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Feature Report

“Leveling the Playing Field: Reintroducing U.S. Theater-Range Missiles in a Post-INF World”. By Jacob Cohn, Timothy A. Walton, Adam Lemon, Toshi Yoshihara. Published by Center for Strategic and Budgetary Assessments; May 21, 2019

<https://csbaonline.org/research/publications/leveling-the-playing-field-reintroducing-us-theater-range-missiles-in-a-post-INF-world>

Now that the United States has suspended its participation in the 1987 Intermediate-Range Nuclear Forces (INF) Treaty, the time has come to explore seriously the case for deploying ground-launched theater-range missiles.

In this study, the authors explore the potential strategic and operational contribution of ground-launched theater-range missiles to U.S. defense strategy. They also critically evaluate the arguments that have been put forward against fielding such missiles. Finally, they estimate the cost of a variety of near- and mid-term options to field theater-range missiles. The study makes a cost-informed argument that, although not a silver bullet, deploying theater-range missiles would allow the United States to reclaim strategic options, regain military advantages, and strengthen the possibility of deterring great power conflict.

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NUCLEAR WEAPONS

Defense News (Washington, D.C.)

Air Force's Next-Gen ICBM Program Takes Another Step Forward

By Valerie Insinna

July 17, 2019

LONDON — The Air Force moved its competition for new intercontinental ballistic missiles to the next stage on July 16, releasing a solicitation for the weapon system's first five production lots.

The contract for the Ground Based Strategic Deterrent's engineering, manufacturing and development phase is expected to be awarded in the fourth quarter in 2020. The Air Force will choose a single winner from the two companies — Boeing and Northrop Grumman — currently involved in the program's technology maturation and risk reduction phase.

Although the details of the solicitation are classified, the Air Force intends to award the GBSD contract to the company that provides "the best overall value," said Maj. Gen. Shaun Morris, the Air Force program executive officer for strategic systems and commander of the Air Force Nuclear Weapons Center, which is leading the procurement. This means that proposals will take into account both capability and cost.

Morris added, "The GBSD will be designed to be adaptable and responsive to the challenges posed by the pace of technological change and new threat environments."

GBSD will replace the Minuteman III ICBMs, which were fielded in the 1960s and have gone through only minimal upgrades over their 50 years of use. Fielding a follow-on capability is a major priority of the Defense Department, with its acquisition executive Ellen Lord stating in May that there is "no margin" to do another service life extension for the Minuteman III.

The Air Force hopes to see GBSD come online in the mid-2020s.

In August 2017, the service awarded a \$349 million contract to Boeing and \$328 million to Northrop to mature their designs and reduce risk, cutting Lockheed Martin from the competition.

It is unclear how much the program will ultimately cost. The Pentagon's Cost Assessment and Program Evaluation office previously estimated its price tag as anywhere from \$85 billion to \$100 billion, but CAPE's newest estimate, produced in June, has not been disclosed.

"The GBSD program office members have worked hard to analyze the costs of every requirement, used modeling and simulation to evaluate every decision and keep the design, development and deployment of the weapon system on track," Col. Jason Bartolomei, GBSD program manager, said in a statement. "The EMD request for proposal is the next step in the development of a safe, secure and effective GBSD weapon system."

Gen. Timothy Ray, who leads Air Force Global Strike Command, said in April that he expects the price of GBSD to grow in the short term as the service makes up-front investments to its missile silos and other infrastructure, which will be reused in the GBSD program.

However, the Air Force projects that both Boeing and Northrop will submit competitive bids for the EMD contract, which could result in the price ultimately going down, Ray added.

"Our estimates are in the billions of savings over the lifespan of the weapon, based on the insights," he said.

“Between the acquisition and the deal that we have from a competitive environment, from our ability to drive sustainment, the value proposition that I’m looking at is a two-thirds reduction in the number of times we have to go and open the site. There’s a two-thirds reduction in the number of times we have to go and put convoys on the road.”

<https://www.defensenews.com/2019/07/17/air-forces-next-gen-icbm-program-takes-another-step-foward/>

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C4ISRNET (Vienna, Va.)

Can Commercial Satellites Revolutionize Nuclear Command and Control?

By Nathan Strout

July 12, 2019

The rapid growth of commercial space makes the use of non-government satellites for nuclear command and control increasingly tempting, according to one official.

During a speech June 26, Air Force Chief of Staff Gen. David Goldfein said that the service — which oversees both the United States’ ground-based intercontinental ballistic missiles, as well as strategic bombers capable of delivering nuclear warheads — was open to the idea of using private sector satellites.

“Whether it’s Silicon Valley or commercial space, there’s unlimited opportunities ahead right now for us in terms of how we think differently on things like nuclear command and control,” said Goldfein. “I, for one, am pretty excited about it.”

The military has increasingly turned to the commercial sector to expand its capabilities more cost efficiently. For instance, the National Reconnaissance Office — the agency in charge of the nation’s spy satellites — announced that it was looking to expand the amount of satellite imagery it buys from commercial companies. The Air Force has also expressed interest in developing a hybrid architecture for satellite communications, which would see war fighters able to switch between commercial and military satellites as they move through coverage areas.

According to Goldfein, there’s no reason that commercial capabilities could not similarly be applied to nuclear C2.

“The work that we’re doing in connecting the force and building a network force around the services in the conventional side has equal applications to the nuclear command and control side, because at the end of the day what we need is resilient capable architecture that keeps the commander in chief connected,” said Goldfein.

“So one of the areas that I think we’re going to be able to leverage significantly is the rapid and exciting expansion of commercial space in bringing low-Earth orbit capabilities that will allow us to have resilient pathways to communicate.”

Currently, the military relies primarily on the Advanced Extremely High Frequency System for the nuclear sector. With four satellites in orbit and a fifth to be launched later this month, AEHF provides highly secure, anti-jamming communications for the military and national leaders like the commander in chief. It wasn’t clear in Goldfein’s comments whether he was interested in using commercial capabilities to augment, replace or work as a backup to AEHF and other military satellite systems. He did note that the sheer volume of satellites in some commercial constellations provides increased survivability for the network.

“We want to get to a point both in conventional and unconventional, or conventional and nuclear, where if some portion of the network is taken out, our answer ought to be, ‘Peh, I’ve got five other pathways. And you want to take out 1,000 satellites of my constellation, of which I have five? Knock yourself out.’ That’s what I see is going to be a significant way that we’re going to be able to leverage,” said Goldfein.

The possibility of lowering costs is another major incentive to turning to the commercial sector to begin providing the communications necessary.

“What we want to eventually get to is the reversal of the cost curve. Right now it actually costs us more to defend than it takes to shoot. And we want to reverse that so it actually costs them more to shoot than it takes for us to defend,” explained Goldfein.

Goldfein pointed to commercial launches as an area where competition had helped drive down costs.

“Increased access to affordable launch and smaller payloads that are more capable has caused this rapid expansion of commercial capabilities in space,” he said.

“That may be one of the most exciting developments that we have going forward, because industry is going to help us solve many of these problems.”

<https://www.c4isrnet.com/battlefield-tech/c2-comms/2019/07/12/can-commercial-satellites-revolutionize-nuclear-command-and-control/>

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Breaking Defense (Washington, D.C.)

New START’s Death May Up Costs of Triad Modernization

By Theresa Hitchens

July 11, 2019

WASHINGTON: DoD will be forced to reconsider its modernization programs for the nuclear triad if the Trump Administration decides not to extend the New START nuclear weapons treaty with Russia — something that worries Pentagon leadership, experts say. Not only could the treaty’s expiration in 2021 result in increased costs, it could also necessitate changes in the mix of bombers, submarines and ground-based missiles — or in the mix of nuclear and conventional weapons they carry.

Retired Lt. Gen. Frank Klotz, who commanded Air Force Global Strike Command and served in the Obama Administration as the Energy Department’s undersecretary for Nuclear Security, told the Mitchell Institute for Aerospace Studies yesterday that if the Trump Administration felt forced to expand the modernization program “because there were no longer any constraints on the Russian programs,” that would raise the costs of the already costly effort. He added that “one of the things that concerns [US military leaders] is: without these constraints, what would the costs be and how viable would this modernization program that we so carefully laid out be?”

“The New START treaty limits ... are baked into the US nuclear modernization program,” he explained. DoD’s current plan for “the three legs of the triad, the systems associated with them and nuclear command and control ... basically is a one-for-one replacement of existing systems — a little more here and a little less there”

The Congressional Budget Office (CBO) in January estimated the price tag of the Trump Administration nuclear modernization plan — including both DoD delivery systems and DoE warhead and infrastructure updates — at a whopping \$494 billion between 2019 and 2028. For those of you not so good at math, that is an average of just under \$50 billion per year. The cost of just DoD's strategic delivery systems and the DoE activities to provide the warheads and the nuclear power plants for the Navy's SSBNS will be \$234 billion over that period, CBO said. (In a 2017 study, CBO said that the 2017-2026 cost would be \$400 billion and the 30-year cost of the program would hit \$1.2 trillion. That's an increase of 23 percent, much of which is simple inflation.)

Madelyn Creedon, former principal deputy administrator of the National Nuclear Security Administration, said that in a post-New START world, the US might want to change the balance between the legs of the triad. According to the Federation of American Scientists' Nuclear Notebook, the US currently maintains: 400 Minuteman III ICBMs, which are to be replaced under the Air Force's Ground-Based Strategic Deterrent (GBSD) program; 14 Ohio-class ballistic missile submarines being replaced by the Columbia-class subs starting in 2021; and 20 B-2A bombers along with 87 B-52H bombers. Or, she said, DoD might want to shift around how many warheads are carried on what platform depending on what force structure the Russians developed.

Another nuclear weapons expert suggested after the meeting that the US might also need to reconsider whether some bombers and/or submarines would have to give up conventional missile launch capabilities in order to beef up nuclear capacity — something that neither Air Force nor Navy leaders will be happy to do because they can actually use conventional weapons in most conflicts.

In any event, Creedon said, the critical question would be: "What is it we want to hold at risk, what really is the threat? Because [an increase in Russian weapon systems] may not be an increased threat — it may be just more numbers. It's way more complicated than just saying if they go to 250 and we have 212, we have to go to 250."

New START, signed in 2010, limits Russia and the US each to no more than 1,550 deployed strategic warheads and 700 deployed strategic delivery vehicles (meaning ICBMs, submarines and bombers).

The Trump Administration has been waffling on whether it will pursue a five-year treaty extension (that does not require Senate ratification) with Moscow. Instead, President Donald Trump has ordered his staff to begin work on a possible new trilateral nuclear arms control treaty that would include China — as well as cover sub-strategic weapons (of which the Russians have more than the US) not now covered by New START. Never mind that China for many years has refused to enter into nuclear arms control talks until Russia and the US reduce their arsenals to equal China's some 300 warheads. Or that the Russians have said they will only trade sub-strategic weapons away if the US moves its nukes out of Europe and puts significant limitations on deployment of missile defenses — both conditions that the US would most certainly refuse.

Indeed, National Security Advisor John Bolton — who has never met an arms control treaty he didn't hate — has said the White House probably will not extend the treaty, which is the only extant bilateral arms control treaty that limits the number of US and Russian strategic nuclear warheads and delivery systems. Arms control advocates, therefore, have accused the administration of using the proposed trilateral talks as an excuse to scrap New START.

Klotz warned that if there were a future build-up by both Russia and the US, the Russians would have the lead. "My thought is that at least initially the Russians would have the advantage because of the capabilities of the existing systems that they have ... and the state of their nuclear weapons infrastructure."

Russia, the other nuclear expert said, has open production lines for several types of nuclear weapons systems whereas the US does not.

Klotz also suggested that the arguments by those supporting abandoning New START and withdrawing from the 1987 Intermediate-Range Nuclear Forces (INF) treaty about the current threat from non-controlled Russian “exotic” weapons — such as the Poseidon nuclear-powered torpedo or hypersonic cruise missiles — are overblown. None of these Russian-media reported systems (some reports being more believable than others) likely will be deployed by 2026, when New START disappears for good and a new bilateral treaty will need to be negotiated anyway. So, he said, “it’s kind of a moot point.”

“What are the strategic implications of some of the exotics?” he added. “Do they really change the fundamental deterrent relationship — the relationship that provides for strategic stability — where both the United States and Russia can retaliate against nuclear aggression in a manner that raises the costs far above the benefits of doing so in the first place?”

Meanwhile, the Trump Administration is doing battle on funding for nuclear weapon systems with the Democratic House as it takes up the 2020 National Defense Authorization Act (NDAA) this week. In a July 9 Statement of Administration Policy submitted by the White House to the House Rules Committee, the administration pushes strongly back at House Armed Services Committee (HASC) cuts to the GBSB program. It also objects mightily to the HASC move to block all funding for a new, low-yield nuclear warhead for the Trident missile submarines.

<https://breakingdefense.com/2019/07/new-starts-death-may-up-costs-of-triad-modernization/>

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Defense News (Washington, D.C.)

Milley Throws Support behind Nuclear Modernization, Space Force

By Aaron Mehta

July 11, 2019

WASHINGTON — U.S. President Donald Trump’s choice for the next chairman of the Joint Chiefs of Staff has thrown his full support behind nuclear modernization plans, the creation of a Space Force and developing new capabilities to offset China.

Gen. Mark Milley, currently the Army chief of staff, faced little in the way of tough questioning during his Thursday confirmation hearing; several members, including Republican Josh Hawley and Democrats Tim Kaine, Doug Jones and Richard Blumenthal, said in their remarks they intend to vote in support of the nomination.

That easy questioning remained even after Milley voiced support when asked whether it would be “helpful” to place conventionally armed, ground-launched intermediate-range missiles in the Indo-Pacific region to help deter Chinese interests in the region.

Those weapons had previously been banned under the Intermediate-Range Nuclear Forces Treaty, which the Trump administration exited earlier this year.

The response was equally calm when Milley called the development of low-yield nuclear weapons “an important capability to have in our arsenal in order to deal with any potential adversaries or contingency operations.” Democrats from both chambers of Congress have raised objections to the creation of those systems, as well as the potential to deploy ground-based cruise missiles.

More broadly on nuclear issues, Milley aligned himself with a statement from former Secretary of Defense Jim Mattis, saying that the U.S. “can afford survival and we have to. It’s imperative that we modernize and maintain the readiness of the conventional and strategic forces. No question about it.”

“My view is that the [nuclear] triad has worked,” he added.

Asked to name his three priorities for dealing with China and Russia, Milley expressed a view in line with the National Defense Strategy.

“I think the very No. 1 for me and No. 1 stated for the Department of Defense is the modernization, recapitalization of the nation’s nuclear triad. I think that’s critical. Secondly, I would say, is space. It’s a new domain of military operations. We got a considerable amount of both commercial and military capabilities in space that need to be protected in this — and all the technologies that go with space,” Milley said.

“In addition to that, I would say that artificial intelligence and hypersonics — and there’s many, many other technologies — those two are at the top of my list for putting modernization investment.”

Milley showed his support for the creation of a Space Force, but also showed patience with the process, saying the incremental steps taken by Congress to create a branch of the service that lives under the secretary of the Air Force but has a spot on the Joint Chiefs of Staff is the “appropriate” approach.

“I’m not taking the view that it’s just added bureaucracy. I know that that is a risk and it’s out there, but that’s not [how] I see the outcome here,” Milley told senators when asked whether the Space Force plan could backfire. “I see the outcome as a group of people that are dedicated to [operating in] space, and it’s a complementary effort, not a duplicative effort.”

<https://www.defensenews.com/2019/07/11/milley-throws-support-behind-nuclear-modernization-space-force/>

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US COUNTER-WMD

Air Force Magazine (Arlington, Va.)

Lawmaker Optimistic DOD Agencies Can Deconflict Missile Defense Research

By Rachel S. Cohen

July 12, 2019

House Armed Services Committee member Rep. Mo Brooks (R-Ala.) said he expects the Missile Defense Agency and the new Space Development Agency will learn to manage complementary—and possibly duplicative—research programs as they pursue missile-tracking sensors in space.

“How exactly the development of the space sensor layer will be divvied up between MDA and the Space Development Agency will likely be finalized during the National Defense Authorization Act conference process, but I have confidence that the two agencies ultimately will work together and get this done,” Brooks said at a July 12 AFA Mitchell Institute breakfast on Capitol Hill.

The Trump administration's recent Missile Defense Review touted the potential of a space-based sensor and interceptors to detect hypersonic weapons when they launch and track them continuously throughout flight. SDA is taking on that challenge as part of its effort to build an array of hundreds of small satellites near Earth, which some see as stepping on the toes of other work underway in the Defense Department. Supporters say SDA will move faster and pursue unique ideas compared to the more traditional acquisition processes in MDA.

Pointing out potential duplication of effort, the Senate Armed Services Committee wants to shrink 2020 funding for defense-wide space technology development and prototyping from \$85 million to \$55 million. Both agencies are expected to prototype hypersonic and ballistic missile tracking sensors, though former SDA Director Fred Kennedy has argued SDA can make progress toward an operational system before MDA puts its own sensors on orbit in 2025.

For SDA to make a difference in missile defense, it needs to try more out-of-the-box ideas like nanosatellites and help drive lower system production and launch costs, according to Tom Karako, who directs the Missile Defense Project at the Center for Strategic and International Studies.

Brooks is unhappy with how the House's version of the 2020 NDAA treats missile defense funding, which the White House also criticized in a July 9 statement of administration policy.

"The administration strongly objects to the \$413 million in reductions to the [MDA] funding request as well as the rescoping of Flight Test Mission-44 during a period of escalating threats to the homeland and our allies," according to the statement. "Specifically, the administration objects to the \$150 million reduction to the Improved Homeland Defense Interceptor Program (Redesigned Kill Vehicle). The reduction would be premature pending the result of DOD's analysis of alternative courses of action for the Redesigned Kill Vehicle effort and could cause even further delays to the delivery of 20 additional Ground-Based Interceptors."

The congressman also warned US security will suffer if the federal government does not take steps to shrink its historically large federal debt, which now exceeds \$22 trillion. He supports amending the US Constitution to require the federal government to balance its budget each year.

"If we're not financially responsible, we're going to go through that debilitating insolvency and bankruptcy," Brooks said. "In my judgment, it would be the worst error in American history with the possible exception of the Civil War. ... There's no guarantee that when we're in a weakened state, that one of our geopolitical foes won't think that they can take advantage of us and actually beat us."

<http://www.airforcemag.com/Features/Pages/2019/July%202019/Lawmaker-Optimistic-DOD-Agencies-Can-Deconflict-Missile-Defense-Research.aspx>

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Homeland Preparedness News (Washington, D.C.)

Experts Support a Future Manhattan Project for Biodefense to Thwart New Threats

By Kim Riley

July 12, 2019

An effort similar to the Manhattan Project — in which American-led R&D produced the first nuclear weapons during World War II — is needed now in defense against the growing global threats posed by infectious diseases and bioterrorism, sources said Thursday during a Blue Ribbon Study Panel on Biodefense meeting.

“We are at a decided disadvantage when it comes to defending against a biological threat,” said former U.S. Sen. Joseph Lieberman, who co-chairs the biodefense study panel. “No matter what the source, the nation and the world are at catastrophic biological risk from terrorist attacks and infectious diseases. We have a responsibility to act now to prevent the worst from happening in the future.”

Blue Ribbon Study Panel on Biodefense members, witness panelists and attendees at the panel’s first public meeting held yesterday in New York City discussed “A Manhattan Project for Biodefense: Taking Biological Threats Off the Table,” a proposed national, public-private research and development undertaking that would defend the United States against biological threats.

“We highly endorse such an endeavor in the sense of it’s time to say, ‘Go big or go home’ on this issue,” said Dr. Robert Kadlec, U.S. Assistant Secretary for Preparedness and Response (ASPR) in the U.S. Department of Health and Human Services (HHS), during the second panel.

“Quite frankly, there’s been a lot of work and a lot of good progress that’s been made ... but I think it’s time for a frame shift,” he added. “The world has changed dramatically. I think ... it’s going to take some dramatic action to get us to where we need to be.”

Kadlec said the U.S. is “on the precipice of some very bad things as it relates to the Ebola outbreak” in the Democratic Republic of Congo and challenges also exist regarding other emerging infectious diseases, like the H7 and H9 viruses and the swine flu, to name a few.

Add to the priority list antimicrobial resistance, advanced chemical threats, and the risks associated with synthetic biology and the landscape is ever-changing, Kadlec said.

A new Manhattan Project on Biodefense should consider myriad topics, including a definition of needed capabilities to deal with many crisis issues, Kadlec suggested, such as rapid responses to identifying a pathogen or agent and developing diagnostics and potential medical countermeasures (MCMs).

The project also should include consideration of the scale of response, how to secure domestic production capacity while also supporting the related supply chain, and ensuring the delivery and administration of MCMs, among other capabilities, he said.

“A future Manhattan Project’s gotta be big, it’s gotta be comprehensive and it’s got to be looking at all of these pieces,” Kadlec said.

Because New York City has been on the front lines preparing for and responding to biological incidents, several representatives also contributed their experiences and thoughts about a future Manhattan Project for Biodefense during another panel session.

John O’Connell, deputy chief and commanding officer of the counterterrorism division for the New York Police Department (NYPD), pointed to some challenges that the department has had interacting with the federal government to achieve adequate biodefense of the city.

O’Connell said a future project should include federal, state and local level coordination, more federal resources, access by outside entities like the NYPD to certain classified federal information, and related policy to support these such efforts enacted by Congress.

“Biothreats are real,” O’Connell said, “and it takes concerted efforts to combat them. We all need to remain proactive and be ready to respond.”

Beth Maldin Morgenthau, deputy commissioner of the Office of Preparedness and Response at the New York City Department of Health and Mental Hygiene, noted that with a population of roughly 8.6 million, New York City is one of the nation’s highest-risk jurisdictions for a bioterrorism attack. She said it’s also essential that federal funding remain consistent.

Supplemental funding from Congress oftentimes doesn’t cut it, she said, because it usually lags an immediate need because it’s appropriated months after Congress authorizes it. “It should be long-term, new funding and not diverted from other vital programs,” Morgenthau added.

Private-sector representatives also joined the discussion on Thursday during an after-lunch panel session.

Monique Mansoura, executive director of Global Health Security and Biotechnology at the MITRE Corp., agreed that a new Manhattan Project is a good idea, but there are other events that also may contribute important lessons learned, such as the Human Genome Project, what she called “a stunningly successful scientific project that addressed the ethical, legal and social implications of the science” behind such an endeavor, including what the project meant to people and what the possible misuses of the science would be, for instance.

Having worked on that project, as well as for Novartis AG and HHS, Mansoura said she has learned that creating a public-private partnership to oversee such a project wouldn’t just be presented with science challenges. “There are also business challenges” that would have to be considered, she said.

“Ideally, the federal government would step up and fully fund” such a project, Mansoura said, “but if not, I think we would have to be really innovative in our business models and in our scientific endeavors, as well.”

<https://homelandprepnews.com/countermeasures/34774-experts-support-a-future-manhattan-project-for-biodefense-to-thwart-new-threats/>

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US ARMS CONTROL

VOA (Washington, D.C.)

Iran Willing to Talk with US If Trump Lifts Sanctions

By VOA News

July 16, 2019

Iranian Foreign Minister Mohammed Javad Zarif says his country is willing to negotiate with the U.S., but only if it lifts harsh economic sanctions against the Islamic Republic.

The U.S. imposed sanctions on Iran in 2017 before withdrawing from a 2015 nuclear deal last year that requires Iran to slash its uranium enrichment in exchange for sanctions relief.

"Once those sanctions are lifted ... the room for negotiation is wide open," Zarif said in an NBC News interview that aired Monday.

Zarif, who is in New York for meetings at the United Nations, said the U.S. abandoned a diplomatic approach when it pulled out of the deal.

Zarif accused the U.S. of further escalating Middle East tensions by selling billions of dollars of weapons to regional rivals Saudi Arabia and the United Arab Emirates, threatening his country's ballistic missile program.

"These are American weaponry that is going into our region, making our regional ready to explode," he said. "So if they want to talk about our missiles, they need to first stop selling all these weapons, including missiles, to our region."

In this picture released by an official website of the office of the Iranian supreme leader, Ayatollah Ali Khamenei speaks at a meeting with a group of Revolutionary Guards and their families, in Tehran, Iran, April 9, 2019.

On Tuesday, Iranian Supreme Leader Ayatollah Ali Khamenei said the country would continue to reduce its commitment to the nuclear deal, while reiterating accusations that European nations are not doing enough to help Iran deal with sanctions.

His comments followed those Monday from an atomic agency spokesman who said Iran's decreasing commitments to the agreement were done "not out of obstinacy" but to give the other parties a chance to "carry out their duties."

President Donald Trump called the nuclear agreement "horrible." Britain, China, France, Germany, and Russia were the other signatories to the accord.

Iran has already withdrawn from parts of the agreement and threatens to back away even further unless the remaining countries help its sanctions-battered economy.

Iran has already exceeded the size of the uranium stockpile permitted under the deal and increased the uranium enrichment level, although it is still nowhere near what is needed to build a nuclear weapon.

But Iran's foreign ministry said it would stay committed to the accord at the same level as the other signatories stay committed to it.

British Foreign Secretary Jeremy Hunt said Monday the 2015 deal "isn't dead yet," and that while the opportunity to find a resolution to the current crisis surrounding the agreement is closing, it is still possible to keep it alive.

<https://www.voanews.com/middle-east/iran-willing-talk-us-if-trump-lifts-sanctions>

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Homeland Preparedness News (Washington, D.C.)

Amendment Blocks Saudi Nuclear Weapon Development

By Douglas Clark

July 15, 2019

House legislators have adopted an amendment prohibiting U.S. sales of nuclear power equipment to Saudi Arabia without safeguards preventing nuclear weapon development.

Officials said the House adopted the language as an amendment to the National Defense Authorization Act, which is expected to gain passage, noting the revision was proposed by Rep. Brad Sherman (D-CA).

The action prevents a President from submitting to Congress an Agreement that allows American companies to sell nuclear equipment to other countries unless those countries have signed the Additional Protocol – a safeguard agreement with the International Atomic Energy Agency enabling highly intrusive inspections.

Saudi Arabia is negotiating a Nuclear Cooperation Agreement with the Trump administration and has thus far refused to sign the Additional Protocol.

“The only reason for not signing the Additional Protocol is if a country wants to secretly develop nuclear weapons,” Sherman said. “If you can’t trust Saudi Arabia with a bone saw, you shouldn’t trust them with a nuclear weapon, and this amendment would help ensure Saudi Arabia never gets one.”

Sherman said under current law, a Nuclear Cooperation Agreement must be submitted to Congress, but Congress’ authority to reject an Agreement, once submitted requires a two-thirds vote of both the House and the Senate to reject an Agreement.

However, under Sherman’s amendment, the Administration cannot submit an Agreement, unless Saudi signs the Additional Protocol.

<https://homelandprepnews.com/stories/34783-amendment-blocks-saudi-nuclear-weapon-development/>

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COMMENTARY

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

Countering Missiles with Missiles: U.S. Military Posture after the INF Treaty

By Thomas G. Mahnken

July 16, 2019

Thirty-one years ago, the Senate approved the Intermediate-range Nuclear Forces (INF) Treaty, banning American and Soviet land-based missiles with ranges from 500 to 5,500 kilometers. Passed by a 93-5 vote, the INF Treaty promoted restraint after decades of Cold War competition. Although it survived the Soviet Union's end, the agreement started showing signs of age by the mid-2000s. Meant to govern land-based nuclear delivery systems, its provisions also prevented the United States from pursuing conventional precision strike systems for land attack or maritime strike. With both Russia and the United States leaving the treaty, it is effectively a dead letter. Many have discussed why this is the case, but the time is ripe to look closely at what the U.S. armed services can and should do next now that America is unshackled by the treaty's restrictions.

I experienced the treaty's shortcomings firsthand while serving as a deputy assistant secretary of defense under Secretaries Donald Rumsfeld and Robert Gates. Since China was not party to the agreement, it was not required to follow the treaty's rules. As a result, it was unconstrained in pursuing not only theater nuclear capabilities but also land-based conventional precision strike systems. Today, China possesses up to 2,650 land-based missiles of types that would be banned if it was party to the INF. These weapons, most of which are non-nuclear, pose a threat to U.S. and allied air bases in the Western Pacific as well as U.S. and allied naval forces, principally U.S. aircraft carriers. Meanwhile, Russia has developed systems that violate the agreement, including the Novator 9M729 ground-launched cruise missile.

As Eric Sayers and Scott Cuomo have previously argued, the treaty's terms are increasingly out of step with today's security environment. The treaty's prohibition on land-based missiles of all kinds has put the United States and its allies at a disadvantage relative to China by allowing Beijing to field relatively cheap land-based missiles to hold U.S. and allied forces at risk while compelling the United States and its allies to expend considerable resources to defend themselves against those missiles. This has contributed to what those of us who served on the congressionally mandated National Defense Strategy Commission characterized as an eroding military balance in the Western Pacific.

It is time to turn the tables. As my colleagues and I have argued in a recent report for the Center of Strategic and Budgetary Assessments, the United States should field new ground units armed with intermediate-range land-based missiles on U.S. and allied territory along the Western Pacific archipelagos. Deploying these missiles will help prevent the nightmares that keep Pentagon officials up at night. Such weapons, capable of denying China the use of littoral waters, would be a powerful deterrent to Chinese aggression. In the event of war, these units should be able to disrupt and delay a Chinese attack long enough for air and naval forces to arrive and stymie the assault. By demonstrating the ability to halt aggression, these forces would deter Chinese leaders from attempting it in the first place.

Whereas previous studies have discussed the advantages of a land-based missile strategy in general terms, we lay out a road map to implement it. Specifically, we argue that the Department of Defense should weave together the disparate efforts of the Army and Marine Corps to craft a joint operational concept for land-based sea denial. In parallel, the Army and Marine Corps should

conduct a robust program of experimentation with units dedicated to the joint mission. Wherever possible, they should do so with America's close allies, such as Japan and Australia. The U.S. armed services also should accelerate greatly the fielding of mobile, land-based, and long-range missile capabilities so they have the weapons they need in quantities that would be operationally meaningful in a future conflict. In addition, because netting together and logistically supporting dispersed forces is challenging, the military services need to build a resilient, multi-domain C4ISR (command, control, communications, computer, intelligence, surveillance, and reconnaissance) architecture, develop and field counter-C4ISR capabilities, and develop sustainment concepts to support dispersed ground and air forces. The Navy can play a vital role in this approach as well by bolstering its stock of long-range anti-ship munitions. Similarly, the Air Force can support sea denial by integrating all its bomber aircraft, including the B-2, and in the future the B-21, with payloads for offensive maritime missions.

A missile strategy will require the military services to embrace new roles (or re-embrace old roles) such as Army, Marine Corps, and Air Force units striking enemy ships at sea. Change does not come easy to military organizations. To spur innovation, American political leaders should fund a robust experimentation and demonstration program so military leaders can assess what works before putting troops in harm's way. Recent activities hint at what is possible. For example, last week U.S. and Australian forces demonstrated the ability to rapidly deploy, fire, and redeploy long-range high-mobility artillery rocket systems (HIMARS) rockets as part of the Talisman Sabre exercise and is remaining in Australia.

Congress can also play an important role in fostering innovation by promoting the development of new doctrine and organizations; supporting cooperation with America's close allies; and providing funds for the procurement of larger stockpiles of missiles, a resilient C4ISR architecture, and more robust sustainment for dispersed forces. By raising the profile of these activities, Congress can help overcome some of the most persistent bureaucratic impediments to action that are among the most persistent.

Chinese and Russian land-based missiles undercut American strengths. Trucks can relocate some of these missiles so they evade aircraft and satellite detection. The missiles cost relatively little, making them easy to procure in large numbers. A salvo of missiles costing millions of dollars could disable an aircraft carrier costing billions of dollars. That lopsided ratio explains why a large U.S. defense budget provides less security than Americans might hope.

It is time to move forward with a land-based missile strategy because it is technically and budgetarily feasible. The required technologies already exist, so it's unlikely that new programs would have to be started. The Pentagon could field ground-launch variants of existing missiles, including the proven Tomahawk and the cutting-edge Long-Range Anti-Ship Missile (LRASM). We found that implementing a missile strategy in the Western Pacific would cost \$8 billion to \$13 billion through 2024. That price tag is big but affordable, especially if the Department of Defense trims in other areas.

Whereas the main barriers to creating land-based missile forces are bureaucratic, the most prominent obstacles to implementing a missile strategy are political. First, there is a danger that China and Russia will seek to conflate the deployment of land-based intermediate-range missiles with the deployment of nuclear weapons. Indeed, it is in their interest to muddy these waters. Because land-based conventional missile forces are likely to be powerful deterrents, we should expect Beijing and Moscow to employ their formidable political warfare capabilities to forestall their deployment. Although U.S. allies such as Japan are procuring land-based maritime strike missiles of their own, parts of allied publics might fret hosting U.S. forces will drag their countries into a superpower arms race. American leaders should assuage these fears by emphasizing the

missiles' deterrent role as well as their defensive role in halting aggression. The presence of low-cost missiles would increase superpower stability by reducing the incentive to strike first in a crisis. Moreover, there are powerful incentives for the United States to work closely with its allies to implement such a strategy. Japan, for example, has long fielded land-based anti-ship missiles, and there is much the U.S. armed forces can learn from working closely with Japanese counterparts. Similarly, Congress should maintain a clear distinction between the need to deploy intermediate-range conventional strike systems and the possibility of developing land-based theater nuclear systems. Discussion and debate over the latter should not impede action on the former.

Third, states beyond America's close allies face political and economic circumstances that could constrain their ability to support a missile strategy. Regional partners can support such a concept in other ways, such as by procuring and deploying capable but inexpensive unmanned air systems like the MQ-9 Reaper for intelligence, surveillance, and reconnaissance support.

In 1988, the INF Treaty reflected relaxing Cold War tensions. Today, however, amidst the return of great power competition, the United States is fighting with one arm tied behind its back. Washington should capitalize on the INF Treaty's end to field conventionally armed, land-based maritime strike- and land-attack missiles that saddle America's great power competitors with the same dilemmas they have imposed on the United States for years.

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Defense One (Washington, D.C.)

Europe Has No Attractive Options in the Post-INF World

By Bruno L  t  

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Europeans remember the 1980s, when the United States and Russia quickly built up a combined arsenal of nearly 3,500 nuclear-armed medium-range missiles, all aimed at Europe. The likely end of the Intermediate-range Nuclear Forces Treaty on Aug. 2 leaves the continent with a straightforward strategic consideration: persuade the U.S. and Russia to return arms control, or find itself once again in the nuclear line of fire. Yet there is no clear path ahead.

Russia clearly has no interest in the INF. For more than a decade, Moscow has been spending considerable amounts of money to improve the SSC-8 ground launch cruise missile, explicitly breaching the treaty in 2014 by deploying SSC-8s near Yekaterinburg and at the Kapustin Jar test site in the Caspian region. Such medium-range missiles are also fully integrated in Russia's "active measures" doctrine that aims to destabilize opponents with a combination of conventional, hybrid, and nuclear forces. Russian leaders also fear that the expansion of U.S. missile defenses in Europe and Asia could undermine their nuclear second-strike capability, and thus their independence. Cruise missiles offer a cheap, reliable, quick-striking way to eliminate U.S. missile defenses.

Nor is the United States much interested, at least during a Trump administration that believes that the limits imposed by the INF and other arms-control treaties do the United States more harm than good. “There is no reason the United States should continue to cede the crucial military advantage to revisionist powers,” Secretary of State Mike Pompeo said at NATO headquarters in December. So the United States is working on a new sub-launched nuclear cruise missile, a move it principally justifies as a way to better defend America’s East Asia allies against China. In May, the Trump administration requested nearly \$100 million for 2020 to develop three INF-exceeding missiles. In Europe too, NATO leaders are preparing for a post-INF world. At its July 2019 Ministerial meeting, NATO leaders openly discussed the need to consider new missile defenses. One option may be to reconfigure NATO’s missile defenses in Romania – currently set up to counter missiles launched from Iran – to also counter ones launched from Russia. So far, NATO officials denies that they are discussing this option, though it is mentioned in last year’s U.S. Nuclear Posture Review.

And both the U.S. and Russia are worried about burgeoning nuclear arsenals in South and East Asia, none of which are limited by INF. The principal worry is China, which currently has an estimated 1,600 medium-range cruise missiles, principally to deter Russia and the United States from regional intervention. When President Trump announced his decision to withdraw from the INF Treaty, he cited the political power struggle between the U.S., Russia and China – and said that China should be added to the INF arrangement. This is not a new idea in arms control policy; in 2007, Russian and U.S. officials tried but failed to bring China into the treaty. Beijing reacted no better to Trump’s November announcement, saying that the United States “should not blackmail China” by depriving it of key weapons that could be used to seal off the East and South China Seas from U.S. intervention.

Another option Europeans might pursue is rejecting new U.S. requests to deploy nuclear missiles on their territory. Here, too, there are no good options. Should Europe unite to reject such requests, it would further erode transatlantic relations and strain NATO unity while doing nothing to prevent Russia from deploying its own systems. But should a united Europe permit such deployments, it will return itself to the line of fire and face and likely face, as in 1975, socio-economic protests across European capitals. And should merely a subset of European governments allow such deployments, it may create a split inside NATO and the European Union.

So Europe is at a crossroads that requires hard decisions with security implications for at least a generation to come. Its best choice is to remain united, to engage with the American and Russian governments on arms control and disarmament, and to try to keep the continent free of any missiles.

Europe ought as well to consult with Beijing, and search jointly with Washington and Moscow for global arrangements in the post INF-world, lest the arms race accelerate. But if European governments fail to engage, they may find their continent once again a potential battlefield — or a diplomatic bargaining chip.

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<https://www.defenseone.com/ideas/2019/07/europe-has-no-attractive-options-post-inf-world/158421/?oref=d-river>

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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."

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