. Among the few regular sources of information are the annual reports of Pyongyang's state media on the state budget and the annual KOTRA reports on North Korean trade. Needless to say, both documents should be taken with a good grain of salt; we are in the middle of a propaganda war, and truth is a quick and easy victim in such cases.

But in particular, the trade data do not only suggest that sanctions have not worked so far; more importantly, they show that sanctions are unlikely to produce the desired results in the future even if they are tightened further. If this analysis is true, it is time to find a new strategy.

The North Korean Perspective

The country has made progress but is still far away from achieving its often ambitious economic goals. In his speech at the Parliamentary session in April 2017, the North Korean Prime Minister admitted that his country was experiencing difficulties in the field of electric energy, and that the dependency on imports of oil was a major strategic problem. Despite Chinese announcements of a drastic reduction of the import of coal, the North Koreans declared their determination to increase the production of anthracite, which points at more domestic use of this resource.

In the same report, the Prime Minister hinted at the support of the North Korean state for the production of consumer goods, which is an indicator of moderately growing wealth among at least a part of the population. People who fight for survival are not primarily concerned with shoes, household appliances or electronic gadgets. The Prime Minister's remarks on agriculture supported the impression of an economy that is still poor, but not in crisis anymore. Rather than stressing the need to increase the production of staple food, he promised an increase in the production of higher-quality products such as meat, milk, fruits, mushrooms and vegetables.

A look at the state's data on the budget reveals a moderate but steady growth in the range of 4 to 6 percent in 2016. Considering the dominant state ownership in the North Korean economy, these numbers are at least correlated, if not equivalent to, what we would call GDP growth.

The budget reports imply that the North Korean state has for many years run a surplus, to which revenue from "local" sources—including markets—has contributed. This could help finance part of the trade deficit shown below. It is difficult to estimate the actual size of this factor since we neither have absolute budget numbers nor do we know how far the state is able to convert North Korean won into hard currency for imports. We also do not know whether the latter is necessary—for example, in case some of the state's budgetary revenue is coming directly in the form of hard currency. Nevertheless, it is important not to see the trade reports below without some domestic context.

The KOTRA Reports on North Korean Trade in 2015 and 2016

In the latter half of 2016, the South Korean Trade-Investment Promotion Agency (KOTRA) unveiled its report on North Korean trade for the year 2015. The data showed that the phase of 16 years of continuous growth of North Korea's trade since the dramatic low in 1998 had ended. In 2015, North Korea's overall trade volume declined from 7.61 billion to 6.25 billion USD.

Were the sanctions finally biting? But which sanctions, in 2015? UNSC resolutions 1718, 1874, 2087 and 2094 were all passed either before or during 2013, the year of the third North Korean nuclear test. But in 2014 and 2015 no tests happened, and no new UN resolutions leading to new sanctions on North Korea were passed. The reasons for the drop in North Korea's trade volume in 2015 were rather profane. Referring to the work of Lee Jong-Kyu, Li Tingting suggests that the reasons for this decline were reduced demand by the Chinese steel industry for North Korean coal and growing environmental concerns, combined with a decline of world market prices for anthracite. Simply speaking, North Korea has witnessed the fate of any country with a trading structure that is disproportionally dependent on only one or two major export items. This example shows how careful we need to be with interpreting trade data, especially if they are strongly aggregated.

The most recent KOTRA report was released in July 2017, covering North Korea's trade during 2016. This time, common sense would indeed tell us to expect a drop in North Korea's trade volume. Responding to two North Korean nuclear tests in January and in September, along with a few missile launches, the UN Security Council passed Resolution 2270, further tightening its sanctions. In March, South Korea closed the Kaesong Industrial Zone which has been accused of providing over 100 million USD annually for the regime's imports. Even China, with great fanfare, made a point of reducing its coal imports from North Korea since March 2016.

But against all expectations, the updated graph shows that the trade volume has actually recovered, although it still remains below the level of 2012. It is obviously premature to speak about a crisis or a collapse of foreign trade that would be comparable to the catastrophe of the mid-1990s. The question remains, however, how it is possible that the North Korean trade data show such a more or less continuous upward trend despite the international sanctions.

To start, we need to be aware that the KOTRA reports offer ample room for interpretation and speculation. They typically do not include inner-Korean trade. About 90 percent of the overall recorded volume is based on bilateral exchanges between North Korea and China; Boydston argues that not much else matters, especially for sanctions. Indeed, trade with other nations is so small that a single successful or failed deal, no matter how profane and non-political the reasons, can have a significant impact. In other words, most of the time, when we talk about North Korea's foreign trade, we actually talk about trade with China.

Moreover, aggregate trade data as in graph 2 hide the fact that North Korean exports had reached their peak already in 2013, and have been lower ever since. The drop after 2013 does correspond with known facts. Li (op. cit.) points at the case of Jang Song Thaek and convincingly argues that his execution in late 2013 seems to be responsible for the absence of a successful major initiative that would have made up for the reduced world market value of North Korea's coal. The destiny of the various ill-fated Special Economic Zones in or near the Northwestern border town of Sinuiju is a case in point. They were said to be closely related to Jang and have seen little progress since his death.

On the other hand, many other bilateral trade initiatives remained intact and operating. This includes tourism, business via Dandong, the export of North Korean labor force to sunset industries such as textile factories in China, and the operation of the Rason Special Economic Zone in the Northeast. Haggard notes that the drop in global commodity prices might have affected North Korean exports, but it also made its imports cheaper, thus at least partly offsetting the loss in revenue through lower expenditures. Considering that most of North Korea's exports are in natural resources, this could indeed explain the shrinking value.

Another hypothesis—that North Korea would try to substitute sanctioned export items by other products—seems to have been confirmed, at least in principle. Noland, referring to the work of Choi and Im, argues that North Korea would try to substitute minerals with textiles. Numbers of HS 61 and 62 are indeed high, see Table 1. But this is not the whole story; substitution could also take place within the minerals section. In 2016, the exports of metals such as iron and steel have increased by over 42 percent compared to the previous year. So far, and despite this impressive growth rate, their export value (HS 72-83) stands at relatively modest 143 million USD, which is still far below the 245 million in 2013. It is thus too early to identify a real change of strategy here.

But if North Korea's revenue through the export of coal is dropping, should this not have an impact on its imports and on its trade deficit? The logic is, again, quite simple: if you earn less money, and if nobody is giving you a loan, then you can spend less money. In fact, such considerations are behind sanctions that try to curb North Korean exports.

However, a look at the latest KOTRA report reveals that the North Korean trade deficit declined from 1.28 billion USD in 2014 to 0.86 billion USD in 2015 and remained at about that level at around 0.9 billion USD in 2016. It is now way below the trade deficit average of 1.1 billion USD for the years 2005-2012.

This is an interesting observation considering the closure of the Kaesong Industrial Zone in early 2016 by the South Korean side. Supporters of the measure argued that cutting off this rare source of hard currency revenue would hit the North Korean economy hard. However, the KOTRA data

neither reveal a reduction in North Korean imports nor in its trade deficit. In fact, North Korean imports in 2016 increased by 170 million USD over the previous year. One source of payment for this could be the revenue generated from transfers, including remittances from workers employed abroad. Their number is in the range of 50,000 people. If their annual income is around 10,000 USD, then they earn their country 500 million USD in hard currency income. This alone would cover two-thirds of the annual trade deficit.

Considering the current debate about cutting off North Korea's oil supply, it is interesting to note that the import value of mineral oil and oil products from China in 2016 was only less than half of such imports in 2012, when they stood at 773 million USD. Measured in tons, the amount in 2016 was 799,000 while it was 705,000 in 2012. The imported amount of oil from China has remained more or less stable, but it now costs only half as much as it did a few years ago. A hike in world market prices for oil would thus have a much more serious effect on North Korean oil imports than most sanctions.

We also find that at current prices, with cash reserves of, for example, 2 billion USD, the North Korean government could easily cover their oil imports for the next five years without exporting a single item.

Can More Sanctions Stop Kim Jong Un?

North Korea's nuclear and missile programs are a means towards an end, not an end in and of themselves. A case in point was the announcement of the byungjin policy in 2013—of simultaneously developing the economy and nuclear weapons—which replaced the military-first policy of the Kim Jong Il era. Kim Jong Un made his order of priorities very clear: He does not just want to develop the economy so that the military would be financed properly. Rather, he repeatedly stressed that he regards a reliable nuclear deterrent as the safety guarantee that would allow him to focus on economic development. At the 7th Party Congress in May 2016, Kim pronounced, albeit in somewhat nebulous terms, a five year plan for economic development.

If the above is true, then Kim Jong Un is indeed more vulnerable to economic sanctions than his predecessors. So do more sanctions have a chance to stop the North Korean WMD program?

My answer is a plain "No." I am not even asking whether China would ever let a collapse of North Korea happen, or whether an immediate collapse would trigger a desperate last-ditch military adventure that would result in North Korea's annihilation but would cost hundreds of thousands of lives. A sober reality check is sufficient.

Both North Korean programs—nuclear and missile—have a history of decades. This means that critical knowledge and hardware have been acquired long before the current sanctions have been put in place. We cannot prevent them from acquiring what they already have.

Furthermore, North Korea has been pursuing self-reliance since the early 1960s even though they have actively exploited international economic cooperation from aid to trade. Nevertheless, this long-standing focus on autonomy helps explain the resilience of the North Korean national economy against measures that would have brought most other economies to their knees.

Worse even, North Korea now seems able to manufacture many if not all components of its WMD program by itself. If the North Korean military is mainly or exclusively purchasing from the North Korean state, then even the availability of hard currency is not an issue.

All this helps explain the so far low effectiveness of any sanctions, even including those that try to curb North Korea's overall trade. Those who believe that a drastic reduction in trade will lead to an immediate change of mind in Pyongyang should consider this: Only ten years ago, North Korea was able to exist comfortably with just one third of its current trade.

The only ray of hope for supporters of total sanctions is offered by the new middle class. Their emergence is closely connected to foreign trade, which is a source of items to sell and to buy, but also a source of cash and, most importantly, domestic demand. North Koreans will only buy more, and thus provide more growth opportunities for existing or new businesses, if they have more income. My impression is that the fast growth of market activities in North Korea of the past years has recently started to slow down. Some ventures I know have already been forced out of the market due to declining sales. North Korea needs to open its economy to provide enough demand for further growth, but this requires cooperation, not sanctions.

Supporters of sanctions could hope that a disgruntled middle class would therefore pressure its government to give in to Western demands so that they regain their opportunities for growth and profit. The problem with this reasoning is that it assumes North Koreans are only driven by greed, and that the state has no means to put the genie back in the bottle. Both are true, but only to some extent: let's not forget the massive repression apparatus. But more importantly, North Koreans are nationalists. If their government can make them believe that the country is really on the brink of a war, then they will postpone their desire for profit and rally 'round the flag and the leader. The late Don Oberdorfer called this phenomenon "siege mentality." Admittedly, North Koreans are used to a high dose of tension and bellicose rhetoric, but the utterances of Donald Trump ("fire and fury") and people around him, like Nikki Haley (Kim is "begging for war") constitute a new level of verbal threat. Combine this with the annual joint US-ROK military maneuvers, the stationing of THAAD in Seongju and China's open criticism to it, Japan's push for remilitarization, and new UNSC Resolutions and sanctions, and you might see exactly what Kim Jong Un needs to keep his system stable.

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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.