
UNITED STATES AIR FORCE

# CENTER FOR STRATEGIC DETERRENCE STUDIES

## NEWS AND ANALYSIS

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# Feature Report

**"*Comprehensive Deterrence Forum: Proceedings and Commissioned Papers*".** By Becca Wasser, Ben Connable, Lawrence Freedman, Anthony Atler, T. V. Paul, James Sladden, Patrick M. Morgan, Eliot A. Cohen. Published by RAND; June 7, 2018

https://www.rand.org/pubs/conf_proceedings/CF345.html

On October 30, 2015, the U.S. Army Special Operations Command (USASOC) facilitated a senior leader forum, hosted by the U.S. Special Operations Command (USSOCOM) and the U.S. Department of State (DoS), to explore the subject of comprehensive deterrence. Participants included representatives from across DoS and the U.S. Department of Defense.

According to a 2015 draft joint USASOC and USSOCOM definition, comprehensive deterrence is the "prevention of adversary action through the existence of credible and proactive physical, cognitive and moral capabilities (loosely defined as willpower) that raise an adversary's perceived cost to an unacceptable level of risk relative to the perceived benefit." Part I of this report delivers the proceedings from the senior leader forum, reflecting a robust discussion of comprehensive deterrence and its application. To ensure a wide variety of perspectives and encourage free-flowing discussion, all remarks from the forum were not for attribution. As such, the conference summary seeks to draw out the main themes and observations from the discussion without attributing particular points to a specific participant.

To support the forum's exploration of comprehensive deterrence and related issues, the RAND Corporation commissioned five papers to examine various aspects of this proposal, referencing four distinct waves of deterrence literature. These papers were distributed at the senior leader forum and are included in Part II of this conference proceeding.

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# NUCLEAR WEAPONS

The Washington Post (Washington, D.C.)

**U.S. Spy Agencies: North Korea Is Working on New Missiles**

By Ellen Nakashima and Joby Warrick

July 30, 2018

U.S. spy agencies are seeing signs that North Korea is constructing new missiles at a factory that produced the country's first intercontinental ballistic missiles capable of reaching the United States, according to officials familiar with the intelligence.

Newly obtained evidence, including satellite photos taken in recent weeks, indicates that work is underway on at least one and possibly two liquid-fueled ICBMs at a large research facility in Sanumdong, on the outskirts of Pyongyang, according to the officials, who spoke on the condition of anonymity to describe classified intelligence.

The findings are the latest to show ongoing activity inside North Korea's nuclear and missile facilities at a time when the country's leaders are engaged in arms talks with the United States. The new intelligence does not suggest an expansion of North Korea's capabilities but shows that work on advanced weapons is continuing weeks after President Trump declared in a Twitter posting that Pyongyang was "no longer a Nuclear Threat."

The reports about new missile construction come after recent revelations about a suspected uranium-enrichment facility, called Kangson, that North Korea is operating in secret. Secretary of State Mike Pompeo acknowledged during Senate testimony last week that North Korean factories "continue to produce fissile material" used in making nuclear weapons. He declined to say whether Pyongyang is building new missiles.

During a summit with Trump in June, North Korean leader Kim Jong Un agreed to a vaguely worded pledge to "work toward" the "denuclearization" of the Korean Peninsula. But since then, North Korea has made few tangible moves signaling an intention to disarm.

Instead, senior North Korean officials have discussed their intention to deceive Washington about the number of nuclear warheads and missiles they have, as well as the types and numbers of facilities, and to rebuff international inspectors, according to intelligence gathered by U.S. agencies. Their strategy includes potentially asserting that they have fully denuclearized by declaring and disposing of 20 warheads while retaining dozens more.

The Sanumdong factory has produced two of North Korea's ICBMs, including the powerful Hwasong-15, the first with a proven range that could allow it to strike the U.S. East Coast. The newly obtained evidence points to ongoing work on at least one Hwasong-15 at the Sanumdong plant, according to imagery collected by the National Geospatial-Intelligence Agency in recent weeks.

"We see them going to work, just as before," said one U.S. official.

The exception, the officials said, is the Sohae Satellite Launching Station on North Korea's west coast, where workers can be observed dismantling an engine test stand, honoring a promise made to Trump at the summit.

Many analysts and independent experts, however, see that dismantling as largely symbolic, since North Korea has successfully launched ICBMs that use the kind of liquid-fueled engines tested at Sohae. Moreover, the test stand could easily be rebuilt within months.

Buttressing the intelligence findings, independent missile experts this week also reported observing activity consistent with missile construction at the Sanumdong plant. The daily movement of supply trucks and other vehicles, as captured by commercial satellite photos, shows that the missile facility "is not dead, by any stretch of the imagination," said Jeffrey Lewis, director of the East Asia Nonproliferation Program at the James Martin Center for Nonproliferation Studies. The Monterey, Calif., nonprofit group analyzed commercial photos obtained from the satellite imagery firm Planet Labs Inc.

"It's active. We see shipping containers and vehicles coming and going," Lewis said of the Sanumdong plant. "This is a facility where they build ICBMs and space-launch vehicles."

Intriguingly, one image, taken July 7, shows a bright-red covered trailer in a loading area. The trailer appears identical to those used by North Korea in the past to transport ICBMs. How the trailer was being used at the time of the photograph is unclear.

Lewis's group also published images of a large industrial facility that some U.S. intelligence analysts believe to be the Kangson uranium-enrichment plant. The images, first reported by the online publication the Diplomat, show a football-field-size building surrounded by a high wall, in North Korea's Chollima-guyok district, southwest of the capital. The complex has a single, guarded entrance and features high-rise residential towers apparently used by workers.

Historical satellite photos show that the facility was externally complete by 2003. U.S. intelligence agencies believe that it has been operational for at least a decade. If so, North Korea's stockpile of enriched uranium could be substantially larger than is commonly believed. U.S. intelligence agencies in recent months increased their estimates of the size of North Korea's nuclear arsenal, taking into account enriched uranium from at least one secret enrichment site.

The Kangson facility was first publicly identified in May in a Washington Post article that cited research by nuclear weapons expert David Albright. Some European intelligence officials are not convinced that the Kangson site is used for uranium enrichment. But there is a broad consensus among U.S. intelligence agencies that Kangson is one of at least two secret enrichment plants.

Several U.S. officials and private analysts said the continued activity inside North Korea's weapons complex is not surprising, given that Kim made no public promise at the summit to halt work at the scores of nuclear and missile facilities scattered around the country.

The North Koreans "never agreed to give up their nuclear program," said Ken Gause, a North Korea expert at the Center for Naval Analysis. And it is foolish to expect that they would do so at the outset of talks, he said.

"Regime survival and perpetuation of Kim family rule" are Kim's guiding principles, he said. "The nuclear program provides them with a deterrent, in their mind, against regime change by the United States. Giving up the nuclear capability will violate the two fundamental centers of gravity in the North Korean regime."

Pompeo, at the Senate hearing last week, sought to assure lawmakers that the disarmament talks with North Korea remained on track and that the effort to dismantle the country's nuclear arsenal was just getting underway. He brushed aside suggestions that the administration had been deceived by Kim. "We have not been taken for a ride," he said.

But some independent analysts think the Trump administration has misread Kim's intentions, interpreting his commitment to eventual denuclearization as a promise to immediately surrender the country's nuclear arsenal and dismantle its weapons factories.

"We have this backward. North Korea is not negotiating to give up their nuclear weapons," Lewis said. "They are negotiating for recognition of their nuclear weapons. They're willing to put up with

certain limits, like no nuclear testing and no ICBM testing. What they're offering is: They keep the bomb, but they stop talking about it."

https://www.washingtonpost.com/world/national-security/us-spy-agencies-north-korea-is-working-on-new-missiles/2018/07/30/b3542696-940d-11e8-a679-b09212fb69c2_story.html?utm_term=.8a8c93fdff24

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VOA (Washington, D.C.)

**Report: Revive Cold War Contacts to Stop Spread of Nuclear Weapons**

By Henry Ridgwell

July 30, 2018

LONDON — The United States and Russia urgently need to revive Cold War-era cooperation to prevent the proliferation of nuclear weapons, according to a new report.

The International Institute for Strategic Studies report, entitled "Once and Future Partners: The United States, Russia and Nuclear Non-Proliferation," uses newly declassified intelligence archives to shed light on the key personal exchanges between the Cold War foes that helped sustain the Non-Proliferation Treaty.

It also highlights a key moment in Cold War cooperation that helped prevent the spread of nuclear weapons to the African continent.

In August 1977, Soviet spy satellites detected preparations for a nuclear weapons test at the Vastrap military base in South Africa's Kalahari desert. Moscow's decision to consult Washington before going public with the discovery indicates the Cold War foes could still work together in non-proliferation matters, says Nicholas Redman of the International Institute for Strategic Studies.

"The Soviet Union did not have diplomatic relations with the apartheid regime. It did, however, have intelligence which suggested that [nuclear] test preparations were underway. The Soviets took the risk of sharing this intelligence with the United States. The United States did have relations with Pretoria, had indeed assisted the civilian nuclear program, but evidently had no interest in allowing South Africa to conduct a nuclear test," Redman said.

Pretoria denied it planned to conduct any nuclear test. However, U.S. intelligence soon confirmed the presence of the test site and helped pressure South Africa into abandoning its plans. The destruction of the Kalahari facility was eventually overseen by inspectors from the U.N. nuclear watchdog the IAEA in 1993.

The collaboration between Cold War foes, led then by U.S. President Jimmy Carter and Soviet General Secretary Leonid Brezhnev, is one of numerous examples of Washington and Moscow working together to prevent the spread of nuclear weapons.

"Personal relations were absolutely key to building not only the non-proliferation treaty, but the entire non-proliferation regime that then grew around it. The fact that there were arms control specialists and scientific specialists in both governments, the fact that they met regularly ... this was actually vital in building the entire regime," Redman added.

The construction of that regime entailed a decade of U.N. talks in Geneva during the 1960s, culminating in the 1970 Non-Proliferation Treaty or NPT, which remains the cornerstone of efforts to prevent the spread of atomic weapons and a testimony to Cold War cooperation.

Increased pressure

But half a century later, the IISS report warns the NPT is under pressure from many sides, just as relations between Moscow and Washington are worse than at any point since the Cuban Missile Crisis in October 1962.

"So there's a need for an investment to rebuild these habits of cooperation because the threats haven't actually gone away. There are still a lot of nuclear weapons that aren't as secure as we would like them to be. There are even more nuclear materials," Redman said.

There are fears of a new arms race, with Russia developing tactical atomic weapons and the United States modernizing its nuclear capabilities.

The 2017 Treaty on the Prohibition of Nuclear Weapons was not signed by any nuclear powers and shows a growing divide between countries with and those without atomic weapons.

"Unless the United States and Russia cooperate, the problem is they could very quickly lose the initiative that they have held up till now in the nuclear proliferation sphere," Redman said.

International image

The report identifies seven lessons that may help to revive non-proliferation cooperation, including "recognition by policymakers on both sides that their countries' international images typically were enhanced when they were seen to cooperate."

The report urges policymakers in both the United States and Russia to learn lessons from Cold War history as the world still faces grave nuclear threats.

https://www.voanews.com/a/report-revive-cold-war-contacts-to-stop-spread-of-nuclear-weapons/4505630.html

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Ars Technica (New York, N.Y.)

**Sitrep: The Air Force's Senior-Citizen Chopper May Have to Hold Off Retirement**

By Sean Gallagher

July 31, 2018

The US Air Force has some of the most high-tech aircraft in the world flying missions at the spear's tip. But a remarkably large number of its systems are what would gently be referred to as "vintage"—and those systems are performing some of the Air Force's most important missions. One of those senior-citizen systems earned its wings during the war in Vietnam—the 48-year-old UH-1 Iroquois, also known as the "Huey".

We've reported frequently on the role that the A-10 Thunderbolt II fills for the Air Force. The 1970s-era turbofan-powered tank-killer turned close-air-support-provider-extraordinaire is constantly called upon in Afghanistan and Syria to provide firepower to protect US and allied forces. The B-52, the strategic bomber that entered service in the 1950s, has years of service still ahead of it—flying long-duration missions ranging from strategic deterrence to close air support in uncontested skies. And the land leg of the US nuclear triad, the Minuteman III ICBM, entered service in the 1960s.

But defending the US' nuclear arsenal falls in part to security forces flying the Air Force's fleet of UH-1Ns, as it has since 1970—when the last iteration of the Huey was introduced into service.

Thanks to a protest and specifications no vendor could provide off the shelf, and despite Congressional backing for a replacement, the Huey may be guarding our nation's nukes for another five years at least.

In 2016, the Air Force was planning to just buy UH-60 Black Hawks straight from Lockheed Martin subsidiary Sikorsky without a contest. But the service reconsidered and put the buy up for competition in December of 2017. The Air Force's specifications aren't all public, but we know they asked for an armored helicopter capable of carrying nine troops and their gear, flying at 135 knots cruising speed for at least three hours, and a minimum range of 225 nautical miles without refueling—at the lowest possible cost. But as it turned out, not even the Blackhawks the Air Force originally wanted to buy could meet all the Air Force's requirements off-the-shelf.

Then in February, Sikorsky filed a protest over the terms of the contract put up for bid. Sikorsky's complaint was over the terms for the operations, maintenance, installation, and training (OMIT) data that would have to be provided to the Air Force, which would become government property. At the time, Sikorsky Business Development Director David Morgan told Valerie Insinna of Defense News, "The issue there is they can use that however they see fit. Give it to other services, other vendors."

The concern about "other vendors" may have been triggered by the fact that one of Sikorsky's competitors for the Huey replacement program—Sierra Nevada Corporation—entered a bid to supply refurbished Blackhawk helicopters that had already seen service with the Army. Dubbed the "Force Hawk," the Sierra entry would take retired Army UH-60 airframes and refit them with new engines and avionics. Sikorsky executives were reportedly furious over Sierra Nevada's move to sell the Air Force Sikorsky's own product.

Sikorsky's bid, on the other hand, is to provide new helicopters based on a design already sold to the Air Force for special-operations missions. The HH-60U Ghosthawk is an up-armored version of the Blackhawk equipped with surveillance sensors along with troop insertion and rescue gear. It has about 85-percent parts commonality with the HH-60W, the Air Force's current combat search and rescue helicopter.

The third contender for the Huey replacement is a collaboration between Boeing and Italy's Leonardo—the MH-139, a militarized version of the AgustaWestland AW-139 commercial helicopter. Boeing would handle the militarization of the helicopters, which would be built at a Leonardo facility in Philadelphia.

The Sikorsky protest was set aside in May. But as a result of the protest, the award of the contract has been pushed back to the end of the fiscal year, according to an Air Force spokesperson, and is in danger of missing the September 30 deadline for a buy. In a speech before the Atlantic Council on May 29, Secretary of the Air Force Heather Wilson said, "We're going to try and not let that slip too much because we know we need to get the Hueys replaced, but we did get a delay."

The Air Force has sent Congress a reprogramming request—a request to shift budget dollars—because the program is at "high risk" of not being awarded this fiscal year. If the money doesn't get pushed into the 2019 budget, the Air Force would have to return the budget for the program and go back to Congress to re-authorize the program for the next budget year—in fiscal year 2020. That could mean that Hueys will still be flying for the Air Force until as late as 2025.

https://arstechnica.com/tech-policy/2018/07/sitrep-the-air-forces-senior-citizen-chopper-may-have-to-hold-off-retirement/

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The Los Alamos Monitor Online (Los Alamos, N.M.)

**Federal Defense Bill Includes Study of Options for LANL Plutonium Pits**

By Tris DeRoma

July 30, 2018

A defense authorization bill currently in the U.S. Senate for a final vote could have a lasting positive impact Los Alamos National Laboratory's plutonium pit production.

The National Defense Authorization Act for Fiscal Year 2019, H.R. 5515, contains provisions that secures production of 30 plutonium pits by LANL by 2026.

In May, the National Nuclear Security Administration announced Los Alamos will produce 30 pits per year by 2026 and the Savannah River Site produce 50 plutonium pits a year by 2030.

H.R. 5515 solidifies Los Alamos' role in the plan, and also includes a request for an independent review of the NNSA's plutonium strategy. The independent review will consider the feasibility of LANL taking on the entire 80 plutonium pit quota through additional shifts of workers.

Sen. Martin Heinrich (D-NM) has been critical of the NNSA's plans for Los Alamos' plutonium pit manufacturing program, especially the study the NNSA used to make its plutonium pit decision.

At the time of the study's release, Heinrich criticized the NNSA's study, saying the study ignored another alternative that allowed LANL to keep all the nuclear pit production at Los Alamos using modular construction techniques.

"Senator Heinrich continues to raise concern that halting the long-planned modular expansion of LANL's facilities for plutonium pit production will set back our military's life extension programs and stretch the lab's existing facilities and workforce to its limits," Heinrich's spokeswoman, Whitney Potter said.

Congress is expected to have the results of the independent review by April 15, 2019.

The bill also requests the Nuclear Weapons Council to track and certify the NNSA's progress to fulfill the Department of Defense requirements of 80 pits a year by 2030.

Funding provisions in the bill also include $191.6 million for legacy cleanup up at LANL. Waste categorized as legacy waste is waste on the site from 1999 to the days of the Manhattan Project.

Greg Mello, the executive director of Los Alamos Study Group, a nuclear and environmental safety organization based in Albuquerque, noted that the consideration of Los Alamos taking on the entire pit manufacturing program is a worrisome sign.

Mello said that although the military doesn't like the idea of being solely dependent on Los Alamos, it might not have a choice, if the Savannah River Site can't revamp its facility by 2030 to take on plutonium pit manufacturing. He said it appears the DOE wants to go back to the Manhattan Project days, when the lab was solely focused on military pursuits.

"They want new pits sooner rather than later, and Los Alamos is the only place that can provide them, so that's why they want to ride Los Alamos hard," Mello said.

"It's a matter of General (Leslie) Groves coming back to Los Alamos."

https://www.lamonitor.com/content/federal-defense-bill-includes-study-options-lanl-plutonium-pits

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# US COUNTER-WMD

The Business Journal (Youngstown, Ohio)

**Decision on $3.6B Ravenna Missile Site Coming 'Soon'**

By Josh Medore

July 30, 2018

VIENNA TOWNSHIP, Ohio – The decision about placing a missile defense site at Camp Ravenna should be coming "pretty soon," U.S. Sen. Rob Portman told members of the Eastern Ohio Military Affairs Commission at the group's annual meeting Friday.

"I think we are the best site, I really do. There's a lot of reasons," he said. "One is the community support … that the leaders that keep the public engaged so they know what this would mean."

But first, the Missile Defense Agency must decide whether the East Coast Missile Defense System is necessary, noted Vito Abruzzino, executive director of the military affairs commission. If the report, which Abruzzino said has been on the desk of Secretary of Defense James Mattis' desk "a few times," declares that such a site is needed, the Missile Defense Agency will have 90 days to make a site recommendation.

The three finalists for the $3.6 billion site are Camp Ravenna, Fort Custer in Michigan and Fort Drum in New York.

"If it's announced, it'll be a fast and furious 90 days to get Camp Ravenna named over those in Michigan and New York," Abruzzino said.

Much of the commission's focus the past year has been advocating for the missile defense site, he continued. The state of Michigan has spent over $1 million lobbying the Department of Defense, while New York's federal congressional delegation has undertaken a media campaign.

"The more you engage and invest in an advocacy strategy, the more likely you are to see fruit from that tree," Abruzzino said. "Ohio has to do the same things."

In June business leaders who traveled to the nation's capital as part of a "fly-in" sponsored by the Youngstown/Warren Regional Chamber reported they were told a decision would be coming in July.

Since it was created four years ago, the Eastern Ohio Military Affairs Commission – which represents both Camp Ravenna and Youngstown Air Reserve Station in Vienna Township – has worked on developing partnerships and connections between the base communities and legislators at the state and federal level. The success of those can be seen, Abruzzino said, in a resolution passed by the Ohio State House supporting the placement of the missile defense site in Ravenna.

The commission also has worked to secure funding for projects at the two bases, including an $8.5 million firing range at YARS, which opened Friday.

"This not only lets us increase our readiness and lethality for our airmen, but it also gives us the capability, through our community partnership program, to have our federal, local and state law enforcement agencies train," said Col. Dan Sarachene, commander of the 910th Airlift Wing at YARS.

Mattis' National Defense Strategy, Abruzzino noted, has put much emphasis on readiness and lethality for the American military.

"That's his vision for what he believes installations and soldiers and airmen and Marines should be. … Readiness is a current and qualified force that's ready to deploy at a moment's notice," Abruzzino said. "For the second piece, you have to do the best at your job in the world."

Funding has also been secured for an $8.8 million front gate renovation at the Vienna air base and $7.6 million for a firing range at Camp Ravenna.

"If we keep money in here, that's good. The military is less likely to divest in something they just put money in," Portman said, noting that 66,000 jobs in Ohio are connected to the military. "We've got more projects coming. We're always looking to the future."

Also speaking at the commission's annual meeting at YARS were U.S. Reps. Bill Johnson and Tim Ryan, both of whom emphasized the station's work with additive manufacturing to produce replacement parts for aircraft.

"We want this base to be part of the intellectual future of the military," said Ryan, D-13 Ohio. "We're already seeing preliminary results of the investments in additive manufacturing. You can go to Kuwait, to Bahrain and the Air Force is there without the ability to access parts for the plane."

In some instances, he said, the cost of creating parts is up to 30% lower than ordering them and cutting the timeframe for acquiring such parts in half.

The 3D printing projects are done in conjunction with Youngstown State University, America Makes and the University of Dayton Research Institute. Ryan noted that $20 million was recently secured to support the U.S. Army Manufacturing Technology program in Pittsburgh, a similar project working on additive manufacturing.

"I understand how, during military operations and conflicts, how critically important the supply chain is and making sure you can get critical parts when you need them," said Johnson, R-6 Ohio. "The advances in additive manufacturing happening here in Youngstown will have a profound impact in years to come on America's military infrastructure."

https://businessjournaldaily.com/decision-on-ravenna-missile-site-coming-pretty-soon/

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Homeland Preparedness News (Washington, D.C.)

**Training Aids Chemical, Biological Weapons Preparedness**

By Douglas Clark

August 1, 2018

Marines and Illinois response units recently joined forces to share training techniques designed to enhance chemical and biological emergency preparedness.

Marines and sailors with the Chemical Biological Incident Response Force (CBRIF) participated in Exercise Chicago Response in Chicago, Illinois, trading tactics, techniques, and procedures that could potentially save lives.

"We specifically chose this region because Illinois is one of four regions that fall within the New Madrid seismic zone and Chicago provides an infrastructure that can facilitate our response," Bob Novak, exercise design and operational support organizer, said. "I think this exercise is important to the American people because it shows, as we have in the past and as we will continue to do, that the Marine Corps has their back. That's what we're here for."

It is estimated that, in the event of a chemical or biological attack in that zone, there could be over 80,000 casualties and 7 million people displaced.

During the exercises, both groups were charged with providing humanitarian assistance to simulated survivors of an earthquake, with Marines in the unit presented with situations they do not normally train for, testing the versatility inherent within the unit, according to officials.

"We're grateful to train alongside our local and state partners," Jordan Fox, Initial Response Force commander, said. "The Marines are going to take what they learned here today back with us to increase our capabilities so that should we ever need to come back to respond the Marines will be ready."

https://homelandprepnews.com/stories/29709-training-aids-chemical-biological-weapons-preparedness/

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Defense News (Washington, D.C.)

**Congress Says Pentagon Must Come Up with Boost Phase Missile Defense Plan Next Year**

By Jen Judson

July 30, 2018

WASHINGTON — The Pentagon will be required to study and formulate an initial plan to develop a boost phase missile defense capability next year, according to the fiscal 2019 National Defense Authorization Act conference report released July 23.

Congressional authorizers are requiring the Missile Defense Agency director to establish a program that develops the means to intercept hostile ballistic missiles during their boost — or initial— phase of flight using kinetic interceptors beginning in FY19, according to the report.

The capabilities developed within the program should be cost-effective and can be air-launched, ship-based or both, the legislation reads.

The MDA is also authorized to enter into partnerships with South Korea or Japan to develop the capability.

Congress would require the defense secretary to work with a federally funded research and development center on a feasibility study to provide an initial or demonstrated boost phase capability using UAVs and kinetic interceptors by the end of 2021.

In the previous fiscal year's NDAA, Congress required the MDA to develop a space-based ballistic missile intercept layer that would be capable of intercepting threats in the boost phase of flight, and lawmakers planned to give MDA one year past the enactment of the legislation to produce a plan to achieve the capability over a 10-year period.

The NDAA called for a technology risk-reduction phase with three competitively awarded contracts to mature technologies, algorithms, components and subsystems that would produce a "medium-to-high-fidelity" digital representation of an intercept weapon system and a test schedule that leads to a live-fire boost phase intercept during FY22, if the technology is mature.

In a summary of the MDA's FY19 budget request, it said the agency would continue to work toward putting a laser on a UAV to address boost phase missile defense risks.

But the MDA did not request any funding in FY19 for laser scaling for a boost phase intercept capability, so Congress is authorizing $50 million to push the effort forward. Senate authorizers had included $80 million for development, but the House authorization won out in conference committee.

The FY19 NDAA notes that the funding to move forward on boost phase missile defense development is subject to congressional appropriations.

The Senate appropriators want to give the Department of Defense $85 million for boost-phase laser scaling in its version of the FY19 spending bill. The House did not include any related funding in its version of the bill.

The senators note that the funding above the budget request would allow the continuation of research and development of the three separate laser-scaling efforts, with a goal of demonstrating a 500-kilowatt laser by 2021 and a "best-of-breed" 1-megawatt laser capability by 2023. The appropriators would direct the MDA to provide a cost estimate and plan to proceed with the FY20 defense budget request.

https://www.defensenews.com/newsletters/daily-news-roundup/2018/07/27/congress-says-pentagon-must-come-up-with-boost-phase-missile-defense-plan-next-year/

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Defense News (Washington, D.C.)

**Japan is Ready to Ink a $1.2 Billion Contract with Lockheed Martin for Missile Defense Systems**

By David B. Larter

July 30, 2018

WASHINGTON — The Japanese government has officially chosen Lockheed Martin to provide the radar arrays for its forthcoming Aegis Ashore sites, the Defense Ministry announced Monday.

The news follows earlier reports that Lockheed had beaten out Raytheon for the job, which is expected to cost about $1.2 billion, according to a Reuters report. The choice was between Raytheon's SPY-6 — the air and missile defense radar destined to be the main sensor for the U.S. Navy's DDG Flight III — and Lockheed's Long Range Discrimination Radar.

Lockheed's radar is slated to be installed in Alaska as part of the Ground-based Midcourse Defense System by 2020.

Japan plans to build two Aegis Ashore stations, a response to North Korea's rapid development of ballistic missiles.

The fact that the project is moving forward will be welcome news to the U.S. Navy, which has been vocal in recent months about the need to move some of its sea-based BMD patrols to fixed shore installations, wherever practicable, and reserve the Navy's capabilities for times of heightened need or emergencies.

https://www.defensenews.com/naval/2018/07/30/japan-is-ready-to-ink-a-12-billion-contract-with-lockheed-martin-for-missile-defense-systems/

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# US ARMS CONTROL

VOA (Washington, D.C.)

**Report Urges US, Russian Cooperation on Nuclear Arms Control**

By Henry Ridgewell and Mario Ritter

July 30, 2018

The United States and Russia urgently need to restart cooperation to prevent the spread of nuclear weapons, a new report says.

The International Institute for Strategic Studies, or IISS, based in London released the report. It is called "Once and Future Partners: The United States, Russia and Nuclear Non-Proliferation."

The study uses formerly secret documents to show incidents in which the U.S. and Western countries cooperated with Russia to limit the spread of nuclear weapons in the past.

Cold War competitors worked together to limit nuclear arms

One important example of cooperation during the period known as the Cold War took place in August of 1977.

Soviet spy satellites showed preparations for a nuclear weapons test at a military base in South Africa. At the time, South Africa was ruled by a system of racial separation known as apartheid. The Soviets consulted with the U.S. before publicly announcing their findings.

Nicholas Redman is with the IISS. He spoke about relations between the U.S. and Soviet Union. He said the incident shows that, even during the tense period of the Cold War, the two sides could work together.

Redman said, "The Soviets took the risk of sharing this intelligence with the United States."

South Africa denied it planned to carry out a nuclear weapons test. However, U.S. intelligence soon confirmed the presence of the test site. It helped pressure South Africa to cancel its plans.

Another example was the cooperation between U.S. President Jimmy Carter and Soviet leader Leonid Brezhnev.

Redman says that personal relationships were important, but other supports needed to be in place to prevent the spread of nuclear weapons.

"The fact that there were arms control specialists and scientific specialists in both governments, the fact that they met regularly…this was actually vital in building the entire regime," he said.

The development of a plan for limiting the spread of nuclear weapons took about 10 years of talks in Geneva during the 1960s. The result was the 1970 Non-Proliferation Treaty (NPT). It remains important to nuclear arms control. But the NPT is being questioned more than at any time in its past.

Redman noted: "So there's a need for an investment to rebuild these habits of cooperation because the threats haven't actually gone away. There are still a lot of nuclear weapons that aren't as secure as we would like them to be. There are even more nuclear materials…"

A new arms race?

Some experts are concerned that a new nuclear arms race is developing. They point to Russia developing so called tactical atomic weapons and American efforts to modernize nuclear weapons.

The United Nations has tried to support nuclear arms control with the 2017 Treaty on the Prohibition of Nuclear Weapons. However, no nuclear powers have been willing to sign the treaty.

Redman said, "Unless the United States and Russia cooperate, the problem is they could very quickly lose the initiative they have held up 'till now."

I'm Mario Ritter.

Henry Ridgewell reported this story for VOA News. Mario Ritter adapted it for VOA Learning English. Hai Do was the editor.

https://learningenglish.voanews.com/a/report-urges-us-russian-cooperation-on-nuclear-arms-control/4506128.html

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Bulletin of the Atomic Scientists (Chicago, Illinois)

**North Korea's Other Weapons of Mass Destruction**

By Alexandra Bell, Abby Pokraka

August 1, 2018

Achieving the final, fully verified denuclearization of North Korea will require the most complicated and rigorous security agreement ever negotiated. That means that the Trump Administration has an unprecedented challenge ahead of it, before even getting to other threats like North Korea's conventional forces and ballistic missile program. Adding to the complications are the rumored North Korean chemical and biological weapons programs. The Trump Administration is right to focus on the North Korean nuclear program first, but it cannot ignore the chemical and biological threats for long, as they too present a serious large threat to the region. The political, legal, and technical obstacles to capturing these programs under any agreement are certainly manifold, but not insurmountable. There are previous programs and efforts that can provide a blueprint.

While the exact nature of Pyongyang's chemical and biological weapons programs are unknown, the Kim regime hasn't exactly been trying to tamp down speculation about his possible assets. In the winter of 2017, Kim Jong-un's half-brother, Kim Jong-nam, was attacked in the Kuala Lumpur airport in Malaysia by two women who smeared his face with a cloth. Unbeknownst to the women, the cloth was covered in VX, the deadliest nerve agent ever created. Even a fraction of a drop absorbed through the skin can fatally affect the nervous system. Speculation abounds that Kim Jong-un ordered the attack. This incident may well have been a message about his capabilities; after all, there are many subtler ways to assassinate someone, a fact likely not lost on Chairman Kim.

US intelligence assessments from 2002 found North Korea possessed a sizable stockpile of chemical weapons. Officials believe there are six major storage sites and weapons reserves, of at least 180-to-250 tons of stockpiled chemical weapons. Bulk quantities of nerve, blister, choking, and blood agents could be delivered by ballistic missiles, conventional artillery, or aircraft. There are also at least eight industrial facilities that can produce chemical agents that could be used to support a chemical weapons program. North Korea is not a signatory to the nearly-universal Chemical Weapons Convention which bans the possession, production, stockpiling, and use of chemical weapons.

North Korea's biological weapons program has reportedly been around since the 1960s. It is believed that North Korea's infrastructure could produce and weaponize biological agents such as anthrax, cholera, and the plague. Some assessments have suggested that North Korea might

consider the use of bioweapons in a conflict. Significantly, North Korea acceded to the Biological Weapons Convention but has not declared any of its biological research and development activities, which is required under the agreement.

To reduce and eliminate the threats posed by these programs, the United States, working with allies and regional partners, needs to establish the full size and scope of North Korea's weapons stockpile and infrastructure. The next steps include full accession to and implementation of applicable international agreements; agreement on a plan for dismantlement of the programs; the establishment of acceptable verification and monitoring methods; and tools to aid implementation.

Fortunately, the United States has experience in dealing with the rollback of chemical and biological weapons programs. The most successful example is the Cooperative Threat Reduction Program, or CTR. Created after the Cold War to destroy Russian chemical and biological agents, and convert infrastructure and personnel into civilian roles, CTR implementation can provide lessons for negotiations with the North Koreans. The program's creators, former Senators Sam Nunn and Richard Lugar, have already called for the Trump Administration to look into how the CTR model can be applied more broadly in North Korea.

We have an even more recent example, in the form of the international effort to remove and destroy Syria's declared chemical weapon stockpile. On September 27, 2013, the Chemical Weapons Convention's implementing body, the Organization for the Prohibition of Chemical Weapons, announced that Syria would accede to the treaty and be bound by its commitments. With that legal mandate in place, the United States, Russia, and a community of nations managed to safely remove and destroy 1,300 metric tons of chemical weapons and their precursors from the middle of a war zone. That stockpile was a threat to every man, woman, and child in the region.

Unfortunately, undeclared stocks remain in Syria and continue to be used. It is a stark reminder that efforts to prevent the spread and use of weapons of mass destruction are never really finished. Each effort can, however, inform and help improve the next.

Even with challenges like undeclared stocks, dealing with North Korea's chemical weapons program is aided by the fact that the Chemical Weapons Convention has a formidable compliance regime. North Korean accession to the treaty should be a goal. Once it becomes a party to the agreement, Pyongyang would be subject to the kind of oversight that can help ensure that its chemical weapons program is indeed, and will remain, shuttered.

Unfortunately, the Biological Weapons Convention—which, remember, is the agreement that North Korea did sign—can provide no such assurance. In order to verify that the North Koreans are not producing or stockpiling biological weapons, US negotiators would need to build an acceptable framework for inspections of all suspected facilities, including those of a dual-use nature. This will require some creative technical thinking and again, a long look at how CTR-era practices can be applied in North Korea.

To be sure, Kim Jong-un's nuclear weapons program is the most pressing threat to the region and the world. But given the unimaginable havoc and destruction that could be unleashed in either a chemical and biological attack, the Trump Administration should not lose sight of what should also be high on the list of priorities.

https://thebulletin.org/2018/08/north-koreas-other-weapons-of-mass-destruction/

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Popular Mechanics (New York, N.Y.)

**I Am Become Opera: An Atomic Show in the Shadow of Los Alamos**

By Paul Ross

July 27, 2018

*The opera Doctor Atomic dramatizes the Manhattan Project's deadly mission, and now it's being performed within sight of the birthplace of the atomic bomb.*

The specter of nuclear annihilation is something to sing about.

Doctor Atomic is an opera that follows the tale of J. Robert Oppenheimer and his nucleus of scientists in the 24 hours prior to the Trinity atomic bomb test in New Mexico on July 16, 1945. Now, 13 years after its debut, Doctor Atomic is bringing the bomb back home, performing within eye sight of the Los Alamos National Lab, the cradle of the Nuclear Age.

"We don't have to build a set," jokes librettist and director Peter Sellars, "because we're actually on location."

Doctor Atomic is the origin story of nukes, but it means something more for the state of New Mexico—this local tale still looms large some 70 years later. Pueblo Indians, who worked for the Los Alamos scientists, and "Downwinders," people who lived in communities near the Trinity site, have suffered unusually high rates of cancer from these early nuclear tests. Both Pueblo Indians and Downwinders appear briefly in the production, making this staging of Doctor Atomic the most personal performance in the show's history.

La Historia de Los Alamos

The world's first atomic weapon was forged under pressure. Pressure to beat the Nazis to the ultimate punch; pressure to have the biggest stick on the playground. In the early 1940s, physics research was spread throughout the U.S. in fragments across several U.S. universities. As project director, Oppenheimer assembled a team in one central location, where secrecy was of the highest order.

"Voice of the Manhattan Project" historian Ellen Bradbury Reid, the daughter of a lab explosives expert and consultant to the production, says that Oppenheimer knew remote New Mexico, having visited several times before the Manhattan Project called it home. According to Reid, Oppenheimer once said, "I wish I could combine my love of physics with my love of New Mexico." With military management from Gen. Leslie Groves, a site was selected in the northern part of "the land of enchantment" on a mesa in the Jemez Mountains—the tiny village of Los Alamos.

Los Alamos may not have been the most comfortable location, but it was in this cocoon of secrecy that scientists worked on the weapon to defeat all weapons, leading up to the eventual summer 1945 test some 35 miles southeast of Socorro, N.M.

Making a Bomb Opera (That Doesn't Bomb)

In two acts, Doctor Atomic covers a lot of ground, examining not only history but the moral and psychological issues of the bomb's creators and the time in which they lived and worked. The music is equal parts dissonant, jarring, and melodic, sometimes sounding more like a sci-fi score than an opera.

Sellars devised the concept from a discussion about who might be a modern Faust, and Oppenheimer's name popped up. Although he never sold his soul for power, the famous atomic scientist was tormented by the consequences of his work. Upon seeing the magnitude of the power

unleashed at New Mexico, he famously quoted the Bhagavad Gita: “I am become death, the destroyer of worlds.”

The history of the Manhattan Project is a well-known story, but it was far from an open source project, so Sellars gathered information where he could—from books, personal histories, and FOIA’d documents, some of which contained transcripts from secret surveillance tapes. Many of the opera's lyrics are pulled from actual declassified files, giving insight to the thoughts and feelings of Oppenheimer and his team of scientists.

But it was Richard Rhodes, author of a four-volume history of the bomb, who became “the guardian angel of our project,” Sellars says. Rhodes won a Pulitzer Prize for The Making of the Atomic Bomb, and it was his exhaustive knowledge that brought the thread of historical truth to Sellars' opera.

But what drew Sellars to the material was how the history and drama mixed into a tale perfect for his medium of choice. “What else but opera has the scale, scope, and density to treat all sides of the topic at once?" says Sellars.

The duo of Sellars and composer John Adams had successfully tackled history in two previous operas: The Death of Klinghoffer, about a terrorist victim on a captured cruise ship; and the Grammy-winning Nixon in China, where a U.S. president meets a dictator. Like their previous operas, Doctor Atomic is more interested in exploring the thoughts and feelings of its titular character, rather than meticulously recreating historical events but its themes of regret, morality, patriotism,and war make this much more than just a simple character study.

“The atomic bomb is the constellation of everything America stands for,” says Adams, “both what makes us great and what makes us a problem in the world.”

The opera opens in one war-ravaged world and transitions to another, where humans must live with a bomb of unimaginable destructive force. On stage, against a backdrop of the mountain mesas which was the home of the Manhattan Project, hangs a massive and ominous silver ball. It represents “the gadget,” the Trinity test bomb. It’s the key prop, ever-present, and serves as the entire set.

The tone is accurate, confrontational, and uncompromising. Oppenheimer and his dedicated team of scientists work under the dual pressures of patriotism and moral conscience. As debates rage around him, the mental chaos of his work is amplified by his stresses of his personal life with his wife, Kitty, and their newborn infant.

In Act Two, tensions continue to rise and reach their frightful climax at zero hour detonation. Then we are left alone in the dark to wonder and worry. Seventy years later, that worry remains.

Julia Bullock, who portrays Oppenheimer’s wife Kitty in the opera, says, “it’s American history that helps us take an even closer look at the here and the now.”

Nuclear Weapons: An Unfinished Story

To this day, the history of Los Alamos still haunts New Mexico.

The state’s history museum in Santa Fe hosts an exhibit of nuclear-themed art and artifacts; the National Museum of Nuclear Science & History calls Albuquerque home; and Sandia Laboratory, also in Albuquerque, is one of only three nuclear laboratories in the U.S. Uranium mines thread through Native American lands in the west, and downwinders, still suffering radiation effects from atmospheric testing, continue to lobby Congress for reparations.

"The state is speaking to us," Sellars says.

He and choreographer Emily Johnson worked closely with three Pueblo tribes of Tesuque, Santa Clara, and San Idelfonso to include traditional Corn Dances both before and during the production. Of indigenous (Yup'ik) heritage, Johnson felt "intensely honored" to have shared the experience.

"[The Corn Dances] are a gesture of healing after 70 years of atomic history in New Mexico," says Santa Fe Opera general director Charles Mackay. "The dances are sacred. They are prayers...never in their histories have these Pueblos danced together."

Although this opera ends at detonation, the atomic story is still being written. Sellars evens sees a possibility of another opera tackling the atomic bomb.

"You don't reduce [the bomb] to a little historical anecdote," Sellars told PBS in April. "Because it's not our history, it's our future. Nukes are our future."

But the birth of the atomic bomb still looms in the tiny town of Los Alamos—and that will likely never change. As Oppenheimer predicted decades ago, "if atomic bombs are to be added to the arsenals of nations, the time will come when mankind will curse the name Los Alamos."

The show runs at the Santa Fe Opera until August 16th.

https://www.popularmechanics.com/military/weapons/a22501590/doctor-atomic-los-alamos-nuclear-bomb/

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Reuters (New York, N.Y.)

**Iran's Rouhani Says It's Up to Europe to Save Nuclear Deal**

Author Not Attributed

July 31, 2018

LONDON (Reuters) - Iranian President Hassan Rouhani said on Tuesday the U.S. withdrawal from a nuclear deal was "illegal" and it was up to Europe to preserve the landmark accord with Tehran.

In May, the United States pulled out of the 2015 deal between world powers and Tehran under which international sanctions were lifted in return for curbs on its nuclear program.

U.S. President Donald Trump said on Monday he would be willing to meet Iran's leader without preconditions to discuss how to improve ties.

Iran and other signatories, especially European powers, have been working to find a way to salvage the nuclear agreement despite the withdrawal of the United States.

"After the U.S. illegal withdrawal from the nuclear deal, the ball is in Europe's court now," Rouhani was quoted as saying by his official website in a meeting with British Ambassador to Tehran Rob Macaire.

"The Islamic Republic has never sought tension in the region and does not want any trouble in global waterways, but it will not easily give up on its rights to export oil," Rouhani said.

Rouhani and some senior military commanders have threatened to disrupt oil shipments from Gulf countries through the Strait of Hormuz if Washington tries to strangle Tehran's oil exports.

Reporting by Bozorgmehr Sharafedin; editing by John Stonestreet, Editing by William Maclean

https://www.reuters.com/article/us-iran-nuclear-rouhani/irans-rouhani-says-its-up-to-europe-to-save-nuclear-deal-idUSKBN1KL17B

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# COMMENTARY

The National Interest (Washington, D.C.)

**There Will Be No Second Iran Deal**

By Gil Barndollar

August 1, 2018

*Ending the first Iran Deal and reimposing sanctions has put Tehran in an impossible position.*

aving withdrawn from the Joint Comprehensive Plan of Action (JCPOA), literally rattled a few sabers, and approved record-breaking weapons sales to the Gulf monarchies, President Donald Trump is now pronouncing himself happy to meet with Iran's leaders without pre-conditions. While such a meeting would be as unprecedented as June's summit with Kim Jong-un in Singapore, it would also be equally empty. The Iranians are not interested in negotiations with the United States, and we should not kid ourselves that this administration is on the verge of any sort of breakthrough in the Persian Gulf.

There seems to be a strong belief in the Trump administration that Iran can be broken by sanctions and forced to the negotiating table. When paired with bizarre affection for the cultish Mujahideen-e Khalq and abetted by the many amply paid mouthpieces of the Gulf Cooperation Council in Washington, this belief is extremely resistant to reality.

America can isolate, impoverish, and even radicalize a nation through economic sanctions but there is little evidence that sanctions can change a targeted country for the better. As Peter Beinart has noted , studies show that sanctions shift the balance of power in a regime's favor, making countries less democratic and more repressive. Sanctions enable a regime to consolidate its power over the economy, especially the black market. Iraq is instructive: the "oil for food" program helped to devastate Iraq's physical and human infrastructure, setting conditions for a failed state once the Saddam regime was brought down. Jason Rezaian, though once imprisoned by the Iranian regime, wrote in May that "when people are squeezed economically, their needs and aspirations become much more about survival than about working toward change."

Americans can look just ninety miles off its coast to see the result of sanctions. Cuba is poor, crumbling, and defiant. When it had a major patron, it was an open enemy of the United States, with tens of thousands of troops fighting in Africa against American proxies. Now, nearly thirty years after the fall of the Soviet Union, the Castro family remains in power.

The Persians are every bit as proud as the Cubans. Iranians still revere Mohammad Mossadeq, the nationalist overthrown by an Anglo-American coup in 1953, for his pride and intransigence. Even after eight years of war and half a million dead, Ayatollah Ruhollah Khomeini said he "drank a cup of poison" when he agreed to a ceasefire with Iraq. While Iran has a young population and the " rich kids of Tehran ," the country is run by men who experienced war, deprivation, and isolation. For example, Qassem Suleimani, the head of the Iranian Revolutionary Guards Quds Force and one of the most powerful men in the region, epitomizes the zealous nationalists who fought for the Revolution as young men and now run Iran. He is unlikely to be deterred by economic hardship.

Iranian President Hassan Rouhani and his foreign minister and chief negotiator, Mohammad Javad Zarif, barely got the JCPOA through amidst domestic opposition and suspicion of America. For their exertions, they were rewarded with a travel ban that treats their citizens like terrorists and a unilateral American withdrawal from the nuclear deal in May. Ali Motahari, the deputy speaker of Iran's parliament, said that "Today, negotiations with the U.S. bring humiliation." If Rouhani accepts renewed negotiations, he would be rightly denounced at home as a quisling, like the Qajar shahs who sold their country to the British and the Russians a century ago. Even were Rouhani inexplicably still inclined to trust the United States, he now has no domestic room to maneuver.

Pulling out of the JCPOA, while yet insisting there is a better deal to be made, is a fantasy. American preconditions for negotiations, as recently reiterated by Secretary of State Mike Pompeo in spite of Trump's statement, are maximalist . Pompeo's demands best resemble Austria's ultimatum to Serbia in 1914. They are not really pre-conditions, but rather a call for pre-emptive surrender by the Islamic Republic.

Any adversary thinking about negotiating with the United States will remember "the Libya model," even without a helpful reminder from John Bolton. A regime can come in from the cold and be normalized and even feted in the United States and Europe. But should internal strife and humanitarian concerns rear their heads, American praise can turn into bombs virtually overnight. The contrasting fates of Hosni Mubarak and Bashar Al Assad are also foremost in the mind of every leader in the Middle East.

In the face of all these challenges, Americans have an administration that appears to treat geopolitics as a reality show. Sprinting from one plotline to the next, with a crumbling pretense of narrative coherence will not produce anything of consequence. Drama can be manufactured and then ramped down, but nothing tangible will be accomplished. The short summits of the past year have produced pictures, platitudes, and promises, but despite the headlines, they have not led to any significant changes with either America's enemies or her allies.

A policy of sustained isolation and pressure on Iran, conducted with Chinese and Russian acquiescence, could yield real results. Juggling a trade war with China, domestic hysteria about Russia, tough talk with Europe, and threats to Iran will result in a pile of dropped balls. It is impossible to discern any overall American strategy in the Middle East over the past year. Indeed, even the inchoate "America First" impulse is more rhetoric than reality.

In principle, diplomacy is usually better than the alternatives. As Winston Churchill famously said, "To jaw-jaw is always better than to war-war." As in Korea, we are far better off with empty summits than with empty threats. However, the president is highly unlikely to get even a photo opportunity with the Iranians any time soon.

https://nationalinterest.org/blog/middle-east-watch/there-will-be-no-second-iran-deal-27507

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Bulletin of the Atomic Scientists (Chicago, Illinois)

**Disarmament over Deterrence: Nuclear Lessons from Latin America**

By Christopher Dunlap

August 1, 2018

In late May, the National Security Archive released newly declassified US documents from more than 50 years ago showing Mexico's support for nuclear disarmament far beyond the boundaries of Latin America and the Caribbean. The documents reveal that Mexico's ambassador to United Nations negotiations in Geneva sought to contribute unambiguous language on disarmament, peaceful nuclear use, and nuclear-weapon-free zones to the text of the Nuclear Non-Proliferation Treaty (NPT), finalized in 1968. The NPT bears many of the same philosophical and legal imprints as the Treaty of Tlatelolco finalized the previous year, which banned nuclear weapons development, storage, or deployment south of the Rio Grande and in the Caribbean basin.

Today the world is closer to nuclear war than at any time since the 1960s. The deterioration of United States relations with at least three nuclear hotspots across the world – North Korea, Russia, and Iran – explains a great deal of the grave assessment that "major nuclear actors are on the cusp of a new arms race."

The vast majority of the world's nations, however, have renounced nuclear weapons. In 2017, 122 of the United Nations' 193 member countries voted to approve the Treaty on the Prohibition of Nuclear Weapons, which calls for complete global nuclear disarmament on humanitarian grounds. These countries believe that nuclear weapons, no matter which nations possess them, pose an unacceptable threat to human life and to an increasingly fragile planet. For them, security is disarmament. For political and military leaders in nuclear-armed countries, on the other hand, security is deterrence, in which the threat of destruction by nuclear weapons keeps the world's strongest militaries from initiating war.

If these mutually exclusive languages of disarmament and deterrence can be translated into some common vocabulary, and if the politics of fear dissipate, a complete global ban on nuclear weapons has a chance to succeed. A half-century ago, a similarly ambitious plan faced long odds and a bumpy road from idea to reality.

Success story. The Treaty of Tlatelolco, finalized in February 1967, created a regional microcosm of a nuclear-weapon-free world. In addition to banning nuclear weapons, Latin American and Caribbean diplomats and heads of state obtained guarantees from the world's nuclear-armed nations (and its lingering overseas empires, among them, Britain, France, and the Netherlands) to abide by the same rules. Remarkably, almost all of these guarantees in the treaty's additional protocols – including those made by the United States and the Soviet Union – were ratified within 15 years, lightning speed in the world of nuclear diplomacy, and long before the treaty itself entered into force with Cuba's accession in 2002.

It is no wonder, then, that Latin American and Caribbean nations dominate the list of the 58 early signatories of last year's Treaty on the Prohibition of Nuclear Weapons. The region's percentage of signatory nations (33 percent) is roughly double that of its share of total member countries of the United Nations (17 percent). The most likely explanation for such disarmament enthusiasm almost certainly centers on what happened at Tlatelolco. After Soviet Premier Nikita Khrushchev removed nuclear missiles from Cuba in 1962, Mexican diplomat Alfonso García Robles led a long and contentious negotiation process, concluding in 1967 with an agreement that stands today as both a landmark of nuclear nonproliferation and a model for global disarmament.

The Treaty of Tlatelolco served as both a call and a blueprint to create four additional nuclear-weapon-free zones in the South Pacific, Southeast Asia, Central Asia, and Africa. Nearly three-fifths of the world's countries now belong to these zones.

Different priorities. Disarmament ranked well above nonproliferation as the motive force for creating the Treaty of Tlatelolco, the world's first nuclear weapons ban in a populated area. Appearing before any other specific legal provision in the treaty's text, "general and complete disarmament under effective international control" stood as Tlatelolco's ultimate goal. Secondarily, the treaty aimed to check the spread of nuclear weapons to countries not already possessing them. Lastly, the agreement's preamble sought to preserve the uninhibited use of nuclear energy for peaceful purposes, defending Latin American and Caribbean nations' "right to the greatest and most equitable possible access" to the atom's immense potential for economic and social development.

The NPT's Article VI, which calls for all parties "to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament," traces back to a more specifically worded draft proposal from Mexico, requiring nations with nuclear weapons to prohibit their testing, manufacturing, and storage "with all speed and perseverance," and to work toward "the liquidation of all their existing stockpiles." (Last year's Treaty on the Prohibition of Nuclear Weapons is in fact the fulfillment of the last clause of Article VI of the NPT, an agreement to pursue a "treaty on general and complete disarmament under strict and effective international control.")

But nuclear weapon states sought a role for continued deterrence in the NPT by inserting a division that the architects of Tlatelolco had rejected, parting the world into nuclear "haves" and "have-nots" with separate and unequal sets of rights and responsibilities. In the view of Argentine diplomat Julio César Carasales, the NPT represented the "disarmament of the disarmed," conferring almost unlimited privileges on nuclear-armed powers while subjecting the rest of the world to onerous restrictions, even on peaceful technology. And while the NPT vaguely promised general and complete disarmament through Article VI, it did not mandate any timeline or procedure by which nuclear-armed countries would actually dismantle their weapons. From 1975, when the first NPT Review Conference took place among the treaty's parties, until 2010, when the preparatory committee for the Treaty on the Prohibition of Nuclear Weapons began meeting, non-nuclear weapon states had only one shot every five years to try to hold weapon nations accountable to their promises of disarmament.

A 50-year-old road map. With the adoption of last year's ban treaty, the 184 UN member countries and two observer states that do not possess nuclear weapons now have an agreement with the potential to gradually discredit nuclear weapons (and their role in deterrence) as illegitimate tools of global security. By following the lead of international treaties prohibiting other classes of weapons of mass destruction – biological, chemical, land mines, and cluster munitions – the proponents of the 2017 agreement are hoping that, someday, the leaders of nuclear-armed states might agree that global security lies in disarmament instead of deterrence.

It certainly won't be easy. Like the architects of the Tlatelolco agreement that entered into force 35 years after it was finalized, the UN diplomats and civil society organizations that hashed out the Treaty on the Prohibition of Nuclear Weapons crafted an ambitious, audacious document that they may not live to see made into law. At least two prominent American nuclear policy and disarmament experts view the UN treaty as a series of lost opportunities to educate citizens of nuclear-armed nations about the threats posed by those arms of mass destruction. Worse, three historical allies among the world's small club of nuclear-armed countries—the United States, France, and the United Kingdom—immediately rejected the Treaty on the Prohibition of Nuclear

Weapons for failing to "address the security concerns that continue to make nuclear deterrence necessary."

Indeed, there is no reason to think that nine nuclear-armed nations will be persuaded anytime soon to dismantle the weapons of mass destruction that they rely on for deterrence. But a path to disarmament-based security is viable. Latin American and Caribbean visionaries gave us the road map at Tlatelolco a half-century ago. They were correct on at least two points: A world free of nuclear weapons is not only possible; it is fundamental to our long-term survival.

https://thebulletin.org/2018/08/disarmament-over-deterrence-nuclear-lessons-from-latin-america/

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War on the Rocks (Washington, D.C.)

**How America's Myopic Focus on Iran Hinders Its Russia Policy**

By Aaron Stein

August 1, 2018

In an oddly phrased and capitalized tweet last week, President Donald Trump warned Iran that if it threatened the United States, it would face "CONSEQUENCES THE LIKES OF WHICH FEW THROUGHOUT HISTORY HAVE EVER SUFFERED BEFORE."

The bellicose tweet was the latest reminder that the Trump administration's Iran policy risks heightening tensions with key U.S. allies. In addition to the all-caps threat, the administration has abrogated the U.S. commitment to the Joint Comprehensive Plan of Action (JCPOA) and reimposed sanctions designed to drive down Iranian oil exports. This has created fissures between the United States and Europe, followed by Trump's disastrous press conference with Russian President Vladimir Putin and a shambolic performance at the NATO summit, where he treated American allies as ungrateful free-riders.

As scholars have long observed, great power politics is a story of tragedy. And the United States is facing a tragedy largely of its own making: The Trump administration's myopic focus on Iran risks a break with European allies precisely at a moment when there is positive momentum — and a clear pathway — to redefine American grand strategy in Europe. Russia's invasion and dismemberment of Ukraine have helped overcome years of apathy within NATO, which relegated great power competition to the backburner when the Cold War ended.

At first glance, the Iran issue may seem to have little to do with U.S.-Europe relations and Western strategy towards Russia. Indeed, the United States may be able to compartmentalize its foreign policy problems, forcing European compliance with sanctions while preventing harm to NATO. However, it appears increasingly unlikely that Washington can have its cake and eat it too — that is, pursue an aggressive anti-Iran policy while trying to maintain U.S.-European solidarity against Russia. Amid broader European concerns about Trump's commitment to collective defense and anger about the imposition of tariffs on European exports to America, the United States should consider how a serious break over Iran secondary sanctions would hasten the decline in U.S.-European relations. This would enable Russian gains in Europe, for the sake of countering a threat in the Middle East that most on the continent believe has already been solved.

Iran is a retrograde adversary whose asymmetric capabilities can be managed through conventional deterrence, arms control, and cooperation with regional allies on issues like counter-terrorism and ballistic missile defense. Russia, by contrast, is a near-peer adversary, and should,

alongside China, be the measuring stick for American military power. It would be a strategic mistake to weaken collective Western security for the sake of a hard-line approach toward Iran, a far lesser threat. Yet this is exactly what the Trump administration has planned.

Fighting One Fire, Fanning the Flames Of Another

After the United States abandoned its commitments to the Iran nuclear deal, it signaled that it would reimpose sanctions on countries that do business with Iran. According to the Wall Street Journal, "European companies and people could be targeted if they continue doing business in Iran" and European requests for "broad exemptions from sanctions were rebuffed."

In response, French Foreign Minister Jean-Yves Le Drian bluntly stated that "Europeans should not have to pay for U.S. withdrawal from an agreement." Finance Minister Bruno Le Maire said it is time to create European "financial instruments allowing it to be independent from the United States." German Economy Minister Peter Altmaier compared the situation to the Trump administration's imposition of tariffs, saying he hoped to avoid "a spiral of escalation" with the United States, but that the German government will talk to companies about "damage limitation."

To save the JCPOA, Europe has floated the idea of direct money transfers to Iran's central bank and voted to allow the non-profit European Investment Bank to do business in Iran. But Europe's efforts to circumvent U.S. sanctions may not be enough to reverse the damage. The European Investment Bank and large European companies have already bowed to U.S. pressure and have either refused to implement the European Union's plan or significantly curtailed business with Iran. European countries are almost certain to conclude that dollar transactions and access to the U.S. market are more important than Iran policy, and will therefore try to keep Iran bound to the arms control agreement while managing relations with an American president that has referred to the bloc as a "foe." French President Emmanuel Macron has downplayed the notion of European economic retaliation for secondary sanctions, saying such an idea "makes no sense, including geopolitically."

Washington's ability to coerce Europe is hardly a shining example of American "leadership." America is not leading. It is forcing its closest friends to implement policies that undermine their self-defined national interests as well as global nonproliferation efforts. It seems the administration's congenital disdain for Western European allies is obscuring its view of the simple fact that economically coercing these aids Russian geopolitical aims — specifically, its opportunistic efforts to take advantage of fissures in Western interests to enable its return to global prominence.

Michael Kofman has described Russia's strategy as one of great power raiding, or using coercion to sidetrack Washington from its core interests and force it appease Russian interests, eventually culminating in a U.S.-Russian entente. As Kofman notes, "Raiding is an effective riposte to a strong but distracted opponent." To counter this strategy, the United States must limit the number of fires it is fighting in different places. In short, it should not play into Russia's hands by fomenting friction with European countries — the allies that allow America to remain the world's dominant power. Russia's seeks to change this status quo and hasten the transition to a multipolar order, in which its own power is magnified.

Imposing financial penalties on European firms will undercut trust at a time when the transatlantic community faces a clear threat from a raiding Russia and is concerned about America's commitment to collective defense. Prioritizing the Russian threat over the Iranian one not be interpreted as giving Iran a free pass for its actions in the region. Iran's support for destabilizing policies in the Middle East is precisely why the nuclear deal remains important. The JCPOA cemented U.S. escalatory dominance over Iran by removing the notional threat of an Iranian nuclear weapon.

Before the United States withdrew, France, Germany, and the United Kingdom engaged in serious talks with the Trump administration to reach consensus on extending limits to Iran's nuclear program and restricting its ballistic missile program. Trump didn't take "yes" for an answer. Instead, he chose to abrogate the deal and, later, antagonize allies even further with the threat of secondary sanctions. Particularly against the background of other U.S.-European tensions, these decisions have exacerbated European anxiety about American security commitments.

Strategy often involves choosing the least bad option. The Trump administration, like all those before it, faces choices about the severity of the various threats it faces and must decide which, and how many, resources to allocate to them. The fact is that Russia poses a greater threat than Iran — and is able to impose a greater negative cost on the United States. Resourcing and decisions about alliance management should reflect this reality.

From a Collective Approach to Unilateral Abrogation

The administration's core problem is that to Europe, Iran no longer poses a collective security threat. Before the JCPOA was concluded, the shared fear of an Iranian nuclear weapons program helped to overcome intra-European tensions about imposing sanctions. Thus, the imposition of sanctions was a collective choice, even if it took some diplomatic cajoling to align U.S. and European policies.

Now, U.S. policy is instead aligned with Saudi Arabia, the United Arab Emirates, and Israel, all of whom oppose a diplomatic solution to the Iran issue and in fact sought to spoil the negotiations. Israel, in particular, used the threat of violence to try and shape U.S. positions, while the Saudi Arabia implicitly threatened to decouple from the United States and pursue closer ties with Russia. The Obama administration sought to manage regional allies with a strategy of inducement, centered around a massive increase in weapons sales. The Trump administration simply chose to become a spoiler, and impose demands that the other parties to the nuclear deal could not meet.

Trump has taken a fundamentally unilateral approach at odds with the previous consensus approach to managing a shared proliferation threat. Iran has upheld its commitments to the JCPOA so far, but the current U.S. position gives Iran an easy out to stop complying.

It is hard to see how Washington could galvanize collective action for a military strike, or even a return to the sanctions the United States and the European Union jointly imposed in 2012 (and lifted in 2016). This has left Washington with sanctions as the only way to force Iranian and European compliance with the Trump administration's Iran policy. But this blunt instrument undermines relationships with allies, who worked with the United States on enforcement, got Iran to comply with a nonproliferation agreement, and are now watching their ally try to "fix" something that isn't broken.

Back to the Future: Refocusing on Russia

Rather than driving a wedge between itself and Europe on Iran, the United States should focus on a shared concern: Russian aggression on the periphery of the NATO alliance and its efforts to influence outcomes in Western elections. Setting aside Trump's absurd theatrics at the NATO summit, the allies in Brussels did manage to agree to a forward-leaning "Strategic Concept" that builds on recent collective efforts to deter Russian action along the alliance's eastern flank. However, there is more work to be done — and that work will require continued U.S.-European engagement on collective defense and shared diplomatic efforts to address Russia's violation of various international agreements.

Deterrence in Europe is well-studied. A key question, never decisively answered, is how the threat of strategic nuclear weapons use can deter conflict in Europe without the conflict escalating to include Russian retaliation against the U.S. homeland. Europe has always had to grapple with the

credibility of the American commitment to collective defense. For much of the Cold War, the Western assumption was that nuclear weapons were needed to offset Russian advantages in conventional forces. Now the opposite is true: Russian is conventionally weaker than NATO and it uses nuclear weapons to deter conventional and nuclear attack and enable its raiding strategy.

The other post-Cold War change stems from the expansion of NATO membership, which has resulted in a handful of militarily weaker and geographically vulnerable Baltic States along the periphery of Russian territory and the larger western European states farther away. NATO must to manage these internal divergences over the Russia threat, all the while deterring Moscow. Russia, by contrast, does not have to worry about alliance management, and can instead punish countries along or near its periphery for cooperating with the United States, as was the case in Montenegro, Macedonia, and Estonia, and further west in France, the United Kingdom, and Germany.

The United States has traditionally managed intra-NATO divergences through consensus building and reassurance. At the working level, this continues. In the "Strategic Concept," for example, the allies committed "to increase responsiveness, heighten readiness, and improve reinforcement." This clause may seem like mere bureaucracy-speak, but it is actually of great importance: In the event of conflict with Russia, NATO forces — which suffer from declining readiness standards — would have to surge east. That requires unglamorous but vital investment in European infrastructure, as well as legal assurances that equipment would not be held up crossing European borders. NATO has made strides, agreeing to Enhanced Forward Presence, or the placement of multinational battlegroups in Estonia, Latvia, Lithuania, and Poland. These moves are clearly aimed at deterring Russian conventional attack while also signaling that Western European and North American militaries will deploy in NATO's east to reassure its most vulnerable members.

NATO countries also reaffirmed the role of nuclear weapons in deterring Russian attack and explicitly noted Moscow's violation of the Intermediate-Range Nuclear Forces (INF) Treaty. Russia has reportedly developed a land-based cruise missile, which the treaty bans. Moscow also used New START's upper limits on strategic delivery vehicles to its advantage by developing a ballistic missile that effectively replicates the SS-20, the intermediate range ballistic missile destroyed under the treaty's guidelines.

The concurrent development of long-range ballistic missiles and an SS-20 clone allows Russia to hold NATO airbases in Europe at risk with a dyad of ground-based missile systems, an uncomfortable echo of the Cold War. These Russian capabilities have both a military and political purpose: Building systems to target Western Europe could resurrect the classic "nuclear coupling" problem. During the Cold War, the United States had to signal to Moscow that any use of nuclear weapons in Europe would invite American retaliation, even if it meant reprisal strikes against the U.S. homeland. To send this signal and assuage NATO, Washington positioned nuclear weapons and dual-capable aircraft to deliver nuclear weapons.

Today, the coupling challenge is slightly different. NATO has to account for the possibility that Russia could engage in aggression in the Baltics while holding airbases in Western Europe hostage to missile attack. The U.S. role is critical for political reassurance, given how difficult it would be for NATO to protect its easternmost members from Russian attack. The United States, as the alliance's largest and most important member, must signal that an attack on the eastern flank will escalate and result in a collective response. In short: use the threat of collective conventional reprisal to deter attack in a vulnerable piece of geography. And yet, following the NATO summit, Trump questioned why U.S. soldiers should die for Montenegro and continues to lambast allies for free riding on the American security guarantee. This rhetoric exacerbates the coupling challenge and enables Russian strategy.

Just a few days ago, the German daily Welt am Sonntag published a front-page column asking: "Do we need the Bomb?" The author, Christian Hacke, makes the case that Germany needs to develop nuclear weapons because the U.S. security commitment is no longer viable. The story, while hyperbolic in its conclusion, illustrates the broader European worries about deterrence, the Russian threat, and the role of the United States.

Given the obvious concerns, a key U.S. foreign policy priority should be to reassure its closest allies and prevent concerns about "decoupling." The worst thing to do would be to sanction European central banks for dealings with Iran, risking fissures in relations with NATO allies in a misguided effort to deal with the far less acute threat of Iranian actions in the Middle East.

The U.S. does have vested interests in pressuring Iran, including on the illegal shipment of ballistic missile to Yemen, to ensure that Tehran upholds its nonproliferation commitments, and to compete with Iran in Iraq. However, these efforts are less important than the necessity of retaining close U.S.-European ties to challenge Russia. A policy appropriately focused on Russia would help to reassure allies, shape European debates about defense, and continue the positive trends outlined in the NATO Strategic Concept. This approach would hinder Russia's goals of sowing global discord to hasten the end of American unipolarity and using coercion to punish U.S. allies. The immediate effects of a further downturn in U.S.-European ties may not be immediately visible, but would signal that Washington remains distracted and without a strategy to manage the new Russia challenge.

Don't Trade Tallinn for Tehran

Europe has demonstrated a sustained commitment to addressing American concerns about Iran's development of ballistic missiles, regional policies, and nuclear program after the JCPOA expires. In the short term, the United States should forego sanctioning Europe and re-commit to joint talks on the Iran question. It should use the appearance of tougher, coordinated actions to de-escalate with Iran. This would keep Iran bound to its nonproliferation agreements while imposing a collective cost on Tehran for policies Washington finds destabilizing. It would be unwise to trade Tallinn for Tehran letting a thousand smaller fires distract from the biggest one. Relying only on coercive tools threatens a key enabler of U.S. power — a strong transatlantic security architecture — and could encourage allies to take steps to be more independent of Washington.

A more autonomous Europe, wary of reliance on the United States, hastens American decline and enables Russian resurgence. Thus, while seemingly a separate issue, coercing Iran may have implications for the trajectory of the current U.S.-Russia competition. A distracted United States, wedded to a policy of coercion and bent on forcing allies to adhere to its view of the world, operating unilaterally and with little regard for critical institutions like NATO, simply creates the conditions for a raiding Russia to exploit.

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# ABOUT THE USAF CSDS

The USAF Counterproliferation Center (CPC) 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's Director for Nuclear and Counterproliferation (then AF/XON) and Air War College commandant established the initial personnel 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.

In 2008, the Secretary of Defense's Task Force on Nuclear Weapons Management 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." This led to the addition of three teaching positions to the CPC in 2011 to enhance nuclear PME efforts. At the same time, 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 professional continuing education (PCE) through the careers of those Air Force personnel working in or supporting the nuclear enterprise. This mission was transferred to the CPC in 2012, broadening its mandate to providing education and research on not just countering WMD but also nuclear operations issues. In April 2016, the nuclear PCE courses were transferred from the Air War College to the U.S. Air Force Institute for Technology.

In February 2014, the Center's name was changed to the Center for Unconventional Weapons Studies (CUWS) 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. In May 2018, the name changed again to the Center for Strategic Deterrence Studies (CSDS) in recognition of senior Air Force interest in focusing on this vital national security topic.

The Center'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. The Latin inscription "Armis Bella Venenis Geri" stands for "weapons of war involving poisons."