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Featured Item: *“The North Korea Instability Project: North Korea, Weapons of Mass Destruction and Instability: Strategic Issues for Managing Crisis and Reducing Risks”.*

Written by Rebecca Hersman, published by 38 North; June 21, 2017

<http://www.38north.org/wp-content/uploads/pdf/NKIP-Hersman-062117.pdf>

All too often discussions of instability, insurgency and regime collapse are used interchangeably to describe the catalyst of a potential weapons of mass destruction (WMD) crisis in North Korea. In fact, these are related, but discreet phenomena with critical distinctions that need to be made when considering related WMD risks. Most planning or exercise scenarios assume that a sudden regime collapse—coup, revolt or abdication—would ignite a WMD security crisis in the North. These “inside out” regime decapitation scenarios envision crisis at the center of the regime followed by potential instability or insurgency—a la the collapse scenarios of post-Cold War Europe or the Arab Spring in the Middle East. In such scenarios, North Korea’s chemical, biological, radiological and nuclear (CBRN) programs may be physically secure (at least initially) even as command and control grows murky. The situation will either stabilize a “new normal” or deteriorate as a successor regime fails to firmly grip the reins of power. While such a situation is fraught with danger, it is comparatively easy to imagine the international system responding and potentially intervening, perhaps under the authority of the United Nations (UN) or through some form of multilateral division of labor among the key players.

Far fewer plans consider a different and perhaps more insidious scenario in which the North Korean leadership gradually loses control at the perimeters and is forced to hunker down in strongholds around the capital, while at the same time fighting brush fires around the country to maintain order and allegiance. Even as the regime retains at least tenuous political control, these scenarios—exhibiting parallels to Pakistan, Afghanistan, Iraq, Syria and even Ukraine—can suggest the slow erosion of verifiable control and physical security of territory and programs in ways that are difficult to assess and greatly complicate intervention. It is critical to consider a range of scenarios with differing baseline assumptions to determine where challenges and opportunities for international response differ and where they remain constant.

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US NUCLEAR WEAPONS

Yakima Herald (Yakima, WA)

Energy Secretary Perry Says Hanford Tunnel Collapse "Kind of Came Out of Left Field", Defends \$200 Million Budget Cut to PNNL

By Annette Cary

June 21, 2017

Energy Secretary Rick Perry disputed whether Pacific Northwest National Laboratory in Richland is at risk of losing 1,000 jobs under the administration's budget proposal during a House subcommittee hearing Tuesday.

"I am comfortable that we will manage these labs in a way that continues to keep the employment levels at the level to deliver the innovation and the technology that this country is going to need," Perry said under questioning by Rep. Dan Newhouse, R-Wash., at a hearing of the House Appropriations Energy and Water Development Subcommittee.

Hanford, the Department of Energy national lab in Richland, the Bonneville Power Administration and the proposed Yucca Mountain repository for nuclear waste and used fuel were among topics Perry addressed under questioning from Northwest lawmakers.

The administration of President Donald Trump has proposed a fiscal 2018 budget for the Department of Energy that would cut spending for energy programs by \$3.5 billion, reflecting the administration's decision to focus resources on early-stage research, said Rep. Mike Simpson, R-Idaho, chairman of the subcommittee.

It's a reduction that the Appropriations Committee must carefully review to understand the impacts to important activities and programs, Simpson said.

Newhouse pointed out that PNNL stands to lose almost \$200 million under the administration's DOE budget proposal, translating to 1,000 jobs.

How would DOE's strong and vibrant programs and the nation's position as a world leader in science and technology be maintained, Newhouse asked.

The estimate of 1,000 jobs does not take into account management of funds, including using year-end extended balances, Perry said. "It's a very cold look," he said.

"I hope I can give you some good comfort from a management standpoint that we are going to do everything that we can to keep labs functioning at the level at which the American citizens need and deserve," Perry said.

But he also told Newhouse in a round of follow-up questions that "not every project is going to get funded."

Newhouse had asked about a program in which PNNL, Washington State University and the University of Washington are collaborating to test energy savings technologies, using their campuses as test beds. He wanted to know how the benefits of the program would be realized under the current budget proposal.

Priorities must be set and projects considered to make sure they are worthy of moving forward, Perry said.

Both Newhouse and Rep. Jaime Herrera Beutler, a Republican representing a district on the Columbia River downstream from Hanford, had questions about the nuclear reservation.

Perry said he looks forward to visiting Hanford, possibly before the end of summer, but in the meantime has received extensive briefings on the environmental cleanup work there.

The partial collapse of a tunnel storing highly radioactive waste in May, leading to an emergency order for more than 3,000 workers to take cover, highlights the importance of getting cleanup done, Herrera Beutler said.

“This wasn’t something this community did on its own,” but a federal government wartime project, she said. Hanford produced plutonium for the nation’s nuclear weapons program during World War II and the Cold War.

The nation is committed to cleanup of Hanford, Perry said.

He pointed out progress being made, including to tear down the Plutonium Finishing Plant to slab on grade by the end of September and to prepare to move radioactive sludge out of underwater storage 300 yards from the Columbia River.

The partial tunnel collapse “kind of came out of left field,” Perry said. But the response to the emergency was professional and no individual was harmed, he said.

Newhouse raised concerns about future payments in lieu of taxes to local governments that would collect taxes if the 580-square-mile nuclear reservation were not in private hands, and whether the payments would be reduced or eliminated. The annual payment can be close to \$10 million.

Perry, who became energy secretary after the budget proposal was partially crafted, said he would have to look into the issue and get back to Newhouse.

The administration’s budget proposal recommends selling off most of the transmission assets of the Bonneville Power Administration, including those that serve much of the Mid-Columbia. Concerns have been raised about whether private companies would adequately serve less profitable rural areas.

Herrera Beutler told Perry that BPA is self-financing has paid in excess of \$32 billion to the federal treasury by selling power.

The proposal is “an interesting idea that has been discussed many times before,” Perry said. “You make some very strong arguments.”

The proposed administration budget makes some difficult decisions, he said.

Among the “hard conversations” the nation needs to have is what to do about its nuclear waste, Perry said.

The administration’s budget requests \$120 million to resume licensing activities for the Yucca Mountain, Nev., proposed repository for used commercial nuclear fuel and defense nuclear waste, including used fuel and high level radioactive waste treated for disposal at the Hanford vitrification plant, Perry said. The money also would be used to advance creating storage until a repository is ready for the waste.

He said possible sites for interim storage might include the Waste Isolation Pilot Plant in New Mexico, a site run by Waste Control Specialists in Texas or the Nevada Test Site, he said.

Perry reiterated his interest in small modular nuclear reactors.

Continued support for the reactors, which could be produced in modules and then shipped to where they would be used, could bring back America’s preeminent role as leaders in technology and innovation in nuclear energy, he said.

http://www.yakimaherald.com/news/state_news/energy-secretary-perry-says-hanford-tunnel-collapse-kind-of-came/article_49dd5e4c-5694-11e7-83ad-9b57c4f8125f.html

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Business Insider (New York, NY)

The General in Charge of America's Nukes Says North Korea Tests Weapons Faster Than the US Does

By Alex Lockie

June 21, 2017

The head of US STRATCOM, the branch of the military that oversees the US's strategic nuclear forces, spoke frankly about the problems in the military's acquisition strategy and lamented that he could not run the program as Kim Jong Un runs North Korea's nuclear program.

"If you've been in the acquisition business at all over the last 20 years, you realize we already have a broken program. We just don't know where," Air Force Gen. John Hyten said at a recent conference, according to National Defense Magazine. "Because nothing in the acquisition business ever delivers exactly on time [and] exactly on budget anymore."

The Pentagon faces a major feat of recapitalization in the upcoming years where each leg of the US's nuclear triad will need updating. Analysts predict that the programs will total \$1 trillion in costs and continue through the 2030s, in part due to a bloated acquisition system.

Hyten said that between 1959 and 1964 the US spent \$17 billion in today's dollars on putting 800 Minuteman intercontinental ballistic missiles around the country. Today, the plan is to spend \$84 billion on 400 missiles that won't come online until 2035.

At one point, Hyten railed against the overly cautious, slow approach the US takes to nuclear modernization, saying that the US takes too long because they expect every test to work.

"Look at Kim Jong Un," said Hyten. "What he's doing is testing and failing, testing and failing, testing and failing, testing and succeeding. ... He's learned how to go fast."

While the US has the world's best nuclear arsenal, and North Korea has the worst, the Kim regime has put forth an impressively quick schedule of testing. Throughout April and May, North Korea tested a new missile nearly every week.

"This is the United States of America. We have the greatest minds, the best and brightest," Hyten said. The Pentagon just needs to "get back to the basics."

<http://www.businessinsider.com/stratcom-general-hyten-north-korea-comparrison-2017-6>

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R&D Magazine (Rockaway, NJ)

Upgrades at Sandia's Tonopah Test Range Help Weapons Testing

By Sandia National Laboratories

June 21, 2017

A former test director at Sandia National Laboratories' Tonopah Test Range has described its combination of old and new tracking and data-collection equipment as like a mix of horseless carriages and horses — you can't feed oats to the horseless carriages and you can't gas up the horses.

It's been a challenge for Tonopah to keep decades-old equipment running while gathering the detailed information required for 21st century non-nuclear testing. Over the past several years, the 60-year-old Nevada range has changed the analog brains in instruments to digital, moved to modern communications systems, upgraded telemetry and tracking equipment and updated computing systems.

Tonopah is the test range for programs that extend the life of the nation's aging nuclear weapons arsenal. The heart of the range's far-flung network for tracking and gathering data is the telemetry ground station. Tonopah has two: a primary ground station at the control tower with three antenna dishes and a mobile telemetry trailer with a single antenna dish close to a target area.

More recently, the range added the ability to pipe telemetry data during tests back to Sandia Labs' main site in Albuquerque in real time. First demonstrated in April 2015, it was enabled by the laboratories' copyright Telemetry Analysis and Visualization Suite software. Team members in Albuquerque not only received the telemetry data during a March flight test, but saw the same displays of information from various subsystems shown at Tonopah and heard the audio from the control tower.

"That was great," said Gary Sanders, now-retired vice president of Weapons Engineering & Product Realization. He and other Albuquerque listeners heard reports of the plane taking off, its test passes over the range and the test director checking in with system operators and range safety. "Plus we had knowledgeable people who told us about the test parameters and what we would be able to see on each telemetry screen. So we were able to watch each of the systems function, which I had never seen before. Two years ago we did not have this real-time telemetry capability. It is phenomenal."

Eventually: video stream to Sandia Labs in Albuquerque

Tonopah took the first step toward the feed a few years ago by delivering still shots from a test to Albuquerque. Eventually, Sandia Labs expects near real-time, fully integrated communications telemetry, including video stream to Albuquerque.

Improvements mean better information processing and more flexibility in accessing and using that information, said Joseph Hasekamp, B61-12 Joint Test Assembly test lead, who's responsible for coordinating, planning and executing tests associated with the B61-12 JTA, which contains only non-nuclear components.

"We can see the data remotely, which gives us better access to Tonopah," he said. "I can sit here in my office in Albuquerque and participate in the range checkout in Tonopah," a process that tells engineers that systems are functioning in advance of a test.

"It's one of those situations where we didn't know how much better we could do our jobs until we had the capability," Hasekamp said. "It allows us to do our jobs more efficiently and precisely. It gives us better information and saves taxpayer dollars."

Gary Ashcraft of the labs' Telemetry and Software Systems organization said the B61-12 program began using the Telemetry Analysis and Visualization Suite software during telemetry system development and continued using it through ground testing and finally during flight tests and their analysis.

Telemetry stations gather radio frequency emissions from mock weapons being tested or the airplanes that carry them. Other instruments throughout the 280-square-mile range, including optical tracking telescopes and radars, follow a test unit during flight.

Basic systems haven't changed, needs have

Basic telemetry systems haven't changed much in three decades, but the required data rate has, said Gary Kirchner, a telemetry expert who travels from Sandia Labs in California to Tonopah for tests. Telemetry receivers around since the 1980s can perform at up to 2 megabits per second — but today's tests need data rates of 5 megabits.

"Once the data rates for the B61-12 program were determined, it was clear that all current instrumentation needed extreme maintenance or upgrades," Kirchner said. Tonopah replaced recorders, receivers, source selectors, amplifiers, antenna feed assemblies and hundreds of radio frequency and coaxial cables as well as monitors and other equipment in its four-story Test Operations Center at Sandia Labs' compound. Most of the equipment replaced was more than 30 years old.

Data tape recorders went first, since magnetic tape was quickly becoming obsolete. Upgrades began in 2007-2008 with six telemetry receivers and four first-generation digital telemetry recorders, one since superseded by a newer generation.

The project replaced four analog reel-to-reel recorders that had 15 minutes of recording time. Mark Skobel, who runs Tonopah's telemetry operations, said new hard-drive technology provides faster recording and greater storage. It can record 16 analog and 16 digital channels and archive dozens of missions.

Updated receivers and related equipment increased bandwidth and improved data quality. Skobel, who began working in telemetry in 2011, said the higher data rates allow engineers to more quickly analyze output from sensors, while other upgrades offer greater detail for analyses. Tonopah installed additional telemetry receivers between 2013 and 2015.

Numerous Tonopah systems upgraded

Three years ago, Tonopah replaced its mobile telemetry trailer with one that has a new antenna system, six telemetry receivers, a telemetry recorder and ancillary equipment.

About the same time, Tonopah refurbished two tracking antenna dishes at the compound, replaced two antenna control units and acquired a mobile backup system that eventually will be moved to the range's east side for better overall reception.

The control room now features dozens of flat-screen color computer monitors that display detailed tracking information — real-time video of tests and telemetry data fed from Tonopah's Range Acquisition and Control System tracking computers and Test Evaluation Command and Control System. The modern tools replaced black and white screens and analog, push-button equipment so old that range test director Joe Simile felt he'd stepped back in time and "thought I'd look out and see a Mercury capsule" from NASA's 1960s-era program.

Construction projects in the tower three years ago and last year "got rid of the old stuff and went digital," replaced wiring and communications links and rid the tower of asbestos hazards, Simile said.

The research and development team of Stephanie Shreck, Steve Ohrt, Richard Crowder and Dave Flegel upgraded, integrated and validated new systems and closed the interoperability gaps that emerged in folding new equipment into a long line of legacy systems.

Just last year, workers installed miles of fiber-optic cable around the vast range.

Upgrades extend to field equipment as well. Analog innards have been swapped for digital in Tonopah's cinetheodolites or cines, combination photo-recording and surveying instruments that look like miniature astronomy observatories and track and photograph targets. Simile said cines were converted two years ago as manufacturers phased out film. In the meantime, Tonopah bought all the film and film-processing chemicals possible so cines could keep shooting film until converted.

A 1950s-era tracking telescope built at Sandia Labs' long-gone foundry on top of an old Navy gun turret looks much like it did originally. But inside, its hydraulic drive has been replaced with a DC drive control systems and new high-speed digital camera, said Glen Watts, Tonopah's technical team lead. The operator in the seat now uses a laptop, joystick and touch-screen monitor to operate the 117-inch-long telescope.

By fall, the operator on the mount will be gone as well. Tracking equipment now handled by operators at field sites will be controlled by a remote operator at the Test Operations Center.

<https://www.rdmag.com/news/2017/06/upgrades-sandias-tonopah-test-range-help-weapons-testing>

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The Seattle Times (Seattle, WA)

Scrutiny Intensifies Over Safety at US Nuclear Weapons Lab

By Susan Bryan

June 21, 2017

The safety record at the U.S. laboratory that created the atomic bomb is facing intensifying criticism as work ramps up to produce a key component for the nation's nuclear weapons cache.

A series published this week by the Center for Public Integrity cites numerous internal reports and other documents outlining federal regulators' concerns about safety lapses at Los Alamos National Laboratory over the years, including spilled plutonium and workers positioning plutonium rods in a way that could have been disastrous.

In an internal memo obtained by The Associated Press, Los Alamos officials took aim at critics and reassured employees of the safety of the lab's facility for making plutonium cores used to trigger the explosions in nuclear bombs.

"As employees, you should be proud of your laboratory's accomplishments over the past decade to strengthen our ability to operate safely and securely," according to the memo, dated Monday. "While there will often be external organizations and individuals which advance a misleading narrative, it is not an accurate reflection of our work."

It said the plutonium facility's operations and safety programs have successfully undergone more than a dozen independent external reviews and that it's close to being fully operational after safety problems forced work to be suspended in 2013.

Safety at the nation's aging nuclear research labs is under scrutiny as federal officials grapple with issues that have been decades in the making. Aside from Los Alamos, U.S. Energy Department officials recently said inadequate funding and the inability to clean up millions of gallons of toxic waste at the Hanford Nuclear Reservation in Washington state will likely lead to future accidental radiation releases.

The probe of Los Alamos by the nonprofit journalism organization caught the attention of top officials at the National Nuclear Security Administration, which oversees the lab, and members of New Mexico's congressional delegation, who say safety should be the top priority given the lab's role in maintaining and modernizing the U.S nuclear stockpile.

"There have been acknowledged mistakes that this report shines a light on that must be addressed," U.S. Sen. Martin Heinrich, a New Mexico Democrat, said in an email to the AP.

The birthplace of the atomic bomb, Los Alamos has struggled for years to address management and oversight issues along with more recent safety concerns about the handling of radioactive waste and plutonium.

Members of an independent federal oversight panel confirmed during a public hearing earlier this month that many of the alarm and fire suppression systems at the plutonium facility date to the 1970s, raising questions about the ability of the decades-old concrete building to accommodate the increase in plutonium pit production ordered by the Energy Department.

The Center for Public Integrity also pointed to a June 2016 incident in which technicians spilled several tablespoons of liquid containing plutonium, sopped it up with organic cheesecloth and threw away the cloth in waste bins with other nuclear materials.

Federal rules prohibit using cheesecloth in such cleanups because contact with plutonium can trigger chemical reactions and fires.

The center also uncovered details about a 2011 incident in which lab technicians placed eight rods of plutonium side by side for a photograph, which could have caused the material to spark a nuclear chain reaction. Keeping bits of plutonium far apart is a cardinal rule for nuclear scientists.

Another chemical reaction stemming from Los Alamos inappropriately packaging a barrel of radioactive waste caused a 2014 radiation leak at the government's only underground nuclear waste repository.

That misstep resulted in costly recovery work and a backlog in the multibillion-dollar program for cleaning up waste from decades of research and bomb-making.

The company managing the lab is losing its contract next year in part because of the history of safety lapses, Sen. Tom Udall's office said Tuesday. Spokeswoman Jennifer Talhelm said Udall sees the contracting process as a chance to make improvements at the lab, which she called an invaluable research center.

"It's also true that Los Alamos has the top scientists and researchers in the world, as well as infrastructure, decades of history and experience with no parallel anywhere, period," Talhelm said.

Frank Klotz, head of the National Nuclear Security Administration, reiterated in a statement this week that safety is paramount and that his agency withheld more than \$82 million in contractor payments over safety and operational issues between 2013 and 2016.

Still, agency officials have acknowledged that more trained engineers are needed in the plutonium facility to ensure problems are not repeated.

Watchdog groups have long complained about a sense of arrogance by lab management. They say recent reports show that federal and congressional oversight must be intensified.

“The lab seems to spend a lot of energy fighting back against the advice of external experts,” said Greg Mello, director of the Los Alamos Study Group. “If they only spent as much attention on fixing the problems as they do on fighting back, it would be a big help.”

<http://www.seattletimes.com/nation-world/scrutiny-intensifies-over-safety-at-us-nuclear-weapons-lab/>

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US COUNTER-WMD

Global Biodefense (Seattle, WA)

Anthrax: DoD Develops Biological Select Agents and Toxins Surrogate Solution

Author Not Attributed

June 21, 2017

The Defense Biological Product Assurance Office (DBPAO), a component of the Joint Program Executive Office for Chemical and Biological Defense, has announced the development of a Biological Select Agents and Toxins (BSAT) surrogate solution that will mitigate the risks associated with shipment and use of *Bacillus anthracis*.

In addition to risk mitigation for Department of Defense (DoD) stakeholders and the community at large, this product demonstrates DBPAO’s commitment to providing quality reagents to the DoD and to the biodefense community.

In 2015, former Secretary of the Army (SECARMY), John McHugh, placed a moratorium on the production, shipment, and handling of any live or inactivated BSAT or BSAT derivative at Dugway Proving Ground and subsequently extended the moratorium to all other DoD laboratories and facilities.

McHugh’s successor, former SECARMY Eric Fanning, issued Army Directive 2016-24 (Department of Defense Biological Select Agent and Toxins Biosafety Program) in July 2016, assigning responsibilities and functions of the DoD BSAT Program to the Army Surgeon General allowing the resumption of production, shipment, and handling of non-BSAT materials. Under this mandate, the DBPAO assumed the responsibility of exploring alternatives to substitute for BSAT and BSAT-related products that mitigate hazards associated with their use.

To accomplish this task, the DBPAO developed a *Bacillus anthracis* surrogate strain named Recombinant *Bacillus anthracis* with Assay Targets (rBaSwAT) using a recombinant DNA approach to create a BSL-2-level genetically modified organism that will allow continuation of operations with reduced risk.

The strain is built in a novel, non-virulent *Bacillus anthracis* background and carries a comprehensive complement of anthrax specific molecular and immunological markers.

Even though rBaSwAT has the required markers to replace *Bacillus anthracis* in operations, it remains non-virulent. rBaSwAT was developed specifically for this effort, is user specific and may not work for all end-users. However, it may be further modified with additional or alternate user-specific assay signatures to create a panel of non-virulent strains relevant to current DBPAO costumers.

These modified novel *Bacillus anthracis* strain panels can be used as a surrogate for *Bacillus anthracis* by end users in a variety of applications.

Dr. Shanmuga Sozhamannan, the technical coordinator of the DBPAO as well as the driving force behind the DBPAO surrogate solution, led the following team of government scientists who proved integral to the success of this solution:

Naval Medical Research Center

Contribution: Design of the construct; assay testing; spore inactivation; and final product validation.

- Dr. Joan Gebhardt
- Dr. Mark Munson

United States Army Medical Research Institute of Infectious Disease

Contribution: Animal study and characterization.

- Dr. Chris Cote
- Dr. Dave Rozak
- Dr. Terry Abshire

Edgewood Chemical Biological Center

Contribution: Whole genome sequencing.

- Dr. Cory Bernhards
- Dr. Nicole Rosenzweig
- Ms. Rebecca Rossmailer
- Ms. Tracey Biggs

Naval Surface Warfare Center

Contribution: Spore production and bridging studies.

- Dr. Tony Buhr
- Dr. Linda Beck
- Dr. Andrea Staab

Food and Drug Administration

Contribution: Genetic manipulation and strain construction.

- Dr. Roger Plaut
- Dr. Scott Stibitz

The rBaSwAT surrogate, developed by the DBPAO, is an innovative solution that represents the future of the DBPAO's approach to mitigate the risks associated with inactivated, virulent pathogens. A scientifically proven alternative to the use of Bacillus anthracis, this surrogate solution will provide significant hazard reduction in research, development, and testing initiatives.

In addition, surrogate use has the potential to reduce costs by eliminating the burdens associated with safely and securely shipping and using BSAT. rBaSwAT is the first step by the DBPAO to provide surrogate solutions for BSAT use that will reduce the costs and mitigate the risks for the DoD and all DBPAO customers.

The rBaSwAT surrogate is available through the DBPAO Ordering System for Assays and Reagents (OSCAR).

<https://globalbiodefense.com/2017/06/21/anthrax-dod-develops-biological-select-agents-and-toxins-surrogate-solution/>

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IEEE Spectrum (New York, NY)

Detecting Hazardous Radiation From Afar Now Possible

By John Boyd

June 16, 2017

Detecting radioactive materials from afar is not possible today. Take the typical Geiger counter for example. In order to detect 1 milliCurie of Cobalt-60, it needs to be within about four meters of the radioactive source, and it's inefficient at measuring lower levels of radioactivity.

Given the frequency of accidents involving nuclear power plants around the globe, and the possibility of terrorists using dirty nuclear bombs as a weapon, there is an increasing need to detect radioactive materials remotely in order to protect those doing the detecting and to warn residents in areas close by. (Think of accident sites such as the Fukushima Daiichi nuclear plant, which is currently undergoing a challenging and decades' long decommissioning.)

Researchers at Ulsan National Institute of Science and Technology (UNIST) in Ulsan, South Korea, have successfully demonstrated an experimental method for real-time remote detection of substances that emit hazardous radiation. Their technique is based on induced plasma breakdown by a high power electromagnetic (EM) wave source. Their results were published in the May issue of Nature Communications.

The researchers used a lab-made, 95-gigahertz gyrotron as a high power EM wave source with a maximum output power of 32 kilowatts. An RF detector was employed to detect the EM wave onset time and the time at which the RF pulse was attenuated due to plasma formation.

The researchers first performed the experiment using argon gas, both with and without the (controlled) presence of a radioactive source. This enabled them to study the formation of plasma under both conditions. They found that in the presence of radiation, the time it takes for plasma to form was markedly shorter: approximately half or one-third of the time it takes otherwise, depending on the amount of EM wave power produced by the gyrotron.

Because the threshold EM power for plasma breakdown in air was higher than the maximum gyrotron power available, the researchers conducted the air breakdown experiment only in the presence of radioactivity. They were able to detect 0.5 micrograms of cobalt-60 at 120 centimeters distance—the maximum distance allowed by the lab set-up.

Professor EunMi Choi, the leader of the group, told IEEE Spectrum that, "As soon as the next round of funding is secured, we plan to test the method outside the lab with a target range of about 100 meters."

She added that the individual key technologies are almost fully developed, though integrating them into a practical unit that can be transported will be a challenge.

"The gyrotron needs to be mounted on a wheeled container for portable use, and an antenna will be added to change the tracking angle and size of the gyrotron's beam," said Choi. "We also need to improve the detecting method's sensitivity."

Employing current equipment available, such as a 300-GHz, 100-kW gyrotron, she estimates the system could detect radiation at a distance of 10 km in conditions of low humidity. And

where humidity is high, a 100-GHz, 1-MW system would suffice. For distances of around 100 km, even lower gyrotron frequencies should be used: 30 GHz, 10 MW.

Choi explained that this is because humidity absorbs the EM wave, so the higher the frequency, the greater the attenuation. Similarly, with longer distances, lower EM wave-frequencies experience less absorption than a higher frequency source.

Choi estimates another three years of R&D refinement work is necessary, and a further three years of field-testing is likely before commercialization is something to discuss.

<http://spectrum.ieee.org/energywise/energy/nuclear/detecting-hazardous-radiation-from-afar-now-possible>

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The Chief-Leader (New York, NY)

Manhattan Radiation-Detection Lab to Close Due to Federal Budget Cut

By Bob Hennelly

June 16, 2017

Valuable Resource for NYPD, FDNY

The Department of Homeland Security will be closing its city-based National Urban Security Technology Laboratory which services the NYPD and the FDNY radiation-detection equipment used to detect an improvised nuclear device or a so-called dirty bomb, THE CHIEF-LEADER has learned. In addition to providing technical support to the city's first-responders, the lab, under the post-9/11 Securing the Cities program, provides similar assistance to the Port Authority of New York and New Jersey as well as local departments across the region.

Casualty of Trump Budget

In a letter obtained by this newspaper dated June 1, Adam R. Hutter, the NUSTL's director, wrote to the lab's Securing the Cities partners that to satisfy cuts required by President Trump's proposed budget for the Federal fiscal year that begins Oct. 1 the DHS will close the facility that helps "to detect and protect against radiological and nuclear threats by conducting functional tests of law enforcement radiation detection equipment for Securing the Cities (STC), through an agreement with the New York City Police Department."

The lab at 201 Varick St. in lower Manhattan was established in 1947 as part of the Manhattan Project and has been a global leader in studying background atmospheric radiation. It provided critical scientific research that helped make the case for the 1963 Limited Nuclear Test Ban Treaty between the U.S. and the U.S.S.R. which banned testing on atomic bombs in the atmosphere, underwater or in outer space.

"NUSTL is honored to have tested nearly 20,000 units in support of the homeland security enterprise," Mr. Hutter wrote. "Please be assured that we will continue to provide you with testing and support services until NUSTL's closure is finalized."

Union VP 'Stunned'

"We were stunned," said John Kada, who works at the lab and is the vice president of Local 42 of the American Federation of Government Employees. "Over the years we have built really good relations with first-responders throughout the region. We have one-on-one

relations that grew out of our calibrating their equipment and providing the latest in training materials in this critical area.”

In a phone interview, Mr. Kada said that just four years ago, with great public fanfare FDNY Chief Edward Kilduff and Richard Daddario, the Deputy Commissioner for Counterterrorism at the NYPD, attended the ribbon-cutting ceremony celebrating of the lab’s 21st-century re-dedication and upgrade. The lab has 24 Federal workers and six contractors, according to Mr. Kada.

In 2013, FoxNews.com was granted access to the re-configured lab complex geared up to test and develop the latest in radiation-detection equipment. Fox reported that on the re-opening day at the revamped center, a piece of recovered World Trade Center steel was on display in the reception area. “It’s a sobering reminder of the lives lost, and a motivation for why we come to work every day,” Mr. Hutter told an interviewer.

FDNY: It Sets Standard

In a statement about the closing, the FDNY affirmed the value of the Federal lab, saying “The Fire Department has called upon NUSTL expertise on numerous occasions to assist in developing the department’s radiological programs—which are widely considered national standards for first-responders.”

Glenn Corbett, Professor of Fire Science at John Jay College, said the loss of the Federal lab was a blow to the first-responder community. “This is really unfortunate. They have been around since Adam and doing good work,” he said in a phone interview. “These guys figured out how to stay relevant and do other things we need in the age where we have to worry about dirty bombs.”

The lab survived a similar budget drama back in 2007. In May of that year, U.S. Sen. Charles Schumer went to bat for it in a letter to then-Department of Homeland Security Secretary Michael Chertoff urging him to support the facility because it “was critical to protecting New York City and the nation from homeland security threats.”

Relieved a Decade Ago

Jonathan Duecker, Assistant Commissioner of the NYPD’s Counterterrorism Bureau, testified before Congress that the lab’s continued existence here was “more important than ever to the health and welfare, not only for the State and City of New York, but our nation.” At that time the Daily News reported it had as many 50 experts on staff.

DHS did not follow up on an email commitment to provide comment.

http://thechiefleader.com/manhattan-radiation-detection-lab-to-close-due-to-federal-budget/article_9fa74bf6-3b11-11e7-b2ad-931dab76e901.html

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The New York Times (New York, NY)

How a Conspiracy Theorist’s Call About a Dirty Bomb Shut Down Part of a Port

By Christopher Mele

June 15, 2017

A section of the Port of Charleston in South Carolina was shut down for several hours Wednesday night after a tip from a far-right YouTube conspiracy theorist warned that a dirty bomb might be on a container ship moored there, officials said.

A section of the Port of Charleston was closed for about seven hours as nearly a dozen federal, state and local agencies searched and turned up nothing.

The episode began around 8 p.m. on Wednesday when the Coast Guard said it received two phone calls about a potential dirty bomb — a crude explosive rigged to spray radioactive material — aboard the container ship Maersk Memphis, Lt. James B. Zorn, a Coast Guard spokesman, said on Thursday.

Four containers aboard the ship were scanned and the section of the port that had been closed, the Wando terminal, was reopened around 3:30 a.m. on Thursday.

Lieutenant Zorn said the two separate calls appeared to have been prompted by a YouTube posting and that agencies responded out of “an abundance of caution.”

What appeared to be an account of one call was posted to YouTube on Wednesday. In it, George Webb, a prolific social media conspiracy theorist, describes his conversation with the Coast Guard.

“Well I just got off the phone with the Coast Guard in South Carolina, and they were very obviously, you know, hesitant to call out all the dogs and call out all the radiation meters and all that without knowing who our source is,” he said in the post, which was published on Wednesday.

He described the anonymous sources who he said gave him information on a bomb at the port as being in the Midwest and that they were fearful of reprisals from Andrew G. McCabe, the acting director of the F.B.I.

“These are American patriots who spent decades even before D.H.S. was formed in service to our country saving our country from terrorists’ attacks,” Mr. Webb said, referring to the Department of Homeland Security.

The Maersk Memphis, which was built in 2007 and sails under the American flag for Maersk Line, a United States corporation, arrived at the port on Wednesday evening, Signe Brink Wagner, a company spokeswoman, said in an email.

“When informed about the threat, the vessel was immediately evacuated and all crew brought safely ashore,” she wrote. “We expect the vessel will resume its voyage according to schedule.”

Erin P. Dhand, a spokeswoman for the operator of the port, South Carolina Ports Authority, said in a statement on Thursday that it was “operating as usual with minimal impacts to our operations from last night’s incident.”

The United States Coast Guard said on Twitter that the person who reported the threat was being questioned by the authorities. But it was not clear which agency had detained the person, who was not identified.

Lieutenant Zorn would not name “the original reporting source” being questioned by the authorities, and the Coast Guard referred calls to the F.B.I. Don Wood, a supervisory special agent for the F.B.I. field office in Columbia, S.C., said the agency was investigating but had not detained anyone.

Mr. Webb did not respond to messages left on his social media accounts.

Mr. Webb, who uses the handle TruthLeaks on his Twitter account, described himself as “Trying to stop US federal law enforcement involvement in drug corruption and harassment programs” and on his YouTube channel as “Reporting on Political Corruption.”

His YouTube channel lists titles like “I’ve Further Evidence Linking Hillary To The Murder Of Seth Rich.” Mr. Rich was a Democratic National Committee staff member and the subject of a stubborn but quashed conspiracy theory by right-wing media linking his murder with the email hacks that helped President Trump’s campaign.

With almost 17,000 followers on Twitter and nearly 40,000 subscribers on YouTube, Mr. Webb does not have the reach of prominent conspiracy theorists such as Alex Jones and his organization Infowars. (Mr. Jones has 643,000 followers on Twitter and his Alex Jones Channel on YouTube has more than 2 million subscribers.)

The history of conspiracy theories dates back to Revolutionary War times, Chip Berlet, a researcher of radical-right movements and retired analyst at Political Research Associates, a left-leaning think tank in Somerville, Mass., said on Thursday. Social media quickly and widely spreads them in ways that make them difficult to refute, he added.

He said it is not unusual for the authorities to get tips from conspiracy theorists and it is difficult to evaluate the information.

“The threat might be real,” he said. “It is very difficult to sort out the response. In many cases the proper response is you have to take it seriously.”

<https://www.nytimes.com/2017/06/15/us/port-dirty-bomb-south-carolina.html>

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US ARMS CONTROL

Bulletin of the Atomic Scientists (Chicago, IL)

The Ban Treaty: A Big Nuclear-Weapon-Free Zone?

By Sebastian Brixey-Williams

June 21, 2017

The nuclear weapons states seem to have accepted the idea that a treaty to prohibit nuclear weapons—known informally as the ban treaty—could indeed be the result of a UN conference being held this June and July in New York City. Nevertheless, some observers maintain that even if a ban treaty were to be negotiated, it would cause harm by distracting from and competing with progress in existing disarmament efforts—such as the Nuclear Non-Proliferation Treaty (NPT), which already mandates all signatories pursue complete disarmament.

Would the ban treaty distract and compete? It might. Multiple, simultaneous efforts at achieving nuclear disarmament could lead to forum shopping, with non-nuclear-armed states seeking to promote disarmament through the stronger ban treaty regime, while nuclear-armed states press on with the NPT. This could mean that more time is spent arguing about what the approach to disarmament is, and less time is spent making much-needed, meaningful progress.

Duplicate efforts at nuclear disarmament could also empower spoilers and create distractions which, given the general lack of political attention to nuclear issues these days, could be problematic. But it’s too early to know either way, and prophecies of this kind have an unhealthy habit of becoming self-fulfilling. The diplomats in the ban treaty negotiations

have been adamant that the treaties should not conflict; just to be on the safe side, chair Elaine Whyte Gómez deliberately avoided last month's NPT Preparatory Committee meeting in Vienna, so as not to create a distraction. And sometimes the reverse is true as well: New initiatives can sometimes breathe new life into old stalemates.

But crucially, these arguments assume that the ban treaty and the NPT are destined to compete. I'd like to offer an alternative perspective: that the ban treaty is more likely to resemble a big nuclear-weapon-free zone (NWFZ). Rarely does anyone say that existing NWFZs are in conflict with cornerstone disarmament or arms control regimes—in fact, most say they strengthen them. So, have we read the ban treaty all wrong?

What's a Nuclear-Weapon-Free Zone? An NWFZ is a geographic zone where no nuclear weapons are allowed, usually delineated by a treaty. Such treaties consist of a list of strong, and legally-binding prohibitions on nuclear weapons within the states that sign them, traditionally agreed by region. The world has five such treaties, covering South America (Tlatelolco Treaty), the South Pacific (Rarotonga Treaty), Southeast Asia (Bangkok Treaty), Africa (Pelindaba Treaty), and Central Asia. In the wings is a Middle East Nuclear-Weapon-Free Zone, which states have struggled to negotiate for more than 20 years, and recently the idea of a Northeast Asia Nuclear-Weapon-Free Zone has been floated. Additionally, there are four denuclearization treaties covering the seabed, outer space, the moon and other celestial bodies, and Antarctica.

Nuclear-armed states have mixed feelings about NWFZs. On the one hand, they do some of their nonproliferation work for them by strengthening restrictions on nuclear weapons within a geographical region. On the other hand, the act of signing an NWFZ makes opposition to nuclear weapons by non-nuclear-armed states feel more concrete; the mere existence of an NWFZ questions the very legitimacy of nuclear possession. Moreover, while NWFZs have no legal effect on states that have not voluntarily joined them, they can limit possessor states' freedom of action within that region; for example, New Zealand's 1987 declaration that it was a place free of nuclear weapons prevented US Navy ships from visiting their ports. For these reasons, NWFZs are typically vehemently opposed by their nuclear neighbors at the time of negotiation, but today nuclear-weapon-free zones and the Nuclear Non-Proliferation Treaty tend to peacefully co-exist.

A bigger, better NWFZ. The ban treaty is likely to look like a unified, extended, and strengthened NWFZ owing to similarities in the legal structure and effect of the treaty, as well as parallels in the language and objectives—although there are, of course, limitations to this reading. But looking at the ban treaty in this way may help nuclear communities integrate the emerging ban treaty into their traditional nonproliferation regimes.

First, the legal status of the ban treaty mirrors that of the NWFZs. It would consist of a subgroup of NPT states making a comprehensive and binding declaration about what kind of nuclear activities are not permitted inside their territories. Like a nuclear-weapon-free zone, the ban cannot directly outlaw nuclear-armed states from going about their nuclear activities without those states voluntarily adopting and incorporating the treaty prohibitions into their domestic law. (In other words, "I can't tell you what to do, you have to want to do it.") The ban would bind all states only if the ban treaty's prohibitions become customary international law—a term which could loosely be described as meaning that the prohibitions are so widely accepted and sustained as the international legal standard of behavior that they bind even non-signatories.

But as I've explained elsewhere, it is highly unlikely that the ban would come into effect on non-signatories any time soon. It is not yet clear how many states will sign the eventual ban treaty, though 132 states were in attendance at the March negotiations; consequently, the

number of signatories is likely to remain far below the near-universal signature of the NPT with its 190 signatories, even in the medium- to long-term.

Second, the ban treaty could be read as an informal unification of the five existing nuclear-weapon-free zones. While the NWFZs are not homogenous, to some extent the ban treaty brings these regional treaties into a common, planned, unified way of doing things. The fact that states like Brazil, Mexico, and New Zealand—which had previously demonstrated leadership in the establishment of NWFZs—have also been instrumental in driving forward the ban movement agenda shows this is not accidental. Mexican Ambassador Alfonso García Robles, who won a Nobel Peace Prize for his work implementing the Tlatelolco Treaty (the South American NWFZ), hoped that “the territories of powers which possess those terrible tools of mass destruction will become something like contaminated islets subjected to quarantine.” Unifying the NWFZs has also been an explicit aim of the ban treaty movement: Article 36, an organization lobbying for the ban, writes that NWFZs are “important building blocks that should be expanded upon through an international ban treaty.”

As the ban treaty movement reaches into new regions such as Europe—through the participation of Austria, Cyprus, the Holy See, Ireland, Liechtenstein, Macedonia, Netherlands (a NATO state), San Marino, Sweden, and Switzerland—the ban treaty could also be a de facto extension of the NWFZ model. In fact, it’s possible to look at the ban treaty as a radical rethinking of the concept of nuclear-weapon-free zones, not delineated by region or even geography. For instance, if member states are banned from financing nuclear weapons, then portions of the financial sector may resemble a new kind of nuclear-weapon-free space.

Third, the language of the ban treaty’s opening articles mirrors those found in NWFZs. For example, while the Nuclear Non-Proliferation Treaty’s Article 1 is primarily concerned with the transfer of nuclear secrets and technologies from one state to another, the NWFZs typically begin by listing prohibitions that apply to the territories of signatories. The ban treaty clearly takes this latter approach, and diplomats at the negotiations are debating how to strengthen the prohibitions to fill gaps and loopholes. Which means that as well as unifying these zones, the ban treaty could effectively supersede them as the new standard for nuclear-free activities.

Limitations. There are, of course, ways that the proposed ban treaty might differ from the classic NWFZ model, relating to how it was negotiated, its reception among the nuclear-armed states, and perhaps above all, the goals of its negotiators.

First, while the ban treaty process is heavily UN-oriented, there tended to be minimal United Nations involvement in negotiations for nuclear-weapon-free zones; instead, most were regionally negotiated. By contrast, the ban treaty negotiations have been conducted in a conference established by the UN General Assembly. In a nutshell, while the NWFZ movements emerged in the international system in a more decentralized way, the ban is being negotiated in the center and radiating outward.

Second, acceptance of the ban treaty may be less forthcoming than for the nuclear-weapon-free zones. In some cases, nuclear weapon states have willingly endorsed some regional NWFZs by signing protocols that give assurances that the treaty will be respected, although they’ve withheld support for others. But the ban treaty movement’s morally charged language, its stated aim of including outsiders to the insiders’ process of nuclear disarmament—what Jennifer Knox at Global Zero has called “subversive arms control”—and the general feeling among the nuclear weapon states that the organized weight of the entire UN General Assembly is against them may limit their willingness to make conciliatory

concessions. It remains to be seen whether the ban treaty will be incorporated into the NPT to the same extent as the NWFZs.

Third, framing the nuclear ban treaty as an extension of the nuclear-weapon-free zone movement may be controversial among advocates and negotiating parties, who hope to make use of global momentum, optimism, and a sense of inevitable success to build support among states. This is reflected in campaign messages such as “We’re banning nuclear weapons,” which seeks to frame the ban treaty movement as a radically new and unhindered approach. In contrast, the NWFZ framing is more conservative, to the extent that it places no moral responsibilities on states to partake in the negotiations, and consequently appeals to positions that are more morally relativist. Reducing the effort to ban nuclear weapons entirely to just another nuclear-weapon-free zone could suck some wind out of the movement rhetorically, even if it has no effect on its legal status.

Ways forward. The interactions between the ban treaty and the NPT will need to play out in their own time. But to me, the potential harms appear to be overstated. Opposition to the ban treaty can also be viewed as an expression of nuclear-armed states’ apprehension of the new, their unwillingness to accept illegitimacy in the eyes of the majority, and as a means—consciously or unconsciously—to find a scapegoat for the stalled disarmament and arms control agendas seen in recent years. Instead, nuclear-armed states should look at the ban treaty’s actual legal implications and approach it with more of an open mind, finding opportunities to conceptually integrate the treaty into the existing patchwork of nonproliferation regimes and further their disarmament objectives. Seeing the ban treaty as a nuclear-weapon-free zone may be a way for nuclear-armed states and their allies to open new doors to engagement with the non-nuclear weapon states, while at the same time allowing them to save face. Indeed, as nuclear arms control and verification specialist Andreas Persbo points out, NWFZs are explicitly recognized in Article VII of the Nuclear Non-Proliferation Treaty, which says that NWFZs do not affect “the right of any group of States to conclude regional treaties” to “assure the total absence of nuclear weapons in their respective territories.” The ban treaty might be integrated via the same provision.

The framing could benefit ban treaty advocates too. Although advocates will want to find ways to preserve their morally-charged messaging, and ensure that the prohibitions in the eventual treaty are applied worldwide, the framing offers a strong comeback to the charge that the ban treaty is in competition with the NPT. In fact, this framing could offer ban proponents a new tool to convince states that are currently sitting on the fence to sign the treaty.

<http://thebulletin.org/ban-treaty-big-nuclear-weapon-free-zone10852>

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The Mainichi (Tokyo, Japan)

Revised Draft Nuke Ban Treaty Retains Reference To 'Hibakusha'

Author Not Attributed

June 21, 2017

A revised preamble of a draft treaty to ban nuclear weapons retains a reference to victims of the atomic bombings of Hiroshima and Nagasaki, according to a copy of the document.

Elayne Whyte Gomez, Costa Rican ambassador to the United Nations Office and other international organizations in Geneva, circulated the draft version to participants in

ongoing U.N. negotiations in New York on the world's first nuclear arms ban treaty in her capacity as president.

Expanding on the original sentence that addressed the Japanese atomic bomb survivors, known as hibakusha, and nuclear testing victims, there was additional mention of the indigenous people who have been adversely impacted by nuclear activities, including Australian Aborigines and Pacific Islanders from places like the Marshall Islands.

The revised draft says the countries participating in the talks are "mindful of the suffering of, and unacceptable harm caused to, the victims of the use of nuclear weapons (hibakusha) as well as those affected by the testing of nuclear weapons."

It also recognizes "the disproportionate impact of nuclear weapon activities on indigenous peoples," which activists say references groups including Native Americans who have been exposed to radiation due to uranium mines.

The last paragraph remains largely unchanged from the earlier draft, stressing the importance of the role of the "public conscience" in furthering efforts to call for the total elimination of nuclear weapons.

The important role played by international and regional organizations, such as the Red Cross, as well as the hibakusha, political leaders, academics and nongovernmental organizations was also stressed.

"The voices of the hibakusha and survivors of nuclear testing around the world have been absolutely crucial in this process...that is so powerful it makes the case as to why these weapons must be banned," said Tilman Ruff, co-president of the International Physicians for the Prevention of Nuclear War, at a presentation.

Whyte Gomez aims for the adoption of the pact's final text by the end of the session on July 7.

<https://mainichi.jp/english/articles/20170622/p2g/00m/0dm/027000c>

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IDN – InDepthNews (Berlin, Germany)

CTBTO Conference to Focus on Nuclear Test Verification

By Jamshed Baruah

June 21, 2017

While UN member states are negotiating at the United Nations headquarters in New York a legally binding instrument prohibiting nuclear weapons, experts from around the world will be gathering in Vienna from June 26 to 30 to review monitoring and verification technologies crucial to the Comprehensive Nuclear-Test-Ban Treaty (CTBT),

The forthcoming gathering – officially known as 'The CTBT: Science and Technology 2017 Conference (SnT2017)' – is the sixth in a series of multidisciplinary conferences designed to "further enhance the strong relationship between the scientific and technological community and the Comprehensive Nuclear-Test-Ban-Treaty Organization (CTBTO) as well as with policy-makers."

CTBTO's Science and Technology Conferences provide a forum for scientists from around the world to exchange knowledge and share advances in monitoring and verification

technologies of relevance to the CTBT. Such interaction helps ensure that the Treaty's global verification regime remains at the forefront of scientific and technical innovation.

According to the CTBTO, a verification regime to monitor the globe for nuclear explosions is nearing completion with around 90% of the 337 planned International Monitoring System (IMS) facilities already in operation. The system, says the CTBTO, has proved its capabilities to detect even small nuclear tests during the announced nuclear tests by North Korea in 2006, 2009, 2013 and 2016.

In addition to nuclear test monitoring, scientists use CTBTO data in a wide range of applications, from observing volcanoes and icebergs, to studying marine mammals and improving disaster mitigation strategies, and much more.

What distinguishes the 2017 Conference from previous such gatherings is its special focus on youth and young scientists, with active participation of members of the CTBTO Youth Group .

The importance of the SnT2017 taking place parallel to the UN Conference on prohibiting nuclear weapons also lies in the fact that the CTBT bans all nuclear explosions, thus hampering both the initial development of nuclear weapons as well as significant enhancements. The Treaty also helps prevent harmful radioactive releases from nuclear testing.

But the Treaty has yet to enter into force. So far it has been signed by 183 States and ratified by 166. However its demanding entry-into-force provision requires 44 particular "nuclear technology holder" States to ratify the Treaty for it to enter into force.

Eight of them have yet to ratify: China, the Democratic People's Republic of Korea (DPRK), Egypt, India, Iran, Israel, Pakistan, and the United States (China, Egypt, Iran, Israel, and the United States have already signed the Treaty).

A special event during the SnT2017 will be the Interactive Globe, which will enable visitors to experience the IMS "at work" with the interactive 3-D visualization of how the four technologies – seismic, hydroacoustic, infrasound, and radionuclide – interact to detect nuclear tests, as well as a range of other phenomena and events, from tsunamis and meteors, to tracking radioactivity after the Fukushima nuclear accident in March 2011.

According to a CTBTO media release, the eleventh and final hydroacoustic station in the IMS was certified on June 19, 2017, completing the hydroacoustic part of the network which monitors the globe 24/7 for signs of nuclear explosions under the CTBT.

One of the CTBTO's longest running and most complicated engineering endeavours, hydroacoustic station HA04 was installed in Crozet Islands (France) in December 2016 after nearly 20 years of overcoming a number of challenges and hurdles.

Commenting the certification, CTBTO Executive Secretary Lassina Zerbo said: "This is a momentous occasion not only for the CTBTO, but for the international community. The completion of the hydroacoustic portion of the IMS brings us one step closer to achieving full and increasingly sensitive coverage of the globe, and thus closer to making the planet safer and more secure from nuclear testing."

HA04 is one of eleven hydroacoustic stations monitoring the oceans for signs of nuclear explosions. Low frequency underwater sound, which can be produced by a nuclear test, propagates very efficiently through water. Consequently these underwater sounds can be detected at great distances, sometimes thousands of kilometres, from their source.

"This means that the IMS requires only a few hydroacoustic stations to provide effective monitoring of all the world's oceans for signs of nuclear explosions," adds the CTBTO.

<http://www.indepthnews.net/index.php/global-governance/un-insider/1209-ctbto-conference-to-focus-on-nuclear-test-verification>

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ASIA/PACIFIC

The Straits Times (Singapore)

Japan Holds Public Missile Defence Drills

Author Not Attributed

June 21, 2017

Four drills aim to allay rising concern over ballistic missile threat from N. Korea

Japan opened missile defence drills to the public yesterday, a move it says will reassure the country that it is ready to counter any missile attack by neighbouring North Korea.

A PAC-3 Patriot battery was driven to the Asaka Self Defence Forces base near Tokyo, where it deployed its radar antenna and raised its missile launcher to firing position. The drill is one of four being held across Japan.

"Making this public is a way to reassure people about their safety and bring peace of mind," Air Self Defence Force Major Akinori Hanada told reporters.

North Korea has pushed ahead with its missile and nuclear weapons programmes in defiance of United Nations Security Council resolutions, and regularly threatens to destroy the United States, Japan and South Korea.

US Defence Secretary Jim Mattis said this month that North Korea's advancing weapons programmes were the "most urgent" threat to national security and that its means to deliver them had increased in speed and scope.

South Korea has deployed the US Terminal High Altitude Area Defence (Thaad) anti-missile system to protect itself against the North Korean threat, angering China, the North's lone major ally.

Japan's PAC-3 batteries are the last line of defence against any incoming warheads. With a range of around 15km, they are able to protect only larger cities and key government installations.

Advances in North Korea's ballistic missile programme have raised concern in Tokyo that its PAC-3 batteries and Aegis destroyers in the Sea of Japan could be overwhelmed.

Japan has begun a US\$1 billion (S\$1.4 billion) programme to upgrade the PAC-3s to extend their range and accuracy, but the first of those will not be ready until 2020.

In addition to public PAC-3 exercises, some Japanese prefectures have conducted missile attack evacuation drills in recent weeks.

Japan will follow these up with a series of 30-second public information broadcasts and newspaper ads beginning tomorrow advising people what to do in the event of a North Korean missile attack, the Yomiuri newspaper said.

A Japanese government spokesman declined to comment when asked about the report.

Separately, South Korea yesterday demanded a UN probe into a suspected North Korean drone that crashed near the heavily fortified inter-Korean border earlier this month.

The South Korean military said the surveillance drone is a "grave provocation" which violates the Korean War truce.

The military also said it was beefing up South Korea's defence against potential spying activities - or even future attacks - by North Korean drones, adding more border surveillance radars and anti-aircraft guns to shoot down drones.

Photos retrieved from the latest drone include several overviews of the site for the Thaad system in the south-eastern county of Seongju, according to the military.

<http://www.straitstimes.com/asia/east-asia/japan-holds-public-missile-defence-drills>

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UPI (New York, NY)

Analyst: North Korea's biochem weapons being built in hidden facilities

By Elizabeth Shim

June 19, 2017

North Korea may be secretly developing biological weapons in camouflaged facilities across the country, according to a U.S. weapons expert, who also stated in a separate report that construction activity at the Sohae Satellite Launching Station is ongoing.

Writing for 38 North, a Johns Hopkins University website dedicated to North Korea issues, Joseph S. Bermudez, Jr., stated the Kim Jong Un regime either possesses or will soon possess "operational nuclear weapons," an "ongoing offensive biological weapons research program," and a "longstanding chemical weapons program with a militarily significant inventory of these weapons."

Bermudez also states North Korea deliberately built its nuclear, biological and chemical programs in "extreme secrecy," using "camouflage, concealment and deception operations to mask the NBC infrastructure" or using "legitimate, defense or civilian industrial and research infrastructures" to build weapons that are "simply unknown" outside the North Korean government.

The analysis published last week also provided rough estimates of the number of North Korean personnel involved in each of the programs.

According to Bermudez, there are about 1,500-3,000 North Koreans and 25-30 entities involved in the biological weapons program, 3,500-5,000 people and 25-50 entities involved in the chemical weapons program, and about 9,000-15,000 people and 100-150 entities involved in the "research, development, testing or production of nuclear weapons."

In a separate report, Bermudez said satellite imagery shows ongoing construction at the Sohae station and given the "good state of repair" of the vertical engine test stand, launch pad and gantry tower, either a new engine test or satellite launch could "occur with little or no advance warning."

North Korea recently claimed it is closer to testing an intercontinental ballistic missile that could potentially hit any target in the continental United States.

http://www.upi.com/Top_News/World-News/2017/06/19/Analyst-North-Koreas-biochem-weapons-being-built-in-hidden-facilities/6271497893550/

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38 North (Washington, DC)

North Korea's Sohae Satellite Launching Station: Construction Activity Continues at Launch Pad

By Joseph Bermudez

June 16, 2017

Commercial satellite imagery of the Sohae Satellite Launching Station from June 10 indicates continued construction throughout the facility, most notably at the southern end of the launch pad. The exact purpose of this activity is unclear. Ongoing construction indicates North Korea's long-term commitment to further developing this facility and its space launch program.

Construction Activity at Launch Pad

Approximately 50 meters southeast of the launch pad, an open area (approximately 5,000 sq. meters) was excavated throughout 2014-2015. This activity ceased in mid-2015 and unexpectedly resumed in March 2017, continuing intermittently since then. The latest imagery shows excavations for a building's footings and support columns, suggesting a structure of approximately 920 sq. meters.

It is too early to determine if the suspended excavation activity in 2015 was related to this new structure's originally intended construction, or if this is an entirely new development. While the planned purpose of the new structure is unknown, its proximity to the launch pad suggests it is related to launch operations support.

Vertical Engine Test Stand

Both natural-color and infrared imagery of the vertical engine test stand indicate that no unreported rocket engine tests have been conducted in the past month. As was the case in imagery from April 22 and May 15, the vertical engine test stand, launch pad and gantry tower all appear in a good state of repair and no vehicles or personnel are observed in any of these areas. Although no preparations for either a new engine test or satellite launch are apparent in the June 10 image, either of these could occur with little or no advance warning.

No new activity is noted at the circular position 750 meters to the southwest of the launch pad or the roads and utility right-of-ways leading to it. Except for what appear to be two small vehicles at the Horizontal Processing Building and some minor activity at the warehouse and support area, no significant activity is observed elsewhere at the Sohae facility.

<http://www.38north.org/2017/06/sohae061617/>[Return to top](#)

Global Times (Beijing, China)

China's Nuclear Weapons R&D Attains Highest Level

By Zhang Hui

June 18, 2017

Country marks 50th anniversary of first H-bomb test

China's nuclear weapons research and development has attained the world's most advanced level although the country's nuclear weapons stockpile is small, experts said Sunday, one day after the 50th anniversary of the country's first test of a hydrogen bomb.

China is technically advanced in developing new nuclear weapons, as it has full-scale facilities, nuclear weapons development institutions and nuclear reactors, said Song Zhongping, a Beijing-based military expert who had served in the People's Liberation Army (PLA)'s Second Artillery Corps (now the Rocket Force).

China's first hydrogen bomb was tested in the desert of Northwest China's Xinjiang Uyghur Autonomous Region on June 17, 1967. The successful test shook the world as it took only two years and eight months for China to develop a hydrogen bomb after China tested its first atomic bomb in October, 1964.

"But we use nuclear weapons as a deterrent, as we adhere to the no-first-strike strategy, which means the country will not use the weapons unless it is first attacked by an adversary. China has a much smaller number of [nuclear] weapons and spends less compared with the US and Russia," Song said.

"China is still conducting nuclear tests, although it has turned from underground to computer simulation out of consideration for possible environmental pollution and the huge cost," Gui Liming, an expert on China's nuclear safety system at Tsinghua University, told the Global Times, adding that nuclear weapons also cost a lot to maintain.

The design and manufacture of hydrogen bombs fully reflect a country's scientific and technological level, as well as comprehensive national strength, according to the PLA's flagship newspaper, PLA Daily.

Developing a hydrogen bomb requires a high-quality talent pool made up of experts in multiple fields, including nuclear physics, mechanics, optics, material science and computer science. It also needs the backing of strong national power, as research into hydrogen bombs, which requires lots of new technology and equipment, is much more difficult than atomic bombs, the newspaper said.

China's first hydrogen bomb was dropped by a Chinese H-6 bomber, a reconfigured Soviet Union Tu-16 bomber. China has since improved and developed the H-6 bomber and it is still in service. The latest variant of the H-6 bomber, the H-6K, joined China's 70th V-Day celebration parade in 2015, and patrolled islands and reefs in the South China Sea and East China Sea in 2016, news site eastday.com reported.

Chinese media commemorated the 50th bomb test anniversary by interviewing former staff working on the project.

Zuo Wenlai, 80, a former logistics serviceman, recalled his tough working conditions at the Gobi desert in Xinjiang 50 years ago, when he talked to the Anhui-based Hefei Evening News Friday.

"We dug a hole in the ground and pitched a tent to live in, and planted potatoes and qingke barley (a highland barley) for food," he said.

He was kept in the dark about the purpose of his work, and he did not know he had participated in the hydrogen bomb project until he saw a film of the explosion.

<http://www.globaltimes.cn/content/1052300.shtml>

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EUROPE/RUSSIA

Russia Matters (Cambridge, MA)

Taking the Edge off U.S.-Russia Strategic Relations

By Steven Pifer

June 16, 2017

Secretary of State Tillerson and Russian Foreign Minister Lavrov have agreed in principle to resume strategic stability talks. The United States and Russia should begin the talks expeditiously, and the first agenda items they should tackle include measures to reduce the risk of accident or miscalculation, preservation of the 1987 Intermediate-range Nuclear Forces (INF) Treaty and extension of the 2010 New Strategic Arms Reduction Treaty (New START).

Laying the Groundwork

Even if renewed strategic stability talks do not result in early agreements or negotiations on specific topics, the agreement to resume them is welcome. They can provide an important forum for dialogue at a time when U.S.-Russia relations have hit a low point.

The talks should be wide-ranging, reflecting the changing character of strategic stability. U.S. and Soviet officials long ago came to a common understanding that strategic stability referred to a situation in which neither side had an incentive to strike first with nuclear weapons, even in an intense crisis. That was because the other would retain surviving nuclear forces that could still decimate the attacker.

During the Cold War and its immediate aftermath, strategic stability was a U.S.-Soviet/Russia construct, measured by the numbers of strategic nuclear weapons and missile and air defenses. Increasingly, however, other factors merit attention, such as precision-guided conventional strike weapons and third-country nuclear forces. Moreover, the new cyber and space domains should figure into the equation. Strategic stability is becoming a multilateral, multi-domain concept.

The sides thus have much to discuss. Some questions—such as future arms control arrangements—could be addressed, though there appears to be little prospect of negotiations beginning quickly.

An exchange on military doctrines would prove useful. For example, Russian non-governmental experts claim that the “escalate to de-escalate” doctrine—which postulates the use of low-yield nuclear weapons to terminate a conventional conflict, perhaps initiated by Russia, on terms favorable to Moscow—has never been part of official Russian policy. While public Russian government documents do not incorporate it, the concept is certainly discussed a lot in Moscow—so much that the Pentagon and NATO are adjusting their nuclear planning to take account of it. It would be useful for the sides to come to a common understanding of that doctrine and its status.

Several issues should be addressed as a matter of urgency. That is because they could undermine an already difficult U.S.-Russia relationship.

Reducing the Risk of Accident and Miscalculation

Encounters—sometimes dangerously close encounters—between U.S./NATO and Russian military units have increased significantly since 2013. Russian aircraft fly more missions near or in the air space of NATO members and other European countries than before. U.S. and NATO fighter aircraft often intercept and escort them.

In the aftermath of Russia's aggression against Ukraine, U.S. and NATO warships spend more time in the Baltic and Black Seas, sometimes overflowed by Russian aircraft. U.S. B-52 and B-1 bombers operate over the Baltic Sea in conjunction with exercises with Baltic NATO members. In addition, NATO has deployed battalions in each of the Baltic States and Poland, bringing them closer to Russian ground forces in Russia proper and the Kaliningrad exclave.

These interactions raise the risk of accident or miscalculation, say when a U.S. Navy commander has a Russian fighter barreling down toward his or her ship. The strategic stability talks should address these issues, with a view to establishing a military-to-military dialogue—U.S.-Russian and/or NATO-Russian—on the question.

Such a dialogue could establish procedures for the safe conduct of operations by U.S., NATO and Russian aircraft and ships when operating in close proximity. They could draw on U.S.-Soviet antecedents: the 1972 Prevention of Incidents at Sea Agreement (which is still in effect, if not always closely observed) and the 1989 Prevention of Dangerous Military Activities Agreement. For example, the latter agreement regulated activities by U.S. and Soviet ground forces along the inner-German border (prior to Germany's reunification). It could be adapted to cover northern Poland, Kaliningrad, the Baltic States and Russia's Pskov oblast, with a view to minimizing the risk of misperceptions between ground forces separated by the NATO-Russia border.

This assumes that the Kremlin has not adopted a conscious policy of raising the risk of accident as an element of a strategy to intimidate the West. If it has not, reducing that risk should be in the interest of the United States, NATO and Russia.

Preserving the INF Treaty

The INF Treaty banned the testing and deployment of all U.S. and Soviet (now Russian) ground-launched cruise and ballistic missile with ranges between 500 and 5,500 kilometers. However, in 2014, the U.S. government charged that Russia had violated the treaty by developing a prohibited cruise missile of intermediate range. In 2017, U.S. officials said Russia had begun deploying that ground-launched cruise missile.

Russian officials deny the charge and claim the United States is in violation of the INF Treaty by using intermediate-range ballistic missiles as targets in missile defense tests, by arming unmanned aerial vehicles, and by using a launch system for SM-3 missile interceptors in Romania that could contain offensive missiles, including cruise missiles.

The strategic stability talks would offer a forum for discussing the INF Treaty, the implications of the treaty's demise and the value of maintaining it. If the sides showed political will, there are ways to resolve their respective compliance concerns.

This is an urgent matter, as time appears to be running out for the INF Treaty. The unraveling of the treaty would make it more difficult to conclude new arms control arrangements or to extend New START.

New START Extension

New START limits the United States and Russia each to no more than 1,550 deployed strategic warheads and no more than 700 deployed strategic ballistic missiles and bombers. The limits take full effect in February 2018.

New START is due to expire by its terms in February 2021, but it can be extended by up to five years with agreement by the sides. If United States and Russia do not extend the treaty (and there is no replacement) and if the INF Treaty collapses, it will be the first time in nearly 50 years when no arms control agreements govern the U.S.-Russian nuclear relationship.

The strategic stability talks should address an early decision to extend New START, which would be a relatively simple matter. Extension would allow continuation of the treaty's limits as well as the data exchanges, notifications and inspections that yield significant information about the other side's strategic forces. That obviates the need to make worst-case assumptions.

Extension of New START would be good not only for arms control, it could generate momentum in the broader political relationship. It could present an early "win" for Presidents Trump and Putin—and the White House would not have to fear charges of an unreasonable concession to Russia, as extension would almost certainly receive a strong endorsement from the U.S. military leadership.

The strategic stability talks can resume an important element of U.S.-Russian dialogue. The talks could help take some of the edge off bilateral tensions and stabilize the endangered bilateral nuclear arms control regime. The sides should get the talks going, with a mandate for wide-ranging discussions and instructions to focus on early deliverables, as described above.

<https://www.russiamatters.org/analysis/taking-edge-us-russia-strategic-relations>

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National Interest (Washington, DC)

These are the 5 Most Fearsome Russian Weapons of War America Should Fear

By Dave Majumdar

June 19, 2017

Should Washington be worried?

As an air-superiority fighter, the Su-35's major advantages are its combination of high altitude capability and blistering speed—which allow the fighter to impart the maximum possible amount of launch energy to its arsenal of long-range air-to-air missiles. During an air battle, the Su-35 would launch its missiles from high supersonic speeds around Mach 1.5 at altitudes greater than 45,000 ft. It also has three-dimensional thrust vectoring—which gives it exceptional maneuverability, advanced avionics and a powerful jamming capability.

Modern Russia is not the Soviet Union, but it is still possesses a very formidable arsenal of both strategic and tactical nuclear weapons. Moreover, given the uneven state of Russia's conventional forces—which have greatly atrophied since the Soviet collapse—the country relies much more heavily on its strategic deterrent to ward off enemies than the USSR ever did. Indeed, in November 1993 [3], Russia dropped the Soviet Union's pledge not to be the first to introduce nuclear weapons into any conflict. Instead Russia reserves the right to use its nuclear weapons under a doctrine that it paradoxically calls "de-escalation."

The bottom line is that the United States is not going to engage Russia in a war—however it might face Russian weapons during a conventional conflict where those weapons have been sold abroad. Therefore, the article won't address the most obviously dangerous Russian weapons—such as nuclear weapons or nuclear-powered submarines—but will instead focus on systems that American forces may realistically face in combat one day.

Here is a selection of five of the most potent Russian weapons that U.S. forces might face.

Sukhoi Su-35 Flanker-E

The Sukhoi Su-35 Flanker-E is the by far the best operational fighter aircraft Russia has produced to date. An advanced derivative of the original Soviet-era Su-27, the new Flanker variant is high flying, fast and carries an enormous payload. That, combined with its advanced suite of avionics, makes the Su-35 an extremely dangerous foe to any U.S. fighter, with the exception of the stealthy Lockheed Martin F-22 Raptor.

As an air-superiority fighter, the Su-35's major advantages are its combination of high altitude capability and blistering speed—which allow the fighter to impart the maximum possible amount of launch energy to its arsenal of long-range air-to-air missiles. During an air battle, the Su-35 would launch its missiles from high supersonic speeds around Mach 1.5 at altitudes greater than 45,000 ft. It also has three-dimensional thrust vectoring—which gives it exceptional maneuverability, advanced avionics and a powerful jamming capability.

The Chinese People's Liberation Army Air Force is keen to acquire the new jet and there have been reports that North Korea would also like to buy some number of Su-35s. As the Su-35 begins enter service in numbers, additional customers are likely to start lining up to buy the new fighter.

Amur-class submarine:

While Russia builds sophisticated nuclear-powered ballistic missile and attack submarines like the new Borei-class and the Severodvinsk-class boats, it is a near certainty that those vessels will never be exported. Russia has only ever allowed India to lease its nuclear-powered submarines. India currently leases the Akula II-class attack submarine INS Chakra—also known by its Russian name Nerpa (K-152)—and it also previously leased K-43, which was a Charlie I-class attack submarine. Most other client states will buy advanced Russian diesel-electric attack boats the latest of which is the Amur-class.

Diesel-electric boats—though they lack the endurance of a nuclear-powered vessel—are extremely quiet and pose an extremely dangerous threat to surface warships. This is especially true in confined littoral waters close to shore. Even older diesel-electric boats have proven to be surprisingly dangerous. In 2007, for example, a relatively elderly Chinese Song-class boat approached the carrier USS Kitty Hawk undetected until the crew announced themselves by surfacing near the giant warship. The Russian Kilo-class and its newer Amur-class successor are far quieter and far more capable than the Chinese boat.

The Amur-class boats, which are derived from the Russian Navy's Project 677 Lada-class submarines, are designed specifically for the export market. Compared to the older Kilo-class design, the Amur is much quieter—largely thanks to its new single hull design--and is far better armed. It can also be fitted with an air independent propulsion system—which means it can stay underwater for a lot longer than conventional submarines that are not so equipped. The Amur-class is equipped with four 533mm torpedo tubes and 10 vertical missile launch tubes. It can travel at speeds of 20 knots and has an endurance of at least 45 days.

Russia has not yet found a client for the Amur, but given that the older Kilo was very popular, it is near certainty that they will make a sale sooner rather than later.

T-90 Tank:

The Russian T-90 main battle tank is the most advanced current Russian armored vehicle until the Armata series enters service. Though the designation is new, the tank is at its core a very heavily upgraded Soviet-era T-72.

The T-72 was originally intended to be produced in huge numbers as the Soviet Army's lower tier tank while the more capable T-80 was reserved for elite units. However, after the

T-80's less than stellar performance during the first Chechen conflict, the Russian Army chose the T-90 over upgraded version of the T-80 for future orders.

While its origins lie in T-72, the T-90 is an excellent tank that is far less costly than its Western counterparts like the Leopard 2 or M1A2 Abrams. In effect, the T-90 combines the armament, sensor and fire-control systems of the latest version of the T-80 onto the T-72 chassis. It also adds a new composite armor matrix and Kontakt-5 explosive reactive armor.

The Russian Army has almost a thousand T-90s, but the tank has proven to popular with the Indian Army which fields perhaps the most advanced version of the vehicle (with better sensors and protection among other features). In addition to India, Algeria, Azerbaijan, Turkmenistan and Uganda have purchased the T-90. There are also reports that Vietnam and other countries have expressed interest in the vehicle.

Russia is currently offering an upgraded version called the T-90MS for sale.

P-800 Oniks/BrahMos anti-ship missile:

Originally developed by the Soviet Union, the P-800 is a supersonic anti-ship missile that was later jointly developed into the Indian-Russian BrahMos. The weapon can launch from ships, submarines, aircraft and from land. While it is primarily designed to be used as an anti-ship weapons, the near Mach 3 capable missile can also be used against land targets. It has a range of about 300 km (or roughly 186 miles)—which means it far out-ranges the U.S. Navy Harpoon anti-ship missile.

According to U.S. Navy sources, the BrahMos is a particularly dangerous anti-ship weapons. While they would not disclose specific details, something about the BrahMos' flight profile make it especially problematic to counter using existing American ship defenses.

Both the original Russian version and the Indian/Russian version of the weapon are available for export. Vietnam, Indonesia, and Russia operate the Bastion-P shore-based version of the P-800 weapon. India operates the BrahMos from its ships, aircraft and shore batteries, but Russia will likely install the weapon onboard its new Admiral Gorshkov-class frigates.

Meanwhile, a number of countries have express interest in purchasing the BrahMos including Vietnam and Egypt.

Type 53-65 wake-homing torpedo:

While anti-ship missiles get a lot of attention, submarine launched torpedoes are arguably a much more dangerous threat to U.S. Navy surface warships. Perhaps the most dangerous torpedoes that the Navy might encounter are high-performance Russian-made wake homing torpedoes.

Wake-homing torpedoes have sensors that track the churn in the water as a ship passes through and homes in on the turbulence following a snake-like pattern. Wake-homing torpedoes have long vexed the Navy because the weapons ignore counter-measures, like the Navy's Nixie decoy, and attack the ship directly. Further, the weapons are believed to have a very high probability of kill, which means they pose a deadly threat. The only real counter to the wake-homing torpedo problem is to develop an anti-torpedo torpedo (ATT). The Navy has deployed a prototype onboard the carrier USS George HW Bush, but it not clear how effective the new ATTs are.

Russia has exported wake-homing torpedoes. China is known to have bought some, but it not clear how many other countries have purchased such weapons.

This first appeared in 2015 and is being reposted due to reader interest.

<http://nationalinterest.org/blog/the-buzz/these-are-the-5-most-fearsome-russian-weapons-war-america-21223>

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Sputnik (Moscow, Russia)

If Russia Wasn't Armed With Nukes, 'We Would Be Facing Another War'

Author Not Attributed

June 21, 2017

Western sanctions against Russia are part of a long-term policy aimed at destabilizing the country, former East German spy chief Werner Grossman told Sputnik Deutschland.

Western countries have been provoking Russia since the end of the Soviet Union, and it is only Russia's possession of nuclear weapons that has stopped war from breaking out, former East German spy chief Werner Grossman told Sputnik Deutschland on Tuesday.

"The victory of the Soviet Union, the Red Army, over fascist Germany created a situation in which it wasn't possible to start pursuing interests in the East, especially not militarily. The later development, the inclusion of the Western parts of Germany and later the Federal Republic of Germany into the Western alliance, the admission into NATO, this of course immediately changed the situation again."

"The interests have not changed. They are pointed east. If Russia, as the successor to the Soviet Union, were not armed with nuclear weapons, there would probably have been another war, or we would be facing one."

Grossman, who served as deputy minister for state security and head of the foreign intelligence service in the German Democratic Republic, reflected on Russian President Vladimir Putin's comments during his recent interview with film director Oliver Stone.

When asked if the US would be dominant in a "hot war," Putin replied that "I don't think anyone would survive such a conflict."

Grossman said he agrees with such an assessment.

"A war today would really be the destruction of mankind, because nuclear weapons would be deployed, unrestricted and probably uncontrolled by many sides. During the Cold War between East and West, we thought that a new war must be prevented because it would be the end of mankind."

Current Western politics toward Russia have echoes of the past. In particular, Grossman is reminded of the situation at the beginning of the First World War, more than a century ago, when Germany and the other Central Powers sought to provoke Russia into war.

"It is still the same today. It is always on the agenda to attempt to initiate certain things that get a reaction from the other side," Grossman said.

Grossman thinks that the anti-Russian policy pursued by Western countries, including Germany, is unlikely to change anytime soon. In particular, sanctions won't be lifted because they serve a political purpose for the ruling elites of the West.

"There would have to be a policy in favor of the normalization of relations with Russia and the lifting of sanctions, absolutely. Everything that has been done up to now would have to be rolled back. But that won't happen, I have said that already, because the ruling elite in the

West is completely uninterested in it. They want the opposite – the encircling of Russia, the suppression of Russia and its influence in other regions of the world."

On Tuesday, the US Treasury Department's Office of Foreign Assets Control (OFAC) expanded its sanctions against Russia, which were first imposed in March 2014 after Crimea decided to re-join Russia in the aftermath of the Euromaidan coup d'etat.

The US introduced sanctions against some 40 individuals and entities over their alleged involvement in the ongoing conflict in eastern Ukraine. They include several top Crimean officials, Russian Special Presidential Representative for Cooperation with Organizations Representing Russians Living Abroad Alexander Babakov, PMC Wagner (a private military company), three banks operating in the self-proclaimed Donetsk and Luhansk People's Republics and six banks operating in Crimea.

On Wednesday, EU officials told Sputnik that while some countries are against the automatic renewal of the EU's anti-Russian sanctions, French President Emmanuel Macron and German Chancellor Angela Merkel could recommend the extension of anti-Russia sanctions at an EU summit this week.

"There has to be a clear recommendation from the German chancellor and President of France, because they are [in] the Normandy format and Minsk agreements were born within the framework of the Normandy format. I expect a recommendation from both Merkel and Macron to roll over the sanctions," the official said Wednesday.

The two leaders' recommendation would prompt European Council President Donald Tusk to inform other EU leaders to "kick-start the written procedure."

"So, actually it will be a political decision, and then we need to have a legal process, a technical one," the official said.

<https://sputniknews.com/europe/201706211054850460-russia-prevent-nuclear-war/>

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RT (Moscow, Russia)

'NATO Buildup on Russian Borders Erodes Global Security' – Moscow

Author Not Attributed

June 21, 2017

The growing NATO presence in the Baltic and Eastern Europe demonstrates "blatant unwillingness" of certain Western states to stop "pursuing an anti-Russian agenda" and forces Moscow to beef up its border defenses, according to Russia's defense minister.

The situation on Russia's western borders has a "tendency to deteriorate", Sergey Shoigu said during an on-site meeting of the Defense Ministry Collegium in Kaliningrad on Wednesday.

"It is related to the growing military activity of NATO countries in Eastern Europe", Shoigu said.

The NATO buildup includes the modernization of airfields, ports and other military sites, as well as the deployment of new elements of the US missile defense, the minister added.

Alongside the expansion of military infrastructure, the alliance is also bolstering its operative and combat readiness, according to Shoigu. The defense minister said this is

demonstrated by the ongoing Baltops and Saber Strike military drills, which involve thousands of troops as well as dozens of military planes and ships.

“The ongoing developments clearly indicate blatant unwillingness of the Western partners to stop pursuing the anti-Russian agenda. The NATO summit in May also demonstrated that, when international terrorism and Russia were placed on the same list of threats”, Shoigu said.

A number of countries are trying to use military measures complimented by “political, informational and economic pressure”, to achieve geopolitical gains.

“Such unjustified actions of our Western colleagues lead to erosion of the global security system. [These actions] raise mutual suspicions and push us to undertake retaliatory measures, mainly in the western strategic direction”, Shoigu added.

There have been over 100 unannounced checks in Russia’s Western Military District, according to Shoigu, which demonstrated that the troops were ready for combat engagement.

The troops of the district have received over 300 pieces of combat vehicles and equipment over the past six months, and new military units are being deployed to bolster the defenses of Russia’s western border.

“Over 30 battalion and company-level tactical groups are in constant combat readiness, they are fully staffed and equipped with all the necessary materiel pieces”, Shoigu said.

In addition, some 20 new military units will be formed in the Western Military District by the end of 2018.

As NATO flexes its muscles close to Russia’s borders, Moscow has started preparations for the upcoming joint strategic drills Zapad-2017 (West-2017), which will be held in Belarus later this year.

<https://www.rt.com/news/393479-nato-buildup-russia-security/>

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MIDDLE EAST

Iran Focus (London, UK)

Iranian Resistance (MEK Network) Reveals Extent of Regime Ballistics Programme

Author Not Attributed

June 21, 2017

The leading Iranian opposition group have revealed that since the 2015 nuclear deal, which limited the amount of work that could be completed on nuclear weapons, Iran has been working on ballistic missiles instead.

The National Council of Resistance of Iran (NCRI) held a press conference on Tuesday in Washington, in which they revealed that Iran has been courting scientists from North Korea who have taught them how to improve their nuclear weapons.

The North Korean scientists reportedly taught the Iranians how to dig tunnels and build “missile cities” deep inside mountains to withstand airstrikes.

The white paper released by the NCRI said: “On the basis of specific intelligence, the [Iranian Revolutionary Guard Corps’ (IRGC)] missile sites have been created based on North

Korean models and blueprints. North Korean experts have helped the Iranian regime to build them. Underground facilities and tunnels to produce, store, and maintain missiles have also been modelled after North Korean sites and were created with the collaboration of the North Korean experts.”

Alireza Jafarzadeh, deputy director of the US branch of the NCRI, showed satellite photos which showed North Korean mountain “cities” which hold hundreds of missiles.

The statement continued: “In the context of these training and relations, delegations of the IRGC’s aerospace constantly travel to North Korea and exchange knowledge, information and achievements with North Korean specialists. North Korea’s experts constantly travel to Iran while the IRGC’s missile experts visit North Korea.”

There are now at least 42 ballistic missile centres across Iran being operated by the IRGC, around a dozen of which were unknown until now.

The Regime has even reorganised its IRGC Aerospace Force so that it can focus solely on missile production and testing rather than aircraft.

Jafarzadeh said. “It’s not by accident, its part of their overall strategy.”

This way the Regime can intimidate its regional rivals in Saudi Arabia, but more importantly, the missiles can act as a delivery system for nuclear weapons when the nuclear deal expires in less than ten years.

Although the nuclear weapons deal made no provisions against Iran’s use of ballistic missiles, aside from an unenforceable UN resolution, there is good news.

The deal does not prevent the adding of new sanctions for anything that isn’t related to nuclear weapons and last week, the Senate voted 98-2 last Thursday to increase sanctions against Iran because of their repeated ballistic missile strikes, support for terrorism, and human rights abuses.

http://www.iranfocus.com/en/index.php?option=com_content&view=article&id=31689:iranian-resistance-mek-network-reveals-extent-of-regime-ballistics-programme&catid=8:nuclear&Itemid=124

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The Jerusalem Post (Jerusalem, Israel)

'If Hezbollah Fires Rockets on Israel, IDF Should Hit Iran’s Infrastructure'

By Yonah Bob

June 21, 2017

Former deputy defense minister Ehpraim Sneh warned that Israel should be prepared to react to unforeseen aggression from Lebanon by hitting it where it hurts the most.

If Hezbollah fires at Israel,” the IDF “should strike Iran’s infrastructure” in response, former deputy defense minister Ephraim Sneh said on Wednesday.

Explaining the logic of this strategy as part of a panel on Iran at the Herzliya Conference, Sneh said that Iran uses Hezbollah to attack Israel without having to take into account any deterrent that it cares about.

He said current Israeli strategy is to hit Lebanese infrastructure if Hezbollah attacks Israel with rockets.

“Iran does not give a damn if Lebanon’s infrastructure is destroyed” as Israeli retaliation for Hezbollah rockets, he asserted.

Regarding Iran’s nuclear threat, Ariel Levite, former deputy director-general of the Israel Atomic Energy Commission, also on the panel, said, “there is no Israeli policy to deal with the missiles and arms trade aspects” of the Iran nuclear deal.

He said that though Iran is complying with International Atomic Energy Agency inspections, “the ambiguities built into the deal are huge,” causing the deal to function on the ground very differently than it was meant to.

As an example, Levite said, “Is the IAEA responsible for monitoring and limiting Iran’s weapons tests?” Russia and Iran both say it is not.

“If the IAEA is not responsible, then who is? This is a big gap,” he added.

Further, Levite argued that Israel, the US and others must find a way to deter Iran from actions which could move it across the nuclear weapons threshold once the Iran deal ends.

Next, Intelligence Ministry director-general Chagai Tzuriel focused on the Iran-Syria connection, saying, “to solve the Iran issue, you must focus on Syria... What happens in Syria impacts the region and the world.”

He said that as important a threat an Iranian nuclear weapon could be, the Iranian attempt to establish a new front on the Golan was far more current.

Pressed several times about Israel’s position on whether Tehran was observing the nuclear deal, Tzuriel demurred.

“It does not matter what Israel thinks” about whether Iran is following the deal, “it matters what the US thinks,” he said.

Tzuriel explained that Israel’s strategy in confronting Iran should be to coordinate with the US and even Russia to bring maximum pressure to impact Iranian behavior.

Conference chairman and retired Maj.-Gen. Amos Gilead said the key to Israeli strategy on Iran was “ambiguity.”

“We should not tell Iran whether we will bomb them or not,” implying Israel should use ambiguity on the issue to maintain deterrence and get Iran worried.

<http://www.jpost.com/Middle-East/If-Hezbollah-fires-rockets-on-Israel-IDF-should-hit-Irans-infrastructure-497511>

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Foreign Policy Focus (Washington, DC)

All Signs from Trump Point to a Coming Conflict with Iran

By John Feffer

June 21, 2017

Behind all of Trump's boneheaded policies in the Middle East is an unmistakable urge for confrontation with Iran.

The Saudi war in Yemen is really directed at...Iran. Donald Trump’s first overseas visit to Saudi Arabia and Israel was specifically targeted at...Iran. The Saudi-led isolation of Qatar is actually about...Iran.

The escalation of U.S. military actions against the Syria government is... well, do I really need to spell this out any further?

Donald Trump has identified several number-one enemies to target. Throughout the campaign, he emphasized the importance of throwing the full weight of the Pentagon against the Islamic State. More recently, his secretary of defense, Jim Mattis, identified North Korea as “the most urgent and dangerous threat to peace and security.”

Other threats that have appeared at one time or another in the administration’s rotation include China, Cuba, the mainstream media, former FBI director James Comey, and Shakespeare (for writing Julius Caesar and then somehow, from the grave, persuading the Public Theater to run a scandalous version of it).

Through it all, however, Iran has loomed as the primary bogeyman of the Trump crowd. Fear of Iranian influence has prompted the administration to all but cancel the 2015 nuclear deal, intensify a number of proxy wars, consider pushing for regime change in Tehran, and even intervene in the mother of all battles between the Shia and Sunni variants of Islam.

You’re worried about Trump and the nuclear football? The prospect of blowback from an all-out U.S. assault on the Islamic State keeps you up at night? A preemptive strike against North Korea, which Mattis acknowledges would be disastrous, has you rethinking that upcoming trip to Seoul?

Sure, those are all dystopian possibilities. But if I had to choose a more likely catastrophe, it would be a direct confrontation between the United States and Iran. After all, everything seems to be pointing in that direction.

The Fate of the Deal

The nuclear deal that Iran signed with the five permanent members of the UN Security Council plus Germany and the European Union is hanging by a thread. Trump made no bones about his distaste for this Joint Comprehensive Plan of Action (JCPOA). He promised to tear it up.

He hasn’t done so. It’s not just that he’s gotten pushback from the usual suspects in Washington (diplomats, foreign policy mavens, talking heads, journalists). Even members of his inner circle seem to see value in the agreement. Mattis, who is otherwise hawkish on Iran, has stood by the JCPOA and diplomacy more generally. Secretary of State Rex Tillerson has, albeit reluctantly, acknowledged that Iran has lived up to its side of the agreement. Then there are all the American jobs on the line from the Iranian purchase of Boeing jets.

Even though Trump hasn’t torn up the agreement, he has certainly attempted to give it a good crumple. He has directed the Treasury Department to apply additional sanctions on Iran’s missile program. He’s considering the option of declaring the Revolutionary Guards a terrorist organization. Congress, meanwhile, is pursuing its own complementary set of sanctions against Iran (though, because it’s bundled with sanctions against Russia, the legislation may not meet Trump’s approval).

None of this violates the terms of the JCPOA. But it challenges the spirit of the accord.

Adding insult to injury, Trump damned Iran with faint condolences after the recent terrorist attacks in Tehran. “We grieve and pray for the innocent victims of the terrorist attacks in Iran, and for the Iranian people, who are going through such challenging times,” Trump wrote. “We underscore that states that sponsor terrorism risk falling victim to the evil they promote.”

Talk about bad taste. After September 11, Iranians gathered for candlelight vigils to mourn the mostly American victims of the attacks. The Iranian government didn't say anything about chickens coming home to roost after U.S. military interventions in the Middle East, for that would have been inappropriate (though accurate).

But Iran might yet have to make a statement that echoes Trump's tone-deaf remark: States that tear up international agreements risk falling victim to the evil they promote.

Proxy Wars

The conflict is escalating in Syria, where Iran backs the regime of Bashar al-Assad and the United States supports a shifting set of anti-regime groups.

Both countries could decide to team up against the Islamic State. And indeed, Iran launched a missile attack against ISIS in Syria this last weekend in retaliation for the terrorist attacks in Tehran. As after September 11, when Tehran and Washington briefly worked together, cooperation against Sunni extremists would seem a no-brainer.

But the would-be caliphate, having lost most of Mosul and now teetering on the verge of conceding its capital in Raqqa, is shrinking at a rapid clip. Which may well explain why the United States has been wading deeper into the Syrian conflict. For the first time since the war in Syria began, U.S. forces shot down a Syrian government plane this last weekend. It's only the latest in a series of attacks on Assad's forces, according to The Atlantic:

Three times in the last month, the U.S. military has come into direct conflict with the combined forces of the Assad regime, Iran-supported Shiite militias, Hezbollah, and possibly even Iran's elite Islamic Revolutionary Guards Corps. The clashes have reportedly resulted in the deaths of a small number of pro-regime forces, and are much more strategically important than the much-ballyhooed U.S. air strike on the al-Shayrat airfield back in April in response to the Assad regime's use of chemical weapons.

Several administration figures, notably Ezra Cohen-Watnick and Derek Harvey in the National Security Council, are eager to confront Assad and his Iranian backers more aggressively. Mattis, however, has reportedly opposed several of their risky propositions. Regardless of the Pentagon chief's somewhat more risk-averse behavior, both Iran and the United States are maneuvering to control as much territory as possible in the vacuum created by the collapse of ISIS.

Even The Washington Post, which generally supports the JCPOA, is enthusiastic about the U.S. intervening more forcefully in the new great game in Syria. "The United States doesn't have a strategic reason to control southern and eastern Syria," The Post editorial board opines, "but it does have a vital interest in preventing Iran from establishing a dominion from Tehran to the Mediterranean with Russia's support."

How soon the Post forgets. The Iraq War against Saddam Hussein begat the war against the anti-occupation forces, which in turn generated a war against the Islamic State, which now promises to escalate into a war against the axis of Russia, Iran, and Syria. Thus have so-called national interests morphed into endless war.

Meanwhile, over in Yemen, the Saudis are bogged down in a war of their own that's going nowhere (except in producing a severe humanitarian crisis). The Trump administration has been mulling for several months a boost in U.S. participation in that war. At the least, this would mean lifting certain restrictions on the assistance Washington is already providing the Saudi-led coalition — surveillance, refueling, and the like. Then there are the additional arms that Trump wants to provide Riyadh.

Now that the Navy SEALs have conducted two raids in Yemen under Trump — the most recent taking place last month — the prospect of more permanent boots on the ground may not be far off. Recall how the United States became involved in Vietnam to help out the failing French in order to prevent presumed Soviet expansion.

Yemen, where we may yet send troops to help the failing Saudis prevent presumed Iranian expansion, is the very definition of quagmire.

Regime Change?

Last week, Rex Tillerson was testifying in front of the Senate Foreign Relations Committee. In response to a query from Ted Poe (R-TX), a big fan of the Iranian radical group Mojahedin-e Khalq (MEK) and its efforts to destabilize Iran, Tillerson said,

Our policy towards Iran is to push back on this hegemony, contain their ability to develop obviously nuclear weapons, and to work toward support of those elements inside of Iran that would lead to a peaceful transition of that government.

It was the first public indication of regime-change sentiment from the administration.

But it's not the only sign. Cohen-Watnick, the liaison on the NSC to the intelligence community, has reportedly confessed to other administration officials of his desire to oust the Iranian regime through espionage. And the fellow that's now leading the Iran operation at CIA is Michael D'Andrea, otherwise known as the "dark prince," a long-time operative who is fully capable of pursuing the harder line that Cohen-Watnick wants to see.

But wait, didn't Iranians just overwhelmingly back the reformist Hassan Rouhani in elections last month? This popular government has engaged in domestic reforms and external engagement of the "Great Satan." In other words, Iranians have changed their own regime — peacefully — since the days of the more confrontational Mahmoud Ahmadinejad.

Of course, Washington has overturned the wishes of Iranian voters in the past, helping to overthrow Mohammed Mossadegh in 1953.

Whenever oil interests (Tillerson) intersect with chickenhawk ambitions (Bannon), talk of regime change is sure to follow.

Clash of Civilizations

When Donald Trump said a few nice things about Islam on his first foreign trip to Saudi Arabia, liberals back home breathed a sigh of relief. At least the new president wouldn't follow senior advisor Steve Bannon's more extreme narrative of a new crusade against the infidels.

"This is not a battle between different faiths, different sects, or different civilizations," Trump said. "This is a battle between barbaric criminals who seek to obliterate human life, and decent people of all religions who seek to protect it. This is a battle between good and evil."

But even as he rejected the larger religious frame, Trump has embraced a different kind of war: a clash within a civilization. The battle lines between Sunni and Shia have hardened throughout the Middle East, and Trump is wading into this mess firmly on the side of the Sunni. And not just any Sunnis, but the most extreme Wahhabi version of Sunni Islam as represented by the ruling sheikhs of Saudi Arabia.

Let's be clear: Trump is not making a doctrinal statement by siding with extremist Sunnis. He knows nothing about Islam and is not interested in learning. This is about power — who will control the Middle East.

In the past, however, the United States in its infinite naiveté thought that it could control outcomes on the ground in the region. Today, that naiveté has developed into a kind of aggressive ignorance as the Trump administration simply follows the Saudi lead, with Israel pushing from behind. In this way, the United States will be propelled toward war with Iran.

But wait, actually, Donald Trump himself anticipated this outcome.

Back in 2013, Trump said,

We will end up going to war with Iran because we have people who don't know what the hell they are doing. Every single thing that this administration and our president does is a failure.

Who knew that Donald Trump could be so prescient? The president has proven himself high-performing in at least this one regard: self-fulfilling prophecies.

<http://fpif.org/all-signs-from-trump-point-to-a-coming-conflict-with-iran/>

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Tehran Times (Tehran, Iran)

This Is Why Iran Should Play a Major Role in the Negotiations to Ban Nuclear Weapons

By Seyed Mousavian

June 18, 2017

Since the advent of nuclear weapons, nations and grassroots movements across the world have sought to eliminate the risk they pose to life on Earth through nuclear prohibition and disarmament.

The foundation for these efforts has been the 1968 nuclear Non-Proliferation Treaty (NPT), Article VI of which calls on its 190 signatories for “a treaty on general and complete disarmament under strict and effective international control”.

Last autumn, 123 states issued a call on the United Nations for a nuclear ban treaty, which led to a draft of a legally-binding text to prohibit nuclear weapons on 22 May 2017.

Now, from 15 June-7 July, representatives from roughly 130 nations will negotiate the final text and try to make the treaty a reality. Sadly, all the recognised nuclear-weapons states and their allies have voiced strong opposition to the historic talks.

Though the five recognised nuclear powers are signatory to the NPT and have been obligated to pursue disarmament for nearly 50 years, they have not only failed to do so but now have far-reaching plans to upgrade and extend the lifespans of their nuclear weapons.

Even more egregious, they have de facto supported the proliferation of nuclear weapons by establishing strategic relations with countries like India, Pakistan and Israel, which have rejected the NPT and amassed sizeable weapons arsenals.

All told, there exist about 15,000 nuclear weapons in the world today, of which the U.S. and Russia possess around 7,000 each. America's nuclear modernisation program alone is estimated to cost the country \$1 trillion over the next 30 years.

Since the NPT went into effect, the reality has been that the world has been split between the haves and have-nots of nuclear weapons, and the haves have been able to selectively

agree on the new haves. This longstanding status quo has now led to a majority of nations – cognizant that the world has been held hostage to the weapons stockpiles of the nuclear-armed states – to push for a prohibition treaty, to put political and legal restraints on the possession of nuclear weapons.

One state supporting the ban treaty negotiations, Iran, can play a unique role in making the talks a success. Three chief reasons explain why Iran can and should be a strong advocate to advance the causes of nuclear non-proliferation and the elimination of all weapons of mass destruction (WMDs).

First, the July 2015 nuclear deal agreed to by Iran and six major world powers – formally known as the Joint Comprehensive Plan of Action (JCPOA) – sets a new global nuclear non-proliferation standard far stronger than the NPT. As President Obama has stated, the deal cuts “off every single one of Iran’s pathways to a [...] nuclear weapons program,” and establishes the “most comprehensive and intrusive inspection and verification regime ever negotiated”.

Iran is the only country that has banned the use of WMDs with religious edicts at the highest levels. Consequently, the JCPOA can serve as a new basis for the verification and enforcement provisions of the disarmament treaty that the prohibition treaty will call for. To this end, Iran can play an instrumental role in pushing for the globalisation of the JCPOA’s principles, and can even position itself as a regional nuclear fuel hub as part of future prohibition and disarmament treaties.

Second, Iran’s long-established track record of seeking to advance the cause of nuclear non-proliferation gives it a responsibility to continue its role of spearheading non-proliferation initiatives.

In 1974, Iran first proposed a Middle East nuclear-weapon-free zone (ME-NWFZ) at the UN General Assembly, which was passed by the body and has been renewed annually since 1980. The ban treaty negotiations provide Iran and other regional states the opportunity to realise a ME-NWFZ.

Third, Iran is the only country that at the highest religious levels has issued religious edicts banning WMDs. Iran’s position in this regard was shaped during the 1980s Iran-Iraq War, during which it was the victim of WMDs in the form of chemical weapons attacks, but refused to retaliate in kind due to religious considerations.

This was due to a fatwa, or religious decree, by Iran’s revolutionary father Ayatollah Imam Khomeini, against the production or use of chemical, biological, or nuclear weapons. Iran’s current Supreme Leader Ayatollah Ali Khamenei has upheld this fatwa, uniquely binding Iran to be unequivocally against WMDs of all kinds and making it a sincere voice in any WMD-prohibition debate.

The ban treaty negotiations represent a potential major historical turning point, where a majority of the world’s nations will act to safeguard humanity’s future from the threat of nuclear holocaust. While the nuclear-weapons states argue that they need their weapons for reasons of deterrence and strategic balance, their logic does not hold in a world where their nuclear-weapons monopoly is unsustainable.

Increasingly, other countries may seek the same status relying on the same logic as the five-recognised nuclear-weapons powers. The North Korean case serves as an example of how an NPT member may leave the treaty and develop nuclear weapons.

If global peace and stability is to be ensured for future generations, a new model for international security must be created, one that does not rely on WMDs of any kind.

Iran, given its longstanding commitment to the non-proliferation of WMDs, must play a decisive role in ensuring the success of the nuclear ban treaty negotiations to bring about such a world.

<http://www.tehrantimes.com/news/414365/This-is-why-Iran-should-play-a-major-role-in-the-negotiations>

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INDIA/PAKISTAN

NDTV (New Delhi, India)

China To Block India Again On Both Nuclear Group And Jaish Terror Chief

Author Not Attributed

June 20, 2017

Last year China had put technical holds -the equivalent of a veto- on India's application to designate Masood Azhar a terrorist.

After making it clear that it will continue to prevent India's entry to an international bloc that controls nuclear trade, China has indicated it will also fight Delhi on having the chief of terror group Jaish-e-Mohammed blacklisted by the United Nations.

Last year, China led the countries that said India cannot join the 48-member Nuclear Suppliers Group or NSG. It also refused to allow Masood Azhar, who heads the Jaish-e-Mohammed and lives in Pakistan, from being banned by the UN Security Council, which would prevent the terror chief from traveling internationally and result in a global freezing of his assets.

Both issues have been pivotal to tense relations between Delhi and Beijing. India blames the Jaish-e-Mohammed for several deadly attacks on military bases.

China's styming of India is seen as a bailout to its long-term ally, Pakistan.

Earlier this month, ahead of an NSG session, China said that it has not changed its stand on India gaining admission to the group - Beijing's contention is that Delhi has not signed the Non-Proliferation Treaty or NPT, the global pact on arms control, which is a pre-requisite for members. If rules are bent for India, it has argued, Pakistan must benefit as well.

India already enjoys most of the benefits of membership under a 2008 exemption to NSG rules granted to support its nuclear cooperation deal with Washington.

Today, China said that the UN remains divided over Masood Azhar because evidence has not been produced to implicate him. The request for a ban on the terrorist is to be taken up next month by a UN committee.

"At present, some members have disagreement over the listing matter. And China stands ready to remain in coordination and communication with the relevant parties on this issue," said a Chinese Foreign Ministry spokesman, Geng Shuang.

Last year China had put technical holds -the equivalent of a veto- on India's application to designate Masood Azhar a terrorist.

"It is not that the burden of proof is on India to convince. The sponsors (US and other countries) seem to be very well convinced, otherwise they would not have taken the

initiative to move the proposal," said Foreign Secretary S Jaishankar, referring to the US, the UK and France pressing for action against Masood Azhar.

<http://www.ndtv.com/india-news/china-signals-it-will-block-india-again-on-un-ban-on-jaish-terror-chief-masood-azhar-1714656>

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The Times of India (New Delhi, India)

India's Inward Nuclear Turn: It Has Taken 12 Years for the Indo-US Nuclear Deal Hype to Give Way to Sober Realism

By Brahma Chellaney

June 22, 2017

Just as Japan's Diet has ratified the civil nuclear agreement with New Delhi, India has decided to build 10 nuclear power reactors of indigenous design in what is the largest such construction decision in the world since the 2011 Fukushima nuclear disaster. India's turn to a "fully home-grown initiative" reflects the continuing problems in implementing the 2005 Indo-US nuclear deal.

India, duped by its own hype over the nuclear deal, had announced plans to import Western reactors costing tens of billions of dollars. The Indian plans helped to motivate Toshiba to acquire Westinghouse – a takeover that ultimately proved a huge blunder, plunging Toshiba into a grave financial crisis.

Japan, a top nuclear-equipment supplier, signed a separate nuclear agreement with India only last year after other supplier-nations had already concluded such accords. The recent Japanese parliamentary approval removes a critical missing link in commercialising the Indo-US deal. It, however, has come when Westinghouse, GE Hitachi and Areva – which dominate the international reactor export business – are in a dire financial state, with their futures hanging in balance.

Having invested considerable political capital in the vaunted Indo-US deal, India today confronts an embarrassing situation: the nuclear power promise is fading globally before New Delhi has signed a single reactor contract as part of that deal. To save face, India, with one of the world's oldest nuclear energy programmes, has embarked on a major expansion of domestically designed power reactors.

That the decision to construct 10 reactors of 700 megawatts capacity each is monumental is underscored by the fact that the total size of these units surpasses the current installed nuclear-generating capacity in the country. India has 22 nuclear power reactors in operation, with capacity of 6,780 MWe but producing 6,219 MWe. To be clear, the 10 reactors will be in addition to seven others already under construction, with a combined capacity of 5,300 MWe.

The 10-reactor decision fits well with India's commitment under the Paris climate accord to reduce reliance on fossil fuels. The single-minded focus on carbon, however, threatens to exacerbate India's water crisis, given the water-guzzling nature of the energy sector, especially nuclear power. Moreover, US President Donald Trump's decision to exit the Paris accord has cast unflattering light on the onerous climate-related obligations India has taken on before it has provided electricity to all its citizens.

Given that the Indian nuclear plant construction time frame averages seven years, India's decision to ramp up its nuclear power capacity may contribute little to meeting its goal of making 24-hour electricity available to all villages and towns by 2022. But the decision will yield major economic dividends, including boosting domestic industry and creating tens of thousands of jobs. By providing \$11 billion worth of likely manufacturing orders to Indian industry, the decision will help to transform the domestic nuclear industry.

By contrast, had India relied primarily on imports of Western reactors to accelerate new capacity additions, the financial costs would have been considerably higher, without tangible benefits accruing to domestic industry. In fact, with India already a top weapons importer, reliance on Western reactors would have made it the world's largest importer of nuclear power plants – a double whammy for Indian taxpayers, especially given that the country is the only major Asian economy that is import-dependent rather than export driven.

In this light, the travails of the Indo-US deal may be a blessing in disguise for India. But for the serious financial woes of Westinghouse, GE Hitachi and Areva – each of which was to build a cluster of reactors at a separate Indian park – Indian taxpayers would have been potentially saddled with plants like Areva's reactor project in Finland, which is currently almost a decade behind schedule and billions of euros over budget. To be sure, a dispute with Western suppliers over nuclear accident liability also put a break on India's reactor-import plans.

Nuclear power may be on a downward trajectory globally, yet it has earned a rightful place in India's energy mix. The country's domestic nuclear power industry, without technological assistance from overseas, has done a good job in beating the mean global plant-construction time frame and in producing electricity at a price that is the envy of Western reactor vendors.

For many in India's governing elite, the nuclear deal with the US – despite the conditions quietly put into the American ratifying legislation – became the acme of their aspirations for the country. They believed the deal would turn the US into India's enduring benefactor and catapult the country into the big-power league.

It has taken 12 years for Indian hype over the nuclear deal to give way to sober realism. A cost-benefit analysis has helped to lower India's expectations from the deal. India may still buy some Western reactors, but the latest decision clearly signals that its focus will be on building its own reactors. By emphasising its reactor models, India is laying the base for its potential emergence as a reactor exporter. The inward turn reaffirms India's embrace of a zero-carbon power source and underscores its faith in the likely advent of commercially attractive reactors based not on uranium – a resource it lacks – but on thorium, which it has in plenty.

<http://blogs.timesofindia.indiatimes.com/toi-edit-page/indias-inward-nuclear-turn-it-has-taken-12-years-for-the-indo-us-nuclear-deal-hype-to-give-way-to-sober-realism/>

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Asia Times (Bangkok, Thailand)

Nuclear Proliferation Claims Re-Open Can of Worms in Pakistan

By F.M. Shakil

June 16, 2017

Two lawmakers are calling for a "thorough probe," adamant that Dr Abdul Qadeer Khan, who accepted responsibility in 2004, did not act alone

A pair of Pakistani lawmakers have demanded a "thorough probe" into the proliferation of "several tons" of nuclear materials to Iran, Libya and North Korea under the country's former military ruler, Pervez Musharraf, who was in power from 1999 until 2008.

Pakistan People's Party Senator Farhatullah Babar and Jamiat-e-Ulama-e-Islam's Hafiz Hamdullah said last week in the country's upper house that the father of its nuclear program, Dr Abdul Qadeer Khan, was not a lone actor in the "global spread of nuclear technology" from Pakistan, despite making a confession to that effect in 2004. Several others "characters" played a major role in facilitating the materials' proliferation, they claim, but were spared by the president. Babar and Hamdullah are calling for the "entire network" of proliferators to be exposed irrespective of their status and standing.

Babar stressed that it was inconceivable to think that a single individual could have smuggled out huge centrifuge machines and other nuclear material without collusion from "other players." He did not divulge the identities of those he believed were involved in the transfer of nuclear technology – but it is well understood he was alluding to Pakistan's army.

Mohamed El Baradei, the Egyptian former head of the International Atomic Energy Agency, raised the same point in February 2004 when he told reporters the Khan case "raised more questions than it answered, as Khan represents only the tip of an iceberg: we need to know who supplied what, when, to whom, as Dr Khan was not working alone."

Throughout the 1980s and 1990s, Khan's lab in Karachi provided foreign states with the designs for Pakistan's older centrifuges, as well as more advanced and efficient models. Khan and his associates used a factory in Malaysia to manufacture key parts for their centrifuges. The other necessary parts were purchased through network operatives in Europe, Middle East, and Africa.

His main beneficiaries were the North Koreans, who were using plutonium as early as the 1980s before Khan started sending them equipment for uranium enrichment, as well as designs and lists of materials for centrifuges. After September 11, 2001, the world's focus was on Weapons of Mass Destruction in Iraq, but nuclear proliferation was going on in Pakistan, where Khan stood at the heart of an intricate worldwide network.

Babar did not divulge the identities of those he believed were involved in the transfer of nuclear technology – but it is well understood he was alluding to Pakistan's army

Khan ran Pakistan's nuclear program from 1975 to 2001, when his network was exposed and he had to relinquish his position. That exposure jolted the world and the Pakistani establishment sprang into action to take minimize reputational hazard. With Pakistan an important ally in the US-led war in Afghanistan against the Taliban and al-Qaeda, the White

House avoided criticizing Musharraf or the Pakistani government – pointedly ignoring the extent of government or military involvement in the illicit network. President George W. Bush commented: “The government of Pakistan is interrogating the network’s members, and President Musharraf has promised to share all the information he learns about the Khan network and has assured us that his country will never again be a source of proliferation.”

Pakistan’s military establishment offered Dr Khan a pardon in return for taking full responsibility. The Washington Post, quoting a friend of Dr Khan’s, reported in February 2004 that Pakistan had good reason to try to bury the issue. The scientist had “helped North Korea design and equip facilities for making weapons-grade uranium”, the newspaper claimed, “with the full knowledge of senior military commanders, including Gen Musharraf, who is also army chief of staff.”

The day before he was pardoned, on February 4, Dr Khan appeared on state television to declare, in a choked voice, that he had acted alone without any authorization from the army or government and express “my deepest regrets and unqualified apologies to a traumatized nation.” Improbable as it seems, then as now, he was asking people to believe he alone had sold atomic secrets to Iran, Libya, and North Korea.

<http://www.atimes.com/article/nuclear-proliferation-claims-re-open-can-worms-pakistan/>

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COMMENTARY

War on the Rocks (Washington, DC)

Five Myths About a Controversial Nuclear Weapon

By Frank Rose

June 20, 2017

Last week on Capitol Hill, Secretary of Defense Jim Mattis revealed the rigor of the ongoing Nuclear Posture Review:

We’re looking at each leg of the triad and we’re looking at each weapon inside each leg. What I’m looking for is a deterrent that will be most compelling to make certain that these weapons are never used.

Feinstein, however, pressed Mattis on one nuclear weapon in particular that is at the heart of a major debate about deterrence and the defense budget: the air-launched nuclear cruise missile. The senator from California challenged the idea that it serves as an effective deterrent and said that she didn’t see why it had to be modernized along with the ballistic missile submarine, the long-range bomber, and the land-based intercontinental missile.

While there is bi-partisan consensus on the need to modernize U.S. strategic nuclear delivery systems, some analysts and prominent political figures like Feinstein have questioned the need to replace the aging air-launched cruise missile, the AGM-86B or ALCM, with the Long Range Stand-Off Weapon (LRSO).

In War on the Rocks and other publications, opponents of the LRSO have expressed significant concerns about the system. First, they see the LRSO as a redundant capability that is not necessary to meet military requirements. Second, they argue that nuclear-armed cruise missiles are inherently destabilizing, could undermine strategic stability, and

increase the risk of nuclear war. Third, they insist that if the United States were to cancel the LRSO, it could convince other countries who currently deploy nuclear-armed cruise missiles to eliminate their systems. Fourth, they contend that U.S. allies would likely support the elimination of nuclear-armed cruise missiles. And finally, they view the existing strategic modernization program as unaffordable, and therefore, argue that the LRSO should be cancelled.

These arguments are made by respected experts, many of whom I've worked with closely throughout my career working on these very issues, most recently as assistant secretary of state for arms control, verification, and compliance. That said, after reviewing their arguments, I've found them to be unconvincing. While I'll briefly address the military requirements for the LRSO, those issues have been addressed in more detail by other authors who have appeared in this publication. In tackling their arguments one by one, I take a slightly different approach, focusing on the impact of the LRSO on strategic stability, arms control, and U.S. extended deterrence commitments to its allies as well as the issue of cost.

Myth #1: The LRSO is Not Necessary to Meet U.S. Military Requirements

Opponents of the LRSO insist that it is not needed to meet U.S. military requirements. They argue that the new B-21 penetrating bomber armed with the B-61 gravity bomb will be able to hold most adversary targets at risk. However, opponents generally fail to acknowledge that both Russia and China are rapidly improving their air defense capabilities and accompanying anti-access/area denial (A2/AD) strategies. For example, Russia is developing advanced air and missile defense systems such as the S-400 and S-500 that will allow it to engage enemy aircraft at a range of up to 125 miles. As a result, the United States likely needs a stand-off capability to hold certain heavily defended targets at risk. The LRSO provides this and will help ensure that America's remaining B-2 and B-52 bombers remain effective nuclear delivery platforms through the 2040s.

Opponents also claim the United States can meet its military requirements with existing conventional cruise missiles, especially the extended-range variant of the Joint Air-to-Surface Standoff Missile or JASSM-ER. Last year, Franklin C. Miller — a veteran defense official who worked for three presidents — rebutted this notion in written testimony to the Senate:

Since the role of ALCM-B and the LRSO is to deter nuclear attack by posing a credible nuclear retaliatory capability, there should be no confusion as to whether a conventional cruise missile can substitute in that role: it cannot.

That's not to say that the United States shouldn't continue to deploy systems like JASSM-ER to meet its conventional military requirements. However, with an estimated range of around 1000 kilometers, the JASSM-ER may not have the range necessary to hold all key Chinese and Russian conventional military targets at risk. We also do not know if the JASSM-ER will be effective against highly sophisticated Chinese and Russia air defenses in the future. This is why I've argued elsewhere that the United States should develop a conventional variant of the LRSO, similar to the conventional variant of the existing ALCM, the AGM-86 C/D or CALCM.

Myth #2: Nuclear-Armed Cruise Missiles are Inherently "Destabilizing"

In broadsides against the LRSO, we hear that nuclear-armed cruise missiles are inherently destabilizing. However, throughout the history of the nuclear age, bombers and air-launched cruise missiles have generally been seen as stabilizing. Former undersecretary of state for arms control and international security Rose Gottemoeller stated in July 2016:

Arms control has generally given a “discount” to bomber weapons because they are seen as the least threatening to stability, because they pose the smallest risk of surprise attack.

Franklin Miller supported this assessment in the same written testimony cited earlier:

[T]he strategic stability provided by bombers and cruise missiles was recognized in the special counting rules applied to them during the Cold War in the START Treaty and much more recently in this decade by the New START Treaty.

Contrary to what opponents argue, the LRSO is not a “first strike” or “decapitation” weapon. If they were to be used, the LRSO would be delivered by long-range bombers. The process of alerting these bombers would be observable by national technical means and the aircraft would most likely take hours to deliver weapons to targets once the order was given. Indeed, former deputy secretary of defense John Hamre has described the LRSO as “the least likely way to conduct a decapitation strike.”

According to Will Saetren of the Ploughshares Fund “an enemy would have no way of knowing if they were under conventional or nuclear attack” because cruise missiles “come in conventional and nuclear variants.” He darkly warns, “This could easily lead to miscalculations and could trigger a nuclear war.” However, the notion that the dual-capable nature of cruise missiles is inherently destabilizing finds little support when examined against the historical record. For example, the United States has deployed conventional and nuclear-armed cruise missiles (e.g., ALCM, CALCM, TLAM/N) for over 30 years without undermining strategic stability or triggering an accidental nuclear war. Russia also continues to deploy similar systems, including their next generation nuclear-armed, air-launched cruise missile, the KH-102, and has employed its conventional variant, the KH-101, in Syria.

Myth #3: Canceling the LRSO will Convince Other Countries to Eliminate Their Nuclear-Armed Cruise Missiles

William Perry, Andy Weber, and Will Saetren have all argued that cancelling the LRSO could lay the foundation for a global ban on nuclear armed cruise missiles, and if the United States leads by example by eliminating its nuclear-armed cruise missiles, other states that possess them could follow suit. A review of the historical record shows that this is unlikely. For example, when the United States retired the TLAM/N sea-based, nuclear-armed cruise missile in 2010, other states did not follow Washington’s lead. What possible incentive would Russia have to give up its system if the United States cancelled the LRSO unilaterally, especially since it just completed the modernization of its own nuclear-armed cruise missiles? Nor is it likely that cancellation of the LRSO would have any impact whatsoever on Indian or Pakistani nuclear modernization.

And even if other countries were prepared to negotiate a global treaty banning nuclear-armed cruise missiles, there are serious questions about how such a ban would be verified, especially if nations retained the right to deploy conventionally-armed cruise missiles. Verification of such a ban would be highly challenging, and the proponents of a ban have not provided a convincing argument of how such a treaty could be effectively verified.

Myth #4: U.S. Allies Will Support a Nuclear Cruise Missile Ban

Opponents also argue that U.S. allies would likely support negotiation of a global ban on nuclear-armed cruise missiles, and that such a ban would help allies manage their domestic political challenges associated with nuclear disarmament. As the assistant secretary of state responsible for arms control and nuclear policy issues, I engaged allies frequently on the U.S. nuclear modernization program. And while some allies (such as Japan and the Netherlands) certainly face domestic political pressure to support nuclear disarmament

proposals such as the Nuclear Weapons Ban Treaty, it is hard to see how the cancellation of the LRSO by the United States would alleviate those pressures. Furthermore, no ally covered by U.S. extended deterrence commitments has expressed support for negotiating a treaty banning nuclear-armed cruise missiles.

To the contrary, allies are increasingly concerned about the development by Russia and China of sophisticated A2/AD systems, including advanced air defenses, designed to deny the United States the ability to project power forward during a conflict or crisis. Therefore, the development of advanced, stand-off range systems like the LRSO will be critical in assuring allies that the United States can maintain effective deterrence. And unlike submarines and land-based intercontinental missiles, bombers armed with air-launched cruise missiles are a visible way to demonstrate commitment to allies, and signal resolve to adversaries during a crisis. At a time when allies are growing increasingly concerned about the United States' commitment to their security, it's hardly the time to stoke additional concerns about that commitment by unilaterally cancelling the LRSO.

Myth #5: The United States Can Save a Lot of Money by Canceling the LRSO

There are serious questions over whether or not the overall U.S. strategic nuclear modernization program is affordable within existing and projected defense budgets. The Congressional Budget Office estimates that the costs of the nuclear modernization program could amount to over \$1.2 trillion. As a result, opponents have called for cancelling the LRSO as an affordability measure. In my view, concerns about the costs and affordability of the overall modernization program are warranted, but it's questionable whether cancelling the LRSO would generate significant savings. Between fiscal years 2016 and 2020, the Department of Defense is slated to spend approximately \$94 billion on nuclear modernization overall. During that same time period, the Pentagon expects to spend \$1.78 billion on the LRSO out of a total cost of \$8.3 billion. This represents only about 2 percent of the strategic modernization budget. Even when procurement of the system begins in the mid-2020s, it's unlikely that that percentage will grow significantly.

The LRSO: A Critical Capability

With Chinese and Russian military power growing — especially in terms of its A2/AD capabilities — the LRSO will play an important role in holding key adversary targets at risk. It is not a destabilizing weapon. Indeed, the historical record clearly shows that the LRSO is one of the more stabilizing weapons in a nuclear arsenal. Furthermore, claims that cancellation of the LRSO by the United States will lead other countries to eliminate their nuclear-armed cruise missiles are flawed and unsupported by the history.

Of all the arguments offered by opponents of the LRSO, the most credible appears to be that the current strategic modernization program as a whole is unaffordable. They very well may be right. However, cancelling the LRSO is unlikely to reap the cost savings that they seek. Therefore, other tradeoffs will likely need to be made in order to make the program affordable over the long-term. This will certainly be one of the key issues addressed in the on-going Nuclear Posture Review. However, based on its military capabilities, flexibility, and cost-effectiveness, it is critical that the LRSO remains a key part the strategic modernization program.

<https://warontherocks.com/2017/06/five-myths-about-a-controversial-nuclear-weapon/>

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The Japan Times (Tokyo, Japan)

Japan Should Join Negotiations to Ban Nuclear Weapons

Author Not Attributed

June 21, 2017

The second round of negotiations to create a global treaty to outlaw nuclear weapons started last week at the United Nations and is scheduled to conclude July 7. Japan, which relies on the U.S. nuclear umbrella, has boycotted the talks, apparently out of concern that its participation could complicate its relationship with the United States. The Abe administration should reconsider whether its stance is beneficial for Japan — the only nation in history to suffer a nuclear attack. Japan should take part in the negotiations and seriously seek ways to bridge the differences between the nuclear weapons powers, which oppose the treaty, and the non-nuclear weapons states that are pushing forward with the accord. A failure to take concrete action in this direction could imperil Japan's credibility as a country serious about nuclear disarmament.

Last December, the U.N. General Assembly adopted a resolution calling for the start of the treaty talks, with 113 members voting for it and 35 others, including the U.S., Russia, Britain and France — all of which are nuclear powers — and Japan, voting against it. Thirteen other members, including China and the Netherlands — a NATO member that is under the U.S. nuclear umbrella — abstained from the vote. Following the first round of negotiations on the prospective treaty, Costa Rica, which serves as chair of the talks, submitted a draft treaty in late May.

It is significant that the planned treaty's basic ideal is founded on "the catastrophic humanitarian consequences that would result from any use of nuclear weapons," a phrase appearing at the outset of the preamble, and that it takes into consideration the pains of survivors of the nuclear-bombed cities of Hiroshima and Nagasaki, who still suffer from health damage caused by the radiation and have played an important role in rousing global opinion against nuclear arms. The preamble says the catastrophic consequences of nuclear weapons "pose grave implication for human survival" and mentions "the suffering of the victims of the use of nuclear weapons (Hibakusha) as well as of those affected by the testing of nuclear weapons."

The draft treaty binds state parties to "never under any circumstances ... develop, produce, manufacture, otherwise acquire, possess or stockpile nuclear weapons or other nuclear explosive devices ... (or) use nuclear weapons." It prohibits conducting nuclear weapons test explosions and transferring nuclear arsenals and control over them to any other state. It likewise bans receiving the transfer of nuclear weapons and accepting control over them.

Although the draft stops short of outlawing the threat of the use of nuclear weapons, it obliges state parties to "never ... assist, encourage, or induce, in any way, anyone to engage in any activity prohibited to a state party under the convention" — apparently with countries under a nuclear umbrella in mind. This part of the draft treaty can be taken as an effort to challenge the idea of extended nuclear deterrence, under which a nuclear weapons state seeks to prevent a nuclear attack against an ally by indicating its readiness to use its own nuclear weapons in retaliation.

Unfortunately, all states possessing nuclear weapons, including the U.S., Russia and China, have refused to take part in the treaty negotiations, and all countries relying on the U.S.

nuclear umbrella, except the Netherlands, have followed suit. Explaining its nonparticipation in the talks, Japan said that if the negotiations proceed without the participation of the nuclear weapons powers, it would cause the schism in the international community to deepen, making it difficult for it to take part in the talks “in a constructive manner and in good faith.”

Japan also thinks that at a time when North Korea continues to carry out nuclear weapons and ballistic missile tests, U.S. nuclear deterrence is as important as ever. But if Japan continues to oppose the treaty-based ideal of outlawing nuclear weapons and emphasizes the importance of nuclear deterrence as its security umbrella, North Korea has an excuse to rely further on its nuclear weapons as diplomatic leverage and even to justify their use.

Japan should immediately take part in the treaty negotiations and contribute to devising a system under which nuclear weapons states can join the treaty in the future and then begin a process of reducing and eventually eliminating nuclear weapons. It should not forget that given the large number of nations that support the treaty, it is likely to be adopted, and that if it enters into force it will have a global moral weight even without the participation of the nuclear weapons powers.

Opponents of the planned treaty have argued that it would weaken the regime of the Nuclear Non-Proliferation Treaty. But the draft treaty characterizes the NPT as “an essential foundation for the pursuit of nuclear disarmament.” Japan should make sincere efforts to create a system under which both the NPT and the global treaty outlawing nuclear weapons can co-exist.

<http://www.japantimes.co.jp/opinion/2017/06/21/editorials/japan-join-negotiations-ban-nuclear-weapons/#.WUs1eGRKVTZ>

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The Wall Street Journal (New York, NY)

Can the U.S. Afford Modern Nukes?

By Matthew Costlow

June 13, 2017

When President Obama left the White House, he punted on a tough choice: how to modernize the U.S. nuclear force. In the coming weeks, the Congressional Budget Office is expected to release a report that estimates modernization as currently proposed would cost \$1.2 trillion over 30 years, or about \$40 billion a year. Congress and the Trump administration shouldn't be intimidated by the ostensibly big number.

The plan analyzed by the CBO would replace the nuclear delivery systems of bombers, missiles and submarines with new ones that incorporate the latest safety and survival features. These changes would enable some systems to perform well into the 2080s. It's ambitious, but this program isn't the budget buster nuclear disarmament supporters describe.

Under the plan, spending on the nuclear arsenal would peak in the late 2020s at about 6.5% of the Defense Department budget, up from 3.2% today. Recall that military spending consumes only about 15% of the federal budget.

But determining whether modernization is affordable involves more than cost considerations. The Pentagon simultaneously has to consider its priorities and the costs of

weapons systems when determining the best way to protect U.S. interests. According to the Defense Department, the two highest priorities of U.S. strategy are “the survival of the nation” and “the prevention of a catastrophic attack against U.S. territory.” The Pentagon’s Quadrennial Defense Review lists “a secure and effective nuclear deterrent” at the top of a list describing how to achieve such priorities.

Given that the U.S. nuclear arsenal helps to deter the only existential threat to the U.S., major nuclear war, its value can’t be measured by traditional dollar metrics alone. Budgets are about trade-offs and priorities. As the vice chairman of the Joint Chiefs of Staff, Gen. Paul Selva, testified earlier this year, “We are emphasizing the nuclear mission over other modernization programs when faced with that choice.”

Critics will cry that every dollar spent on nuclear weapons, which have not been set off in anger since World War II, is a dollar taken from those who are fighting wars right now. But as then-Defense Secretary Ash Carter explained in a speech last year, U.S. nuclear forces are the “bedrock” of American security and the “highest priority mission” of the Defense Department. They enable current war fighters to achieve their missions.

Even those in the military who could stand to miss out on spending increases because of nuclear modernization efforts, like U.S. Army Chief of Staff Gen. Mark A. Milley, support modernization: “It’s not even an Army system and it needs to be overhauled and brought back up to the level of readiness.”

The federal government can afford to spend less than 1% of its multitrillion-dollar budget on nuclear modernization. And with Russia, China and North Korea all upgrading their nuclear weapons capabilities, just about the only thing the U.S. can’t afford is to end its modernization efforts before they begin.

<https://www.wsj.com/articles/can-the-u-s-afford-modern-nukes-1497395359>

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38 North (Washington, DC)

Sanctions in Search of a Strategy

By Richard Nephew

June 21, 2017

The Trump administration’s strategy toward North Korea looks strikingly similar to the Obama administration’s strategy over the last few years, particularly with respect to the application of sanctions. That is, tough talk, with a measure of saber-rattling (bomber overflights) and additional sanctions to grant credence to the message. With this, the Trump administration is following a fairly traditional foreign policy template for coercive diplomacy, albeit one that has suffered at times from messaging problems and overall inconsistencies. However, it is far from clear that this strategy, even if it results in greater pressure on Chinese banks and entities, would be successful in convincing Kim Jong Un to terminate his nuclear and missile programs.

June Actions

Since the beginning of June, the United States and the UN Security Council (UNSC) have increased pressure on North Korea to restrain its nuclear and missile activities. The US actions included new US designations against six entities and three individuals, preceding by a day UN Security Council sanctions against four entities and 14 individuals. Though

these actions may seem like small, incremental steps, they could help contribute to a diplomatic outcome in the future.

The specific descriptions of the newly sanctioned entities and individuals have particular value. For example, by imposing sanctions on Koryo Bank, the UNSC reaffirmed the overall danger of doing business with North Korean financial institutions. Taken in combination with sanctions on the Kangbong Trading Corporation and Korea Kumsan Trading Corporation, these UNSC sanctions can help to increase the perception of reputational risk to doing business with North Korea. The inclusion of these names in the various compliance lists maintained by global trading firms and banks will prevent direct business with these entities except in instances of willful ignorance or blatant noncompliance. More broadly, they will force companies, banks and other institutions to scrub once more their overall business dealings in Northeast Asia to ensure that they are in step with the UNSC and to reconsider business arrangements that are ambiguous as to the final recipient of goods or services. As has been seen in the Iran case (both before and after the 2015 nuclear deal), such sanctions and risk perceptions linger and can influence business decisions with long-lasting effect.

This is even true with respect to China, long seen as a sanctions sieve when it comes to North Korea. Certainly, China can and should do more. Reports that Chinese purchases of North Korean coal well above the caps agreed to by the UNSC in resolution 2321 persisted throughout early 2017. However, those were replaced with reports in mid-April 2017 that China had rejected further North Korean coal shipments. Likewise, the UN Panel of Experts report of February 2017 was rife with indications that Chinese companies were continuing with sanctioned transactions with North Korea. Left unsaid, but hardly a secret, was the possibility that these transactions took place with the explicit connivance of the Chinese government. Those following Chinese export controls and sanctions enforcement over the past few decades would find it hardly surprising that this remains a persistent problem. However, Chinese export controls have also improved over the past few decades, such that the main problems now are similar to the problems facing other export control and enforcement authorities around the world: limited resources; the scale of exports relative to monitoring and policing capabilities; inadequate communications with the private sector; and keeping up with the pace of emerging technology.

The overarching problem for China—and, for that matter, for the broader international community—is whether these specific designations are part of a comprehensive strategy that has a serious chance of influencing North Korean decision-making.

Strategic Considerations

Though variations may be endless, the question facing North Korea today (and—by extension—foreign policymakers dealing with North Korea) is fairly straightforward: is North Korea prepared under any circumstances to renounce its nuclear and ballistic missile programs? Those proposing a strategy of intensified economic and political pressure against North Korea are implicitly laying a bet that the answer to this question is “yes” and at a price that the international community is prepared to pay.

Proponents of further sanctions are pushing back against the general tide of nonproliferation history thus far. There are many instances of countries being convinced (either diplomatically or under threat) to abandon plans for the development of nuclear weapons, from Sweden in the 1960s to Libya in 2003. But, in each of these cases, neither country actually possessed a nuclear device. Only South Africa can be reasonably described as an outlier to this legacy. But its decision to renounce nuclear weapons stemmed as much from its pending regime change and the end of apartheid. Thus, the South Africa case more

reasonably approximates the decisions made by Ukraine, Belarus and Kazakhstan in the 1990s to repatriate to Russia the nuclear weapons they inherited when the Soviet Union collapsed. North Korea is therefore a singular case and unhappy comparisons might be better drawn to the unsuccessful efforts of the United States and others to persuade India and Pakistan to forswear nuclear weapons. These efforts, too, involved the use of sanctions but were an unmistakable failure (and not accorded much seriousness in their implementation in any event).

Nonetheless, proponents of a more aggressive sanctions push with North Korea have a critical argument in their favor: though sanctions may have been used against North Korea, they have received nowhere near the same level of focused government effort that underpinned the Iran dual track strategy from 2006-2013. It is therefore fair to argue that this strategy has yet to be fully tried and merits the opportunity, as former Treasury officials David Cohen and Anthony Ruggiero have argued. Ruggiero has laid out some thoughtful recommendations about how to expand this strategy in ways that could materially increase the pressure on North Korea. If such a strategy were to be employed, then the steps taken by the United States and UNSC this month would have been small but crucial ones along this pathway, just as a similar pattern of sanctions adopted by the United States and UNSC over seven years eventually contributed to the nuclear deal negotiated with Iran.

At the same time, the fact that this strategy may not have been fully tried at this stage should not lead us to assume either that it would be successful even if the full weight of the international community (China included) were thrown against the problem or that there isn't cost in the endeavor (including the opportunity cost of dealing with other challenges with China, whether in the South China Sea or in bilateral trade). Rather, we now need to carefully consider whether such a strategy really could deliver the promise of reversing North Korea's capabilities regardless of how much pressure is put on the North Koreans. This seems difficult to square with what we are seeing today and the historical record of attempts to coerce North Korea over three presidential administrations.

As with other historical cases, it simply may be that North Korea is not prepared to abandon its nuclear or ballistic missile capabilities regardless of cost, because they see these weapons as the only guarantee of its survival, and that actual disarmament would require military action. What may be more likely is that the sanctions effort could be sufficient to seek an accommodation with Kim Jong Un now on today's nuclear and missile program that is some distance from complete, verifiable, irreversible dismantlement of the North Korean nuclear and missile programs. Though not all sanctions advocates look at North Korea the same way, such an outcome is not likely what most proponents have in mind.

The question that ought to be driving strategy development in Washington, Beijing, Seoul and other world capitals is what would constitute an acceptable outcome to the pressure campaign? In fact, allusions to the legacy of the Iran campaign are incomplete without recognition that the dual track strategy was premised and sold on the basis of Washington's willingness to negotiate an agreement with Iran. The precise dimensions of that agreement were not spelled out until 2014-2015, but the 2006 and 2008 P5+1 offers to Iran at least gave some indication of what might result from the talks that sanctions produced. Language in the 2008 P5+1 package that offered "to treat Iran's nuclear program in the same manner as that of any Non-nuclear Weapon State Party to the NPT once international confidence in the exclusively peaceful nature of Iran's nuclear program is restored" was particularly important to our allies and to Iran; others, such as Trita Parsi in his forthcoming book on the talks, have argued that it was the willingness to accede to Iranian uranium enrichment as part of a deal that gave talks the necessary impetus to succeed. Regardless of the specific

inducement, the point remains that the Iranians and our partners faced both tracks of the dual track strategy—an approach toward North Korea which has yet to be fully articulated by the Trump administration.

Conclusion

The sanctions taken by the United States and UNSC in June could be the continuation of an eventually successful policy, building on pressure brought to bear on North Korea from many sources. They could also end up serving as yet another milestone along the path of continued stalemate or, worse, a marker of a 'failed' initiative to constrain North Korean capabilities.

The Trump administration should engage in a thorough, honest appraisal of its chances of both eliminating or arresting North Korea's nuclear and missile programs and how much rollback is actually required for a peaceful resolution of the crisis in keeping with US and regional security priorities. And it will have to articulate at least some credible path toward its preferred and feasible outcome to US partners if it is intent on pursuing a more aggressive sanctions push. Such an effort is essential in making sanctions work as a general matter, and perhaps even more necessary in this case, now over two decades into the North Korean nuclear weapons saga.

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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.