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U.S. Air Force chief's top modernization priorities aren't what you think they are

Defense News Online, 17 Nov 20 Valerie Insinna

WASHINGTON -- The U.S. Air Force is spending tens of billions of dollars every year to buy new aircraft, including F-35 Joint Strike Fighters, KC-46 tankers, the T-7A trainer jet and more. But none of those platforms makes the list of Air Force Chief of Staff Gen. Charles Q. Brown's top three modernization priorities.

"In some cases, I'm not so much enamored with airplanes, although, you know, I flew airplanes," Brown said during a Nov. 12 interview where Defense News asked him to list his top three weapons priorities for the Air Force.

"It's really the capability" that matters, he said. "And as we look at, you know, future conflicts, we may be fighting differently. I don't know that for a fact. But when I came in, cyber wasn't a thing. Now it is. Space was a benign environment. Now, not as much.

Here's what Brown put on his list:

1. Nuclear modernization

Brown pointed to the recapitalization of the Air Force's nuclear weapons and delivery systems as his No. 1 modernization priority.

"Nuclear modernization is there at the top," Brown said. "That's important."

The Air Force plans to field new ICBMs and develop a new stealth bomber, almost concurrently, through the Ground Based Strategic Deterrent and B-21 Raider programs. During Brown's four years as chief of staff, both efforts will hit critical milestones.

The B-21 program is further along, having completed a critical design review in 2018. The first B-21 bomber is currently under construction by Northrop Grumman at the company's facilities in Palmdale, California. In August, Maj. Gen. Mark Weatherington, commander of Eighth Air Force, said the aircraft would fly in 2022.

The Air Force plans to buy at least 100 B-21s, though it is considering a larger program of record.

Meanwhile, the Air Force awarded Northrop a \$13 billion contract for the GBSD program in September. Although the legacy Minuteman III ICBMs won't begin to be retired and replaced until 2029, it will be Brown's job to ensure the program stays on track and gets the funding it needs during the pivotal early days of its engineering and manufacturing development stage.

Aside from major delivery systems, the Air Force is also pursuing a dual-capable air-launched cruise missile: the Long Range Standoff Missile.

The Air Force is responsible for two legs of the nuclear triad — intercontinental ballistic missiles and nuclear bombers — with the Navy responsible for ballistic missile submarines. With the Navy currently replacing its current Ohio-class ballistic missile submarines with the Columbia class, all of the nation’s major nuclear modernization bills will be coming to a head around the same time.

That may create pressure on the Air Force’s and the Navy’s budgets in the coming years, especially as spending is projected to flatten. But the services have contended there is no time to waste when it comes to nuclear modernization — all programs must stay on schedule.

2. Advanced Battle Management System

Like his predecessor, now-retired Gen. Dave Goldfein, Brown wants the Air Force’s shooters and sensors to be able to instantaneously share data with the joint force — a concept the military has termed Combined Joint All-Domain Command and Control.

Brown’s second priority, the Advanced Battle Management System, is the Air Force’s effort to field a series of technologies that will make CJADC2 a reality.

“I look at ABMS [as critical] because that’s going to help us enable our decision-making and how we contribute to Joint All-Domain Command and Control,” Brown said. (The “C” in the concept’s name was recently added.)

However, Brown acknowledged the service has more work to do to convince lawmakers of the viability of the ABMS program. The Air Force envisions ABMS as a family of systems — think everything from cloud computing technologies, artificial intelligence algorithms and smart devices alongside traditional communications gear like radios.

Instead of issuing exact requirements, the service wants to test what industry has available in a series of “on ramp” exercises, eventually buying what works after technologies are customized to meet user needs.

Congress, however, has been skeptical. While the Air Force requested \$302 million for the program in fiscal 2021, the House and Senate Appropriations committees would subtract anywhere from \$50 million to almost \$100 million from that sum, citing concerns about the service’s acquisition strategy and lack of detailed requirements.

“That’s feedback to me, feedback to the Air Force that something is maybe being lost in the translation,” Brown said. “We’re doing this a bit different than we have done a traditional acquisition program. ... And for us, for the Hill, it is a bit different. I think it’s an area that we, as an Air Force, do need to do a little bit better job of how we talk it up.”

3. Cutting-edge acquisition methods

Brown's third modernization priority isn't a program at all: He wants to see continued advancements in new acquisition methods that allow the Air Force to more quickly buy new equipment at lower prices.

Currently, "by the time [new technology] gets to the hands of the war fighter, the software that's in it is a decade or two decades or 15 years old. How are we able to do things a bit faster in that regard?" Brown said.

He pointed to advanced manufacturing processes like digital engineering, which employs detailed data and models during the design of a product, and simulates how it will be manufactured, tested, operated and sustained throughout its life cycle.

Air Force acquisition executive Will Roper has heralded techniques like digital engineering for enabling the rapid development and recent first flight of a full-scale demonstrator aircraft, which was tested as part of the service's Next Generation Air Dominance program. Roper told Defense News in September that it will be up to Brown and other Air Force leaders to decide whether it's worth buying into the Digital Century Series plan for NGAD, which would involve the service more rapidly purchasing small batches of aircraft from various manufacturers.

While Brown didn't comment on whether the Air Force has committed to the Digital Century Series model for purchasing future combat jets, he cited the approach as one that could potentially speed up the fielding of new technologies.

"If we keep doing the same approach we have since I've been in the Air Force and expect a different result, then we're not going to do very well," Brown said.

"We have to change our approach. And this drives change in our thinking, change about how we think about acquisition, it changes how we as an Air Force engage with and collaborate with [the Office of the Secretary of Defense], with [the Pentagon's Cost Assessment and Program Evaluation office], with the Hill, with industry. And, you know, I think we've gotten some traction in certain areas, but it's going to require constant dialogue and collaboration and transparency."

Gen. Hyten, Embattled Joint Chiefs Vice Chair, Will Not Seek Second Term

https://www.military.com/daily-news/2020/11/13/gen-hyten-embattled-joint-chiefs-vice-chair-will-not-seek-second-term.html?utm_source=Sailthru&utm_medium=email&utm_campaign=EBB%2011.16.20&utm_term=Editorial%20-%20Early%20Bird%20Brief

By Oriana Pawlyk for Military.com // 13 Nov 2020

The nation's second-highest military officer will retire next year instead of seeking a new term in the Pentagon.

Air Force Gen. John Hyten, vice chairman of the Joint Chiefs of Staff, will not seek renomination to the position following his two-year tenure and will instead retire, according to his spokeswoman. "General Hyten has always understood his tenure as Vice Chairman of the Joint Chiefs of Staff would last two years and plans to retire upon the completion of his term," Maj. Trisha Guillebeau, said in a statement Friday. The news of Hyten's retirement was first reported Friday by USNI News.

Hyten's term is set to conclude Nov. 20, 2021. Under federal law, the position of vice chairman is appointed and confirmed by the Senate for a two-year term. The law was recently amended, however, within the 2017 National Defense Authorization Act. It established a four-year term for any vice chairman appointed after January 1, 2021. "The intent of Congress was to offset the Chairman and the Vice Chairman positions by two years," Guillebeau said. The next vice chairman will serve a four-year term.

The news of Hyten's retirement comes after a federal judge last month rejected the dismissal of a lawsuit filed against Hyten by his former top aide, a subordinate female officer. The lawsuit, filed by former Army Col. Kathryn Spletstoser, who served for 28 years, alleges he sexually assaulted her while she worked for him at U.S. Strategic Command in Nebraska. Spletstoser first brought the allegations against Hyten in spring 2019; The former colonel has maintained Hyten assaulted her multiple times between 2017 and 2018. Hyten, meanwhile, has asserted he is innocent.

When the allegations surfaced in July 2019, an Air Force investigation report showed that officials were unable to corroborate the assault. As a result, the military did not charge or recommend any administrative punishment against Hyten. Guillebeau said that Hyten has previously mentioned retirement throughout his military career, which he had planned to do prior to becoming the vice chairman. The Washington Post in 2019 noted that Spletstoser had also believed Hyten planned to retire after his assignment at STRATCOM.

Cooperating on Nukes Better Than Sharing Them, Navy Strat Systems Chief Says

DefenseDaily.com, 17 Nov 20 Dan Leone

The Navy is happy to share knowledge about weapons with the Air Force, so long as it does not actually have to share a nuclear weapon with the Air Force, the sea service's director for strategic systems programs said Tuesday.

"I think a couple years ago, commonality started to put us on a path where I'm not sure it was getting the teams where it needed to get us," Vice Adm. Johnny Wolfe said during a question and answer session at the annual Naval Submarine League Symposium.

The Navy's Ohio-class ballistic missile submarines now carry Trident II-D5 missiles, tipped with W88 and W76 warheads. The successor Columbia submarines, the first of which is scheduled to begin patrols in the early 2030s, will also carry Trident missiles.

Successor missiles to Trident could carry the proposed, but unfunded, W93 warhead, which would use the Navy's Mark 7 aeroshell: a reentry body the service is now free to develop, since the Trump administration dumped the Obama administration's plan to pursue a so-called interoperable warhead that could have tipped both Air Force and Navy ballistic missiles.

On Tuesday, Wolfe said the Air Force and the Navy still cooperate, after a fashion, on nuclear weapons development. Or, at least, on tools that can be used to develop nuclear weapons.

In its Ground Based Strategic Deterrent Program, the planned replacement for the Minuteman III series of land-based intercontinental ballistic missiles, the Air Force has "started down this path of model-based systems engineering," Wolfe said, "They have come a long way in model-based systems engineering. We've got a team that is collaborating with them almost weekly on getting the lessons learned as we get into model-based

systems engineering for our follow on system” Wolfe said.

In model-based engineering, designers collaborate by sharing visual and other types of models, rather than documents. The Air Force is high on the approach and, dating even since the early stages of the Ground Based Strategic Deterrent procurement in 2017, has touted the process as a transformative wave for military hardware acquisition.

Technologies, if not common, can at least be “complementary,” Wolfe said.

Mk21A reentry vehicle design review on track for March

InsideDefense.com, 19 Nov 20 Sara Sirota

The Air Force is on schedule to conduct a preliminary design review in the coming months of Lockheed Martin's solution for the future Ground Based Strategic Deterrent's Mk21A reentry vehicle.

The Mk21A program seeks to modify the legacy Minuteman III system's Mk21 reentry vehicles so they can deliver the W87-1 warheads the National Nuclear Security Administration is building for GBSD's intercontinental ballistic missiles, which the Air Force will begin fielding in the late 2020s. Lockheed won a \$108 million contract in October 2019 to perform technology-maturation and risk-reduction work for the Mk21A solution.

Despite getting started just as the coronavirus pandemic hit the United States, COVID-19 has not had an effect on the overall program, which has managed to achieve several milestones, Air Force spokeswoman Leah Bryant told Inside Defense in an email Wednesday.

Since the service awarded Lockheed the TMRR deal last year, the program has completed a system requirements review and a system functional review, and it's on track to finish the PDR in March 2021, Bryant said.

After the Air Force assesses Lockheed's design to ensure it meets requirements, the next milestone will be to conduct flight tests of two prototype reentry vehicles. The service is planning to begin these demonstrations in the second quarter of FY-22, according to Bryant.

As the Mk21A program's activities are set to ramp up in the months ahead, the Air Force has requested an FY-21 budget of \$113 million, nearly double the FY-20 budget. Both House and Senate appropriators have recommended fully funding the proposal in the FY-21 defense spending bill. Conference negotiations to finalize the legislation have not yet begun.

Funding for the new reentry vehicles is slated to grow significantly to more than \$225 million in FY-24, when the Air Force expects to start engineering and manufacturing development. The milestone B decision to formally end the TMRR phase is set to occur in October 2023, according to the service's latest budget documents.

Lockheed was the only company that bid on the Mk21A program's early design contract -- all but ensuring it will receive the prime contract to modify the aging Mk21 vehicles after the milestone B approval.

Meanwhile, GBSB -- potentially the most controversial of the military's nuclear modernization programs -- continues to face resistance from House Armed Services Committee Chairman Adam Smith (D-WA), who will still lead the influential panel once the new congressional term starts in January, as Democrats maintained control of the House in the latest elections.

Although President-elect Biden will also take over the White House in a few months and likely call for a new Nuclear Posture Review, Republicans gained seats in the House and denied Democrats a decisive win in the Senate, creating a political environment that makes it difficult to stop the new ICBM program, Smith said at a Ploughshares Fund virtual event Wednesday.

Two runoff elections in Georgia in January will determine whether Republicans maintain their majority in the Senate or if the two parties split control.

Malmstrom first to receive new 'Grey Wolf' helicopters, senators say

Great Falls Tribune Online, 18 Nov 20 Phil Drake

Malmstrom Air Force Base will be the first to receive new MH-139 Grey Wolf helicopters to replace the Vietnam-era Huey fleet, Montana's two U.S. senators said, adding the new fleet is expected to be fully operational by 2023.

The announcement was made Tuesday night by the U.S. Air Force and praised by Montana Sens. Steve Daines, a Republican, and Jon Tester, a Democrat, who both said they had advocated for the upgrade for years.

Daines said the upgrades will begin this summer.

Tester called it “welcomed news.”

“At a time of increased global threats and near peer adversaries, this new batch of helicopters will strengthen our nation’s defense capabilities, secure our ICBM fields, and provide greater relief and certainty to the airmen who work tirelessly to keep us safe,” Tester said in an email.

Daines also called it “great news” for the state and the country’s national security.

He said Gen. Timothy Ray, head of the Air Force Global Strike Command, shared the news earlier Tuesday.

Funding for the helicopters was through the 2017 National Defense Authorization Act and the Defense Appropriations bill. It is the first major acquisition for the command in its 10-year history, Air Force officials said.

Daines said the new helicopters will provide critical security for intercontinental ballistic missiles stationed around Malmstrom Air Force Base.

Tester said the helicopters will be used to secure and transport airmen between launching sites. He said he expressed serious concerns in 2016

regarding Malmstrom's outdated Huey helicopter fleet, saying it did not fully secure the country's ICBM sites and proposed a plan to use an existing Army contract to replace the fleet with modern helicopters.

The Hueys, also known as UH-1N, entered the operational Air Force in 1970.

Daines in 2016 had also called on the U.S. Air Force to prioritize the readiness of Montana's military missions by modernizing aircraft at Malmstrom.

The Air Force dubbed the MH-139A helicopter the "Grey Wolf" during a Dec. 19 naming ceremony at Duke Field, Florida. It was derived from the wild species that roams the northern tier of North America, which also encompasses the intercontinental ballistic missile bases, Air Force officials said.

"It strikes fear in the hearts of many," Ray said at the naming ceremony. "Its range is absolutely inherent to the ICBM fields we have."

"As they hunt as a pack, they attack as one, they bring the force of many," he said. "That's exactly how you need to approach the nuclear security mission."

They close the capability gaps of the UH-1N "Hueys" in areas of speed, range, endurance, payload and survivability in support of the command's ICBM missions. They can also perform civil search and rescue, airlift support, National Capital Region missions, as well as survival school and test support, officials said.

Steven Grooms, the chair of the Montana Defense Alliance with the Great Falls Area Chamber of Commerce, was happy with news of the upgrade.

"It's time that we update the helicopters and it's pretty exciting we will be the first wing to receive it," he said, adding it will be an added resource for Malmstrom to carry out its mission.

Grooms described the Grey Wolf as a "work horse."

The helicopters will also provide support at ICBM fields in Wyoming, North Dakota, Colorado and Nebraska as well, officials said. The Air Force said it will purchase up to 84 MH-139A Grey Wolf helicopters, training devices and associated support equipment from Boeing.

Next generation of Air Force helicopters headed to Minot Air Force Base

KFYR-TV (Bismarck, ND), 18 Nov 20 Joe Skurzewski

MINOT AIR FORCE BASE, N.D. -- In the coming years, Minot Air Force Base will play host to the MH-139 Grey Wolf Helicopters, the replacement for the aging Hueys.

The new helicopters are expected to arrive in 2026.

Funding for the Grey Wolves came as part of a more than half-billion-dollar defense package in 2018. Sen. John Hoeven, R-ND, who serves on the defense appropriations committee, explained the next step for Minot Air Force Base—somewhere to house the new fleet.

“We first had to fund a new hangar facility which will be started in terms of construction in the spring, and then we’ll get the helicopters after that. But this is very important for the Minot Air Force Base,” said Hoeven.

Air Force Global Strike Command released the following statement to Your News Leader:

“The new helicopter closes the capability gaps of the UH-1N Huey in the areas of speed, range, endurance, payload and survivability in support of the command’s intercontinental ballistic missile missions. Other mission capabilities include civil search and rescue, airlift support, National Capital Region missions, as well as survival school and test support.”

Other bases where the Grey Wolf’s are headed include Malmstrom in Montana and F.E. Warren in Wyoming.

The Navy is Moving 'Tactical Control' of Its Nuclear-Armed Ballistic Missile Submarines

<https://nationalinterest.org/blog/buzz/navy-moving-tactical-control-its-nuclear-armed-ballistic-missile-submarines-172627>

The move will help local commanders better react to foreign threats.

by [Kris Osborn](#) for the National Interest // November 13, 2020

The Navy is moving tactical control of its nuclear-armed ballistic missile submarines closer to the operational edge in the Atlantic, further allowing regional submarine commanders to make strategic adjustments and respond to emerging threat circumstances.

The Navy [has announced](#) that it has shifted command of existing [Ohio-class ballistic missile submarines](#) from the larger echelon Commander, Submarine Force Atlantic to Submarine Group 10.

Shifting the mission to Submarine Group 10 “will enable a more direct command and control structure to our strategic leg of the nuclear triad,” Vice Adm. Daryl Caudle, Task Force Commander said in a Navy report.

The move does give the Navy more forward-operating tactical agility to expand the “geographical dispersion” of command centers in the Atlantic. This means that tactical maneuvers, test operations and training exercises will fall more directly underneath the command of leaders closer to the tactical edge, a move which does seem like it will enable the Navy to quickly adjust to changing threats.

There are many reasons why this is significant, given the well-known game of [cat-and-mouse](#) often associated with how rivals try to track, follow and monitor the movements of Ohio-class submarines. The concept, based of course upon [strategic deterrence](#), is to quietly patrol the undersea from unknown locations around the globe, to ensure complete destruction in the event that a retaliatory nuclear strike is needed.

The ability for tactical commanders closer to the edge to make more immediate decisions is quite significant when it comes to several specific threats, including current Chinese moves to expand its ballistic missile submarine fleet. China is fast expanding its fleet of new fleet of [Jin-class](#) nuclear armed submarines and therefore massively increasing the global reach of its nuclear threat potential.

China is already expanding well beyond its position as a regional power in charge of the Pacific and is growing its global influence, meaning that Chinese nuclear-armed submarines could threaten the continental United States from multiple different locations. Nuclear threats from China are no longer restricted to the Pacific but rather now much more global in scope. This is in part due to the emergence of China's new [JL-3 nuclear missile](#) which operates with a reported range of 4,000 miles, placing the continental United States at much greater risk.

Hawaii can be threatened from many locations closer to Chinese shores and, given the added numbers of submarines, major parts of the Western continental United States can also be threatened. Added to this complexity is the fact that emerging submarine tracking technologies such as longer-range, higher-fidelity sonar systems, undersea drones and newer kinds of laser-diode tracking placing historically less detectable ballistic missile submarines at risk. Such a phenomenon will likely require regional commanders to quickly change course or adjust to newly detected threats, as the strategic advantage of nuclear deterrence depends to a certain degree on both being dispersed and remaining undetected.

Kris Osborn is Defense Editor for the National Interest. Osborn previously served at the Pentagon as a Highly Qualified Expert with the Office of the Assistant Secretary of the Army—Acquisition, Logistics & Technology. Osborn has also worked as an anchor and on-air military specialist at national TV networks. He has appeared as a guest military expert on Fox News, MSNBC, The Military Channel, and The History Channel. He also has a Masters Degree in Comparative Literature from Columbia University.

State Department fears Russian underwater nuclear drones could unleash 'radioactive tsunami' on US

14 Nov, 2020 13:32

The Poseidon multipurpose ocean system. A screenshot from a video provided by the Russian Defense Ministry © Sputnik / Russian Defense Ministry

A US State Department official has issued a warning over Russia's nuclear deterrent, saying the unmanned submarine drones equipped with warheads are capable of causing tsunamis.

Christopher Ford, the assistant secretary of state for international security and nonproliferation, made the claims during a virtual conference on nuclear weapons and international law.

He told viewers Washington has "*reasons to be concerned about Russian policy.*" Ford doubts that Moscow, which says its nuclear arsenal exists only for defense purposes, would use it "*proportionally*" in the case of a conflict.

"The Russians have suggested that they might respond with the all-out use of nuclear weapons if they see even a single incoming ballistic missile," Ford warned.

He also expressed concern over Moscow's development of Poseidon, an unmanned underwater submersible that could potentially be equipped with both conventional and nuclear weapons.

Another disturbing sign comes with Russia's development of the Poseidon nuclear powered underwater drones that it apparently intends to fit with multi-megaton nuclear warheads and launch across the ocean in wartime in order to inundate U.S. coastal cities with radioactive tsunamis. He went on to say that such a concept raises “*serious questions*” whether it could be used in accordance with international law.

The Poseidon, previously known by its code name ‘Status-6’, was announced by Russian President Vladimir Putin in March 2018 as a part of a group of nuclear weapons meant to counter the US nuclear threat.

While both Washington and Moscow’s nuclear stockpiles have been reduced since the height of the Cold War, disarmament faced a setback in recent years. The countries are still in discussion regarding the current nuclear arms reduction treaty, known as ‘New START’, that is due to expire in February. Previously, President Putin proposed extending it for a year, without adding any extra conditions.

Pentagon Expands Hypersonics Transition Office

National Defense, 17 Nov 20 Connie Lee

The Defense Department’s joint hypersonics transition office is working with the Naval Surface Warfare Center Crane Division to expand its engineering expertise, according to the group’s director.

“One thing that we kind of thought it was missing was a rigorous systems engineering approach,” Gillian Bussey said in an interview.

The organization — which is nestled under the office of the undersecretary of defense for research and engineering — was set up in April to help move hypersonic weapons from research-and-development efforts to official programs of record, she noted.

The technology is listed as the Defense Department’s third R&D priority, but it does not have any efforts that have reached Milestone C. The transition office’s responsibilities include examining hypersonics projects from companies and universities that may be relevant to the Defense Department’s needs, Bussey said. The organization is exploring topics such as thermodynamics systems and engineering and design.

“We’ll go through the list of projects and identify the priority ones and the ones that we can fund,” Bussey said. “We have a call every year for members of our [integrated product teams], who are all plugged into these programs, ... to propose projects, and these projects all have to be tied to the programs, they have to be tied to specific capabilities.”

Mark Lewis, acting deputy undersecretary of defense for research and engineering and director of defense research and engineering for modernization, said in a news release: “We often have difficulty transitioning department-funded basic research from universities through industry to operational applications. It is a particular challenge in hypersonics, where multiple disciplines must intersect precisely to move forward.”

One of the most prominent initiatives includes the air-launched rapid response weapon, or ARRW. In 2018, the Air Force service awarded Lockheed Martin a \$480 million contract to develop the product. ARRW was tested on an Air Force B-52 Stratofortress at Edwards Air Force Base, California,

in August.

The new partnership with Crane will help the transition office identify suitable milestones and deadlines for these types of technologies, Bussey noted. The office hopes to have the division work on ARRW and any other hypersonic cruise missile program to develop a plan to integrate new technologies into platforms.

The intent is to have “an integrated, collaborative, enterprise-wide plan for putting capability via these new technologies into these systems,” she said.

Manufacturing is one of the biggest challenges of transitioning hypersonic weapons from R&D to a program of record, she noted. Many of the systems in development have been one-off demonstrations that require participation from companies across the country, she said. This makes it more difficult to manufacture items at a large scale and at an affordable price.

“If we’re going to have a program of record, we can’t take nine months or several months to build a thermal protection system or to build an engine. We need to have that happen such that we’re producing 20, 50, 100 of these things a year,” Bussey said.

Crane is assisting the office to ensure that this is taken into account when funding projects and writing contracts, she noted.

“Figuring out what things we need to write into the contracts from the beginning to ensure a better transition and better manufacturability of these technologies is something that we’re going to do,” she said.

U.S. Nuclear Weapons Capability (PDF Attach’d above 20 pgs)

<https://www.heritage.org/military-strength/assessment-us-military-power/us-nuclear-weapons-capability>

AN ASSESSMENT OF U.S. MILITARY POWER

By: Patty-Jane Geller for Heritage // Nov 17, 2020 (About an hour read)

Assessing the state of U.S. nuclear weapons capabilities presents at least three serious challenges.

First, the United States is not taking full advantage of technologically available developments to field modern warheads (often incorrectly termed “new” warheads) that could be designed to be safer, more secure, and more effective and could give the United States better options for strengthening a credible deterrent. Instead, the U.S. has largely elected to maintain aging nuclear warheads based on designs from the 1960s, 1970s, and 1980s that were in the stockpile when the Cold War ended.

Second, the lack of detailed publicly available data about the readiness of nuclear forces, their capabilities, and the reliability of their weapons makes analysis difficult. Third, the U.S. nuclear enterprise has many components, some of which are also involved in supporting other military (e.g., conventional) and extended deterrence missions. For example, dual-capable bombers do not fly airborne alert with nuclear weapons today, although they did so routinely during the 1960s and technically could do so again if necessary.

Additionally, the three key national security laboratories no longer focus solely on the nuclear weapons mission (although this remains their primary mission); they also focus extensively on nuclear nonproliferation and counterproliferation, intelligence, biological/medical research, threat reduction, and countering nuclear terrorism, which includes a variety of nuclear-related detection activities. The Nuclear Command, Control, and Communications System performs five essential functions: “detection, warning, and attack characterization; adaptive nuclear planning; decision-making conferencing; receiving Presidential orders; and enabling the management and direction of forces.”

Thus, it is hard to assess whether any one piece of the nuclear enterprise is sufficiently funded, focused, and/or effective with regard to the nuclear mission. In today’s rapidly changing world, the U.S. nuclear weapons enterprise must be, as described in the 2018 Nuclear Posture Review (NPR), “modern, robust, flexible, resilient, ready and appropriately tailored” to underpin the U.S. nuclear deterrent.²

If the U.S. detects a game-changing nuclear weapons development in another country, the U.S. nuclear weapons complex must be able to provide a timely response. However, maintaining a capable U.S. nuclear enterprise presents many challenges. To provide assurance against unexpected failures in the U.S. stockpile or changes in a geopolitical situation, the U.S. maintains an inactive stockpile that includes near-term hedge warheads that “can serve as active ready warheads within prescribed activation timelines” and reserve warheads that can provide “a long-term response to risk mitigation for technical failures in the stockpile.”

The U.S. preserves upload capability on its strategic delivery vehicles, which means that, if necessary, the nation could increase the number of nuclear warheads on each type of its delivery vehicles. For example, the U.S. Minuteman III intercontinental ballistic missile (ICBM) can carry up to three nuclear warheads, although it is currently deployed with only one. While the United States preserves these capabilities, doing so in practice would take time and be both difficult and potentially costly.

Certain modernization decisions (e.g., 12 versus 14 Columbia-class ballistic missile submarines with 16 versus 24 missile tubes per submarine) will limit upload capacity on the strategic submarine force. U.S. heavy bombers will continue to retain a robust upload capability. Moreover, the United States has not designed or built a new nuclear warhead since the end of the Cold War.

Instead, the National Nuclear Security Administration (NNSA) uses life-extension programs (LEPs) to extend the service life of existing weapons in the stockpile. Not all of the existing inactive stockpile, however, will go through the life-extension program. Hence, our ability to respond to contingencies by uploading weapons kept in an inactive status will decline with the passage of time. In other words, LEPs by themselves cannot be relied upon to sustain needed levels of reliability.

Presidential Decision Directive-15 (PDD-15) requires the U.S. to maintain the ability “to conduct a nuclear test within 24-to-36 months of direction by the President to do so.” However, successive government reports have noted the continued deterioration of technical and diagnostics equipment and the inability to fill technical positions that support nuclear testing readiness. A lack of congressional support for improvements in technical readiness further undermines efforts by the NNSA to comply with the directive.

New nuclear explosion monitoring capability achieves significant milestone

<https://www.energy.gov/nnsa/articles/new-nuclear-explosion-monitoring-capability-achieves-significant-milestone>

[Home](#) » [New nuclear explosion monitoring capability achieves significant milestone](#)

From: Energy.Gov // NOVEMBER 16, 2020

An NNSA-led team of experts is preparing to launch the next generation of equipment to detect underground nuclear explosions.

Specialists from NNSA, [Pacific Northwest National Laboratory](#), the U.S. Department of State's [Office of the Nonproliferation and Disarmament Fund](#), the [Defense Threat Reduction Agency](#), and [Teledyne Brown Engineering](#) have teamed up to develop [Xenon International](#), a monitoring and analysis unit that is smaller, more efficient, and more sensitive than today's fielded technology.

The new device will improve the detection of radioactive xenon – radioxenon – an important part of confirming that an underground nuclear explosion has occurred. The radioactive noble gas formed in a nuclear explosion is difficult to fully contain, even in a small underground detonation, which makes it an important “signature.” “Xenon International represents a significant improvement over the technology currently used for nuclear explosion monitoring.

It's another example of U.S. technical leadership,” said Dr. Brent Park, NNSA Deputy Administrator for Defense Nuclear Nonproliferation. “I am proud of this interagency partnership with industry to boost the international nonproliferation effort.” Noble gas measurements must be incredibly sensitive – sensitive enough to detect about 1,000 radioactive xenon atoms in a space the size of a bedroom, for example. For the measurements to be meaningful, scientists need to be able to detect the radioxenon that amounts to one-trillionth of one-trillionth of a cubic meter of air.

The Xenon International system is about the size of a refrigerator and even through it still needs some support, it can be deployed almost anywhere in the world. It takes in a much larger air sample and processes it in half the time of today's systems, gathering six cubic meters of air per hour (that's about half the volume a cement truck holds). These improvements allow it to detect lower levels of radioxenon more quickly, giving scientists more accurate clues about where the gas is coming from.

The ultimate goal is for the new technology to be deployed in the [International Monitoring System \(IMS\)](#), a global network of stations designed to detect the telltale signs of a nuclear explosion. Xenon International recently completed six months of phase one testing at the manufacturer's facility, Teledyne Brown Engineering, consisting of near-continuous operation and data transmission to the International Data Centre in Vienna, Austria. The next phase is six months of field testing at an IMS station in Freiburg, Germany, which will start in the spring.

Xenon International is one of many ways NNSA is working to maintain and improve the effectiveness of international nuclear explosion monitoring, including hosting a virtual version of the Workshop on Signatures of Man-Made Isotope Production ([WOSMIP Remote](#)) in April, to bring together experts from the nuclear explosion monitoring and peaceful use of nuclear technology communities.

[Source Term Analysis of Xenon](#) (STAX) is another interagency project designed to better understand radioxenon emissions from medical isotope production facilities to ensure they do not adversely affect nuclear explosion monitoring. The Xenon International team has been recognized with both a [Federal Laboratory Consortium Award](#) and an [R&D 100 Award](#).

The State Department to release Kennan-style paper on China (Attach'd above PDF 74 pgs)

<https://www.benzinga.com/news/20/11/18410916/the-state-department-to-release-kennan-style-paper-on-china-axios-report>

By: Bethany Allen-Ebrahimian for Benzinga // 18 Nov 2020

The U.S. State Department's Office of Policy Planning is set to release a blueprint for America's response to China's rise as an authoritarian superpower, Axios has learned.

Why it matters: The lengthy document calls for strong alliances and rejuvenation of constitutional democracy. Axios obtained a [copy](#). The unclassified paper, called "The Elements of the China Challenge," draws inspiration from an influential article published in 1947 by the policy planning team's founder, U.S. diplomat George Kennan, in which he introduced the idea of containment as a strategy to deal with the Soviet Union.

Details: The document, which is more than 70 pages long, examines the Chinese Communist Party's harmful conduct and its ideological sources, the vulnerabilities China faces, and how the U.S. and its allies should respond. "Meeting the China challenge requires the United States to return to the fundamentals," the paper states. The U.S. must fashion "sturdy policies that stand above bureaucratic squabbles and interagency turf battles and transcend short-term election cycles. The United States' overarching aim should be to secure freedom."

The blueprint: The paper lays out "ten tasks" for the U.S. to accomplish.

1. Promoting constitutional government and civil society at home.
2. Maintaining the world's strongest military.
3. Fortifying the rules-based international order.
4. Reevaluating its alliance system.
5. Strengthening its alliance system and creating new international organizations to promote democracy and human rights.
6. Cooperating with China when possible and constraining Beijing when appropriate.
7. Educating Americans about the China challenge.
8. Train a new generation of public servants who understand great-power competition with China.
9. Reforming the U.S. education system to help students understand the responsibility of citizenship in a complex information age.
10. Championing the principles of freedom in word and in deed.

Between the lines: The paper rejects the unilateralism and isolationism of the Trump era while maintaining conservative undertones, including an emphasis on economic liberty and a strong military. What they're saying: "While the pandemic opened the world's eyes to the China challenge, many in the United States and other nations still fail to appreciate the CCP's determination to remake the world order in its quest for global preeminence," a senior U.S. official told Axios.

Expert take: "One unique feature of the memo is its focus on how the CCP's worldview shapes its behavior, which has been rare in U.S. government documents and should be a larger part of U.S. policy debates," said Rush Doshi, director of the Brookings China Strategy Initiative, who reviewed a copy. But the paper mostly overlooks certain key topics, including allied industrial policy, cross-border data flows and new tech coalitions, said Doshi.

And "economics and technology are at the center of U.S.-China competition, but they barely appear in the memo's prescriptions," he added. Of note: The arguments contained in the paper contrast sharply with those of Kiron Skinner, former director for policy planning at the State Department, who initially led the effort to formulate what she [described](#) as a China-focused Kennan-style paper.

Skinner faced intense criticism after [claiming](#) in April 2019 that China's rise was "a fight with a really different civilization" and "the first time that we will have a great power competitor that is not Caucasian." She left the State Department a few months later. The document obtained by Axios states pointedly on the first page that "China is a challenge because of its conduct." It does not cast great-power competition in civilizational or racial terms.

News & Opinion

Why America Isn't Prepared

The enemies of the United States are not dealing with continuing resolutions, split legislatures or budget shortfalls. They are proceeding rapidly toward the future as made clear by the new North Korean ICBM threat.

National Interest Online, Nov. 14 | Peter Huessy

During the recent seventy-fifth anniversary of the Workers' Party of Korea, North Korea surprised the world and revealed a new liquid-fueled Inter-Continental Ballistic Missile (ICBM) with the capability of reaching the United States, potentially with multiple nuclear warheads. This evolving threat highlights the critical importance of our homeland missile defense system and the country's need to continue investing in missile-defense system upgrades.

However, the upgrades to the national defense contained in the Next Generation Interceptor (NGI) program may not be funded if the defense budget continues for the rest of the year under a continuing resolution. Those funds will also be negatively impacted if congressional opponents of defenses push to eliminate some of the upgrades—especially technology that can intercept multiple warheads coming at the US simultaneously.

Currently, America's forty-four interceptors, the Ground-Based Interceptors (GBIs), are silent sentinels standing alert twenty-four/seven, in concrete silos in Alaska and California. Their mission is to fly out of their silos, find and destroy the incoming warhead. The mission is extremely complex, in fact, it is likened to the precision of a bullet hitting a bullet.

Although the existing GBI system has not been required to be used in a real-world scenario to date, the Missile Defense Agency regularly conducts flight tests to validate its effectiveness. During such tests, U.S. and allied satellites orbiting thousands of miles above the earth detect the bright launch plume of a mock enemy Intercontinental Ballistic Missile (ICBM), in this case it is a US-built ICBM target.

Each GBI carries its own advanced technology spacecraft, which is known as the Exo-atmospheric Kill Vehicle (EKV). The EKV is a sophisticated package of infrared sensors combined with advanced computers and software to distinguish the in-bound warhead from debris and decoys and guide the EKV to intercept the threat using on-board propulsion.

The GBI deploys the EKV at the optimal moment based on tracking data; the EKV then destroys the enemy warhead by striking it directly. And in six of the last seven tests the United States has been successful, a significant improvement over early tests.

To get to this system took some four decades of development that started in the Reagan administration and continued for six successive U.S. administrations. But funding has not been smooth and missile defense has not always advanced at "the speed of relevance." Defense efforts need to be accelerated to avoid the United States emerging hostage to the whims of nuclear-armed dictators in China, Russia, North Korea, or Iran.

The good news is that in March 2019, the GBI successfully intercepted two ICBM type targets simultaneously. This was the most complex intercept test that MDA has conducted to date.

But the future requires a better capability which the NGI is designed to provide. North Korea is not the only rogue threat. Iran has successfully placed payloads in “space,” ostensibly “peaceful space work.” But Uzi Rubin of Israel, a missile defense pioneer, says the additional development time needed for Iran to deliver warheads over intercontinental distances is minimal.

As a result, in August 2019, the Pentagon announced the start of a new program—the Next Generation Interceptor or NGI. The new interceptor will be optimally designed as a high-performance surface-to-air interceptor, featuring increased capability and lethality compared to its predecessor.

This was part of an overall plan to upgrade existing radars and sensors, improve space-based sensors to detect and track missiles, add a defense layer to regional missile defense systems, extend and improve the capability of the GBIs, field additional interceptors and critically develop a new kill vehicle capable of intercepting multiple warheads.

NGI is scheduled for deployment in 2028. As Robert Soofer from OSD Policy stated recently: “The NGI is really the next step up.” It will carry multiple kill vehicles instead of just one, a key capability.

The NGI will be better able to process the data from our new space-based sensor layer off satellites and give a wider field of view to locate and track enemy missiles at greater range. The sensor will better discriminate warheads from other space debris, or decoys, and allow a faster response to missile threats including multiple launches—an operational tactic known as “shoot-look-shoot.”

Air Force Gen. John Hyten, the vice chairman of the Joint Chiefs, summarized our current situation in August 2020: “I think our homeland missile defense . . . is strong, with respect to North Korea. The interceptors we have, mostly in Alaska, are highly effective against that threat. [But] they are not effective against other threats and we have to make sure we continue to advance and to take care of advancing threats in North Korea, [and] potential threats in Iran.”

Given the importance of the homeland defense mission, we must continue to invest in this critical capability. The current GBI system, though impressive, was developed under enormous time pressures using technologies from the late 1990s. We now have the opportunity, based on decades of experience, to do the next job better with the complimentary NGI program.

Remember, the enemies of the United States are not dealing with continuing resolutions, split legislatures or budget shortfalls. They are proceeding rapidly toward the future as made clear by the new North Korean ICBM threat. Congress must provide the full funding for GBI updates and accelerate the military’s effort to develop and deploy this new NGI homeland defense capability—and bring it home on time and on budget.

—Peter Huessy is the President of Geo-Strategic Analysis, a consulting firm based in Potomac, Maryland he founded in 1981

What a Flournoy Pentagon Could Mean for the Air Force

Air Force Magazine Online, Nov. 13 | Brian W. Everstine

Michèle A. Flournoy, the former under secretary of defense for policy, has emerged as the frontrunner to take over as Defense Secretary once the presumptive President-elect Joe Biden takes office in January. In a June article published in *Foreign Affairs*, Flournoy provided a glimpse into how the Defense Department's outlook could shift under her leadership if she does in fact assume the top job at the Pentagon.

The article, "How to Prevent a War in Asia," called on the Defense Department to shore up its deterrence toward China, specifically through changes in weapons buying and new operational concepts. U.S. deterrence in the Pacific has slipped, she wrote, and the Pentagon needs to invest more in capabilities to deter an aggressive China, including survivable command and control, cyber, and unmanned systems. Specifically, Flournoy said the Defense Secretary needs to press the military services to make tough choices.

"The U.S. military also needs to adapt its own overseas posture while shoring up the capabilities of allies and partners," Flournoy wrote in the article. "It should expect that China will try to disrupt the U.S. ability to re-enforce forward forces from the outset of a conflict, in all domains—air, sea, undersea, space, cyberspace. Accordingly, U.S. forces, bases, logistics networks, and C4ISR networks must be made more survivable and resilient. This will require investments in stronger cyber- and missile defenses; more geographically dispersed bases and forces; more unmanned systems to augment manned platforms; and resilient networks that can continue to function under attack."

The column had at least one key reader. In his "Accelerate Change or Lose" paper, Chief of Staff Gen. Charles Q. Brown Jr wrote, "The warning signs have been blinking for some time," citing the Flournoy article in a footnote.

"The 2018 National Defense Strategy and the independent National Defense Strategy Commission both concluded that the international security environment is getting more competitive and dangerous with the return of great power competition and the erosion of U.S. military advantages. Recent publications from leaders and scholars across the security community raise similar alarms regarding the erosion of U.S. warfighting advantages."

Air Force Magazine spoke with several former senior U.S. Air Force officials who worked directly with Flournoy. Each said she is qualified to lead the Pentagon if nominated, that she would largely keep the department on the same course it has been under the Trump administration, though she's likely to prioritize key USAF acquisition programs while cutting back on other legacy systems and controversial nuclear programs in the face of tightening budgets.

"If nominated, Michèle is extremely well qualified, it would be good news for the Air Force and the entire department," said former Air Force Secretary Deborah Lee James, who worked with Flournoy multiple times in Pentagon policy during the Clinton administration. "... Her world perspective is we have to remain focused ... on great power competition, and China is the most worrying of those great powers."

Facing the Budget Reality

Flournoy is currently the managing partner of WestExec Advisors. She also founded the Center for a New American Security before being floated as a possible Defense Secretary in the Obama administration and in a potential Hillary Clinton administration before the 2016 election.

During a virtual Aspen Institute event in August, Flournoy was asked directly about serving as a Secretary of Defense, responding that while she would not speculate, “I’ve spent 30 years in some form of public service, either in government or in the nonprofit sector, and that is my calling. And so, you know, who knows. But I’ve come out and endorsed Joe Biden. I do think he’s the right answer for the country, and I would do anything to support his success and for the sake of the country.”

If nominated and confirmed, she would lead a Pentagon facing down either flat or declining budgets. After years of focus on “great power competition” under the National Defense Strategy while continuing wars in the Middle East, a rising deficit and a realignment of priorities amid the COVID-19 pandemic will likely force the Pentagon to shift its priorities.

“Defense budgets are probably going to flatten in the coming years, no matter who wins the election,” Flournoy said during the Aspen Institute event. “That means you have to make tradeoffs, that means you have to make many hard decisions, it means you probably need to buy fewer legacy forces in order to invest in the technologies that will actually make the force that you keep more relevant, more survivable, more combat effective, and better able to underwrite deterrence.”

She warned lawmakers in January testimony, even before the pandemic hit, that the Pentagon and Congress need to make trade-offs between legacy platforms and new technologies. “The United States is underinvesting in the new technologies that will ultimately determine our success in the future, ... a recipe for failure with dire costs for the nation.”

In a possible preview of what Air Force planners will face, Flournoy said lawmakers and the Pentagon need to find the “knee in the curve” and determine the point where it would make more sense to stop buying a platform, and instead spend money on emerging technologies that would keep existing platforms survivable and effective, using the example of foregoing “fighter squadrons for the Air Force” for a smaller and more capable force.

“The Secretary of Defense should ... be willing to make the hard choices necessary to prepare for the future fight—and Congress should support the Pentagon when these hard but correct choices are made,” she said.

Former Air Force Secretary Michael B. Donley, who ran the service while Flournoy led DOD policy, said “she understands not only the strategic choices that will need to be made, but also the importance of gaining congressional buy-in for those choices. I don’t think it’s appropriate to think of those choices in terms of service or programmatic ‘winners or losers.’ Michèle has a calm and practical mind and I’m confident she appreciates the rising importance of the cyber and space domains, the importance of regaining and/or maintaining our technological edge for the future, and the value of initiatives like [joint all-domain command and control] which, as it matures, will give our military capabilities greater than the sum of its parts.”

In several recent appearances, Flournoy highlighted the Air Force-led JADC2 effort as key to what the military needs to become, telling lawmakers in January testimony the Air Force’s Advanced Battle Management System is the “long-pole in the tent” for making multi-domain operations a

reality. The effort needs rapid advancements in technology, spurred by private sector approaches to technological development, and more investment than it currently has.

“We’re talking the talk, but where is that substantial commitment of multiyear funding?” she told Defense News. “That’s, I think, something we need to work towards.”

While the department and Congress have talked a lot about changing acquisition and moving faster in weapons buying, it hasn’t become enough of a reality. Flournoy, in her Aspen Institute appearance, said the military hasn’t trained or incentivized flexible authorities “at scale.” Congress needs a more active role in ensuring the Pentagon can actually take advantage of the authorities.

“Sometimes when the department is trying to make those tradeoffs to move money from one program to another, if they don’t do a good job of explaining that to Congress, they sort of get the hand from Congress,” she said. “And so I think one of the things we emphasize is we really have to make Congress much more of a strategic partner in this exercise. They need to understand what we’re facing, the urgency. They need to be invited into the wargames, and to the simulations, and to the experimentation, and to understand why these tradeoffs are being made.”

With tightening budgets, technology investments will come at a cost, and experts speculate there’s one area under the new administration’s priorities that could come under scrutiny.

“The trickiest question is what Air Force priorities are the billpayers for these other investments called for,” said Mackenzie Eaglen, a resident fellow with the American Enterprise Institute. “It is inevitable the triad will get yet another fundamental re-look, with an emphasis on the [Ground-Based Strategic Deterrent] in particular. This is the most vulnerable leg of the triad when the topline start coming down.”

James, who led the Air Force through budget cuts in the sequestration era and faced resistance from Congress when the service attempted to retire aircraft, also predicted that under a new administration the nuclear deterrent will come under some criticism. Under every new administration, there’s a defense review and likely a new Nuclear Posture Review. Under the new administration and possible Flournoy defense leadership, James said she expects the newly established “low-yield” nuclear weapon that came out of the 2018 NPR “could be on the chopping block.” The GBSD system, which is farther along than the low-yield weapon, would likely survive because ICBMs are a part of the Air Force’s heritage and comes with more political clout, but the number of warheads could be cut.

In testimony to the House Armed Services Committee in January, Flournoy said the U.S. needs to “think creatively” about deterrence—how the country could stop a great power from starting “down the road to war.”

“To prevent a miscalculation or escalation to conflict with a nuclear-armed rival, the United States must decide what capabilities we need to prioritize developing, acquiring, and demonstrating in order to credibly deter aggression, deny any adversary the ability to rapidly seize territory, and prepare to impose significant costs for any act of aggression,” she said. “And we need to do this with two timeframes in mind: deterrence in the interim (the next 5-10 years) and deterrence in the long term (10 years and beyond).”

Specifically, she highlighted USAF-focused conventional capabilities for deterrence, such as bombers outfitted with Long-Range Anti-Ship Missiles. While in the Pentagon, Flournoy was a key proponent of investment in the air leg of the triad, “strongly” supporting the Air Force’s development of its future bomber, Donley said.

While serving as under secretary of defense for policy under Gates, Flournoy was a key architect of the “surge” in Afghanistan and the proliferation of counter insurgency doctrine in that theater and Iraq. She has served as a close advisor to former Defense Secretary James N. Mattis, who reportedly considered her for a top position in the Pentagon. In August, she said there is no quick end to the war in Afghanistan. “It would be a mistake for the U.S. to precipitously draw down or withdraw, particularly to leave Afghanistan before that peace is solidified, because we basically would be pulling the carpet out from under our Afghan partners, Afghan women, Afghan civil society that we’ve fought so hard to help them,” she said.

In the Pentagon and at CNAS, Flournoy had a major focus on “super scaling COIN” and in recent years served as an adviser to former Defense Secretary and retired USMC Gen. James Mattis, who reportedly brought her aboard his Pentagon staff. Retired Lt. Gen. David A. Deptula, the dean of AFA’s Mitchell Institute for Aerospace Studies who worked closely with Flournoy multiple times, including on a roles and missions review in the 1990s and on the first Quadrennial Defense Review in 1997, said her focus on the strategic level was more on the Army and Marine Corps—working closer with the uniformed staffs of those services as opposed to the Air Force. “With respect to her background and personality credentials, she’s a very thoughtful individual ... with a very balanced perspective of policy issues, she listens to people of all sides,” he said.

Her history in the QDR and policy in the Pentagon makes Flournoy well-equipped to take on discussions of roles and missions between the services, and to deconflict efforts that could create friction, such as the Army developing long-range capabilities that could step on the toes of the Air Force, Deptula said.

A Focus on People

James said that while Flournoy’s focus in the Pentagon and at CNAS has largely been on policy, she would “really work on people programs” such as increasing the compensation for junior enlisted personnel, more childcare, better spouse employment, and focusing on veteran employment. She told Defense News the civilian side of the Pentagon needs a “huge rebuilding” by bringing in a talented team and instilling “stability.”

If she takes the position, Flournoy would become the military’s first-ever female Secretary of Defense. Lindsay L. Rodman, the executive director of the Leadership Council for Women in National Security, said while in the Pentagon Flournoy was known for caring about diversity and working to establish institutions that were focused on leadership and talent management.

“[She] always has been cognizant of issues of diversity and, in particular, whether women were fairly represented,” Rodman said. “I think she’s been a champion of these issues for a long time. ... She has been willing to be transparent about being a woman in these positions, because quite often, I think there is a pressure as a woman in these positions to not highlight your gender, necessarily, and I think she has not shied away from highlighting that issues of gender are present and important and impact the way that other people interact with her and she interacts with the world.”

Other names that have been floated include outgoing Arizona Republican Sen. Martha McSally, the first female Air Force pilot to fly in combat, and Army combat veteran Sen. Tammy Duckworth (D-Ill.).

--Senior Editor Rachel S. Cohen contributed to this report

Iran Uranium Levels Raise Nuclear Concerns, but Tehran Says It Is Still Being Transparent

<https://www.newsweek.com/iran-uranium-levels-raise-nuclear-concerns-tehran-says-still-being-transparent-1546821>

BY [DAVID BRENNAN](#) for Newsweek Magazine // ON 11/12/20 AT 5:41 AM EST

Iran is continuing to enrich uranium that could one day be used in a nuclear weapon, according to an International Atomic Energy Agency report, increasing its stockpiles to 12 times that allowed under the 2015 Joint Comprehensive Plan of Action.

As of November 2, the IAEA said Iran had a stockpile of 2,442.9 kilograms (5,385.7 pounds) of low-enriched uranium, up from 2,105.4 kilograms on August 25, the Associated Press reported Wednesday. This is 12 times the 202.8-kilogram limit agreed under the 2015 deal, which has been in limbo since President [Donald Trump](#) withdrew from the agreement in 2018. The president vowed to negotiate a new deal, but has failed to do so despite imposing "maximum pressure" sanctions to force Tehran back to the table.

The IAEA also said Iran was continuing to enrich uranium to a purity of up to 4.5 percent—higher than the 3.67 percent agreed under the Joint Comprehensive Plan of Action (JCPOA). Uranium must be enriched to about 90 percent for use in weapons, but can be used in nuclear power if enriched to between 3 and 5 percent. It is unclear how close Iran is to building a nuclear weapon, if Tehran decided to take that path. Iranian officials have long maintained that Iran has no interest in nuclear arms and is instead focused solely on peaceful nuclear power.

The Arms Control Association has said that Iran now has double the material needed to make a warhead, but IAEA Director General Rafael Grossi said last month his agency believes Tehran does not yet have sufficient material. Before signing the JCPOA, Iran had enriched uranium up to 20 percent. The technical step to get from 20 to weapons-grade 90 percent is short, but Iran did not take it. Tehran also had more than 7,000 kilograms of enriched uranium at this time, but did not push for a bomb.

Iran has continued to allow IAEA inspectors into the country and has been open about its decisions to violate JCPOA clauses. Iran said it would no longer abide by any elements of the deal after the U.S. assassinated Major General Qassem Soleimani in Baghdad in January. On Wednesday, Kazem Gharibabadi—Iran's permanent representative to the IAEA—said that while the agency's report was accurate, the fact Tehran was still allowing access to inspectors demonstrates that his country is not pursuing nuclear weapons.

The IAEA has said, however, that questions remain over last year's discovery of man-made particles of uranium at an undeclared site outside Tehran. Israeli Prime Minister [Benjamin Netanyahu](#) has described the Turqzabad facility as a "secret atomic warehouse." Both Israeli and American officials have accused Iran of running a secretive parallel nuclear program outside the IAEA's purview.

Iran's ambassador to the United Nations Majid Takht Ravanchi said Tehran had agreed to work "in good faith" with the IAEA to address outstanding questions. Ravanchi also tried to shift attention to Saudi Arabia, whose royal family is pursuing nuclear power with the backing of the Trump administration. "If Saudi Arabia is seeking a peaceful nuclear program, it should act in a very transparent manner and allow the agency's inspectors to

verify its activities," he said. Ravanchi added that the IAEA should adopt "an unbiased and professional approach" toward Israel, which is believed to possess nuclear weapons but is not a party to the Nuclear Non-Proliferation Treaty.

'No doubt' China is upgrading its nuclear power to be on par with U.S., Russia

<https://amp.washingtontimes.com/news/2020/nov/15/no-doubt-china-upgrading-its-nuclear-power-be-par-/>

By [Bill Gertz](#) - The Washington Times - Sunday, November 15, 2020

[China](#) is rapidly building up its nuclear forces, including the expansion of plutonium and uranium plants as part of a secretive, crash program to add warheads to its growing missile and bomber forces, according to declassified U.S. briefing slides obtained by [The Washington Times](#).

The four slides were part of a recent briefing for NATO allies in the past month on Chinese nuclear forces and show three facilities that appear to have sharply increased in size since 2010. One plutonium production area, the Jiuquan Atomic Energy Complex, doubled in size at a nuclear reprocessing zone in the past two years alone and added another reactor in the past year. U.S. officials view the significant construction at Jiuquan as part of what the [Pentagon](#) said recently is a plan by Beijing to double the size of its warhead stockpile in the next decade.

[China](#) has more than 200 warheads and is building more for its growing force of multiwarhead missiles. Intelligence from the briefing challenges widely reported studies on Chinese fissile material production. As recently as 2017, international experts concluded that [China](#) ended plutonium production for weapons in 1991 and uranium production for arms in 1987. "The world deserves to know what [China](#) is up to. They have never admitted how many nuclear weapons they have and how many they plan on building," said [Marshall Billingslea](#), the State Department's lead envoy for arms control.

"But it is clear from imagery that [China](#) is engaged in a secretive crash buildup of its infrastructure. There is no doubt that [China](#) wants to be on par with the United States and [Russia](#) in terms of its military and nuclear capabilities," he added. The information from the slides is part of the Trump administration's effort to persuade [China](#) to join New START nuclear arms talks with the United States and [Russia](#). Beijing so far has rebuffed U.S. appeals to join the arms talks.

A second satellite photo made public shows extensive expansion of the nuclear-weapons-related research complex at Mianyang, in south-central [China](#). Mianyang produces warheads and conducts research, development and testing of nuclear arms under the direction of the China Academy of Engineering and Physics, or CAEP. The academy has been compared to a combination of the [U.S. Energy](#) Department's [Los Alamos National Laboratory](#), where nuclear weapons were designed, and the Pantex plant in Texas that assembles the warheads that can deliver nuclear weapons to targets.

The CAEP has been described as a brain trust and the leading institution in [China](#) engaged in nuclear work, both military and civilian. It also conducts extensive financial transactions as part of its international business portfolio. A third satellite photo made public reveals that [China](#)'s military reactor complex at Leshan over the past decade grew by about 20 times the size of the original reactor in place in 2010.

Leshan, in southern Sichuan province, is the site used for making nuclear-weapons-related materials and naval nuclear reactors. In the past, a uranium enrichment plant was located in Leshan.

The Leshan complex appears to be part of [China](#)'s major buildup of nuclear-powered ballistic missile and attack submarines.

An obligation to negotiate

Mr. [Billingslea](#) said Beijing has a legal obligation under the Treaty on the Non-Proliferation of Nuclear Weapons to engage in arms talks. "For months now, we have been calling on the Chinese Communist Party to come to the table and negotiate in good faith," he said. "This is not merely an ask that we have. This is an obligation of theirs. [China](#) is legally bound to honor it. The NPT states plainly that all parties must pursue negotiations in good faith. [China](#) is perilously close to standing in violation of the NPT due to their repeated refusals to meet."

Earlier, the Trump administration declassified new briefing slides on Chinese excavation at the Lop Nur nuclear testing site. Work at the facility recently increased, and the administration has suggested in official reports that [China](#) may have carried out nuclear tests there. The briefing also included satellite photos of Chinese missiles paraded during the annual national day festivities. A comparison of parades of missiles since 2009 showed that the latest parade in 2019 was 10 times longer than the first and displayed new missiles such as the DF-17 hypersonic missile, DF-26 intermediate-range ballistic missile, and DF-31 and DF-41 ICBMs, along with the JL-2 submarine-launched missile.

"In the past, I've said that in 2019 [China](#) launched 225 ballistic missiles. That is a huge number, more than the rest of the world combined," said Mr. [Billingslea](#), the arms envoy. "The same was true in 2018," he said. "As of October of this year, even with COVID-19, [China](#) has shot off 180 ballistic missiles." Adm. Charles Richard, commander of the Strategic Command, told reporters in September that [China](#)'s nuclear buildup should not be measured by numbers of warheads, which are far fewer than the United States' 1,550 deployed warheads.

Adm. Richard said a nation's stockpile is a relatively crude measure of capabilities. "You have to look at the totality of it: the delivery systems, what they're capable of, what their readiness is," he said. "And [China](#), in particular, is developing a stack of capabilities that, to my mind, is increasingly inconsistent with a stated no-first-use policy." [China](#) has claimed its nuclear arsenal is far smaller than those of the U.S. and [Russia](#) and that it would not be the first to use nuclear arms in a conflict. That claim is under scrutiny because of the nuclear forces buildup.

"Given the huge gap between the nuclear arsenals of [China](#) and those of the U.S. and the [Russian Federation](#), it is unfair, unreasonable and infeasible to expect [China](#) to join in any trilateral arms control negotiation," Geng Shuang, [China](#)'s deputy permanent representative to the United Nations, told the U.N. General Assembly last month. He called the U.S. demand to join the nuclear talks "a trick to shift the focus of the international community."

[China](#)'s submarine missile capability is also a concern.

"[China](#) now has the capability to directly threaten our homeland from a ballistic missile submarine," Adm. Richard said. "That's a pretty watershed moment." The annual [Pentagon](#) report on the Chinese military stated that [China](#)'s nuclear forces will "significantly evolve" in 10 years with advanced weapons and larger numbers of a land-, sea- and air-based delivery system. "Over the next decade, [China](#)'s nuclear warhead stockpile — currently estimated to be in the low-200s — is projected to at least double in size as [China](#) expands and modernizes its nuclear forces," the report said.

It was the first time in decades that the [Pentagon](#) had revealed its estimate of warheads. Some experts say the number is much larger and includes hidden stockpiles of warheads. A Chinese Embassy spokesman did not return an email request for comment.

The Secret Way America is Building 6th Generation Stealth Fighters and ICBMs Two words: digital engineering

The National Interest, 15 Nov 20 Kris Osborn

The Air Force feels the pressure of time as it moves to architect a new arsenal of next-generation intercontinental ballistic missiles (ICBMs), given that the existing nuclear-armed Minuteman IIIs are from the 1960s.

Early prototypes have already been built, the Air Force has already decided upon Northrop Grumman as the builder and the new more resilient, more accurate and more lethal nuclear weapons are expected to be operational in a matter of a few years.

Some observers might be of the view that the effort started far later than it should have, given the longstanding need to modernize the U.S. nuclear force. However, the Air Force has moved very quickly to shepherd the Ground Based Strategic Deterrent (GBSD) program through to new stages of development. This speed is due in large measure to merging innovations with digital engineering.

“There is no reason not to attempt the impossible. Over 6 billion GBSD variants were digitally designed prior to selecting the one destined for the silos! This is the ‘eCreate before you Aviate’ paradigm crossing into defense,” Air Force acquisition executive William Roper said in a recent paper on the subject called “There is No Spoon: The New Digital Acquisition Reality.”

Digital engineering has been underway with a large number of programs, including the now-airborne Air Force sixth-generation stealth fighter, yet the GBSD program is widely regarded as being the fastest and most substantial digital engineering success story to procure hundreds of new ICBMs, launch facilities and cabling.

“Consequently, if it’s traditionally difficult, expensive, or time consuming, your digital acquisition strategy should seek to replace it altogether with a digitally-de risked alternative. In digital acquisition’s overclocked reality, “Fail fast. Fail often.” is on steroids,” Roper writes.

Various computer methods of digital engineering can replicate command and control systems, boosters, warhead configurations and propulsion systems to assess how different designs can move the weapons platform from one stage to another by launching, taking flight and following a certain trajectory to its targets. Interestingly, many of the complex variables fundamental to this process can be closely approximated, analyzed, mirrored and even fully duplicated in respects, a technical process which is already reshaping modern weapons acquisition.

“With digital acquisition, the digital lifecycle must become as real as the physical one, and then eventually, even more real. One day we should design particular eSystems and view “printing” them in reality as unnecessary, even wasteful, as printing electronic documents today,” Roper’s paper explains.

Digital acquisition cannot defeat the laws of economics, so the military must generate more modernization and sustainment savings than are lost with

RDT&E and procurement efficiencies.

The Air Force has especially fast-tracked GBSD in part to avoid what some senior Air Force leaders have called a dangerous possibility of a “missile gap,” meaning that a late arrival of GBSD, combined with Minuteman III obsolescence, could put the United States at risk of nuclear attack.

It is in part with this in mind that the Air Force continues to upgrade and test fire its current arsenal of Minuteman III ICBMs, to sustain deterrence by ensuring the world is aware that America is, and will, remain a capable nuclear power.

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History Shows U.S. Nuclear Restraint Is A One-Way Street

WarOnTheRocks.com, 18 Nov 20 Michaela Dodge

The United States in the midst of modernizing its nuclear forces for the first time in decades. The modernization program entails a ground-based strategic deterrent program to replace the intercontinental ballistic missile, a new bomber, a nuclear certification for the F-35 aircraft, a new strategic submarine, a long-range standoff cruise missile, and sustainment of accompanying warheads and supporting infrastructure. The United States is slated to spend \$35 to \$40 billion per year over the next 30 years on these efforts.

Opponents of U.S. nuclear weapons modernization programs argue that it is a primary driver in starting arms races. In 2017, Sen. Ed Markey argued, “Instead of wasting taxpayer money on new nuclear weapons that could trigger a global nuclear arms race, the United States should exercise international leadership by cutting unnecessary and destabilizing nuclear weapons systems.” He added that the president should “contain the massive new nuclear weapons programs now underway before they lock in another 40 years of nuclear brinkmanship” as a solution to the problem.

But efforts by the United States to modernize its nuclear forces will not start a nuclear arms race. In fact, if history is any guide, letting America’s nuclear stockpile atrophy would likely result in a diminished U.S. geopolitical position over the long term with no comparable in-kind restraint on other countries’ nuclear modernization and procurement efforts. If anything, unilateral restraint tends to induce adversaries to compete more vigorously in those areas where the United States exercises forbearance.

The Arms Race Dynamic

Arguments about U.S. actions starting arms races are decades old. Given its gravity, the term itself is surprisingly ill-defined in the general literature on the topic. In 1967, then-Secretary of Defense Robert McNamara described the arms race dynamic as follows:

Whatever be their intentions, whatever be our intentions, actions — or even realistically possible actions — on either side relating to the buildup of nuclear forces, be they either offensive or defensive forces, necessarily trigger reactions on the other side. It is precisely this action-reaction phenomenon that fuels the arms race.

Granted, interactions between adversaries and opponents are an undeniable fact of international relations. After all, it would be foolish to plan

weapon systems intended to serve for decades without considering an adversary's current and future posture in a strategic competition. But there is very little historical evidence to support the notion that it is U.S. nuclear modernization programs that start arms races. Policy prescriptions calling for an end to U.S. nuclear weapons modernization to prevent an arms race, or for U.S. unilateral nuclear weapons reductions that "could even start a peace race," are wishful thinking.

In fact, sometimes U.S. inaction can trigger other states' aggressive steps. For example, the United States scaled back its strategic offensive missile buildup at the end of 1960s, allowing the Soviet Union to achieve a level of parity in strategic offensive missiles in the 1970s. The U.S. pause likely weakened its hand in the Strategic Arms Limitation Talks I process with the Soviet Union. John S. Foster, Jr., director of defense research and engineering from 1965 to 1973, stated:

[S]ince 1966 the U.S. momentum in strategic systems, in retrospect, appears to some to have been too low. Nevertheless, the United States consciously set it that way and that has made it more difficult for our negotiators. Had they had more to trade, they perhaps could have gotten a better deal.

Additionally, the United States was not building any nuclear submarines during the strategic arms negotiations, leading President Richard Nixon's National Security Advisor Henry Kissinger to comment, "The United States was in a rather complex position to recommend a submarine deal [in Strategic Arms Limitation Talks I] since we were not building any and the Soviets were building eight or nine a year, which isn't the most brilliant bargaining position I would recommend people to find themselves in."

In its quest for mutually assured destruction, the United States significantly limited its strategic ballistic missile defense development program and cancelled any additional deployments after the 1972 Anti-Ballistic Missile Treaty, codifying its population's vulnerability to a Soviet missile attack. Washington cancelled a program to develop multiple independently targetable reentry vehicles that could be effective against Soviet silos at the end of 1960s, and made the development of hard-target kill capabilities (e.g., MX Peacekeeper missile) contingent upon how far the Soviet Union would go in 1970s.

How did Moscow respond to these examples of U.S. restraint? By doing exactly the opposite of what proponents of mutually assured destruction in the United States expected. Instead of slowing down their own offensive nuclear buildup in the absence of U.S. defenses, the Soviet Union accelerated their nuclear deployments. The Soviets' force posture decisions were clearly driven by a much more complex set of considerations than just what the United States did, including the preferences of the leadership in Moscow and their closeness to the defense industrial complex.

Additionally, the buildup was not without consequences for the United States. According to Soviet officials, it translated into a more assertive Soviet foreign policy, despite U.S. efforts to pursue détente. In other words, U.S. strategic restraint did not lead to Soviet restraint. Rather, it was followed by a continuing Soviet nuclear buildup that had significant negative consequences for U.S. foreign policy around the world, including in Angola, Ethiopia, Mozambique, South Yemen, and Afghanistan in the latter half of the 1970s.

Opponents of U.S. nuclear weapons modernization and missile defense programs predicted that the Soviet Union would stabilize its nuclear buildup once it reached parity with the United States. Some even saw an increased rate of the Soviet missile buildup as a positive development that would

facilitate arms control. For example, in 1969 Herbert York, the former director of the Lawrence Radiation Laboratory (today known as Lawrence Livermore National Laboratory), stated in a *Scientific American* article that the prospects for arms control were improved because “both sides will be discussing the matter from a position of parity. Moreover, this parity seems reasonably stable and likely to endure for several years.” This was not the case. Moscow showed no tangible slowdown in their nuclear missile modernization programs. As a result of increasing Soviet hard-target kill capabilities, the U.S. land-based nuclear force became vulnerable to a Soviet nuclear attack. Perhaps no one described this dynamic better than President Jimmy Carter’s Secretary of Defense Harold Brown, “Soviet spending has shown no response to U.S. restraint — when we build, they build; when we cut, they build.”

Unlike the United States, which had placed a premium on deterrence stability through the mutual possession of a credible, second-strike retaliatory capability since McNamara’s time, the Soviet approach placed a premium on deploying strategic and theater capabilities to prevail in the event of war. Granted, this interpretation remains contested, with some authors arguing that the United States was interested in nuclear superiority and robust counterforce capabilities even after McNamara’s tenure. Still, it is now evident that while the United States developed its nuclear posture largely to secure the benefits of a stable balance of terror and extended deterrence (rather than, for example, in a way that would incentivize Soviet investments into defensive systems), the Soviet Union placed primacy on developing and deploying counterforce nuclear capabilities to target U.S. nuclear forces and limit damage from potential retaliatory strikes.

This recognition was shared by both Democratic and Republican administrations and led Carter to initiate a comprehensive review of the U.S. strategic forces policy. The resulting Presidential Directive 59 (PD-59) acknowledged that the United States had entered “an era of strategic nuclear equivalence” and mandated the pursuit of nuclear delivery systems that could provide wider target coverage with greater survivability, including the development of the MX Peacekeeper intercontinental ballistic missile, the B-2 bomber, improvements to the sea-based leg of the strategic triad, and enhancements to strategic command and control and early warning systems. These actions were a reaction to the Soviet nuclear buildup and deemed necessary to sustain deterrence — and to improve Carter’s reelection chances hurt by the appearance of a weak foreign and defense policy that emboldened the Soviet Union to invade Afghanistan in 1979. They did not and were not intended to match (or outmatch) the Soviet Union on a weapon-for-weapon basis, but to restore the credibility of the U.S. nuclear deterrent in the face of a Soviet drive for nuclear superiority. They were reactive and driven by different motivations and priorities, and hardly reflect the U.S.-led action-reaction arms race narrative publicly espoused by critics of the U.S. nuclear modernization program.

The Reagan Buildup Helped to End the Cold War Rather than Turning It Hot

The administration of Ronald Reagan continued and expanded the programs outlined in PD-59 in what turned out to be the last comprehensive U.S. nuclear modernization effort to date. It resulted in the 1980s introduction of the new MX Peacekeeper intercontinental ballistic missile; two new long-range bombers, including the stealth B-2; more accurate D-5 sea-launched ballistic missiles; air-launched and sea-launched cruise missiles; and an overall revitalization of the nuclear complex. The United States still relies on some of these systems to meet its nuclear deterrence requirements. In addition to modernizing nuclear forces, the Reagan administration also modernized conventional forces.

Far from starting a new round of the arms race, however, these efforts were a consequence of the lack of Soviet restraint after years of relative U.S. inaction. Fred Iklé, Reagan’s under secretary of defense for policy, described the dynamic as follows:

For two decades we shrank our budget for nuclear offensive forces nearly every year. We reduced expenditures on our defenses against nuclear attack drastically, and after 1970, we cut them practically to zero. And, most dangerous of all, we permitted our intelligence projections for Soviet forces to become warped by our own dogma. In particular, from the mid-1960s to the early 1970s, we misled ourselves by the mistaken forecast that the Soviet Union, in light of our self-restraint, would not want to overtake us in nuclear offensive forces, much less seek a capability for destroying most of our deterrent strength.

As Brown stated in 1981, “The unquestioned Soviet attainment of strategic parity has put the final nail in the coffin of what we long knew was dead — the notion that we could adequately deter the Soviets solely by threatening massive retaliation against their cities.” Despite criticism of the Reagan administration at the time — for example, former U.S. Ambassador to the Soviet Union W. Averell Harriman charged the administration with “squandering” an opportunity to “reverse the nuclear arms race” and “ushering in a new era of strategic instability” — its national security policy generated a heavy strain on the Soviet economy. The pressure, as well as internal problems, contributed to the Soviet leadership’s decision to undertake political and economic reforms that ultimately led to the Soviet Union’s demise. The comprehensive U.S. nuclear weapons modernization program also put Washington in a better position to negotiate arms control agreements with the Soviet Union and its successor state, the Russian Federation.

Others Act Even When the United States Does Not

More recent evidence undermines the argument that it is U.S. nuclear modernization that initiates arms races, or that stopping U.S. nuclear modernization will prevent an arms race because opponents will react with corresponding restraint. From the end of the Cold War until very recently, the United States essentially refrained from any major nuclear weapons modernization efforts. It let its nuclear warhead infrastructure atrophy, although it conducted life extension programs on strategic and selected short-range weapons in its nuclear arsenal. The United States implemented unilateral tactical nuclear force reductions and reduced its conventional forces in Europe — to some degree concurrently with the Russian Federation, although questions about the degree to which Russia has abided by its commitments remain. It stopped all nuclear warhead testing in 1992, including very small-yield experiments that the directors of national nuclear laboratories said that they needed to ensure that the first stages of U.S. nuclear warheads were operating successfully. The 2001 Nuclear Posture Review sought to devalue the role of nuclear weapons in U.S. national security strategy by no longer planning, sizing, and sustaining U.S. nuclear forces “as though Russia presented merely a smaller version of the threat posed by the former Soviet Union.” After the Cold War, Congress cancelled even modest adjustments to existing nuclear warheads, like the robust nuclear earth penetrator and the reliable replacement warhead program. The 2010 Nuclear Posture Review continued the trend toward a diminished role for nuclear weapons in U.S. national security strategy. Consequently, the United States is faced with a situation in which it needs to modernize its nuclear delivery systems and extend the service lives of its nuclear warheads simultaneously over the next several decades at a cost of about \$1 trillion. Critics of these costs argue that the United States can reduce its nuclear systems. However, this idea is currently inadvisable for other reasons.

These changes reflected a new assessment of the international security environment in which nuclear proliferation was considered much more of a threat than “a massive conventional attack by the Warsaw Pact through the Fulda Gap.” The United States sought to “demonstrate leadership” by “reducing the role of nuclear weapons in U.S. security” at a time when “the proliferation of nuclear weapons and other weapons of mass destruction,

rather than the nuclear arsenal of a hostile superpower, poses the greatest security risk.”

And while Russia’s nuclear arsenal did decline after the end of the Cold War, the drawdown appears to have been driven more by a lack of resources and the availability of or interest in diplomatic options to draw down in a verifiable arms control manner, rather than a genuine reassessment of Russia’s threat perceptions or nuclear aspirations. Russia retains a large advantage in tactical nuclear weapons and, unlike the United States, has pursued a comprehensive nuclear weapon modernization program for many years, including delivery systems outside of the current arms control framework. Russia has also engaged in nuclear weapons experiments that have the potential to improve its nuclear warheads and keep its workforce proficient in activities necessary to build new warhead designs. China, too, is engaging in an expansion of its nuclear capabilities, and even more countries joined the nuclear weapons club by conducting explosive tests since the end of the Cold War: India (which conducted a peaceful nuclear explosion in 1974) and Pakistan in 1998, and North Korea in 2006.

In short, countries will make their own choices based on what they perceive to be in their own national security interests. Sometimes, those considerations are influenced by U.S. nuclear modernization policies, and sometimes not so much. But the notion that the United States is an instigator of an action-reaction arms race is simplistic and empirically inaccurate. Calls for the United States to stop nuclear weapons modernization as a solution to prevent an arms race tend to assume that if the United States stops its nuclear weapons modernization, others will stop their programs because they will not be compelled to respond to U.S. steps. History shows that there is very little empirical evidence for this proposition. In fact, quite the contrary. The one-way street of U.S. restraint has led us to a strategic cul-de-sac, and hoping that others will follow our lead by exercising similar strategic restraint has proven to be a dead end.

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Five Common Mistakes on the Treaty on the Prohibition of Nuclear Weapons

WarOnTheRocks.com, Nov. 16 | Alicia Sanders-Zakre

In late January 2021, something big is happening to influence international politics. And no, I’m not talking about the inauguration of the new U.S. president.

The Treaty on the Prohibition of Nuclear Weapons, the first international ban on nuclear weapons, will take full legal effect on Jan. 22, 2021. It joins the Chemical Weapons Convention and the Biological Weapons Convention as a treaty prohibiting weapons of mass destruction and follows the roadmap of the Mine Ban Treaty (known as the Ottawa Treaty) and Cluster Munitions Convention to bring together a coalition of civil society and diplomats to prohibit and eliminate weapons based on their humanitarian harm. The treaty has widespread support in the international community — 122 countries voted for its adoption in 2017, and these countries have continued to express their support for the treaty in subsequent statements to the U.N. General Assembly, in spite of resistance from nuclear-armed states and some of their allies, who have not joined the treaty.

This treaty is a big deal. And yet, political scientists and nuclear policy experts, largely from nuclear-armed states, repeatedly make mistakes in their analysis and interpretation of this treaty and international law. At a gathering of roughly 800 nuclear policy experts in Washington, D.C. in 2019,

experts overwhelmingly and incorrectly predicted the treaty would not enter into force by March 2021. A French academic even misread the actual treaty text — a clear error that was not flagged by any of the article’s expert reviewers, and was only corrected after publication.

I work at the International Campaign to Abolish Nuclear Weapons, which won the 2017 Nobel Peace Prize for its efforts to negotiate the ban treaty. Its work is informed by international lawyers, academics, technical experts, diplomats, survivors of nuclear weapon use and testing, and advocates with regional expertise. This diverse and rich foundation of knowledge and experience informs our work to this day. But some academics and nuclear policy experts that haven’t worked as closely on the treaty often make five key mistakes when analyzing this treaty and international law: that the treaty may be just symbolic, that NATO countries cannot join, that the treaty doesn’t address compliance, that it won’t have any impact on nuclear-armed and NATO states, and that the treaty will only affect democracies.

Mistake One: The Treaty Is Purely Symbolic

The legal impact of the Treaty on the Prohibition of Nuclear Weapons is clear: Once it enters into force, all states parties will need to comply with the treaty’s prohibitions and implement its obligations. While some treaty articles reinforce existing obligations under other treaties, states parties do actually take on new legal obligations, contrary to what some have claimed. Even without any other states joining the treaty, from a strictly legal perspective, the treaty is not merely “symbolic.”

The treaty prohibits states parties from developing, testing, producing, manufacturing, transferring, possessing, stockpiling, using (or threatening to use) nuclear weapons, or allowing nuclear weapons to be stationed on their territory. It also prohibits states parties from assisting, encouraging, or inducing states to engage in any of these prohibited activities. Some of these prohibitions are already enshrined in nuclear weapon-free zone treaties, but not all prohibition treaty states parties are members of these treaties. Given that the Comprehensive Nuclear-Test-Ban Treaty unfortunately has yet to enter into force, the Treaty on the Prohibition of Nuclear Weapons will be the only agreement in force banning nuclear testing internationally.

In addition to adhering to prohibitions, states parties must implement positive obligations, some of which echo previous agreements, but many of which are new to this treaty.

There are some technical requirements. For example, states parties must submit a declaration with the U.N. secretary-general on their nuclear weapon status. They must also bring into force a comprehensive safeguards agreement with the International Atomic Energy Agency on inspecting their peaceful nuclear program, or maintain a more intrusive inspections regime (an “additional protocol”) if they have one in force already.

But the Treaty on the Prohibition of Nuclear Weapons also includes ground-breaking provisions on providing assistance to victims of nuclear weapons use and testing and remediating contaminated environments. This is the first time that international law has mandated that countries address the humanitarian devastation caused by decades of nuclear weapons testing and the U.S. bombing of Hiroshima and Nagasaki 75 years ago. It is a critical step forward to address the racist, colonialist, and unjust legacy left by these uniquely horrible weapons of mass destruction. Analysis of this treaty would do well not to ignore these historic articles.

Specifically, Article 6 of the treaty requires states to “provide age- and gender-sensitive assistance, without discrimination, including medical care, rehabilitation and psychological support,” for victims of nuclear weapons use and testing “as well as provide for their social and economic inclusion.” States must also “take necessary and appropriate measures” towards the remediation of contaminated environments. States with affected communities and contaminated environments under their jurisdiction are primarily responsible to structure and implement these obligations in order to respect these states’ sovereignty and follow the legal precedent for victim assistance in other treaties. However, Article 7, which requires that all countries cooperate to implement the treaty’s provisions, specifically calls on all states “in a position to do so” to provide assistance to other states as they carry out these initiatives. Such assistance can take many forms, including technical, financial, and material, so every state should be in a position to contribute.

These provisions will be at the center of the first meeting of states parties to the treaty, to take place within one year of the treaty’s entry into force. Austria has already offered to host this meeting in Vienna. At this meeting, states will discuss routine logistics of international treaty meetings, such as costs and establishing the rules of procedure. Observer states, including signatory states, and some non-signatory states, including at least Sweden and Switzerland, will also attend and share the cost of the meeting. The extent of their participation will be determined by the rules of procedure. Civil society will also likely play an active role.

Mistake Two: NATO Countries Cannot Join the Treaty

One academic recently argued that membership in NATO and the Treaty on the Prohibition of Nuclear Weapons would be “mutually exclusive.” While fully compliant membership in both treaties would require a few policy adjustments, it is certainly possible. There is no prohibition in the treaty for a member to be involved in military alliances or exercises with nuclear-armed states, as long as there is not a significant nuclear dimension to those alliances. NATO itself states, “NATO is committed to arms control, disarmament and non-proliferation, but as long as nuclear weapons exist, it will remain a nuclear alliance.” However, legal experts explain that if a NATO state would like to join the treaty, they may certainly do so and remain in the alliance as long as that state renounces participation in the nuclear dimension of the alliance and indicates that it does not support activities prohibited by the treaty. There is a precedent of NATO members “footnoting” alliance documents to signal disagreement with certain policies. A NATO state could thus announce its change in policy and adjust its behavior accordingly to be in compliance with the treaty’s provisions. Exactly how the NATO state would need to adjust its behavior to be in compliance with the treaty varies by country and could be determined in consultation with states parties.

Historically, different members of NATO can take different positions on controversial weapons without obliterating the alliance. Indeed, there are already divergent policies within NATO on the extent of participation in the nuclear aspect of the alliance: Some NATO countries go so far as to host U.S. nuclear weapons on their soil while others do not allow deployment on their territory under any circumstances. Opposition within NATO to banning landmines and cluster munitions did not stop those prohibitions from moving forward, even as the United States pressured countries to not even participate in the process to negotiate a treaty banning cluster munitions, and certainly did not destroy the alliance. Dozens of former leaders from NATO states, including two former NATO secretaries-general, recently called on their countries to join the Treaty on the Prohibition of Nuclear Weapons and certainly did not suggest that such a move would involve leaving NATO or that it would fracture the alliance. NATO’s status as a nuclear alliance has evolved over time, and it could continue to adapt to shifting international norms.

Mistake Three: There Is No Mechanism to Address Compliance Concerns in the Treaty

If there are any concerns about compliance with the terms of the treaty, the treaty explains clearly what states should do in Article 11. When a state party has a concern about another state party's implementation of the accord, the two states may resolve the dispute amongst themselves or bring the matter to a meeting of states parties to discuss.

Concerns about compliance with an international treaty would certainly not be unique to this treaty and do not indicate that it is any less legitimate or valuable than other treaties with compliance disputes. States parties to the Nuclear Non-Proliferation Treaty regularly raise concerns about nuclear weapon-state compliance with their obligation to pursue nuclear disarmament under Article VI during meetings of states parties of that treaty. Likewise, states parties to the Chemical Weapons Convention condemn Syrian and Russian violations. These examples demonstrate the value of international treaties to reinforce norms and provide a forum to discuss and condemn violations of international standards for peace and security. Of course, given that the treaty has not yet entered into force, no state can currently be judged to be in non-compliance with the accord.

Mistake Four: The Treaty Will Only Impact Countries That Have Joined It

States parties' implementation of their obligation to assist victims of nuclear weapons use and testing will also have lasting impact beyond those countries themselves. There is currently no international standard for adequate victim assistance for those who have been impacted by nuclear weapons use and testing and no standard for how to judge that a nuclear-contaminated site has been adequately remediated. States parties' work on these provisions in the treaty will help to provide research and experience in these fields that can be applicable and useful even beyond countries that have joined the treaty.

Countries that are not part of the treaty can still contribute to these important measures. The United States, for example, is one of the largest donors to Mine Action, which facilitates mine clearance, despite not joining the Mine Ban Treaty. Mounir Satouri, a French member of the European Parliament, has expressed interest in encouraging European Union countries, including NATO members, to contribute to victim assistance and environmental remediation measures under the treaty, even if they have not yet joined as states parties.

The treaty will continue to grow and integrate into the international system well beyond its entry into force in January and first meeting of states parties. The norm established by previous weapons prohibitions impacted banks, companies, and government policies in countries that had not joined the treaty, and the same can be expected for the nuclear prohibition norm. The treaty's adoption has already caused a major Dutch pension fund to divest from companies involved in nuclear weapons, and more divestment can be anticipated once the treaty takes full legal effect.

Mistake Five: The Treaty Only Impacts Democracies

Countries that have not yet expressed support for the treaty are also expected to join in time. In many countries that do not officially support the treaty, polls show that domestic opinion is behind the ban and capitals in nuclear-armed and NATO states have adopted resolutions calling on their governments to join. Critics claim that domestic support may push Western democracies – in particular France, the United Kingdom, the United

States, and NATO allies — to join the treaty, while more autocratic states — without a strong civil society to demand they adhere — remain unfazed by the new international law and norm.

That's not how international law works. International law applies to all countries, regardless of their governance structure, and all countries are influenced by the new norms advanced by international treaties. Pressure to join the treaty does not just come from an active civil society, but from other states, international organizations, and the changing norm established by the treaty itself. Article 12 of the treaty legally requires that all states parties urge other countries to join. This can be done in the form of public statements in international fora, like the United Nations, or privately in bilateral meetings. Pressure to adhere can even come from international figures like the U.N. secretary-general, the Dalai Lama, and the Pope who have all welcomed the Treaty on the Prohibition of Nuclear Weapons.

So far, the record shows that Western democracies are not necessarily more susceptible to pressure to support the treaty or to join it. While the United States and some NATO allies held a press conference outside the negotiations of the treaty in protest, China merely abstained on the resolution to start negotiations. When the treaty reached 50 states parties, a U.S. official Twitter account called the treaty “counterproductive,” while the Chinese UN Mission on Twitter claimed its objectives were “in line with purposes of the TPNW.” Of the states that have already joined the treaty, many have done so not because of civil society pressure, but due to their desire to adhere to international laws and norms against nuclear weapons.

Conclusion

In January, the treaty will take its rightful place among the other international treaties regulating nuclear weapons and other weapons of mass destruction, as an implementing instrument of the Nuclear Non-Proliferation Treaty's Article VI and complement to the Comprehensive Nuclear-Test-Ban Treaty. Most countries support the Treaty on the Prohibition of Nuclear Weapons as an important achievement for peace and security and towards a world free of nuclear weapons. As the risk of nuclear weapons use increases alarmingly, nuclear disarmament measures like this treaty are urgently needed.

The Treaty on the Prohibition of Nuclear Weapons will impact the norm against nuclear weapons and in the meantime will provide concrete assistance for victims of nuclear weapons use and testing and contribute to remediating radiologically contaminated areas. It is a powerful tool: important enough for leaders to ratify even in the midst of a global pandemic and influential enough that the United States actually called on countries to withdraw their instrument of ratification or accession. Analytical attempts to belittle or undermine the significance of this treaty may appease the minority of countries that cling to these weapons of mass destruction for now, but make no mistake — the Treaty on the Prohibition of Nuclear Weapons is a game-changer. And it is not going anywhere.

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Four New Weapons That Will Define The Biden Defense Posture

Forbes Online, Nov. 13 | Loren Thompson

Predicting the defense priorities of a new administration, especially one that hasn't yet taken office, is a risky business. Although Joe Biden has a long and fairly consistent track record on national security, the fallout from a global pandemic and disrupted economy may drive changes in military plans that few observers are expecting.

New weapons often bear the brunt of such shifts, because it is easier to delay programs that haven't made their way into the force. Warfighters are less likely to miss capabilities they don't already have, and political constituencies are less likely to be upset by the loss of jobs that don't already exist.

However, this commentary is about four new weapons programs that aren't going away and will likely come to define the Biden defense posture. None of the programs listed below has entered the joint force, and yet each is so central to the way Joe Biden and Democrats in general think about defense that they are sure to survive.

The Columbia-class ballistic missile submarine. From his earliest days in the Senate, Joe Biden has always been a believer in nuclear deterrence. The key feature of America's deterrence strategy is that rather than trying to defend the nation against a Russian or Chinese nuclear attack, the U.S. maintains the ability to launch overwhelming, horrific retaliation against any aggressor. Thus, there is no sane logic to launching an attack.

The strategy requires a secure retaliatory force that can survive any attack and then respond in a manner proportionate to the provocation. Ballistic missile submarines are central to this strategy because unlike bombers and land-based missiles, when they are on patrol they can't be targeted in a surprise attack. Today, about two-thirds of the warheads in the U.S. strategic arsenal are carried on 14 Ohio-class subs.

However, those subs must begin retiring at the end of the decade, and the Columbia class of ballistic missile subs was conceived during the Obama years to replace them. The lead ship will be delivered to the Navy by prime contractor General Dynamics in 2027 and conduct its first deterrence patrol in 2031. Columbia will be the biggest sub ever built in the U.S.

That doesn't mean it will carry the most warheads. To comply with arms control agreements, Columbia will have 16 tubes for launching its long-range ballistic missiles rather than Ohio's 24. But each of the D5 missiles manufactured by Lockheed Martin will carry multiple, independently targetable warheads capable of destroying virtually any enemy asset.

This is a formidable deterrent: a single Columbia-class sub could destroy most of the major cities in Russia, and the Navy will eventually have 12 such boats. The Navy only needs 12 to provide the deterrent effect of 14 Ohio's, because the nuclear core of the Columbia's propulsion system lasts for 40 years—eliminating the need for a time-consuming midlife refueling. There is zero likelihood that President Biden will delay or scale back the Columbia program.

The B-21 Raider long-range bomber. Like the sea-based leg of the deterrent, the airborne leg is in need of modernization. All of the heavy bombers in the current Air Force fleet will gradually lose their ability to penetrate defended air space in the years ahead, and there are some targets that cannot be destroyed from outside said air space using air-launched cruise missiles. The B-21, also conceived during the Obama years, will replace the B-1 and B-2 bombers with a penetrating, long-range strike aircraft that can hold any target in the world at risk.

The main virtue of bombers in a deterrent force is that they can be recalled or retargeted after launch if circumstances dictate. That isn't feasible with ballistic missiles. But B-21 isn't just a strategic deterrent, it will also be a conventional bomber capable of carrying a wide array of smart munitions. A combination of low observable ("stealth") technology and agile electronic warfare systems will make it nearly impossible to track or intercept.

Raider is part of a family of systems the Air Force has developed for future global strike missions. Like the bomber, other parts of this family are secret. But B-21 is the centerpiece, and it is pivotal to the future effectiveness of the joint force across the full spectrum of warfare. Here too, there is zero chance President Biden will scale back the program. It is more likely Biden will increase the planned buy.

B-21 is pivotal in another way. The lead aircraft being assembled by prime contractor Northrop Grumman in Palmdale, California using Pratt & Whitney engines derived from the F-35 fighter is utilizing a host of cutting-edge production techniques. These include digital engineering, agile software development and rapid prototyping. The bomber thus will fit easily into the new administration's efforts to emphasize innovation in its military investment strategy. The new techniques will drastically reduce the cost of building and maintaining each bomber.

The Marine CH-53K King Stallion Helicopter. Over the last generation, the U.S. Marine Corps has transformed its aviation branch by introducing the MV-22 Osprey tilt-rotor and the F-35B vertical takeoff fighter. These aircraft deliver unprecedented agility to a ground force that has long styled itself as the military's first responders. Combined with basing at sea, the aircraft enable Marines to respond quickly to crises virtually anywhere.

There is only one item missing from this picture: a cargo helicopter capable of lifting the latest tactical vehicles a hundred miles from amphibious ships offshore into a war zone. The CH-53K King Stallion, begun during the Obama administration, meets this requirement with the most capable cargo helicopter in the world. Not only will it be able to lift more weight than any other rotorcraft in history, but CH-53K will be cheaper to maintain and better protected against hostile fire than the helicopter it replaces.

The value of operating such an aircraft will grow as the Marines position to deter Chinese aggression in the Western Pacific. In addition to growing the size of their amphibious fleet the Marines plan to move forces among islands off the Chinese coast in a way that Beijing can not easily anticipate or counter. That will necessitate lifting anti-ship weapons, tactical vehicles and other materiel on short notice, and some of these items will be too bulky for transport by existing rotorcraft.

With an unrefueled combat radius of 130 miles and superior performance in "high-hot" conditions, the 200 King Stallions the Marine Corps plans to buy from Lockheed Martin's Sikorsky unit will be a game-changer, and not just in the Pacific. Sikorsky expects to begin delivering production aircraft to the Corps during Joe Biden's first year in office, further enhancing the flexibility of the world's premier amphibious force.

Unmanned surface and undersea warships. Earlier this month, an experimental surface vessel developed for the U.S. Navy completed a 5,400-mile mission from the Gulf Coast to California, transiting the Panama Canal. What's unusual about this is that almost the entire mission was conducted autonomously, meaning without human intervention. The experimental vessel was unmanned, part of an expanding Navy investment in robotic surface and undersea vessels.

Navy leaders have decided that increased use of unmanned systems is the only affordable way to cover all of the missions their service has been assigned around the world. While manned warships will remain the core warfighting assets of America's Navy, it simply isn't practical to address all missions with a destroyer or attack sub. The Navy needs less expensive means of accomplishing the most dangerous or tedious missions such as laying mines or searching for hostile subs, and it is developing a family of unmanned ships that can one day accomplish those tasks.

This concept is certain to appeal to a Biden security team intent on accelerating military innovation, in much the same way that unmanned aircraft appealed to the Obama security team. Boeing, for instance, is under contract to build five robotic submarines based on its Echo Voyager prototype that will have very long endurance, very deep diving capabilities, and diverse, modular payloads. Leidos developed an autonomous surface vessel called Sea Hunter with transoceanic range and the potential to perform diverse missions, from mine countermeasures to offensive antisubmarine warfare.

It isn't hard to grasp the utility of unmanned warships. They cost a fraction of what manned vessels do to build and operate, while greatly amplifying the capacity of the manned fleet. For instance, Hudson Institute figures it costs over \$100 million per month to operate a naval antisubmarine force in the North Atlantic. Unmanned warships have the potential to multiply the coverage of such a force for a modest additional increment of money. With federal borrowing at record rates, the Biden administration has a strong incentive to pursue unmanned alternatives to traditional warfighting concepts.

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Most of the companies mentioned here contribute to his think tank. Leidos and Lockheed Martin are consulting clients

How Russia's Nuclear Weapons Keep Becoming More Powerful

<https://nationalinterest.org/blog/buzz/how-russia%E2%80%99s-nuclear-weapons-keep-becoming-more-powerful-172624>

For starters: This week Russian President Vladimir Putin said that Russia has considerably expanded the analytical and operational capabilities of its strategic nuclear forces' command and control systems.
by [Peter Suci](#) for The National Interest // November 14, 2020

This week Russian President [Vladimir Putin](#) said that Russia has considerably expanded the analytical and operational capabilities of its strategic nuclear forces' command and control systems.

“Over the past few years, much has been done to maintain all of the strategic nuclear forces’ command and control components at the highest level,” the Russian head of state said at a defense industry meeting on Wednesday, [according to Tass](#). “[Russia] has considerably modernized stationary and mobile command and control centers, expanded their analytical and operational capabilities, including information provision, monitoring and situational analysis,” Putin added. “The quality of such a major parameter as jamming resistance has increased.

Today all the command and control centers allow receiving comprehensive data on the situation in real time, assess the situation based on this information and make substantiated decisions.” Putin called upon his nation’s defense industry to discuss the pace of outfitting the armed forces with the latest command and control systems. This would primarily include the strategic nuclear forces’ control systems, as well as the systems of strategic nuclear weapons’ command and control.

“It is perfectly clear that the stable, effective and reliable operation of these systems and the entire command and control contour in a combat environment is crucial for the combat potential of the nuclear triad and, generally, the army and the navy to adequately and quickly respond to potential military threats,” the Russian leader added.

Russia’s Nuclear Triad

The [nuclear triad](#) is a three-pronged military force structure that consists of [land-launched nuclear missiles](#), nuclear-missile-armed submarines, and strategic aircraft with nuclear bombs and missiles. Russia inherited the nuclear arsenal of all the former Soviet states. Putin has said that he believes that the nuclear triad remains a key guarantee of military security, which makes attempts at putting pressure on Russia essentially futile.

“Although the nature of military threats is changing, it is the nuclear triad that remains a key guarantee of Russia’s military security and, if one takes a broader look, of global stability,” Putin said in his opening remarks at a meeting with top Defense Ministry officials and heads of federal agencies and enterprises of the defense-industrial complex on Tuesday. “Preservation of this balance of force reduces to nothing the risk of a large-scale military conflict and in fact makes any attempts at blackmail or pressure against our country senseless,” Putin added.

The United States and Russia have been [close to an agreement](#) to temporarily freeze the number of warheads on both sides and extend the New Strategic Arms Reduction Treaty (New START) for one year. However, the Trump administration has previously made it clear that any nuclear freeze must include China. Russia has maintained that it will not get into an “exhausting arms race” and said there is no reason for it to do so.

“For the first time in history Russia is not in the position of a runner-up,” added Putin. “It has come up with certain weapon systems that are years and even decades ahead of foreign counterparts. Some systems are unparalleled in the world and most likely will remain as such for quite a long time.”

Dialogue With America

Putin’s statements on the strategic nuclear weapons’ command and control also came as the Kremlin has announced that it hopes it will be possible to build a new dialogue with the next U.S. president and potentially improve relations between the two countries. “We hope that it will be possible to build dialogue with the next U.S. president and agree on ways to improve bilateral relations,” Russian Presidential Spokesman Dmitry Peskov

told [reporters on Monday](#). “Particularly because an important field of bilateral relations, the security and stability field, concerns not only our two nations but in fact all nations in the world.”

Peter Suci is a Michigan-based writer who has contributed to more than four dozen magazines, newspapers and websites.

Russia Claims Its RS-28 Sarmat ICBM Has Nearly 'Unlimited Range'

<https://nationalinterest.org/blog/reboot/russia-claims-its-rs-28-sarmat-icbm-has-nearly-unlimited-range-172421>

Here's what we know about the nuclear missile.

by [Mark Episkopos](#) For The National Interest // November 13, 2020

Here's What You Need to Know: Sarmat’s new serial production deadline is 2021, according to a TASS report.

Of the six strategic weapons unveiled by Russian President Vladimir Putin at his oft-cited 2018 annual state-of-the-nation address, “RS-28 Sarmat” is among the most consequential. Dubbed “Satan 2” in NATO reporting, Putin [described](#) Sarmat as a “heavy,” uninterceptable ICBM with “practically unlimited range.” [Sarmat](#) has since been hailed as the imminent future of Russian counterforce capability; a 200-ton, mach 10, liquid-fuelled weapon that’s orders of magnitude more powerful than the four-decades-old Soviet RS-36M missile it is replacing.

But updates have been scant over the remainder of 2018, nor has the Kremlin offered a concrete development timeline. So, where is Sarmat? Potentially right around the corner, according to a recent series of Kremlin statements. At a [Kremlin military ceremony](#) held last week, Putin gave a speech on the need to “meld Russian military tradition with the latest, cutting-edge knowledge, technology, and ability to effectively apply them...”

Recounting the recent examples in this vein, Putin mentioned that “Kinzhal” hypersonic missiles and the “Peresvet” laser system are already being delivered to the Russian armed forces before briefly turning to Sarmat, which he [announced](#) is “successfully undergoing final testing.” “Successfully undergoing final testing” is a carefully worded statement if there ever was one. This can suggest any number of timelines, depending on the scale of the “final testing” and how far along Sarmat is in that process; it can put Sarmat’s delivery date anywhere from right-around-the-corner to several years away.

Skepticism would not be wholly unfounded, given Sarmat’s prolific history of delays. Ejection tests originally slated for 2015 were pushed back to 2016, and [then again](#) to the end of 2017; the 2017 tests [revealed](#) serious technical flaws with the ejection mechanism, further complicating Sarmat development. The US State Department, for their part, made light of the situation with [the creation](#) of a new SARMAT, or “senior advisor for Russian malign activities and trends,” post.

Sarmat’s new serial production deadline is 2021, according to a [TASS report](#) citing a defense insider source. Sarmat’s developmental track record casts this timeline in a justifiably dubious light, though more recent reports have instilled Russian commentators and observers with a newfound cause for optimism. Several months ago, Chairman of the Scientific and Technical Council at Roscosmos [Yuri Koptev](#) suggested that Russian engineers had finally managed to put Sarmat’s technical troubles behind them:

"A very serious stage was held last year. This involved pop-up tests, which confirmed the correctness of all the basic technical solutions." The nature of these “technical solutions” is unknown, but they seem compelling enough to Roscosmos CEO Dmitry Ragozin, who personally reassured Putin in

early February that the testing is proceeding as planned and will wrap up by 2020. It is much too early to conclude that Sarmat development is back on track; the results of its upcoming flight test-- to be held at the East Siberian [Plesetsk Space Center](#) in the second quarter of 2019-- should prove a more decisive indicator of that. Still, the fact that such high-level Roscosmos executives are willing to put their name behind Sarmat's timely delivery suggests a newfound degree of confidence in the project. Whether or not it will be borne out, only time will tell.

Mark Episkopos is a frequent contributor to The National Interest.

China is Already Preparing for the Next Korean War

<https://nationalinterest.org/blog/reboot/china-already-preparing-next-korean-war-172612?page=0%2C1>

Even if neither side resorted to nuclear weapons, the amount of conventional armed might—not to mention chemical weaponry—in proximity to major civilian population centers is quite sufficient to determine that a war on the Korean Peninsula could take the lives of millions.

by [Lyle J. Goldstein](#) for The National Interest // November 13, 2020

Here's What You Need To Remember: The unsettling feeling is now setting in that the U.S. homeland remains quite vulnerable, and that we have awkwardly returned to, more or less, a situation of mutually assured destruction—this time with a little, backward country that seems bent on making a mockery of America's global stature.

There will be an increasing tendency, of course, to crack the sanctions whip ever harder in search of a cost-free solution. In this Dragon Eye column, I have [long argued](#) that North Korea is paramount among Asia-Pacific security issues, and that China is absolutely critical to any resolution (or even management) of the matter. For that reason, it behooves Americans to get “[up close and personal](#)” with Chinese thinking on the subject.

An excellent primer is the [English-language survey paper](#) by Fu Ying, vice minister of the Chinese Foreign Ministry, that Brookings published back in May. It turns out that Chinese foreign-policy analysts and military strategists have a whole panoply of nuanced viewpoints on the subject of North Korea and what to do about it. There are even some optimists left in Beijing, for example Renmin University professor Jin Canrong, who wrote in a [May 12, 2017, editorial](#), “The most likely possibility after North Korea ‘is possessing a nuclear weapon’ is that it has an even larger ‘poker chip’ to take into negotiations.”

He added, “If North Korea would be really willing to abandon nuclear weapons, then the scenario of Trump inviting Kim Jong-un to eat hamburgers might well be possible. That would be a great achievement for Trump.” (如果朝鲜真的愿意弃核, 特朗普请金正恩吃汉堡的场景不是不可发生. 这将成为特朗普的一大成绩.) I will take on the challenging subject of developing a full typology of Chinese foreign-policy viewpoints on North Korea in my next Dragon Eye installment, but this edition will focus rather narrowly on the evolving military calculus on the peninsula.

As the wise Hugh White has written, one must sometimes fully envision a tragedy in order to avoid it, so that it turns out to be vitally important to “think the unthinkable.” This is [done quite often now](#), and usually arrives at the same banal, yet fundamentally correct conclusion: that there is no military solution and that conflict must be avoided. Still, it is interesting and perhaps important to see if Beijing's thoughts on the “unthinkable” are in line with Western appraisals.

You would not find Fu Ying or even Jin Canrong discussing the details of a military scenario on the peninsula, but a series of in-depth articles in the [June 2017 issue](#) of the military magazine Naval & Merchant Ships [舰船知识] takes up a number of these sensitive questions. The first of these Chinese military analyses articulates the rather terrifying notion that President Trump might seek a military conflict that would help to “distract attention from internal contradictions [转移国内矛盾].”

It is noted that a U.S. president’s power in the foreign-policy realm is much greater and, moreover, that those powers are vastly increased across the board in wartime. However, the more interesting part of this analysis is the appraisal of North Korea’s military capabilities. Here, it is stated that the North Korean military may be weaker than often appreciated, because it has even “lacked basic fuel and ammunition for military exercises [缺乏基本的训练油料和弹药].”

The article suggests North Korean artillery has limited range, and there is said to be a paucity of short-range missiles. Moreover, according to this analysis, the North Korean military is simply not equipped with an “active offensive capability [主动进攻能力].” In fact, the article concludes that if North Korea were confronted with the massive air-attack capabilities of the United States, Pyongyang’s armed forces would have little alternative but to “lie upside down and take a beating [躺到挨捶].”

This Chinese strategist says that such a conflict would not result in a direct U.S.-China military clash and so that it could be a “low-risk war [低风险战争]” for the United States, at least. For North Korea, this strategist suggests Pyongyang must aim at “prolonging the conflict’s duration [战争就会长期化].” These appraisals differ quite substantially from prevailing military assessments in the United States.

However, one of the best explanations of Kim Jong-un’s evident determination to pursue nuclear weaponry could well be that North Korea’s conventional forces are perhaps much weaker than generally supposed. While the author levels several critiques at Washington, including the tendency of one president to completely contradict the policies of his predecessor, the piece has a rather surprising conclusion.

It hints strongly that Beijing’s patience with Pyongyang is wearing very thin, and asserts rather surprisingly that America is actually not seeking to bring strategic pressure against China. Consistent with that assessment, the author hypothesizes optimistically that, if a war occurred on the peninsula, the United States “might well leave the peninsula altogether in the aftermath [很可能在战后撤离朝鲜半岛].”

A second military assessment in this series takes as its focus the credibility of North Korea’s nuclear deterrent—and is substantially less sanguine. It explains that the individual probability of a North Korean nuclear warhead striking U.S. territory is not high, but that the possibility that just “one single warhead actually penetrates the defenses to successfully realize a nuclear explosion creates an enormous psychological deterrent against the United States [1枚成功投送并突防成功实现核爆, 也是对美国巨大的心里威慑].”

Praising U.S. strategy in the Cuban Missile Crisis, this Chinese strategist explains that it is not enough to possess nuclear weaponry, but that a country must signal its “determination to resort to nuclear weapons [核武器使用决心]” in order to achieve its desired strategic goals. That may well involve “discounting expected dangers [抵消威胁预期]”—a phenomena quite visible in the current crisis.

This assessment projects that North Korea’s possession of nuclear weapons could be decisive, but perhaps in unexpected ways. It is asserted that these weapons are most important to assuring that North Korea will not lose the war [可以通过核武器保证自己不失败]. Moreover, they may play an important role in preventing an escalation of a war once it has begun. For example, the analysis notes that the United States could not execute an Inchon-style envelopment when Pyongyang possesses the “ultimate weapon.”

This author ultimately sees North Korean use of nuclear weapons as extremely unlikely, since that would be the “termination of the North Korean regime and nation [对朝鲜政权和民族都将是毁灭性的].” So, therefore, Pyongyang is not likely to reach for the nuclear button “if a plane is shot down or a ship is sunk.” For North Korea, the author contends, “nuclear weaponry is simply to protect national survival [核武器就是为了保证国家生存].”

Lest anyone get too optimistic reading these thoughts, this Chinese military assessment closes with the observation that the most probable targets for North Korean nuclear weapons include Osan or Busan bases (in South Korea), Okinawa, Guam, Hawaii and U.S. carrier groups offshore. A third assessment in the series develops an analysis of a potential U.S. preemptive strike, and concludes that such a strike is very unlikely to succeed, since there are too many targets, most of them are mobile and many “have also been hardened multiple times, and some are even built with the capability to withstand a nuclear strike [过了多次加固有一些甚至具备抗核打击能力].”

The above discussions regarding Chinese appraisals of possible military scenarios on the Korean Peninsula should not be regarded as authoritative. In fact, they are somewhat contradictory. For the authoritative Chinese position, one should certainly still consult Fu Ying’s paper for Brookings. However, it is still worthwhile to try to “look under the hood” of Chinese foreign policy and strategy as I have often endeavored to do in this Dragon Eye series.

There might be a few insights here that could prove helpful to Washington’s admittedly challenging diplomatic circumstances. For example, it could be useful to understand that conventional military power asymmetries may be a significant driver for Pyongyang’s nuclear push. Likewise, it is somewhat reassuring to see that Chinese strategists also interpret North Korea’s likely nuclear doctrine as rather defensive, and as a weapon of last resort.

The unsettling feeling is now setting in that the U.S. homeland remains quite vulnerable, and that we have awkwardly returned to, more or less, a situation of mutually assured destruction—this time with a little, backward country that seems bent on making a mockery of America’s global stature. There will be an increasing tendency, of course, to crack the sanctions whip ever harder in search of a cost-free solution.

But that is almost surely a delusion, unfortunately, and may well make the crisis worse, since backing an angry tiger into a corner is all but certain to cause unpredictable outcomes. For that reason, I have argued that what is needed now are not only strong deterrent measures, of course, but also an energized and creative “carrot diplomacy,” as I have [spelled out elsewhere](#). This might also be supplemented by a tight China-Russia phalanx that can provide North Korea with the credible security assurances it logically seeks as part of a freeze/denuclearization grand bargain.

Beijing [may have taken a step](#) in this direction recently. Now that we are [talking about the possibility](#) of a North Korean nuclear warhead slipping through our defenses and suddenly turning an American city into glass, many of us strategists will much prefer to contemplate rather lighter subjects—like the siege of Raqqa, China’s reef bases in the South China Sea, or even “Fancy Bear” and “Guccifer.” So much for quaint summer reveries.

Even if neither side resorted to nuclear weapons, the amount of conventional armed might—not to mention chemical weaponry—in proximity to major civilian population centers is quite sufficient to determine that a war on the Korean Peninsula could take the lives of millions.

by [Lyle J. Goldstein](#) --- Lyle J. Goldstein is Professor of Strategy in the China Maritime Studies Institute (CMSI) at the United States Naval War College in Newport RI. He does not tweet, since he is a scholar, but you can reach him at goldstel@usnwc.edu. The opinions in his columns are entirely his own and do not reflect the official assessments of the U.S. Navy or any other agency of the U.S. Government.

As China’s military confidence grows, it’s now looking to ‘design’ how war is fought

<https://www.scmp.com/news/china/military/article/3109585/chinas-military-confidence-grows-its-now-looking-design-how-war>

- *Official publication highlights strategic shift to become more proactive in seeking to shape military events*
- *That could push neighbours and the US to try to counterbalance its moves and prepare for a ‘pre-war period’, analysts say*

By: [Kristin Huang](#) for the South China Morning Post // Published: 6:00am, 13 Nov, 2020

China is expected to become more proactive in seeking to shape military events as its technology advances instead of following other powers, according to analysts.

But a shift to pre-emptive planning could push China’s neighbours in the Indo-Pacific and the United States to try to counterbalance its moves and possibly prepare for a “pre-war period”, they said. The change was [highlighted in an official publication](#) released this month laying out China’s next five-year development plan to 2025. Xu Qiliang, vice-chairman of the Central Military Commission, wrote that China had to “broaden its strategic approaches to catch up, surpass and accelerate the transition from passively adapting to war to actively designing how a war is fought”.

He also said China had to give full play to the driving force of reform to build an innovative [People’s Liberation Army](#) . China has [set a target of 2027](#) for the PLA to become a modern military force, according to a communique released after a high-level meeting last month. Song Zhongping, a former instructor with the PLA’s Second Artillery Corps, said the emphasis on “designing” war indicated that China would focus more on developing weapons for how it saw a future conflict may be waged, and in areas where other nations lacked strength.

“In past years, [China] has been passive, only responding to the plans of other nations, and the weapons they have,” Song said. “If we can get the upper hand in terms of how a war is fought and develop our strategy, then other nations will follow.” One area would be developing drones to ensure different types of troops were equipped with such weapons, he said. It represents a major strategic shift for China’s military, according to analysts.

Malcolm Davis, a senior analyst in defence strategy and capability at the Australian Strategic Policy Institute, said Xu's wording suggested that China was trying to seize the initiative and position itself to shape military events. "It could also imply that they seek to assert a military-technological initiative through embracing disruptive innovation in military affairs, perhaps by introducing new approaches and technologies – AI, autonomous systems, hypersonics, space warfare and others – quicker than the US can, to steal an advantage, or open up a bigger advantage in key technology areas," Davis said.

Xi Jinping tells marines to focus on 'preparing to go to war' in military base visit China has in recent years boosted research and development of advanced sixth-generation fighter jets, high-energy weapons like laser and rail guns, quantum radar and communications systems, new stealth materials, autonomous combat robots, orbital spacecraft, and biological technologies such as prosthetics and powered exoskeletons.

And according to an August report by the US Congressional Research Service, the days of the PLA lagging well behind the US in military technology are long gone. It said China was the US' strongest rival in cutting-edge military technologies such as artificial intelligence and quantum computing. Michael Raska, an assistant professor with the S. Rajaratnam School of International Studies at Nanyang Technological University in Singapore, said China had become more confident as its technological power has grown.

"With its growing military-technological development, the PLA is changing patterns of operational planning based on its own assessment of future conflicts," Raska said. The growth of Chinese military power over the past four decades That would include mapping strategic opponents, identifying geographic focal points for deployment, and general operational principles for the use of force in future wars, he said.

But Davis said other countries in the region as well as the US could be expected to react to such moves. "If China pursues this, [we can] expect China's neighbours in the Indo-Pacific region and the United States to seek to counterbalance Chinese moves and ensure that not only is China's first strike advantage neutralised or minimised, but potentially reversed," he said, adding that they could also be forced to prepare for a "pre-war period". However, Raska noted that it would be challenging for China to achieve the change in approach since the "PLA's military-technological gaps still linger".

Kristin Huang is a senior reporter for the China desk, and focuses on diplomacy and defence. She joined the Post in 2016, and previously reported for China Review News Agency. Kristin is interested in security in northeast Asia and China's growing military might.

Chinese Long-Range Ballistic Missiles Struck Moving Ship In South China Sea: Report

The War Zone, 16 Nov 20 Joseph Trevithick

At least some of the ballistic missiles that China's People's Liberation Army fired into the South China Sea during an exercise earlier this year, which you can read about more in the War Zone's initial story on those drills, reportedly hit a moving target ship. If true, this would be the country's first known demonstration of an actual long-range anti-ship ballistic missile capability, which could significantly change the operational calculus for any potential opponent, including the United States, in the disputed maritime region and elsewhere in the Pacific.

The South China Morning Post reported last week that Wang Xiangsui, a retired People's Liberation Army (PLA) officer, had said that one DF-26B intermediate-range ballistic missile (IRBM) and one DF-21D medium-range ballistic missile (MRBM) had struck the target vessel as it sailed near

the Paracel Island chain during the August exercise. Wang, who has been described as "well-connected" in the past, is best known as one of the co-authors of the 1999 book *Unrestricted Warfare*, which covered various asymmetric means to undermine and defeat countries that were technologically superior to China. It has become a highly influential text, and general concept, in national security circles.

"We launched the DF-21 and DF-26, and the missiles hit a vessel sailing south of the Paracel Islands," Wang said during a closed-door gathering in China's eastern Zhejiang province in October, according to the *South China Morning Post*. "Shortly after that, an American military attaché in Geneva, [Switzerland] complained and said it would lead to severe consequences if the missiles hit an American aircraft carrier. They see this as a show of force. But we are doing this because of their provocation."

Wang does not appear to have given any details about the target ship, its construction, how fast it might have been moving, or how the PLA may have cued the missiles their target.

It remains unclear exactly how many missiles the PLA fired during the exercise on Aug. 26. *South China Morning Post*'s initial report had indicated that two weapons had been launched, one DF-26B and one DF-21D, from sites in China's northwestern Qinghai province and in Zhejiang, respectively. A subsequent report from Reuters said that the U.S. government had assessed that the Chinese had fired four ballistic missiles, in total.

"The Department of Defense is concerned about the People's Republic of China (PRC) recent decision to conduct military exercises, including the firing of ballistic missiles, around the Paracel Islands in the South China Sea on August 23-29," the Pentagon said in a statement on Aug. 27. "The PRC's actions, including missile tests, further destabilize the situation in the South China Sea."

The statement did not say anything about how many missiles the Chinese had fired in total or what types they had employed in the drill.

The DF-26B and the DF-21D are both understood to have maneuvering reentry vehicles capable at least of hitting large ships, such as aircraft carriers or large amphibious assault ships. The DF-21D has a maximum range in excess of 932 miles (1,500 kilometers), according to the Pentagon, while DF-26-series missiles can reportedly strike targets out to 2,500 miles.

Chinese media outlets, including the Hong Kong-based *South China Morning Post*, refer to the DF-21D, specifically, as a "carrier killer." The longer-range DF-26 is nicknamed the "Guam Express or Guam Killer," a reference to the strategic U.S. island territory in the western Pacific, which is home to major air and naval bases, but the B model with its maneuverable warhead also often gets referred to as a carrier killer missile, as well. Guam would be an important target for Chinese forces during any large-scale conflict.

DOD

A map showing the approximate ranges of various Chinese conventional strike weapons including the DF-21D, here referred as the "CSS-5 ASBM," and the DF-26.

It's worth noting the PLA has been launching ballistic missiles at generally ship-sized and shaped fixed targets in the Gobi Desert since at least 2013. However, this did not necessarily reflect an ability to hit moving targets at sea. In fact, some of these flat silhouettes were part of larger target arrays that were clearly arranged to reflect ships in port at American bases in Japan or Taiwanese naval facilities. The Chinese had also fired DF-26s from the western portion of the country into the South China Sea in a similar exercise in January 2019.

It's still not entirely clear how Chinese forces may now be spotting and tracking targets at sea and cueing ballistic missiles, such as the DF-21D or DF-26B, to engage them. However, "the PLAN's [People's Liberation Army Navy's] expanding network of sky wave and surface wave over-the-horizon (OTH) systems provide warning and targeting capabilities at extended distances from China to support long-range precision strikes, including employment of ASBMs [anti-ship ballistic missiles]," the Pentagon noted in its most recent annual report to Congress on the Chinese military. That same document indicated that the DF-26 series was becoming one of China's preeminent ballistic missiles, with a reported dramatic increase in the number of those weapons in service in the past year.

Other ships, such as China's new and very capable Type 055 destroyers, as well as long-range maritime patrol and surveillance aircraft, could help find enemy fleets and relay that targeting information to missile units. China also has a steady expanding fleet of unmanned aircraft, including increasingly advanced high-altitude, long-endurance types, which could also be used in this role. In the South China Sea, the PLA may further be able to make use of any fixed long-range sensors on its man-made island outposts, which includes aerostats. The Chinese government has also been expanded its space-based sensor capabilities in recent years.

The maneuvering reentry vehicles themselves likely have some form of guidance, such as a radar or imaging infrared seeker, to zero in on their targets in the terminal phase of flight, as well. The CM-401, a short-range anti-ship ballistic missile that China is developing, notably features a radar seeker for terminal guidance, though it's not clear if that its only guidance option.

Chinese Internet

A mockup of a CM-401 with the nose cutaway to show a dish representing a radar seeker.

Regardless, if the PLA can now reliably engage large warships using long-range ballistic missiles, this would represent a major additional anti-access/area denial capability, in general, but especially in the South China Sea. As noted, the DF-26B was reportedly fired from Qinghai, well inside China proper, which provides an extra layer of protection to the launching unit from preemptive or counter-strikes. Even being able to launch DF-21D missiles at ships from bases in eastern China would offer those units added survivability.

This is all on top of the immense flexibility that ground-based ballistic missiles could offer in the anti-ship role simply by being able to engage targets across a very broad area without necessarily having to relocate first. At the same time, the DF-21D and DF-26 are both road-mobile and could be repositioned to be closer to the target area in order to shorten the time it might take for the weapon to get there, an important consideration for engaging even slow-moving ships, as well as any other time-sensitive and fleeting targets.

All of this also means that this capability would not necessarily be limited to use during any potential conflict in the South China Sea. DF-26s in Qinghai would be just as capable of hitting ships in the Yellow Sea, the East China Sea, and the Philippine Sea, during a major confrontation in the Western Pacific, further impacting the ability of opponents, such as the United States, to operate in those bodies of water, all of which equally strategic. These missiles could possibly engage vessels in the Indian Ocean, which could be a factor in a large-scale conflict with India, as well.

This revelation about the ballistic missiles reportedly having hit an actual moving target during the August drills comes amid a continued uptick in naval movements, as well as aerial military activity, on the part of the United States and its allies, as well China, in the broad Indo-Pacific region.

Just weeks before the PLA fired the missiles near the Paracels, the U.S. Navy had sent two aircraft carriers, along with various escorting ships, into the South China Sea for the first time in years. Those flattops conducted various training maneuvers, including one involving an Air Force B-52 bomber, while they were there.

Right now, the United States, India, Japan, and Australia, a grouping known as "The Quad," are notably in the middle of the latest iteration of the Malabar naval exercise in the Bay of Bengal. Australia is taking part in these drills for the first time in 13 years, underscoring an increased emphasis on regional cooperation in light of China's increasingly assertive actions with regards to various territorial claims, especially in the South China Sea.

Just this weekend, Indian Foreign Minister Subrahmanyam Jaishankar "expressed concern about actions and incidents that erode trust in the region" at the 15th East Asia Summit, referring specifically to Chinese activities in the South China Sea, according to a statement from the country's Foreign Ministry.

Tensions between Chinese and Taiwanese governments are also at a notable high point, and both parties have been conducting their own dueling military exercises, as well. Increasingly visible support for authorities in Taipei from their counterparts in Washington has added to the friction. On top of all this, the United States and China themselves have been increasingly sparring for months over a host of issues, ranging from Beijing's fiery rhetoric toward Taiwan and its ongoing anti-democratic crackdown in Hong Kong to trade disputes and the handling of the global COVID-19 pandemic.

Anti-ship ballistic missiles represent just one way that China has been looking to add risk to the U.S. military's operations in the Western Pacific and hamper it from challenging Chinese claims, in the South China Sea and elsewhere. While the PLA's ability to engage moving ships with these weapons remains unconfirmed, there is mounting evidence that they are moving closer to being able to reliably employ this capability, if they can't already do so.

Right of Launch: Command and Control Vulnerabilities After a Limited Nuclear Strike

WarOnTheRocks.com, 20 Nov 20 Bruce G. Blair, Sebastien Philippe, and Sharon K. Weiner

Editor's Note: Bruce Blair passed away in July 2020. His co-authors are grateful to his widow, Sally Blair, for permission to publish this article and list Bruce as a co-author.

Imagine a rapidly escalating conflict between Russian and NATO forces. Compensating for Russia's perceived conventional inferiority, Russian commanders execute a limited nuclear strike — a small number of low-yield weapons intended to change conditions on the battlefield. The U.S. president, in turn, authorizes a limited nuclear response just before being evacuated from the White House. While rushing toward their helicopter, he or she wonders what Russia's next move will be and hopes they will not have to authorize additional nuclear strikes. The problem is they may have unintentionally done so already.

America's nuclear command and control system focuses on securing nuclear weapons until authentication of a president's orders. But right of launch — immediately after the president's first orders have been executed — the system is primed to allow additional strikes instead of resetting the launch

codes or putting the launch keys back in their safes. As a result, after that first limited strike the danger of unauthorized launch is worse in crisis situations where controlling escalation is critical. No command and control system can reconcile the adaptation and flexibility required by war with the tight control over nuclear weapons that is vital to preventing unauthorized launches and clearly signaling intentions to limit rather than increase the scale of conflict. In order to maintain robust command and control in a crisis, the United States should place less reliance on limited nuclear options.

Safeguards Against Unauthorized Nuclear Use

The U.S. nuclear command and control architecture focuses on preventing unauthorized use prior to presidential authorization. One of the first barriers is the permissive action link — a code that has to be correctly entered before the warhead arms. Permissive action links are intended to keep warheads and bombs safe during transit and storage, and to prevent unauthorized detonation by anyone who manages to get their hands on one. For silo-based and submarine-launched ballistic missiles, permissive action links are unlocked before warheads are fitted onto their delivery bus.

Presidential authentication is another safeguard. To order a nuclear strike, the president needs to crack open the nuclear biscuit — a laminated card carried by either the president or the president’s military aide — and provide the appropriate response to the sequence of letters read by the duty officer in the Pentagon’s military command center. If the codes match, this is taken as proof that the order is coming from the president, or the next surviving member of the chain of command. Once authenticated, the president’s chosen option is transmitted by the Pentagon’s command center directly to the crews involved in carrying out the order.

Besides making sure any launch order comes from the president, there are additional measures intended to stop unauthorized launch. Here we concentrate on intercontinental ballistic missiles and submarine-launched ballistic missiles, which comprise over 80 percent of deployed U.S. strategic nuclear weapons — an additional 450 nuclear warheads can be delivered by dual-capable aircraft. When the president selects a specific attack option, the associated unlock code is sent to launch crews. Once a submarine or intercontinental ballistic missile crew receives an authenticated order, they unlock safes and compare the codes inside with the one they just received. If the codes match, intercontinental ballistic missile crews then begin the process of typing targeting coordinates into their computers and launching the missiles. On submarines there is an intermediate step that involves two senior officers retrieving from a safe the key needed to fire the missiles.

If the president selects a limited nuclear option, a selective unlock code allows crews to fire specific missiles at specific targets — and only those missiles. Although the launch crews all have the keys necessary to fire additional nuclear weapons, they lack the unlock codes needed to arm, target, and fire those weapons.

But what if a specific missile fails to fire? Or perhaps it leaves its launch tube, arrives at the target, but doesn’t cause sufficient damage because the warhead malfunctions or the target was harder or more elusive than calculated? What happens if — in the two to seven minutes it takes intercontinental ballistic missiles crews (15 to 20 minutes for submarines) to arm, target, and fire their weapons — an important but time-sensitive target becomes available? One can imagine a variety of reasons why the president might find it prudent to authorize both a nuclear strike and then a back-up or contingency plan. In such cases, multiple different unlock codes would be sent to the launch crews, along with instructions that might specify when to launch and whether or not additional authorization is needed.

What Happens After an Initial Launch?

After execution of the initial limited strike authorized by the president, the military would have the unlock codes for selected additional strikes. The command and control system assumes that subsequent orders adhere to the guidance given by the president. No additional authentication by the president is necessary.

Consider, for example, today's nuclear weapon-equipped submarines. After a missile is fired, they can "pause" their launch sequences and resume strikes later without the need to go through an entire pre-launch checklist again. This means that the president's back-up or contingency plan can be executed without additional presidential authorization and with little more than the turn of a key.

There are also incentives for the president to authorize more than a small number of contingency strikes. Any president would also take into account possible retaliation or escalation after that first limited nuclear strike. Consider again the scenario in which Russia's purported escalate to de-escalate doctrine is in operation: In the fog of an ongoing skirmish in Europe that has escalated to limited nuclear use, the president might reasonably be convinced that it is best to leave the White House and move to a more secure facility. Concerned about communications problems, the president authorizes a limited strike, but also additional future options in the event that the crisis escalates while they are aboard a helicopter headed for Andrews Air Force Base. Perhaps there are concerns about attacks on other U.S. government leaders, making it important for the president to leave behind contingency plans until continuity of government can be verified. What happens if the North American Aerospace Defense Command detects an incoming strike that will destroy U.S. intercontinental ballistic missiles unless they are launched, but communications links are temporarily down, garbled, or disabled? Worried about potential communications breakdowns, the president might pre-authorize additional strikes.

Another complication is the need to preserve flexibility so that the remaining nuclear weapons can be allocated to future targets. When a particular strike option is chosen, the nuclear weapons that are left are adjusted to cover remaining targets. Think of operational nuclear weapons as part of a dynamic matrix. New targets appear or the best weapon for a particular target may already have been launched. Some weapons are withheld should other adversaries want to take advantage in a crisis. After a limited nuclear strike, there are numerous reasons why the remaining operational weapons might have to be reallocated to different targets.

Because targeting is dynamic and crises uncertain, the president has multiple incentives to authenticate the universal unlock code. Just as the adjectives suggest, this code would allow intercontinental ballistic missile and submarine crews to launch all of their nuclear weapons. The intent is to provide flexibility to the Pentagon and U.S. Strategic Command to issue additional launch orders if the president can't be found, weapons don't function, Russia suddenly escalates, or another country (e.g., China) decides to enter the fray. But the universal unlock code, which would simultaneously be broadcast to all launch crews and command posts, also creates opportunities for unauthorized launch.

The universal unlock code would give Strategic Command and the Pentagon's command center the ability to transmit orders for additional strikes even if they were not authorized by the president. The same is true for launch crews. Cut off from the chain of command due to communications disruption, or garbled follow-on messages, a submarine crew would be able to unleash a salvo of missiles without additional authorization. For intercontinental ballistic missiles, ten people control a squadron of 50 missiles. But it takes only two such "votes" to launch a nuclear strike.

We are not suggesting that the nuclear weapons chain of command is harboring potential Dr. Strangeloves, just waiting to launch the doomsday machine in retaliation for “the international Communist conspiracy to sap and impurify all of our precious bodily fluids.” But the universal unlock code does provide multiple different actors with the discretion to launch additional nuclear strikes without the authorization of the president or the president’s successor.

What happens if there is a pause in hostilities or the president decides to rule out further use of nuclear weapons? In such cases, the weapons remain subject to unauthorized launch until the unlock codes can be changed. This requires new launch codes to be issued by the National Security Agency and the codes, along with associated equipment, to be physically transported to each missile base and submarine. At intercontinental ballistic missile bases, such code changes often take a full day and require many routine activities to be suspended. It takes longer for submarines, some of which may take days or even weeks to return to port.

Command and Control Protocols Aren’t Prepared for Limited Nuclear War

U.S. nuclear command and control protocols have neglected to keep pace with strategies that call for limited nuclear war or limited nuclear strikes. Moreover, it is difficult and perhaps impossible to create a system of command and control that eliminates the danger of unauthorized launch while also enabling the flexibility sometimes required by the pace and fog of war. Ordering the first use of a nuclear weapon could easily lead to an exponential increase in the risk of unauthorized actions, whether due to nefarious intent or simple miscommunication. This danger is at its worst during precisely those situations where deterrence assumes actions are carefully calibrated and decision-makers securely in control.

The nuclear weapon command and control system needs to be flexible enough to accommodate the uncertainties and dynamic conditions that always come with war, and that permeate efforts to keep limited war from escalating. The command and control system should also be invulnerable to unauthorized launch. But both conditions cannot be satisfied at the same time. As a consequence, the only way to ensure that nuclear weapons are only used as prescribed by the president is to reduce reliance on limited nuclear strikes. To this end, the United States should recognize that the sole purpose of nuclear weapons ought to be deterrence of existential threats, not fighting for limited objectives.

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China’s Growing Missile Arsenal and the Risk of a ‘Taiwan Missile Crisis’

Nuclear Threat Initiative, 18 Nov 20 Jeffrey Lewis, David Joël La Boon and Decker Eveleth

China has one of the largest and most diverse missile arsenals of any country in the world. And that arsenal is growing. China’s expanding missile force is an important element in a burgeoning arms race in Northeast Asia. Moreover, while the vast majority of China’s missiles are conventionally-armed, ambiguity surrounding conventional versus nuclear-armed missiles poses the risk of a situation as fraught as the Cuban Missile Crisis—in this case over Taiwan—with the United States.

It was not always this way. When the Cold War ended, China's missile force was small and consisted largely of missiles based on older technologies. The explosive growth of the Chinese economy has resulted in much larger defense budgets in China; those growing budgets have funded the development and deployment of many new military capabilities, including ballistic and cruise missiles.

Understanding the scope and pace of China's missile buildup requires understanding what China is, and is not, building. The problem is that China does not publish reliable statistics about the size of its nuclear or conventional missile forces. Outsiders sometimes rush to fill in the gaps left by official silence with wild claims, for instance, suggesting that China might have thousands of nuclear weapons hidden in caves that no one knows about. [1]

More diligent analysts, however, can track China's missile forces using an array of open source information, from accounts in Chinese state media to satellite images.

To shed light on China's missile forces, the James Martin Center for Nonproliferation Studies (CNS), with the help of CNS Summer Fellow Decker Eveleth, has created an open-source map showing the location of each missile brigade and the type of missile assigned to it.

CNS analysis shows that China has about six hundred ballistic and cruise missile launchers operated by the People's Liberation Army (PLA) Rocket Forces. This number has increased dramatically in the past two decades, largely as China has introduced hundreds of new conventionally armed ballistic and cruise missiles and modernized its smaller force of about 100 nuclear-capable missile launchers.

The most important insight from the mapping exercise is not, however, the sheer number of missiles; it is the fact that many of China's new missiles are dual-capable, meaning they can be armed with either nuclear or conventional warheads. China's new generation of missiles, like the DF-26, blurs the line between nuclear and conventional forces. This would increase dangers in any military conflict, because it may not be clear whether a missile, if launched, is carrying a nuclear or conventional warhead. Similarly, attacks intended against conventional forces might well be misunderstood to be attacks on China's nuclear forces.

China's Missile Force Rises to Power

At the end of the Cold War, China's missile force was small, and was exclusively intended for use with nuclear weapons. In the event of a war, China's missileers were held in reserve for the unlikely event that China would need to conduct a nuclear retaliation. They played little or no direct role in the scenarios, such as a conflict over Taiwan, that were of greatest interest to China's leaders—and the greatest drivers of status and budgets. This changed in the 1990s, as China began to deploy conventionally-armed short-range ballistic missiles within range of Taiwan. China now has a modern conventional missile force that can be expected to play an important role in any military conflict with Taiwan.

The growth of China's missile force can be most clearly seen in the expansion of the infrastructure to support it, from new bases to training areas. When one missile type is replaced with another, facilities are modernized. Each missile has unique support requirements which are reflected in the size and layout of the base. When additional missiles are deployed, new units must be created. Intelligence analysts have long understood that, since facilities must be created before a missile unit can be deployed, close tracking of changes in infrastructure can warn of changes to a country's missile

capabilities. Using this method, we can estimate the number of missiles in China's arsenal, just as you might estimate the number of guests at a picnic based on how many packages of hot dogs and buns the host has purchased.

Our assessment of approximately six hundred missile launchers is based on identification of six PLA Rocket Force bases, each responsible for six to seven brigades spread over a geographic area. [2] In general, analysts count launchers—silos or vehicles—rather than missiles. This method also helps illustrate the growth in China's missile force over time. In 2000, China had 15 missile brigades. By 2010, that number had grown to 25 and, today, stands at 34. About one-quarter of these bases have been established in the past few years, and there are seven more in various stages of planning or construction.

The expansion of bases suggests that China's development of conventional missile capabilities will continue to drive the growth of the PLA Rocket Force. In recent years, China has developed a number of new types of conventionally armed land-based ballistic and cruise missiles, including a hypersonic boost-glide vehicle, called the DF-17, and the DF-100 cruise missile. [3] China is also adding some new bases for nuclear-armed missiles and converting older bases to equip them with new missiles such as the intercontinental DF-41, capable of delivering multiple nuclear warheads against targets throughout the United States. [4]

Escalation Risks

Despite some claims to the contrary, China's missile forces are not near parity with the United States. China has fewer nuclear-armed missiles than the United States. And China has fewer conventionally-armed missiles than the United States.

The one area in which Chinese missile forces exceed those of the United States concerns land-based medium- and intermediate-range ballistic missiles. China has a force of about 450 such missiles, while the United States was until recently prohibited from possessing such systems under the 1987 INF Treaty. (The United States does, however, have a significant number of air- and sea-based missiles in these ranges, which were not prohibited by the treaty.)

China's development of medium- and intermediate-range missiles is notable largely because it uses the same missiles for both nuclear and conventional payloads. The DF-26 is designed to allow China to rapidly replace a conventional warhead with a nuclear one. Growth in the DF-26 force has been especially large in recent years. The U.S. Department of Defense recently stated that China may have as many as 200 DF-26 launchers, a model of which was first displayed publicly in 2006. [5] The existence of a large force of ballistic missiles that are assigned both conventional and nuclear missions raises disturbing questions about escalation in a conflict. If China begins to use conventionally armed DF-26 missiles against U.S. forces in the Pacific, the United States would certainly target those launchers and units in an attempt to suppress the attacks. Would China see an attack on its DF-26 force as a tit-for-tat conventional retaliation or as a dangerous escalation targeting its nuclear forces? What if imperfect U.S. intelligence caused the United States to target other nuclear armed or capable units, such as the DF-31, mistaking them for units with conventional missiles?

This demonstrates that although analysts have a good sense of the overall number of Chinese bases, brigades, and launch units, many of the critical details may not be known precisely—something that would be important in war time.

Bringing China into formal arms control negotiations with the United States and Russia is a desirable long-term outcome. But we might not have the luxury of time. Tensions between the United States and China could turn a crisis over Taiwan into a scenario as dangerous as the Cuban Missile Crisis. This makes it all the more important to open discussions now, even without formal arms control talks. Even if New START-like limits are not possible at this time, the two countries should still discuss crisis management, nuclear risk reduction, transparency and confidence-building measures to help reduce dangers and clarify the increasingly blurry line between China's conventional and nuclear missiles.

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Sources:

[1] Bret Stephens, "How Many Nukes Does China Have? Plumbing the secret Underground Great Wall," The Wall Street Journal, October 24, 2011.

[2] Each brigade, in turn, has a number of launch units that varies depending on the type of missile. (As best we can tell, each missile brigade is equipped with a single missile type.) So, for example, each DF-5 brigade has six silos, while each DF-15 brigade has 36 mobile launchers.

[3] Although these missiles are probably not yet deployed, China displayed sixteen DF-17 launchers in a 2019 military parade held to honor the seventieth anniversary of the founding of the People's Republic of China. Such clues help us to know where to look for future deployments of the DF-17.

[4] There is extensive construction at two bases currently associated with the 1970s-era DF-4 ICBM that is consistent with the construction of silos, possibly to replace the DF-4 with the DF-41.

[5] Department of Defense, Report on Military and Security Developments Involving the People's Republic of China, September 2020, p 166. This number represents a significant increase over the 90 launchers estimated in the 2019 report.

"Our stockpile of nuclear weapons may not work"

By: STANLEY ORMAN, (Opinion) Rockville, Md // The Washington Times // (Web, Nov. 12)

Once again a Commentary article in The Washington Times is right on target.

"Our stockpile of nuclear weapons may not work" (Web, Nov. 12) by Robert Monroe outlines the risks of relying on computer programs instead of testing to determine stockpile reliability. Mr. Monroe is right in pointing out that most of the scientists and engineers who developed and proved the capability of those weapons have long since retired, and the facilities they used have been allowed to decay. What is less well recognized is that the warheads contain many non-nuclear materials on which the functioning of the weapon is highly dependent.

Most of these components were manufactured by companies that may no longer exist. Even those that remain will no longer use identical machinery and processes to remake the rubber, plastic and other components that will have aged and need replacing. At one time I was responsible for the life-extension program of the British nuclear stockpile, and the greatest problems were encountered in replacing such materials with assured properties. No computer simulation can satisfy such a requirement.

Our leaders need to recognize that life-extension programs merely provide a Band-Aid to avoid facing the real issue. We need to reauthorize a modernization of our nuclear stockpile by developing and designing new warheads. New warheads would incorporate current (rather than 50-year-old) technology. The remaining problem, however: Where are the scientists and facilities to allow these programs to proceed?

We have real problems in retaining our deterrent posture, a policy that cannot be allowed to lapse further as we face a proliferated world, with too many hostile entities.

Kissinger Warns Biden of U.S.-China Catastrophe on Scale of WWI

<https://www.msn.com/en-us/news/world/kissinger-warns-biden-of-us-china-catastrophe-on-scale-of-wwi/ar-BB1b30iF>

By: Peter Martin for Bloomberg News // 9 hrs ago

(Bloomberg) -- Former U.S. Secretary of State Henry Kissinger said the incoming Biden administration should move quickly to restore lines of communication with China that frayed during the Trump years or risk a crisis that could escalate into military conflict.

“Unless there is some basis for some cooperative action, the world will slide into a catastrophe comparable to World War I,” Kissinger said during the opening session of the [Bloomberg New Economy Forum](#). He said military technologies available today would make such a crisis “even more difficult to control” than those of earlier eras. “America and China are now drifting increasingly toward confrontation, and they’re conducting their diplomacy in a confrontational way,” the 97-year-old Kissinger said in an interview with Bloomberg News Editor-in-Chief John Micklethwait.

“The danger is that some crisis will occur that will go beyond rhetoric into actual military conflict.” The diplomat who paved the way for President Richard Nixon’s historic 1972 trip to China said he hoped that the shared threat of the Covid-19 pandemic would provide an opening for political discussions between the two countries when Biden takes office on Jan. 20. “If you can look at Covid as a warning, in the sense that in practice it is dealt with by each country largely autonomously, but its long-term solution has to be on some global basis,” Kissinger said, “it should be dealt with as a lesson.”

U.S.-China relations are at their lowest in decades, despite the two sides reaching a “phase one” trade deal at the start of the year. Since then, the virus outbreak that began in Wuhan, China, has gone global, killing more than 1.3 million people and crushing economies around the world. As President Donald Trump stepped up his criticism of China, blaming it for the spread of the virus and the death toll in the U.S., each side also has ramped up moves the other sees as hostile.

Last week, China’s crackdown on Hong Kong’s autonomy continued, as officials there disqualified lawmakers viewed as insufficiently loyal to Beijing. U.S. officials have decried the death of the “one country, two systems” policy that has helped Beijing navigate its ties with the West for a generation. The U.S. followed up on its criticism by imposing new sanctions, banning investments in 31 Chinese firms it says are controlled by the country’s People’s Liberation Army.

“Trump has a more confrontational method of negotiation than you can apply indefinitely,” Kissinger said. Early in Trump’s term, “it was important for him to emphasize the deep concerns Americans have about the evolution of the world economy that is not balanced. I think that was important to emphasize. But since then, I would have preferred a more differentiated approach.” The swift erosion in ties this year means China and the U.S. are edging toward a new Cold War, Kissinger said, adding that the two sides should “agree that whatever other conflict they have, they will not resort to military conflict.”

To achieve that, the U.S. and China should jointly create “an institutional system by which some leader that our president trusts and some Chinese leader that President Xi trusts are designated to remain in contact with each other on behalf of their presidents,” he said. Relations with China may

dominate the foreign policy agenda of President-elect Joe Biden's administration. He's expected to seek ways to defuse tensions in areas including the future of 5G technology, China's expansionism in the South China Sea and Hong Kong's fading autonomy.

While Biden has decades of experience in dealing with China, his tone took a harsher turn during the presidential primaries. He frequently criticized China's assertive policies in its region as well as Beijing's human rights record, even branding President Xi Jinping a "thug" during a debate in February. "Of course, there are differences on the issue of human rights," Kissinger said when asked what more China could do to improve relations.

"It is important for each side to understand the sensitivities of the other, and not necessarily to solve the problem, but to alleviate it to a point where further progress is possible." Xi used a speech last week to call for countries to [strengthen](#) cooperation and avoid conflict, even as his policies set China on a collision course with the U.S. And China last week congratulated Biden and Vice President-elect Kamala Harris on their election victory.

"The United States and China have never faced countries of a magnitude that is roughly equal with the other," Kissinger said. "This is the first experience. And we must avoid its turning into conflict, and hopefully lead to some cooperative endeavors." Reviewing some of Biden's proposals for addressing China, Kissinger urged caution when asked about the idea of building a coalition of democracies to take on Beijing.

History of Crisis

"I think democracies should cooperate wherever their convictions allow it or dictate it," he added. "I think a coalition aimed at a particular country is unwise, but a coalition to prevent dangers is necessary where the occasion requires." Ultimately, Kissinger said, the two nations' leaders need to recognize that they see the same issues very differently, and that colors their approach to talks.

"Americans have had a history of relatively uninterrupted success," he said.

"The Chinese have had a very long history of repeated crises. America has had the good fortune of being free of immediate dangers. Chinese have usually been surrounded by countries that have had designs on their unity." Europe will increasingly find itself caught in a tug-of-war between the U.S. and Eurasia, Kissinger added. "Europe has been an anchor of American foreign policy in the entire post-World War II period," he said.

"The question for them now is whether, in the evolution of relations with other parts of the world, they will attempt to play a totally autonomous role." The New Economy Forum is being organized by Bloomberg Media Group, a division of Bloomberg LP, the parent company of Bloomberg News. Other guests include Microsoft Corp. co-founder Bill Gates, Stephen Schwarzman, chairman, co-founder and chief executive officer of Blackstone Group Inc., and Chris Kempczinski, president and CEO of McDonald's Corporation.

Pentagon Risks 'Paralyzing Ourselves' as Tech Priorities Keep Shifting

That's what the outgoing HASC ranking member says, and he's not alone.

DEFENSE ONE PATRICK TUCKER TECHNOLOGY EDITOR NOVEMBER 18, 2020

Mac Thornberry knows what it's like to have good technical ideas thwarted by the politics of public perception. In 2011, the Republican congressman and some colleagues came up with a list of cybersecurity recommendations at the behest of then-House Speaker John Boehner, R-Ohio.

“Just as we were releasing our recommendations, we had the Snowden leaks. We had Wikileaks,” said Thornberry, who is departing Congress as the minority leader of the House Armed Services Committee. “Everybody decided that the government was reading your emails to Grandma” and it became “politically impossible to consider any sort of cyber-related legislation in Congress for several years.”

Now Thornberry fears that a similar failure to anticipate and defuse public backlash will undermine Pentagon efforts to develop various emerging defense technologies.

“Our adversaries do not have ethical concerns, but we can paralyze ourselves by misinformation or lack of understanding when it comes to artificial intelligence, robotics, human performance enhancement, all sorts of issues,” he said. “I believe it’s important to have a little inoculation with hearings, think tank seminars, papers, about these technologies and what they mean or don’t mean to help prevent this sort of paralysis in the future.” The most dramatic recent example is Project Maven, launched in 2017 to create a machine learning program that could help DOD analysts sift large amounts of intelligence, surveillance and reconnaissance video. When *Gizmodo* revealed Google’s participation in the project, many employees objected and some even resigned in protest. The company declined to renew the contract, though it has since indicated a willingness to work with the Defense Department on other projects.

The Pentagon’s challenge in adopting emerging technologies may have less to do with a reluctance to talk about them in public and more with the fact that it can’t seem to settle on a consistent approach. Technology priorities can change drastically from year to year as officials chase after buzzwords and shiny concepts, CNAS analysts conclude in a new report.

“In 2014, then-Secretary of Defense Chuck Hagel launched the Defense Innovation Initiative to develop a ‘game-changing third “offset” strategy.’ Then-Deputy Secretary of Defense Robert Work subsequently named AI and autonomy the ‘technological sauce’ to empower this Third Offset Strategy,” authors Paul Scharre and Ainikki Riikonen write.

The arrival of Michael Griffin in February 2018, the Department’s first defense undersecretary for research and engineering, was supposed to help establish clearer technology priorities, and Griffin did set priorities in April 2018.

But before long, changes crept in. “These priorities fluctuated in number and order; they ranged from 10 to 13 priorities with AI, hypersonics, nuclear modernization, and other technologies rotating up and down in importance,” note the CNAS authors. Currently, the undersecretary’s office lists them as: artificial intelligence, hypersonics, space, quantum, science, joint, all-domain command and control, microelectronics, autonomy (as distinct from AI), cyber, and biotechnology.

When Mark Esper went before the Senate for his confirmation hearing in July 2019, the defense-secretary-to-be added a new wrinkle: some of the priorities were of higher priority than others. “Different people put different things number one. For me, it is artificial intelligence,” Esper said. “I believe whoever masters it first will dominate the battlefield for many, many, many years. It gets to how we can think more quickly, how we can work and semi-autonomously. I just think it is a game changer.”

Last January, the FY 2021 Defense Wide Review added nuclear modernization to the mix, perhaps to shield one of the more politically vulnerable areas of defense investment from potential congressional critics. In April, the top priority shifted to microelectronics. In August, after Griffin left the Pentagon, a new acting undersecretary, the relatively inexperienced Michael Kratsios, highlighted microelectronics, 5G, hypersonics, and AI and made a passing reference to quantum computing and “other industries of the future quickly extend across borders.”

Those moving priorities may be, in part, because the Pentagon doesn’t have a good way to track exactly how much contractors are spending on independent research and development in those areas, according to a September GAO report.

Tara Murphy Dougherty, CEO of Govini, an artificial intelligence-driven analysis firm, says that the Department “has put a lot of money into developing advanced capabilities, such as AI, data, hypersonics, cyber, and more.” Her company’s analysis from June shows that the Pentagon’s research, development, testing and engineering budget rose to \$80.6 billion in 2020, an increase of more than \$20 billion over 2016.

Funding for prototypes in particular has nearly doubled from \$14.3 billion in 2016 to \$28.5 billion in 2021.

“The most important aspect of this, however, is whether DoD knows what it is getting for these investments,” said Dougherty. As more and more funding is put toward prototyping, for example, those are dollars that are not directed toward systems development or operations and maintenance that can drive readiness. Without decision science to evaluate these tradeoffs, DoD will struggle to evaluate the [return on investment] of its [research, development, testing and engineering] investments--a trend that will only increase as the need for advanced capabilities intensifies but the overall defense budget topline likely stays roughly even.”

Say Scharre and Riikonen, “Too often, investments appear to be driven by the whims of department senior leaders. This is an unsatisfactory approach. At best, the department is whipsawed from one priority to the next, without the sustained investments needed to mature any one given area.” They suggest the Department adopt a “transparent framework for identifying technology priorities that will provide clarity and stability in the department’s priorities.”

In particular, they say to focus on those areas of information technology that are maturing the fastest. “The highest priority technology area for the DoD should be digital technologies that are riding exponential curves. These technologies are maturing rapidly no matter what the DoD does. There is twice as much money spent annually on information technology as all military spending from every country combined,” they write.

That means better engagement with consumer-facing technology companies and academia. Historically, that has not been a strong area for the military but it’s an area that virtually all defense leaders stress as a key priority *for them*.

Lawmakers can help, said Thornberry, if they can spend less time worrying about requirements for specific programs and provide funding flexibility. “Congress, especially the appropriators, have to get more comfortable with a pot of money being available for a particular purpose and then full transparency on how those funds are used. Flexibility is the key to attract more suppliers to do business with the Department of Defense to overcome that infamous valley of death to enable more experimentation and prototyping and to get technology into the field faster,” he said.

“We’ve made progress--and hopefully we’ll make a little more progress in this year’s NDAA that we’re now negotiating--in encouraging non-traditional suppliers to do business with DOD, to help small and mid-sized companies bring their innovation to the table.”

North's ICBMs may have re-entry ability, says report

JoongAng Daily Online (South Korea), 18 Nov 20 Sarah Kim

The U.S. Central Intelligence Agency (CIA) has assessed that North Korea’s intercontinental ballistic missile (ICBM) re-entry vehicles are likely to “perform adequately” if flown on a normal trajectory to mainland United States, according to an American think tank report Tuesday.

Concurrently, the U.S. Navy intercepted and destroyed an ICBM target using a ship-launched missile over the Pacific Ocean, northeast of Hawaii, announced the Missile Defense Agency Tuesday, part of the Pentagon’s move to build and test a layered missile defense system for the U.S. mainland.

The "2021 Index of U.S. Military Strength," an annual report released by the Washington-based Heritage Foundation, concludes, “North Korea has developed a spectrum of missile systems that threaten the continental United States as well as U.S. forces and allies in Asia with nuclear weapons.”

It continues, “Although North Korea has not yet conducted an ICBM flight test that successfully demonstrated a reentry vehicle capability, the CIA has assessed that Pyongyang’s ICBM reentry vehicles would likely perform adequately if flown on a normal trajectory to continental U.S. targets.”

North Korea acquiring such re-entry technology means that it has finalized an ICBM able to deliver a nuclear attack on the United States.

On Nov. 29, 2017, North Korea tested its Hwasong-15 ICBM and declared that it had completed its nuclear force.

The Heritage Foundation report describes that in July 2019, the U.S. Forces Korea assessed that North Korea’s Hwasong-15 ICBM has a range of 8,000 miles and is capable of reaching anywhere in the U.S. mainland.

The report in its assessment of the global threat level found that North Korea uses nuclear and missile tests to enhance its global prestige, extract various concessions from the United States and improve its military posture.

It added that “U.S. and allied intelligence agencies assess that Pyongyang has already achieved nuclear warhead miniaturization, the ability to place nuclear weapons on its medium-range missiles, and an ability to reach the continental United States with a missile.”

North Korea was ranked as "high" in terms of threat level, the second highest on its five-tier threat assessment scale, alongside Russia, Iran and China, according to the military strength report.

North Korea ranked as “testing,” the third-level in a five-tier provocative behavior scale. It was ranked at the second-highest level of “gathering” out

of five tiers for level of capability.

Missile defense expert Bruce Klingner, a Heritage Foundation senior research fellow for Northeast Asia and a former intelligence official, compiled the North Korea assessment for the 2021 report.

Pyongyang has conducted six nuclear tests, and while it has stuck to a self-imposed moratorium on nuclear testing and ICBM launches since late 2017, it has continued with shorter-range missile launches.

Despite three meetings between North Korean leader Kim Jong-un and U.S. President Donald Trump, there has been no decrease in its weapons of mass destruction (WMD) arsenal, according to the report. The U.S. intelligence community assessed that Pyongyang increased its production of fissile material for nuclear weapons and that satellite imagery showed upgrades to missile, re-entry vehicle, missile launcher and nuclear weapon production facilities.

Likewise, the report said the U.S. intelligence community continues to assess that North Korea “is unlikely to give up all of its WMD stockpiles, delivery systems, and production capabilities.”

Gen. Terrence O’Shaughnessy, commander of the U.S. Northern Command and North American Aerospace Defense Command (Norad), testified in March 2020 that North Korea in 2017 “successfully tested an apparent thermonuclear weapon as well as two ICBM designs capable of ranging most or all of North America — feats only the five permanent members of the UN Security Council had previously achieved.”

The Missile Defense Agency (MDA) said that a Standard Missile-3 (SM-3) Block IIA missile was launched Tuesday from a U.S. destroyer from the Ronald Reagan Ballistic Missile Defense Test Site in the Marshall Islands, which intercepted and destroyed the target during a test demonstration.

It is the first time the United States shot down an ICBM with a ship-launched interceptor missile.

The test follows North Korea revealing a new ICBM in a military parade in October that could potentially strike the U.S. east coast, and comes as the Pentagon has accelerated development of its missile defense system because of such missile and nuclear threats.

MDA Director, Vice Admiral Jon Hill called the test “an incredible accomplishment and critical milestone for the Aegis BMD SM-3 Block IIA program.”

He added that it was “a step in the process of determining its feasibility as part of an architecture for layered defense of the homeland.”

'Pearl Harbor' in Armenia will be a case study in technological surprise

<https://www.washingtontimes.com/news/2020/nov/18/armenias-pearl-harbor-will-be-a-case-study-in-tech/>

Military revolution in the Nagorno-Karabakh War

by Dr. Peter Vincent Pry to the Washington Times // Wednesday, November 18, 2020

For the first time in history, a war has been won almost entirely by unmanned aircraft — by what are technically called “armed drones” or Remotely Piloted Vehicles (RPVs) and Unmanned Aerial Vehicles (UAVs, guided autonomously).

On Nov. 10, [Armenia](#) surrendered to [Azerbaijan](#), ceding control of the disputed enclave Nagorno-Karabakh located within Azeri territory. Nagorno-Karabakh borders [Armenia](#), has a predominantly ethnic Armenian-Christian population that, together with [Armenia](#), has fought to resist domination by predominantly Muslim [Azerbaijan](#). The Nagorno-Karabakh War has flared on and off for some 30 years, a long stalemate little noted in the Western press.

But now the decisive defeat of [Armenia](#) by futuristic RPVs portends a revolution in military technology akin to the invention of gunpowder or the use of manned aircraft in World Wars I and II that changed the dimensions and nature of warfare. The Azeris made no significant use of manned aircraft to defeat [Armenia](#). [Armenia](#) has a manned air force, comprised mostly of Russian-built Su-25 ground attack and Su-30 jet fighters. [Armenia](#)'s armed forces have Russian-built tanks, including T-80s and T-76s, other armored fighting vehicles, artillery, and sophisticated SA-15 and SA-10 air defense missile systems.

[Azerbaijan](#) broke 30 years of military stalemate and triumphed decisively using an unmanned air force. “This conflict will become another case study on the vulnerability of land forces where air power can be applied without hindrance. Another [Turkey](#) shoot for the textbooks,” according to strategist Carlo Kopp, an expert in military technology. [Azerbaijan](#)'s Bayraktor Tactical Block 2 (TB2) remotely piloted warplane, similar to the U.S. Predator, did most of the damage to [Armenia](#)'s armed forces. The TB2 was helped by Harpy-2 unmanned loitering munitions and Spike anti-tank guided missiles.

The TB2 and other RPVs and UAVs were virtually invisible to Armenian air defenses. Their small size, largely plastic composition and slow subsonic speeds make them almost undetectable to sophisticated air defense missiles and radars designed to intercept larger supersonic manned aircraft—achieving “stealth” on the cheap. [Armenia](#)'s material losses: 138 tanks, 49 armored fighting vehicles, 167 howitzers and other towed artillery, 90 multiple launch rocket systems, 31 air defense missiles, 16 radars, 386 trucks and jeeps, and 89 military buildings and munitions depots.

[Armenia](#)'s “Pearl Harbor” will be another case study in technological surprise. Dr. Kopp: “The Armenians did not appear to understand what they were dealing with.” I eye-witnessed the beginning of the Nagorno-Karabakh War during the late-1980s, when then-Soviet Premier Mikhail Gorbachev's attempted “glasnost and perestroika” reforms naively presumed that communism and the USSR could be maintained without brute force.

Previous Soviet regimes crushed ethnic and religious conflicts with the Red Army and kept their glowing-embers from flaring-up with KGB terror. Almost as soon as Mr. Gorbachev loosened the Soviet iron fist, Armenians and Azeris started fighting over Nagorno-Karabakh. I was on a business trip that took me from Yerevan, [Armenia](#)'s capital, to [Azerbaijan](#)'s capital, Baku. Azeri baggage handlers and travelers waiting at the station had to be told not to attack us, that we were not the enemy, just because we were arriving from [Armenia](#).

We were not harmed, but the Azeris had knives in their eyes. The Nagorno-Karabakh War has been a conflict between peoples and religions, deeply rooted in hatreds as old as the Islamic conquests and Christian crusades of the medieval era, now fought with 21st century weapons. [Armenia](#)'s defeat

has enraged the populace and destabilized the government. Mass protests are calling for the resignation of Prime Minister Nikol Pashinyan. Ethnic Armenians are fleeing Nagorno-Karabakh, reportedly using scorched earth tactics to leave nothing of value for the Azeris.

Beyond the human tragedy, the little known Nagorno-Karabakh War has some profound strategic implications for the United States. Russia, an ally of Christian Armenia against Islam since the days of the Ottoman Empire, could have intervened militarily and decided the war in [Armenia](#)'s favor, and was expected by [Armenia](#) to do so. Instead, Moscow intervened diplomatically to end the war in favor of [Azerbaijan](#) and their backer — [Turkey](#).

Russia has handed [Turkey](#) a “win” highly significant for Ankara and Prime Minister Recep Tayyip Erdogan’s aspirations to lead the Islamic world — no doubt as part of Moscow’s strategy to lure [Turkey](#) away from NATO. [Turkey](#) and NATO are already at odds over Ankara’s warming relations with Russia, including recent purchases of advanced Russian military equipment and collaboration with Russian military technical advisers.

[Turkey](#) plays a crucial role in the defense of NATO, containing Russia’s Black Sea Fleet and having the second-largest NATO army, after the United States. If [Turkey](#) leaves NATO for neutrality or alignment with Russia, NATO may become indefensible. Moreover, [Turkey](#) manufactures and supplied the TB2 that gave [Azerbaijan](#) victory. Israel makes the Harpy-2 and Spike. Thus, the military revolution in unmanned airpower does not depend upon the U.S., Russia or China. Much smaller, less sophisticated nations, like [Azerbaijan](#) (militarily ranked 64th in the world by GlobalFirePower.com) can arm themselves with “flying killer robots” and perhaps become giant slayers.

Is the U.S. Global Policeman, like the proud French Knights at Agincourt, riding toward a rendezvous with technological surprise?

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Iran Has a Truly Ridiculous Stockpile of Missiles

<https://nationalinterest.org/blog/reboot/iran-has-truly-ridiculous-stockpile-missiles-172785>

North Korea has demonstrated that even a determined country of limited means can build a credible missile program.

By: [Kyle Mizokami](#) for The National Interest // November 17, 2020

Here's What You Need To Remember: Iran's missile program has mostly copied other nations' designs and favored quantity over quality, but there are signs that this approach has changed over the past decade.

Like the rest of the Iranian Armed Forces, the Iranian Air Force was crippled by post revolution purges. Although numerically and technologically superior to the Iraqi Air Force, Iran was unable to achieve air superiority and unable to accurately strike targets deep within Iraq. In response, Iran purchased a number of Soviet R-17 (“Scud B”) short-range ballistic missiles from the Libyan government. These strikes, as well as retaliatory strikes by Iraqi ballistic missiles, constituted the so-called “[War of the Cities](#).”

The lack of accuracy of the missiles made cities the easiest targets, and both Iranian and Iraqi civilians bore the brunt of the crude missile campaign. The wartime need for ballistic missiles, as well as Iran’s historical enmity with Israel, led Iran to develop its own missile industry. The first missiles were copies of existing Scud missiles. The Shahab (“Shooting Star”)-1 missile is based on the Scud-B; the Nuclear Threat Initiative estimates Iran maintains an inventory of two to three hundred missiles.

The liquid-fueled Shahab-1 can loft a two-thousand-pound high-explosive or chemical warhead up to 186 miles, but like the original Scud-B, its accuracy is lacking. Just half of the warheads from a Shahab-1 would land within a half mile of the target—the rest landing even farther away. Another version, Shahab-2, has a range of 310 miles. Both versions are likely being phased out in favor of a new generation of solid-fuel rockets.

A third missile, Shahab-3, is actually a variant of North Korea's Nodong-1 missile. Also developed from the Scud, the Nodong-1 has its origins in Pyongyang's desire to hit U.S. bases in Japan from the Korean Peninsula. There are differing claims to the distance the Shahab-3 can deliver payloads. The Nuclear Threat Initiative [states](#) that it has a maximum range of 621 miles, which falls short of the Nodong-1's range.

The Center for Strategic and International Studies [states](#) that the Nodong-1 has a range of 932 miles, but credits the Shahab-3 a range of 1,242 miles, a significant improvement. While the Nodong-1/Shahab-3 offers greater range than previous missiles, it is miserably inaccurate, with half of warheads expected to fall within 1.5 miles of the target and the other half even farther away. The first Iranian test of the Shahab-3 was in 1998, and the missile was declared operational in 2003.

Arms-control experts theorize North Korea [sold Iran a complete Nodong assembly line](#), while others believe Iran received approximately 150 missiles in return for financing development of the missile. The Shahab-3 has spawned at least one variant, the Ghadr-1, which has a slightly shorter range but is reportedly much more accurate, to within [six hundred feet](#). A new warhead developed for both missiles, known as Emad, appears to bring even greater stability, maneuverability and accuracy to Iran's medium-range ballistic missiles.

Iranian missile development took a giant leap with the fielding of the Sejil medium-range missile. Unlike previous liquid-fueled missiles, the solid-fueled Sejil does not have to be fueled before launch and can be stored ready to fire. A Sejil missile in the field also does not need a telltale convoy of refueling vehicles that can be spotted by enemy forces. Iran's solid-fuel expertise is thought to have come from China in a late 1980s technology transfer.

First tested in 2008, the Sejil carries a one- to two-thousand-pound warhead and has a range identical to the older Shahab-3. Sejil may in fact be a replacement for the older missile. While the Sejil's accuracy is unknown, it could hardly be worse than its liquid-fueled predecessor. There are unconfirmed reports of longer-range variants. A missile named Sejil-2 was reportedly tested in 2009, and a three-stage Sejil-3 with a 2,400-mile range is [reportedly in development](#).

According to a 2005 report in Germany's Bild Zeitung newspaper, Iran imported [eighteen Musudan intermediate-range missiles](#) in kit form from North Korea. The existence of these missiles was disputed for years, but an [April 2017 launch](#) was said by U.S. government officials to be a Khorramshahr, allegedly the local name for the Musudan. The Iranian missile apparently flew for six hundred miles before it exploded, a level of success North Korea itself did not experience until its sixth Musudan test.

This is an unusual discrepancy, and could be indicative that the test was of another missile type entirely. Unlike its other missiles, Iran has never publicly displayed a Musudan-type missile. In the meantime, Iran has gone back and updated its fleet of short-range, or battlefield short-range,

ballistic missiles. Tehran's latest missile, the Zulfiqar, is also based on Chinese solid-fuel technology. The Zulfiqar can carry a thousand-pound high explosive or submunition warhead that Iran claims is accurate to within fifty to seventy meters. The missile has a range of 434 to 466 miles.

While it has a smaller warhead than the Shahab-1 and -2, the Zulfiqar is much more accurate and has a greater range, making it a viable replacement for the older, liquid-fueled missiles. Iran does not currently have an intercontinental ballistic missile. Could Tehran's missiles someday reach Washington, DC? North Korea has demonstrated that even a determined country of limited means can build a credible missile program.

The Nuclear Threat Initiative [lists Shahab-5 and -6 missiles](#) as possible ICBMs that have been mentioned in Iranian literature, but these names seem to be assigned to notional design goals and not operational missiles. Under the [Joint Comprehensive Plan of Action](#), Iran has agreed to halt its nuclear-weapons development. Resumption of ICBM research and development would be a clue that Iran's nuclear ambitions have reignited, something that would put the country on a collision course with the United States.

Iran's ballistic-missile program began from a wartime requirement for a strategic terror weapon, and progressed to the development of nuclear delivery vehicle. Iran, like North Korea, is proof of the dangers of ballistic-missile proliferation, and how trade in even short-range missiles like the Scud can lead to the development of far more dangerous weapons down the road.

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Russian Strategic and Hypersonic Naval Nuclear Weapons

https://www.realcleardefense.com/articles/2020/11/18/russian_strategic_and_hypersonic_naval_nuclear_weapons_650130.html#!

By [Mark B. Schneider](#) for Real Clear Defense // November 18, 2020

Strategic Nuclear Weapons and the Russian Navy

Russia sets its highest value on its strategic nuclear forces. In November 2020, President Vladimir Putin stated, I want to emphasize that, despite the constantly changing nature of military threats, the nuclear triad remains the primary, key guarantee of Russia's military security. From a broader perspective, this applies to global stability as well. Preserving this balance of power neutralizes the threat of a large-scale military conflict, making vain any attempts to intimidate or pressure our [country](#)."

Russian attitudes about nuclear weapons are very rare in the world. In 2006, President Putin declared that the new Borei class ballistic missile submarine would "secure Russia's glory as a great sea [power](#)." Indeed, strategic nuclear forces are literally the highest priority of the Russian Navy. Talking about the "glory" associated with nuclear missile systems is uniquely Russian and reflects their world view concerning the role of nuclear weapons.

Russian naval nuclear strategy is a subset of what is contained in Russian military strategy documents. In 2017, President Putin signed into law a very important directive to the Russian Navy. Fortunately, this was translated into English by the Russia Maritime Studies Institute of the U.S. Naval War [College](#). It dealt with the broad range of issues relating to the Russian Navy and its modernization, including nuclear weapons. It reflects Russia's "escalate to de-escalate" (or "[escalate to win](#)") nuclear [strategy](#). Specifically, it says, "The key components of the strategic deterrence system are nuclear and non-nuclear deterrence.

The general-purpose naval forces occupy an important place in meeting strategic deterrence challenges.” The Navy is directed to “maintain the combat potential of the naval strategic nuclear forces at a high level,” while stating that the first priority of the Russian Navy is “to modernize and maintain naval strategic nuclear forces at a high level as a part of strategic ballistic missile submarine [groups](#).”

With regard to Russian SLBM targeting, Colonel General (ret.) Viktor Yesin, former Commander of the Strategic Missile Forces, has stated that Russian ballistic missile submarine missiles “...hit targets that do not have any serious protection, such as cities and enterprises...”[\[1\]](#) Since this statement was made in 2010, it is possible that Russia’s SLBM targeting may have expanded somewhat due to the introduction of improved Russian missiles.

In June 2020, Putin signed a decree on nuclear deterrence. Putin's decree contains four announced conditions for nuclear weapons use, all of which involve first use of nuclear weapons. It states:

19. The conditions which determine the possibility for the use by the Russian Federation of nuclear weapons are: a. the receiving of creditable information concerning the launch of ballistic missiles attacking the territories of the Russian Federation and (or) its allies;

b. the use by an enemy of a nuclear weapon or other types of weapons of mass destruction against the territories of the Russian Federation and (or) its allies; c. enemy actions against critically important state or military facilities of the Russian Federation, the disablement of which will lead to a disruption of retaliatory operations of the nuclear forces; d. aggression against the Russian Federation involving the use of conventional weaponry which threatens the existence of the state [itself](#).[\[2\]](#)

The condition on the use of nuclear weapons in response to non-nuclear attacks on “nuclear forces” rather than “strategic nuclear forces” in paragraph 19(C) opens up the possibility of a nuclear response to a non-nuclear attack on a vast number of Russian military facilities, airbases, naval ships and Army bases and units. This is because dual capability (conventional and nuclear capability) is [almost universal](#) in Russia.[\[3\]](#) Russia may use the threat of nuclear escalation to enforce rules of engagement on U.S. and allied forces that assure a Russian victory.

In August 2020, noted Russian journalist Pavel Felgenhauer warned, “The Kremlin is constantly playing the deterrence game by trying to scare the West. But this situation has two dangerous ramifications. First, the nuclear threshold is becoming lower: in any serious skirmish, the Russian navy would either need to go nuclear or risk being sunk. And second, while the Russian leadership believes it has surpassed the West militarily thanks to its dazzling superweapons, Moscow’s threshold for employing military force in conflict situations may also drop [further](#).” Indeed, Putin’s new superweapons are all nuclear armed or nuclear [capable](#). Felgenhauer, who has for over twenty years warned about the risk posed by Russian first use of [low-yield](#) nuclear [weapons](#), continues to believe that Russia might use nuclear weapons in very limited conflicts.[\[4\]](#)

Russian Naval Strategic Nuclear Weapons

In late 2019, Russia revealed additional information concerning its programs for the development and deployment of strategic nuclear weapons. Prior to 2019, Russia had announced two programs for new (post-Cold War) ballistic missile submarines and two new ballistic missile programs for them – the new Borei and the improved Borei-A (955 and 955A or [DOLGORUKIY-class](#)) ballistic missile submarines carrying the new Bulava-30 SLBM and the Husky "fifth-generation" nuclear ballistic missile submarine carrying an unnamed new liquid fueled SLBM.[\[5\]](#) The first three Borei

submarines reportedly used leftover components from never completed late Soviet-era [submarines](#). The improved [quieter](#) Borei-A is apparently the submarine the Russians call 4th generation. It is two years behind the initial Russian projection of its operational [availability](#).

In addition, Russia updated the legacy Delta-IV (Project 667BDRM) ballistic missile submarines with the improved SS-N-23 SLBM called the Sineva and the Liner (or Layner), which reportedly carry a larger number of warheads than the Cold War version. There is apparently also one Delta-III (Project 667BDR) submarine carrying the SS-N-18 SLBM still [operational](#). It participated in the Grom-2019 large strategic nuclear [exercise](#). One Project 941UM Akula (U.S. designator Typhoon) class SSBN, used for early Bulava-30 testing, is still in [use](#).

In late 2019, the previous program of eight “fourth generation” Borei ballistic missile submarines was increased to ten by the addition of two more 955A submarines carrying 16 missiles each.^[6] The hull of the 955A was modified for increased [quietness](#). The Russian Defense Ministry also announced that the two new submarines were under contract and construction would begin in [2020](#). State-run Sputnik News claimed that the “Brand new Russian [Borey-A](#) and [Yasen-M](#) class submarines will become almost ‘invisible’ to hydroacoustic stations, the main means of submarine [detection](#)...” In 2010, Izvestia said that the Yasen was quieter than the U.S. Seawolf-[class](#) submarine.

Claiming that Russian weapons are better than those of anyone else is almost the norm in Russia, irrespective of the fact situation. In 2014, Russian journalist Anton Valagin wrote, "...the Boreys are superior to the main strategic submarine of the U.S. Navy, the Ohio Class. Their noise levels are 93 and 102 decibels, [respectively](#).” In November 2018, Maksim Klimov, a Russian journalist who frequently writes about the Russian Navy, citing foreign sources, said that “...our fourth-generation [submarines] lag U.S. Navy multipurpose nuclear submarines by not less than 10 [decibels](#).” The Russians are clearly working on ways to reduce the detectability of their [submarines](#), resulting in the erosion of the advantage that the U.S. and NATO had during the Cold War in submarine [quietness](#).

We know a great deal about the Bulava-30 SLBM and the Borei submarine that carries it because it was declared as a [six-warhead missile](#) under the original START Treaty, and its technical data (including throw-weight) were automatically made public under the provisions of the START Treaty. According to Colonel (ret.) Robert Hawkins, Senior Fellow at the Los Alamos National Laboratory, the nuclear warheads it carries are “newly designed and newly manufactured [warheads](#).” The Bulava-30 SLBM is generally reported as carrying 100-kt warheads (although there are sometimes higher numbers reported), and it has also been reported to carry a low-yield sub-kiloton warhead (as does reportedly the Sineva).^[7]

The low-yield weapon is clearly linked to Russia’s strategy of first use nuclear [escalation](#), which is critical for the U.S. to deter. The development of an advanced version of the Bulava-30 has also been [announced](#). The Russian press frequently reports that the Bulava-30 carries ten maneuvering hypersonic warheads. This is unlikely in light of its limited throw-weight ([1,150-kg](#)). At some point, some type of maneuverable warhead (MaRV) may appear, but it really makes no sense in relation to existing and projected U.S. strategic missile defenses. (It would be good against the Moscow ABM system, which uses short-range interceptor missiles that operate in the atmosphere.)

In 2019, state-run TASS reported that Russia might develop and deploy two Borei-K strategic cruise missile submarines after [2027](#). In 2018, TASS said that Russia planned 14 Borei ballistic missile [submarines](#). In light of the later TASS report about the Borei-K and the financial restraints on the Russian Defense Ministry, it is unclear whether they will be able to build more than seven Borei-As. At this point, it does not look likely that Russia will go ahead with the reported [Borei-B](#) class submarine, although we can't rule this out. It does seem clear that Russia wants 14 modern strategic

nuclear missile submarines. The actual timing of the construction of the Husky “fifth-generation” submarines may impact the number of Borei submarines constructed.

By Husky “fifth-generation” nuclear submarines, Russia does not literally mean fifth-generation (by some counting rule for what constitutes a generation); rather, it means an advanced design which will be very [quiet](#) with high speed and deep diving capability. We know a lot less about the Husky than we do about the Borei because of Russian secrecy, although the Russian Defense Ministry continues to brag about it. It is reportedly capable of carrying both ballistic and cruise missiles and Tsirkon hypersonic [missiles](#).

The head of Russia’s United Shipbuilding Corporation said the Husky would appear in the late [2020s](#). Vice Admiral Viktor Bursuk, Russian Navy Vice Commander for Armaments, said, “The fleet will start getting fifth-generation submarines around the [2030s](#).” There are reports that there will be strategic and multirole versions of the submarine and some reports that it will combine both [functions](#). Interfax says that “materials circulated in the run-up to a Russian Federation Council meeting on shipbuilding” said that, “The Husky submarine design reportedly will use modules with anti-ship and ballistic [missiles](#).”

The Poseidon Nuclear-Powered, Nuclear-Armed Drone Submarine

Russia is developing a nuclear-powered, nuclear-armed ultra-deep diving drone [submarine](#). The early Russian press reports said the Poseidon had a [yield](#) of 100 [megatons](#). Pavel Felgenhauer stated, “The plan is to deliver a 100-megaton nuclear bomb to the U.S. shores.” The Russian government daily Rossiyskaya Gazeta said that the weapon could achieve “extensive radioactive contamination” and the weapon “could envisage using the so-called cobalt bomb, a nuclear weapon designed to produce enhanced amounts of radioactive fallout compared to a regular atomic warhead.”[\[8\]](#) A cobalt bomb is a “doomsday” weapons concept conceived during the Cold War but apparently never actually developed.[\[9\]](#) It intensifies the duration of deadly radioactive [fallout](#).[\[10\]](#)

Russian Naval Hypersonic Missiles

While nearly all ballistic missiles have hypersonic speed, what is now generally called “hypersonic missiles” are missiles designed to operate in the atmosphere at hypersonic speeds (Mach 5 and above) and, thus, they can maneuver at any time it is desired to do [so](#). This makes them even more difficult to intercept than ballistic missiles. Since they fly in the atmosphere, the detection range of missile early warning radars is reduced.

In January 2020, in an apparent reference to his new hypersonic missiles, President Putin told the Russian Duma that, “For the first time ever – I want to emphasize this – for the first time in the history of nuclear missile weapons, including the Soviet period and modern times, we are not catching up with anyone, but, on the contrary, other leading states have yet to create the weapons that Russia already [possesses](#).” Putin also boasted that other than Russia, “Not a single country possesses hypersonic weapons, let alone continental-range hypersonic [weapons](#).”

Except for the Avangard boost-glide vehicle, which is carried on the legacy Soviet SS-19 ICBM, the classification of Russia’s hypersonic missiles as “strategic” or “non-strategic” is somewhat arbitrary. Much depends on how they are used and what platforms carry them. Russia’s non-strategic missiles are almost entirely [dual-capable](#) (nuclear or conventional). At least half of Putin’s six new nuclear superweapons -- the Avangard, the Kinzhal aeroballistic missile (2,000+ km range), and the Tsirkon hypersonic missile (1,000+ km [range](#)) with a maximum speed of Mach 9 -- are the

new officially announced hypersonic missiles, and they are all reportedly nuclear armed or nuclear capable.^[11] In October 2020, Russia began launching Tsirkon (Zircon) hypersonic missiles from [warships](#).

Although this has not been officially claimed, there are some reports that Russia's nuclear-powered 9M730 Burevestnik, one of Putin's nuclear superweapons, is a hypersonic [missile](#). There is also reportedly a smaller version of the Kinzhal for the [Su-57](#) fighter. Additionally, Russia is reportedly developing the KH-MT, a "ram-jet powered hypersonic design apparently intended for internal carriage [on the Tu-95MSM bomber]." ^[12] In particular, the Kinzhal and the Tsirkon are capable of both land-attack and antiship [strikes](#). For several years Russia has had the near hypersonic Kh-32 cruise missile operational on its Backfire [bombers](#).

In December 2019, Russian Deputy Defense Minister Aleksey Krivoruchko said, "Hypersonic weapons prototypes are created to use them with both air [Kinzhal system], and land and sea carriers [Zircon]. The development of crucial technologies that provide an increase in flight speed — to more than Mach 10 — range, and precision pointing [continues](#)." (Emphasis in the original). For an "aeroballistic" missile like the Kinzhal, increased speed means longer range. For a powered hypersonic missile like the Tsirkon, this might increase the range. A retired Russian Admiral has stated that the range of the Tsirkon is [2,000-km](#). This is probably a reference to an improved version of the Tsirkon. Since the Russians are attempting to scare us, they frequently attribute the characteristics of improved versions of their weapons to the first generation.

Today, we have no defenses against hypersonic [missiles](#). This is because the Third-World (North Korea and Iran) focus of U.S. missile defense has resulted in no U.S. effort to defend against the Russian threat until very recently. The conventional wisdom is that Russia has developed hypersonic missiles to penetrate U.S. strategic missile defenses. This is not the case. Indeed, the most senior Russian leaders have stated that they have no problem penetrating U.S. strategic missile [defenses](#). There are much cheaper means to penetrate them than hypersonic boost-glide weapons. Indeed, the Soviet version of the SS-19 ICBM will get more warheads through U.S. missile defenses than the same number of SS-19 carrying a single Avangard. This is because the Soviet SS-19 was heavily MIRVed and carried extensive missile defense [countermeasures](#). State-run Sputnik News says the Bulava-30 SLBM "can deploy up to 40 decoys to try to divert defensive missiles fire[d] by anti-ballistic missile systems like the Alaska-based Ground-based Midcourse Defence [system](#)."

Highly capable destroyers and cruisers and the carriers they defend with advanced air defense weapons and sometimes ballistic missile defense capability are probably the most important non-strategic targets for hypersonic missiles. Their extremely high velocity probably gives them a significant advantage against such targets compared to any other type of anti-ship missile. This is particularly true with regard to penetrating short-range defenses. The same would be true concerning advanced land-based SAM systems, although unfortunately, they are few and far between in NATO. The Russians are now beginning to deploy terminal defense [laser weapons](#). Hypersonic missiles are likely to be more effective against such a defense.

General John Hyten, then-commander of the U.S. Strategic Command, has warned about the threat posed by Russian hypersonic weapons if the U.S. does not counter them. He said that hypersonic weapons would allow Russia to attack on a global basis with little or no [warning](#). General Hyten noted that a hypersonic missile "disappears, and we don't see it until the effect is delivered." ^[13] While with a ballistic missile, General Hyten stated, it would take 30 minutes to strike a target with a hypersonic weapon, "it could be half of that." ^[14] Thus, capability against time urgent targets is one of the most important advantages provided by Russian hypersonic missiles.

The Tsirkon hypersonic missile will be carried by a broad range of Russian surface ships and submarines, including the 885/Yasen class submarines, which a 2017 Defense Intelligence Agency report on Russia Military Power characterized as “[extremely quiet](#).” Russia also has an improved Yasen-M submarine. The Tsirkon will be widely deployed on Russian surface ships and [submarines](#), including the advanced Yasen class multirole [submarine](#). Existing Russian launchers for Kalibr and Oniks cruise missiles can reportedly launch the [Tsirkon](#).

A major target for Russian strategic nuclear hypersonic missiles or, indeed, nuclear-armed non-strategic hypersonic missiles like a Tsirkon launched from a Yasen-class submarine would likely be the U.S. National Command Authority because of its very important association with command and control authority over U.S. nuclear weapons use. Use of Russian hypersonic weapons against the U.S. National Command Authority was hinted at by President Putin in his 2018 State of the Nation Address to the Duma, reported on by Russian state-run television which contained a “list of American targets” that “the Kremlin could strike with hypersonic nuclear missiles within five minutes if war breaks [out](#),” and this was overtly talked about by the Chief of the General Staff General of the Army Valeriy Gerasimov who said that Russia would be forced to “plan future delivery of strikes against decision making centers...” These weapons would also be useful for surprise attacks against bomber and missile submarine [bases](#). While existing Russian subsonic cruise missiles could also be used for such attacks, the probability of surprise and success would likely be much greater with hypersonic missiles.

Does Russia have an accuracy problem with its hypersonic missiles?

Army Chief of Staff General James McConville, when asked if he thought Russian hypersonic weapons were “game changing,” replied, “No, I don’t. I have not seen them actually hit a target with that system, and I know where our [hypersonic] [technology is](#).” This is the first indication of a Russian accuracy problem by a senior Defense Department official. According to TASS, if “that system” is the Avangard, it is armed with a 2-megaton nuclear warhead. If “that system” is the Kinzhal or the Tsirkon (Zircon), it [is dual-capable](#). Ultra-high accuracy regarding the Avangard is not necessary against any likely target of a very high-yield nuclear silver bullet force, which is what the Avangard is. For the Kinzhal and the Tsirkon, which have conventional and nuclear options, accuracy is much more important.

There is some open source evidence that Russia is exaggerating the accuracy of its new supposedly precision cruise missiles. While Russian military leaders frequently claim accuracy of a few meters or at least under ten for their new precision systems, some Russian journalists have reported much less accuracy. For example, Russian journalist Igor Kozin, writing in Russian state media, reported 5 to 50 meters accuracy (presumably CEP) for the Kh-101 long-range air-launched cruise missile and 30 meters for the [Kalibr](#) sea-launched cruise missile. Similarly, Colonel (ret.) Nikolai Litovkin, also writing in state media, said that the Kalibr had an accuracy of 30 [meters](#). Thirty meters is usually assumed as the threshold of near precision accuracy, but it does not necessarily equate to one missile, one target destroyed with conventional weapons. This is particularly true with regard to hard targets, in which case very high accuracy is necessary.

We must remember that these Russian missiles are not conventional missiles; they are [dual-capable](#). Against most targets, if nuclear weapons are used, it matters little if Russia’s missile CEP is 5 or 50 meters. Keep in mind that until the B-61 Mod 12 bomb becomes operational, there will literally be no precision or near precision nuclear weapons in the U.S. nuclear deterrent force. Against most target types, nuclear weapons use does not require precision or near precision accuracy to destroy them. Against some targets, a CEP of 50 meters might rule out the use of the lowest yield nuclear missile warheads reportedly available to the [Russians](#), which in turn could impact collateral damage. In its initial use of nuclear weapons,

Russia would certainly attempt to limit collateral [damage](#). However, if the Russians reached the stage of nuclear targeting of the U.S. National Command Authority, they would probably be beyond the point where they were worried about collateral damage.

Anti-ship missiles targeting ships at sea require some type of terminal guidance to hit them with any type of warhead. Warships are comparatively large targets. Assessing the probability of destruction against a warship is different than simple CEP calculations against land-targets. The Russians have made it clear that the Kinzhal, the Tsirkon, and the near hypersonic Kh-32 have an anti-ship [role](#), and they are all reportedly nuclear capable.

There is little or no open source information about the degree of realism in Russian testing of its anti-ship missiles. Hypersonic missiles get to their targets far faster than sub-sonic cruise missiles, making it easier for these missiles to acquire their intended targets. If the Russians do not have sufficient accuracy for precision conventional strikes with their hypersonic missiles and are producing large numbers of them in the coming years, a high percentage of them may be nuclear-armed.

Conclusion

It is clear that Russia has substantially improved its naval strategic nuclear capability and will continue to improve it for the foreseeable future. With the announced Russian deployment dates, even assuming the normal Russia availability slippage, all of the Borei class submarines will be in service before the initial deterrent patrol by the first U.S. Columbia class submarine in 2031. The Husky might be available in the same time frame as the Columbia. Russia has apparently closed much of the gap between the quietness of Cold War Soviet and U.S. submarines. Moreover, there are likely to be multiple modernizations of the new Russian SLBMs before the U.S. introduces the Trident D-5 SLBM replacement missile, which is now to be a life extension version of the current missile.

We need both deterrence and active defenses against Russia's hypersonic missiles. One is not a substitute for the other. Right now, we are playing catch up in hypersonic missiles, and there are no announced programs for a nuclear-capable hypersonic missile. There has been a substantial increase in conventional hypersonic missile funding, but funding is still limited for defenses against hypersonic missiles. This should be of great concern.

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NOTES: Can be found at the website above..

CIA thinks North Korean missiles could reach U.S. targets, analyst says

https://www.upi.com/Top_News/World-News/2020/11/18/CIA-thinks-North-Korean-missiles-could-reach-US-targets-analyst-says/4781605708177/

By: [Elizabeth Shim](#) for the UPI // NOV. 18, 2020 / 9:21 AM

Nov. 18 (UPI) -- [North Korea](#) may have developed intercontinental ballistic missiles with sufficient atmospheric reentry capabilities that can reach the United States, a former CIA analyst says.

Bruce Klingner, senior research fellow at the Heritage Foundation, said in a [new report](#) the CIA has made the assessments of "definite threats to the U.S. homeland." "Although North Korea has not yet conducted an ICBM flight test that successfully demonstrated a re-entry vehicle capability, the CIA has assessed that Pyongyang's ICBM re-entry vehicles would likely perform adequately if flown on a normal trajectory to continental U.S. targets," Klingner says in the think tank's 2021 Index of U.S. Military Strength.

North Korean missile tests in recent years have led to speculation about whether Pyongyang has mastered atmospheric reentry for projectiles capable of targeting the United States. In 2017, missile expert Michael Elleman of the International Institute for [Strategic Studies](#) in London said a test of the Hwasong-14 missile as seen in Japanese television footage indicates a vehicle used during the test may not have survived the "rigors of re-entry."

A successful launch would require core ICBM technology capable of withstanding temperatures of 6,000 to 7,000 degrees Celsius, or about 10,000 to 12,000 degrees Fahrenheit. Klingner said in his report the North has become increasingly dangerous, developing weapons at a steady pace even as [Kim Jong Un](#) met three times with U.S. President [Donald Trump](#) at historic summits. "Secretary of State Michael Pompeo repeatedly claimed that North Korean leader Kim Jong Un had accepted U.N.-mandated complete, verifiable, and irreversible dismantling of his nuclear, missile and biological and chemical weapons programs," Klingner says.

"However, during the February 2019 Trump-Kim summit, it became clear that Kim has not agreed to do so." The U.S. State Department continues to call for negotiations with North Korea. U.S. Deputy Secretary of State [Stephen Biegun](#) said Wednesday he has hope and confidence the North Korean nuclear issue could be resolved through talks, Yonhap reported. Biegun made remarks to a South Korean delegation visiting Washington, according to the report.

One of Biden's First Acts as President-Elect Was to Antagonize Kim Jong Un

<https://news.yahoo.com/one-biden-first-acts-president-095849813.html>

By: Donald Kirk for The Daily Beast // November 16, 2020

SEOUL—President-elect Joe Biden is signaling a return to reality in U.S. policy toward North Korea after President Trump failed to sweet talk Kim Jong Un into giving up his nukes and the missiles that could fire them at distant targets, including the U.S.

While Kim and the North Korean state media machine remain silent on the election, Biden chose to mark Veterans' Day with a visit to a memorial to Korean War veterans, paying homage to their sacrifice and U.S. support of South Korea against the North. The decision of Biden, with his wife Jill, to lay a wreath at the memorial in Philadelphia "should send a positive message about reinforcing and sustaining the strength of the alliance," said David Maxwell, a retired Army special forces officer who served five tours in South Korea.

Maxwell, now senior fellow at the Foundation for Defense of Democracies, said the message provides "insight to his views on Korea" while diplomatic analysts whom Biden knew as vice president under President Obama are expected to adopt a very different approach to North Korea from that of Trump. Obama famously warned Trump that North Korea would be "the most urgent problem" he faced after moving into the White House four years ago.

When or whether Kim will agree to protracted talks between negotiators is far from certain considering that North Korea's Korean Central News Agency last year carried a scorching commentary denouncing Biden as "an imbecile bereft of elementary quality as a human being, let alone a politician." KCNA unleashed the rhetoric in May 2019 after Biden, at a rally in Philadelphia, berated Trump for his warm relations with "tyrants," specifically including Kim Jong Un and Russian President Vladimir Putin.

The English-language commentary accused Biden of “an intolerable and serious politically-motivated provocation” by “slandering the supreme leadership of the DPRK,” Democratic People’s Republic of Korea. “Explicitly speaking,” said KCNA, “we will never pardon anyone who dare provoke the supreme leadership of the DPRK but will certainly make them pay for it.” In a later commentary, KCNA got still more explicit, saying “rabid dogs” such as Biden “must be beaten to death with a stick.”

The level of anti-Biden vitriol far exceeded that of North Korean attacks on Trump, whom the North had derided as “a dotard” while Trump at a UN speech in 2017 called Kim “rocket man” for ordering tests of missiles as well as nuclear warheads. All was forgiven when Trump and Kim met in Singapore in June 2018 for the first of their three meetings, during which they signed a brief joint statement resolving to bring about a “nuclear-free Korean peninsula.”

The prospect of a sharp reversal from the days when Trump professed that he “fell in love” with Kim almost at first sight, or at least first hug, are cause for alarm to South Korea’s President Moon Jae-in, who has met Kim four times in pursuit of reconciliation and dialogue. The chairman of Korea’s ruling Democratic Party, Lee Nak-yeon, called for “reaffirmation” of the statement issued by Trump and Kim in Singapore as “the starting point” for South Korea and the U.S. to “work together to reactivate the Korean Peninsula peace process.”

Countering that roseate view, however, Victor Cha, who advised on Korea while with the White House National Security Council during the presidency of George W. Bush, said bluntly that “all the past deals” with North Korea “have failed in one way or another.” “With Trump’s diplomacy,” said Cha on a panel at the Center for Strategic and International Studies in Washington, “we had a lot of pictures” while North Korea “simply advanced by leaps and bounds,” fabricating nukes and missiles.

“First and foremost,” said Cha, now a professor at Georgetown, “you’ve got to arrest the growth of their weapons program,” including development of intercontinental ballistic missiles that might be launched from submarines near the coasts of target nations. With Kim out of public view for more than three weeks, Ban Ki-moon, former U.N. secretary-general, warned he could “test-launch a missile to test the Biden administration” and urged the South “to send strong messages” to North Korea so “they don’t make such provocations.”

Biden gave no hint of a tough line in a phone conversation with President Moon in which they avoided the North Korean threat while falling back on familiar clichés. Moon’s affirmation of “our first commitment to a robust alliance” was sure to displease the North, which has spurned talks with the South while accusing Moon of currying favor with the U.S. to the detriment of statements signed by Moon and Kim in 2018.

Implicit in the phone conversation was Biden’s commitment to improve U.S. relations with South Korea, which have frayed at the edges as a result of Trump’s demand for a huge increase in the South’s contribution for U.S. bases. South Korea last year paid \$927 million for the bases on which the U.S. has 28,500 troops, for which Trump originally demanded \$5 billion. Separate from the Veterans’ Day event, Biden has pledged to improve relations with allies,” said Bruce Klingner of the Heritage Foundation.

“His vow to drop President Trump's demands for exorbitant increases in host nation support as well as Biden's pledge to not prematurely reduce U.S. troops on the Korean Peninsula will remove two major factors in deteriorating relations between Washington and Seoul.” While Biden is expected to

come to terms with South Korea on a relatively modest increase, he's also certain to rely on negotiators to try to dream up ways of getting through to Kim on the need for a deal.

But how to make that happen? Christopher Hill, former ambassador to South Korea who led ultimately unsuccessful U.S. negotiations with North Korea during both the Obama and Bush administrations, predicted “more focus on the substance of engagement and why we are willing to engage.” Critical to the process would be reliance on the CIA and other agencies to discern what the North is doing—and what to do about it. “The president has completely alienated intelligence services,” said Hill at the CSIS panel with Cha.

“We need to know what can be done to slow down their program. We need to have better leverage.” Hill, however, got nowhere leading the U.S. in six-nation talks on the North's nuclear program and then in one-on-one talks with North Korea's nuclear negotiator, and the prospect of a repetition of those charades is worrisome. “We may be moving towards a policy that seeks to ‘manage,’ not solve, the nuclear challenge,” said Evans Revere, former senior diplomat with the U.S. embassy in Seoul, who disagreed with Hill at the time and left the State Department.

Revere seemed to have Hill in mind when he predicted that “figures in a prospective Biden presidency” would “argue that it's time to make ‘small deals’ with Pyongyang that constrain its nuclear weapons program, but don't end it.” The result: “They will effectively agree to accept a nuclear North Korea.” Making matters worse, the Biden people aren't getting the briefings they need as a prelude to take over.

The State Department, apparently under orders from Secretary of State Mike Pompeo, isn't passing on messages to the Biden team from foreign governments, and those whom Trump has installed in the Pentagon after the dismissal of Mark Esper as defense secretary are being less than forthcoming. “The intel briefs are important, but they really need access to expert civil servants who have been working the issues for the past four years,” said Maxwell.

They need to get down to the hard work of sharing information”—and “the current status of all the issues within the alliance.” And then what? “One of the top priorities of the Biden administration is to send a signal,” said Sue Mi Terry, a former CIA analyst, now with CSIS. “How do we know that North Korea would abide by any deal?”

Iran Has a Truly Ridiculous Stockpile of Missiles

<https://nationalinterest.org/blog/reboot/iran-has-truly-ridiculous-stockpile-missiles-172785>

North Korea has demonstrated that even a determined country of limited means can build a credible missile program.

By: [Kyle Mizokami](#) for The National Interest // November 17, 2020

Here's What You Need To Remember: Iran's missile program has mostly copied other nations' designs and favored quantity over quality, but there are signs that this approach has changed over the past decade.

Like the rest of the Iranian Armed Forces, the Iranian Air Force was crippled by post revolution purges. Although numerically and technologically superior to the Iraqi Air Force, Iran was unable to achieve air superiority and unable to accurately strike targets deep within Iraq. In response, Iran

purchased a number of Soviet R-17 (“Scud B”) short-range ballistic missiles from the Libyan government. These strikes, as well as retaliatory strikes by Iraqi ballistic missiles, constituted the so-called “[War of the Cities](#).”

The lack of accuracy of the missiles made cities the easiest targets, and both Iranian and Iraqi civilians bore the brunt of the crude missile campaign. The wartime need for ballistic missiles, as well as Iran’s historical enmity with Israel, led Iran to develop its own missile industry. The first missiles were copies of existing Scud missiles. The Shahab (“Shooting Star”)-1 missile is based on the Scud-B; the Nuclear Threat Initiative estimates Iran maintains an inventory of two to three hundred missiles.

The liquid-fueled Shahab-1 can loft a two-thousand-pound high-explosive or chemical warhead up to 186 miles, but like the original Scud-B, its accuracy is lacking. Just half of the warheads from a Shahab-1 would land within a half mile of the target—the rest landing even farther away. Another version, Shahab-2, has a range of 310 miles. Both versions are likely being phased out in favor of a new generation of solid-fuel rockets.

A third missile, Shahab-3, is actually a variant of North Korea’s Nodong-1 missile. Also developed from the Scud, the Nodong-1 has its origins in Pyongyang’s desire to hit U.S. bases in Japan from the Korean Peninsula. There are differing claims to the distance the Shahab-3 can deliver payloads. The Nuclear Threat Initiative [states](#) that it has a maximum range of 621 miles, which falls short of the Nodong-1’s range.

The Center for Strategic and International Studies [states](#) that the Nodong-1 has a range of 932 miles, but credits the Shahab-3 a range of 1,242 miles, a significant improvement. While the Nodong-1/Shahab-3 offers greater range than previous missiles, it is miserably inaccurate, with half of warheads expected to fall within 1.5 miles of the target and the other half even farther away. The first Iranian test of the Shahab-3 was in 1998, and the missile was declared operational in 2003.

Arms-control experts theorize North Korea [sold Iran a complete Nodong assembly line](#), while others believe Iran received approximately 150 missiles in return for financing development of the missile. The Shahab-3 has spawned at least one variant, the Ghadr-1, which has a slightly shorter range but is reportedly much more accurate, to within [six hundred feet](#). A new warhead developed for both missiles, known as Emad, appears to bring even greater stability, maneuverability and accuracy to Iran’s medium-range ballistic missiles.

Iranian missile development took a giant leap with the fielding of the Sejil medium-range missile. Unlike previous liquid-fueled missiles, the solid-fueled Sejil does not have to be fueled before launch and can be stored ready to fire. A Sejil missile in the field also does not need a telltale convoy of refueling vehicles that can be spotted by enemy forces. Iran’s solid-fuel expertise is thought to have come from China in a late 1980s technology transfer.

First tested in 2008, the Sejil carries a one- to two-thousand-pound warhead and has a range identical to the older Shahab-3. Sejil may in fact be a replacement for the older missile. While the Sejil’s accuracy is unknown, it could hardly be worse than its liquid-fueled predecessor. There are unconfirmed reports of longer-range variants. A missile named Sejil-2 was reportedly tested in 2009, and a three-stage Sejil-3 with a 2,400-mile range is [reportedly in development](#).

According to a 2005 report in Germany's Bild Zeitung newspaper, Iran imported [eighteen Musudan intermediate-range missiles](#) in kit form from North Korea. The existence of these missiles was disputed for years, but an [April 2017 launch](#) was said by U.S. government officials to be a Khorramshahr, allegedly the local name for the Musudan. The Iranian missile apparently flew for six hundred miles before it exploded, a level of success North Korea itself did not experience until its sixth Musudan test.

This is an unusual discrepancy, and could be indicative that the test was of another missile type entirely. Unlike its other missiles, Iran has never publicly displayed a Musudan-type missile. In the meantime, Iran has gone back and updated its fleet of short-range, or battlefield short-range, ballistic missiles. Tehran's latest missile, the Zulfiqar, is also based on Chinese solid-fuel technology. The Zulfiqar can carry a thousand-pound high explosive or submunition warhead that Iran claims is accurate to within fifty to seventy meters. The missile has a range of 434 to 466 miles.

While it has a smaller warhead than the Shahab-1 and -2, the Zulfiqar is much more accurate and has a greater range, making it a viable replacement for the older, liquid-fueled missiles. Iran does not currently have an intercontinental ballistic missile. Could Tehran's missiles someday reach Washington, DC? North Korea has demonstrated that even a determined country of limited means can build a credible missile program.

The Nuclear Threat Initiative [lists Shahab-5 and -6 missiles](#) as possible ICBMs that have been mentioned in Iranian literature, but these names seem to be assigned to notional design goals and not operational missiles. Under the [Joint Comprehensive Plan of Action](#), Iran has agreed to halt its nuclear-weapons development. Resumption of ICBM research and development would be a clue that Iran's nuclear ambitions have reignited, something that would put the country on a collision course with the United States.

Iran's ballistic-missile program began from a wartime requirement for a strategic terror weapon, and progressed to the development of nuclear delivery vehicle. Iran, like North Korea, is proof of the dangers of ballistic-missile proliferation, and how trade in even short-range missiles like the Scud can lead to the development of far more dangerous weapons down the road.

Kyle Mizokami is a defense and national-security writer based in San Francisco who has appeared in the Diplomat, Foreign Policy, War is Boring and the Daily Beast. In 2009 he cofounded the defense and security blog Japan Security Watch. You can follow him on Twitter: [@KyleMizokami](#). This article first appeared in 2017.

Iran steps up nuclear programs amid sanctions

https://washingtontimes-dc.newsmemory.com/?token=0d53f0b4425c2b381c065fed35135033_5fb68af8_d3019ac&selDate=20201119

U.S., Tehran eye possible changes to pressure campaign by Biden

BY DAVID RISING for the ASSOCIATED PRESS // 19 Nov 2020

BERLIN | The head of the U.N. atomic watchdog agency confirmed on Wednesday reports that Iran has begun operating centrifuges installed at an underground site, but said they had been moved from another facility so the country's overall uranium-enriching capabilities — and ability to build a nuclear bomb — have not increased.

Rafael Grossi, director-general of the International Atomic Energy Agency, told reporters in Vienna that the 174 centrifuges had been moved into a new area of the Natanz nuclear site and had recently begun operating. He said that operation of centrifuges of that type was in violation of the nuclear deal Iran had signed with world powers in 2015 — known as the Joint Comprehensive Plan of Action, or JCPOA — but would not lead to a greater overall output of enriched uranium.

President Trump reportedly quizzed his top security and military officials in recent days on the feasibility of the U.S. missile strike on Natanz, but apparently decided against it. The IAEA confirmation came as the Trump administration was yet again stepping up its own pressure campaign on Tehran. The Treasury and State Departments announced they had targeted a leading Iranian charity and numerous of its affiliates for human rights violations. At the same time, Secretary of State Mike Pompeo released a statement titled “The Importance of Sanctions on Iran,” which argued that the Trump administration’s moves against Iran made the world safer and should not be reversed.

The sanctions announced Wednesday target Iran’s Mostazafan Foundation and roughly 160 of its subsidiaries, which are alleged to provide material support to Iran’s Supreme Leader Ayatollah Ali Khamenei for malign activities, including the suppression of dissent. Also targeted was Iran’s Intelligence Minister Mahmoud Alavi, who it said “played a central role in the Iranian regime’s human rights abuses against Iranian citizens.”

Many of the sanctions merely supplement previously announced penalties, but they come as the administration seeks to ramp up pressure on Iran before presumptive Democratic President-elect Joseph R. Biden takes office. Mr. Biden has said he wants to return to the rapprochement with Iran that started in the Obama administration but was ended by President Trump. Mr. Grossi noted that Iran is already far past the deal’s limits on enriched uranium, which Tehran says it has exceeded in response to the U.S. abrogation of the nuclear deal in 2018.

“It is already beyond the limits of the JCPOA but in general terms there is no significant increase in the volumes,” Mr. Grossi said. “So it’s a nuance.” According to a confidential document distributed to member countries and seen by The Associated Press last week, Iran as of Nov. 2 had a stockpile of 5,385.7 pounds of low-enriched uranium, up from 4,641.6 pounds in late August. The nuclear deal signed by the U.S., Germany, France, Britain, China and Russia allows Iran only to keep a stockpile of 447 pounds.

Iran has also been continuing to enrich uranium to a purity of up to 4.5% — higher than the 3.67% allowed under the deal, the IAEA has said. Iran has openly announced all its violations of the nuclear deal in advance, citing Mr. Trump’s decision to pull America out of the deal and reimpose crippling economic sanctions. The deal promised Iran economic incentives in exchange for the curbs on its nuclear program.

Since the U.S. withdrawal and imposition of new sanctions, Tehran has been putting pressure on the remaining parties to come up with new ways to offset the Washington’s unilateral campaign. At the same time, the Iranian government has continued to allow IAEA inspectors access to its nuclear facilities — one of the main reasons the other signatories to the deal say it is worth preserving.

After an explosion at the Natanz nuclear site in July, which Iran called sabotage, Tehran said it would build a new, more secure, structure in the mountains around the area. Mr. Grossi said in an interview last month that construction was underway at the site. He told reporters again on Wednesday that “there is movement, there is construction.”

Who will sell Iran weapons now that the arms embargo is dead?

<https://news.yahoo.com/tigray-crisis-why-ethiopia-spiralling-232607570.html>

By: Agnes Helou for Defense News // November 16, 2020

BEIRUT — With an international arms embargo lifted, Iran is likely to start buying armed drones, air defense systems, fighter jets and tanks, according to one expert, with another analyst linking the passage of Chinese defense export legislation on Oct. 28 with the embargo's expiration.

Iran previously showed interest in Russia's Su-30 and Yak-130 jets, T-90 tank, S-400 air defense system, but was prevented from purchasing such items under a multinational nuclear deal. "Iran's priority is to increase the efficiency of its short- and medium-range missile capabilities; the Russian 9K720 Iskander missile will be at the top of that list," Abdullah Al Junaid, a Bahraini strategic expert and political researcher, told Defense News.

"Despite its need for an air force competitive with its neighbors, Iran realizes that the introduction of air combat systems such as the Chinese J-10 will not close the required qualitative gap with its neighborhood — Saudi Arabia, United Arab Emirates — not to mention the air and naval forces of the United States in the region." Al Junaid predicts Iran will try to buy missile guidance system technology for civil and military applications, sensors and space monitoring systems, digital communication systems, and cybersecurity technology.

"As for developing its naval power capabilities, Iran has high ambitions in this regard, but submarines will be its priority," he added. On Oct. 18, a 13-year conventional arms embargo on Iran ended, with its foreign affairs minister, Javad Zarif, praising the "normalization of Iran's defense cooperation with the world" as "a win for the cause of multilateralism and peace and security in our region." But where will this cooperation come from?

Turning to Moscow

"Chinese and Russians are going to look at Iran as a market they want to pursue. In terms of conventional systems, both the Islamic Revolutionary Guard and the regular military, particularly in the Air Force but not limited to it, have aging systems that were delivered in 1970s and 1990s," said Douglas Barrie, a senior fellow focused on military aerospace at the International Institute for Strategic Studies.

"Iran will seek defensive capabilities in terms of defending against the airstrikes and air attacks, so more capable surface-to-air missiles, combat aircraft (obviously expensive), longer-range air-to-surface weapons, and anti-ship weapons — the kind of weapons that would make a potential improvement," Barrie told Defense News. Added Mohamed al-Kenany, a military affairs researcher and defense analyst at the Cairo-based Arab Forum for Analyzing Iranian Policies:

"Iran is mainly interested in the Russian Su-30 fighters, especially the latest version S-30SME, advanced training and light attack aircraft Yak-130, and may request medium tactical fighters such as the MiG-35, along with the T-90MS main battle tanks and long-range S-400 air defense systems and Bastion-P coastal defense systems, armed with Yakhont hypersonic anti-ship missiles." In 2016, Russia announced it will to provide Tehran with the capacity to license and manufacture the T-90 MBT when the embargo ended.

“Iranian Minister of Defense Brig. Gen. Amir Hatami visited Moscow in late August this year to attend the state-organized ‘Army 2020’ defense exhibition and hold talks with Russian defense officials,” Barrie said, noting that this signals Iran is turning to Russia to recapitalize equipment. With limited financial resources, Iran might try to upgrade its existing systems by improving weapons performance to fill short-term gaps, “but in the medium term it will have to start thinking about replacing a lot of the platforms themselves,” Barrie explained.

Beijing relations

Meanwhile, China would have to tread carefully if it decides to supply Iran with major defense capabilities, Al Junaid said. “China realizes that its interests may be at risk if it loses the ability to maintain balance in its relationship with Iran and its regional trading partners — Saudi Arabia, the United Arab Emirates — as well. Through [China’s] announcement of the new arms control legislation, it sent [a message] to the United States that it realizes its international responsibility and that the strategic agreement with Iran will not harm international security,” Al Junaid explained..

In early July 2020, Iran’s foreign affairs minister announced that his country was nearing completion of a long-term strategic partnership agreement with China. Then in August, a leaked document between the two nations suggested they were entering a 25-year security and economic partnership. And on Oct. 28, 10 days after the arms embargo on Iran was lifted, China enacted the Export Control Law to strengthen the regulation of military exports.

“From the Russian and Chinese perspectives, Iran represents the biggest factor of weariness for the United States in the Middle East — political, military and moral attrition,” Al Junaid explained. “This alliance also provides a tool for Chinese-Russian pressure on the United States.” Iran’s interest in procuring loitering munitions (otherwise known as kamikaze drones), UAVs and armed unmanned boats means China will likely supply modern technologies to help the Middle Eastern country develop unmanned naval vessels and aerial drones, al-Kenany said.

An arms race in the Gulf

Gulf states are also keeping an eye on Iran’s defense capabilities, but not because of industrial opportunities. A regional arms race is ongoing, Al Junaid said, arguing that Iran is building up its military strength for expansionist purposes while neighboring countries are bolstering capabilities to prevent future conflict. “Even if Iran possesses some qualitative capabilities in all its sectors, its access to operational field efficiency and human capacity will require more than two decades,” he added.

Ask about the possibility of reviving the Middle East Strategic Alliance, nicknamed the Arab NATO, Kenany didn’t refute the move completely. “It is possible to revive the Arab NATO, but it will be subject to many regional and international circumstances and political considerations for each country, and there is already [the Peninsula Shield Force — a joint military venture under the Gulf Cooperation Council] — for the Arab Gulf states, which began some time ago to enhance their military capabilities, especially in the field of missile defense, air and sea forces, and command-and-control systems with the United States, France, Italy and others,” Kenany said.

However, Barrie doubts a revival of the alliance because of multilateral disagreements. “I think the reaction will be on a national level rather than in a collaborative level in the region.”

Made in Iran

The expiration of the arms embargo also provides Iran the opportunity to export defense systems. "Iran's exports in this aspect might be drones, surface-to-surface missile systems, anti-ship missiles, anti-tank missiles, and short- [and] medium-range air defense systems," Kenany predicted. Asked about Iran's stance on the recent Azeri-Armenian conflict, Kenany said it's "unlikely that it will export any weapons systems to Armenia" to avoid upsetting Azeri ally Turkey and the balance of power. Furthermore, Iranian Supreme Leader Ayatollah Ali Khamenei has Azeri origins, the analyst noted.

ARTICLES AGAINST CREDIBLE, CAPABLE NUCLEAR DETERRENCE

How the Biden administration could create a win-win situation for nuclear policy

Washington Post Online, 17 Nov 20 Tom Collina and William Perry

The incoming Biden-Harris administration will face unprecedented challenges, from the coronavirus pandemic to systemic racial injustice to global warming. It will take mountains of money to tackle these crises, and we will need each dollar.

Are any of these challenges addressed by nuclear weapons? Clearly not. Yet the United States is planning to spend well over \$1 trillion to rebuild its nuclear arsenal, complete with a new generation of intercontinental ballistic missiles.

Whatever you think ails this nation, a new generation of ICBMs is not the answer. But the good news on nuclear policy is that less is more: The country can save money and become more secure at the same time. The Biden-Harris team can and should redirect a large chunk of this nuclear funding to address more pressing needs.

To be clear, we are not calling for the transfer of all of the planned nuclear funding — far from it. As long as other nations have nuclear weapons, the United States must maintain an adequate force of nuclear-armed submarines and bombers to deter any attack. But much of this spending is excessive and actually makes the United States less safe.

Many have suggested that the Pentagon, with its \$740 billion budget, is a good place to look for savings. As stated in the 2020 Democratic Party platform, "We can maintain a strong defense and protect our safety and security for less." And if we want to save big bucks by canceling new nukes we don't need, there is an obvious place to start: the Trump administration's plan to spend roughly \$264 billion on a new generation of ICBMs.

"I frankly think that our ICBM fleet right now is driven as much by politics as it is by a policy necessity," Rep. Adam Smith (D-Wash.), chair of the House Armed Services Committee, recently said.

These dangerous missiles are not needed for deterrence, as we would use survivable weapons based on submarines at sea for any retaliation. Yet ICBMs increase the risk that we will blunder into nuclear war by mistake. Because ICBMs are vulnerable to attack (they sit in fixed silos in the ground, and Russia knows exactly where they are), they are kept on high alert at all times to enable their launch within minutes. In the case of a false alarm, a president would be under great pressure to "use them or lose them" and launch our own missiles before a possible attack arrives.

False alarms have happened multiple times, and in an era of cyberattacks on U.S. command-and-control systems, the danger has only grown. Starting a nuclear war by mistake is the greatest existential risk to the United States today. The ICBMs are, at best, extra insurance that we do not need; at worst, they are a nuclear catastrophe waiting to happen.

The United States can move to a smaller but more secure second-strike nuclear force whose sole purpose is to deter nuclear attack. We do not need to

spend hundreds of billions more in a dangerous and futile attempt to "prevail" in a nuclear conflict.

The Biden-Harris campaign has rightly stated that "the sole purpose of the U.S. nuclear arsenal should be deterring — and if necessary, retaliating against — a nuclear attack. As president, [Biden] will work to put that belief into practice, in consultation with our allies and military."

The best policy would specifically rule out preemptive nuclear attacks, as such attacks have a high risk of starting nuclear war by mistake, and should not be considered under any circumstances. Similarly, a sole-purpose policy should prohibit launching nuclear weapons on warning of attack, as such launches increase the risk of starting nuclear war in response to a false alarm.

The Biden-Harris administration can make a sole-purpose policy more credible and further reduce the risk of accidental launch by retiring the ICBMs. ICBMs are most likely to be used first in response to a false alarm. They are highly unlikely to ever be used in retaliation, as most would be destroyed in any (highly unlikely) Russian nuclear attack against the United States. Thus, ICBMs have no logical role in a U.S. sole-purpose, deterrence-only policy.

This transformational nuclear policy would be win-win: It would free up federal resources to address more urgent needs and, at the same time, reduce nuclear dangers to the nation. In this time of crisis, change and opportunity, our government must have the courage to spend our federal dollars where they are needed most.

--Tom Z. Collina is director of policy at Ploughshares Fund. William J. Perry was secretary of defense from 1994 to 1997. They are co-authors of the book "The Button: The New Nuclear Arms Race and Presidential Power from Truman to Trump"

Transition 2020: Progressives to Biden: Kill Space Force, cancel major weapons, bar lobbyists

By Bryan Bender 11/16/2020

Nearly three dozen progressive groups have appealed to President-elect Joe Biden to fold up the new Space Force and cancel major weapons, impose a cap on private contractors, and prohibit lobbyists from filling top Pentagon positions, according to a detailed blueprint sent to the transition team. Many of the ideas are sure to meet resistance from defense companies and members of Congress and are unlikely to be carried out. But they signal the new administration will have to contend with a persistent left flank bent on raiding military spending for other needs and restricting the influence of the Pentagon's largest contractors in shaping policy.

The memo, [which has not been made public and was obtained by POLITICO](#), was sent last week and comes as progressive groups [have expressed concern](#) that Biden is constructing a Pentagon leadership team that is too closely tied to defense companies. It also comes as leading progressive lawmakers [have called on Biden](#) to make sure his pick for defense secretary has not worked for defense contractors.

The bloc of watchdog, disarmament and antiwar groups is urging Biden "on day one" to bar anyone from a top Pentagon position "who has lobbied DoD on behalf of commercial interests in the previous two years" and to adopt a series of other measures to publicly disclose the industry ties of current and former government officials, according to the memo.

But among the most aggressive ideas is to slash billions in defense spending. They call on Biden in his first 100 days to propose a new Pentagon budget that "at minimum" rolls back the increases under President Donald Trump by jettisoning "tools that are irrelevant and outdated." Perhaps the most audacious is the call to discard the newest military branch, a signature objective of Trump that garnered bipartisan support in Congress and is approaching its one-year anniversary.

"The proposed Space Force will create unnecessary bureaucracy that will cost taxpayers over \$16 billion in fiscal year 2021 alone," the memo says, "and tens of billions more in the coming years, while focusing U.S. efforts on militarization rather than cooperation in space, increasing the risks to U.S. military and civilian space assets."

They also urge Biden to "phase out" the next generation intercontinental ballistic missile — known as the Ground Based Strategic Deterrent — and stop the purchase of new aircraft carriers.

The new nuclear missile contract was awarded to Northrop Grumman this year and is expected to cost as much as \$268 billion in total. "ICBMs should be phased out, as invulnerable submarine-launched ballistic missiles and a small fleet of bombers will be more than enough to dissuade any nation from attacking the United States," the progressive groups contend.

They also call for "stopping the purchase of new aircraft carriers," citing design flaws and ballooning costs for the new Gerald R. Ford-class vessels built by Huntington Ingalls Shipbuilding.

The blueprint also singles out missile defense systems as technologically unproven, recommending that the effort be "scaled back to a research and testing program" and additional deployments of ground-based interceptors for a national anti-missile shield overseen by Boeing to be halted. Another way Biden should control excessive weapons spending, according to the groups, is to dilute the military's "unfunded priorities" lists that are sent to Congress each year outlining projects that did not make it into the president's annual budget request.

Those often lead to additional spending imposed by Congress, and Biden's secretary of defense should be personally briefed on them before they are sent to Capitol Hill and require that they include recommended cuts in the budget to pay for the programs.

The groups also target what they see as enormous waste in the Pentagon's reliance on an estimated half a million private contractors to carry out "jobs that overlap with and could be done more cost effectively by civilian government employees."

As a first step, Biden should "impose a cap to reduce the Department of Defense's expenditures on service contracting by 15 percent," their memo states.

Where the progressive national security lobby may have more impact is on its string of prescriptions for reining in the role of defense contractors in the new administration.

"The Trump administration has exploited the revolving door to an unprecedented degree," they argue. "Perhaps the most clear example is [former] Defense Secretary Mark Esper, who joined the government directly from his position as Raytheon's top lobbyist, has refused to recuse himself in matters involving his former employer, and has also refused to rule out returning directly to Raytheon or other defense contractors after his time at DoD. Rooting out self-dealing and corruption is key to creating a more transparent and accountable Department of Defense."

In addition to banning anyone from who was a lobbyist in the previous two years, the groups want all senior defense officials to be required to sign an ethics pledge "under oath" to refrain from taking any official actions on the specific issues for which they lobbied and to commit to not return to lobbying the Defense Department for at least two years after they leave government.

And "no waivers should be granted to circumvent these prohibitions," the memo states.

To further limit the "reserve revolving door," the White House Office of Management and Budget should require all defense contractors "to report hiring of former senior DoD officials as well as former contractor executives who join DoD," they urge. And all the information should be made public.

All political appointees in the executive branch, meanwhile, should have to disclose in a searchable database all lobbying by defense contractors. Currently, only lobbyists are required to publicly disclose their activities.

"The public should be able to see how defense contractors seek to influence Pentagon spending and policies," the memo to Biden's transition team says.

The groups that contributed to the memo include the Center for International Policy, Project on Government Oversight, Win Without War and the Union of Concerned Scientists.

Anti-war groups take aim at Space Force, ICBMs, missile defense

Progressive groups want to restrict the hiring of defense industry executives for top DoD posts and reduce the number of support contractors in the Pentagon

SpaceNews Online, 17 Nov 20 Sandra Erwin

WASHINGTON -- A group of progressive and anti-war organizations in a memo to President-elect Joe Biden's transition team ask the incoming administration to make deep cuts to military budgets, and specifically target the U.S. Space Force, the next-generation ICBM and missile defense programs.

The contents of the memo were first reported on Monday by Politico. A copy of the memo was obtained by SpaceNews.

Among the key demands in the memo are to restrict the hiring of defense industry executives for top DoD posts, reduce the number of support contractors in the Pentagon, and eliminate the so-called "overseas contingency operations" account used to fund expenses outside the normal budget process.

The groups call for the elimination of the U.S. Space Force, the ground-based strategic deterrent (GBSD) and cuts to missile defense programs.

The GBSD is a U.S. Air Force program to develop the next-generation intercontinental ballistic missile to replace the Minuteman 3. ICBMs are the ground-based portion of the U.S. strategic nuclear triad that also includes submarines and bombers.

The memo calls the Space Force an “unnecessary bureaucracy that costs \$16 billion in 2021” and is focused on “militarization rather than cooperation in space.”

The \$16 billion budget for the Space Force was carved out of the Air Force’s budget and transferred to the new service.

Experts have pointed out that Biden or any president could not eliminate the Space Force by executive order. Congress enacted the Space Force in the 2020 National Defense Authorization Act and its status as the sixth branch of the armed forces is cemented in law.

Sarah Mineiro, a former staff member of the House Armed Service Committee’s strategic forces subcommittee, said the progressive groups’ demands are impractical and ignore the fact that the Space Force, GBSD and missile defense have bipartisan support on Capitol Hill.

Mineiro, an adjunct senior fellow at the Center for a New American Security, was closely involved in the drafting of the Space Force and Space Command legislation. She noted that the Space Force passed the House floor in a Democratic-led majority NDAA. “Support for Space Force has been both bipartisan and bicameral and is unlikely to be eroded by the demands of this group of progressives,” she told SpaceNews.

“Surely the Biden administration will have more pressing legislative priorities than this in the context of COVID, the economy, and domestic priorities,” said Mineiro.

Demands to institute deep defense cuts, prohibitions on defense industry personnel filling DoD leadership spots and the cancellation of GBSD are part of the “obligatory wish list,” she said. “Necessary public messaging but impractical for implementation.”

Whatever you think ails this nation, a new generation of ICBMs is not the answer

Opinion by Tom Collina and William Perry November 17, 2020

Tom Z. Collina is director of policy at Ploughshares Fund. William J. Perry was secretary of defense from 1994 to 1997. They are co-authors of the book “The Button: The New Nuclear Arms Race and Presidential Power from Truman to Trump.”

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Whatever you think ails this nation, a new generation of ICBMs is not the answer. But the good news on nuclear policy is that less is more: The country can save money and become more secure at the same time. The Biden-Harris team can and should redirect a large chunk of this nuclear funding to address more pressing needs.

To be clear, we are not calling for the transfer of all of the planned nuclear funding — far from it. As long as other nations have nuclear weapons, the United States must maintain an adequate force of nuclear-armed submarines and bombers to deter any attack. But much of this spending is excessive and actually makes the United States less safe.

Many have suggested that the Pentagon, with its \$740 billion budget, is a good place to look for savings. As stated in the 2020 Democratic Party platform, “We can maintain a strong defense and protect our safety and security for less.” And if we want to save big bucks by canceling new nukes we don’t need, there is an obvious place to start: the Trump administration’s plan to spend roughly \$264 billion on a new generation of ICBMs. “I frankly think that our ICBM fleet right now is driven as much by politics as it is by a policy necessity,” Rep. Adam Smith (D-Wash.), chair of the House Armed Services Committee, recently said.

These dangerous missiles are not needed for deterrence, as we would use survivable weapons based on submarines at sea for any retaliation. Yet ICBMs increase the risk that we will blunder into nuclear war by mistake. Because ICBMs are vulnerable to attack (they sit in fixed silos in the ground, and Russia knows exactly where they are), they are kept on high alert at all times to enable their launch within minutes. In the case of a false alarm, a president would be under great pressure to “use them or lose them” and launch our own missiles before a possible attack arrives. False alarms have happened multiple times, and in an era of cyberattacks on U.S. command-and-control systems, the danger has only grown. Starting a nuclear war by mistake is the greatest existential risk to the United States today. The ICBMs are, at best, extra insurance that we do not need; at worst, they are a nuclear catastrophe waiting to happen.

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The Biden-Harris campaign has rightly stated that “the sole purpose of the U.S. nuclear arsenal should be deterring — and if necessary, retaliating against — a nuclear attack. As president, [Biden] will work to put that belief into practice, in consultation with our allies and military.” The best policy would specifically rule out preemptive nuclear attacks, as such attacks have a high risk of starting nuclear war by mistake, and should not be considered under any circumstances. Similarly, a sole-purpose policy should prohibit launching nuclear weapons on warning of attack, as such launches increase the risk of starting nuclear war in response to a false alarm.

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destroyed in any (highly unlikely) Russian nuclear attack against the United States. Thus, ICBMs have no logical role in a U.S. sole-purpose, deterrence-only policy.

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Nuke Abolition Losing Message on Election Day, house Armed Services Chair Tells Disarmament Advocates

<https://www.exchangemonitor.com/nuke-abolition-losing-message-electi>

By ExchangeMonitor

The chair of the House Armed Services Committee had bitter medicine in a big spoon for disarmament advocates Wednesday: getting rid of nuclear weapons is a losing message that may have cost Democrats a chance to slow down procurement of next-generation, nuclear-tipped intercontinental ballistic missiles.

“We’re losing this argument because we lost seats in the House,” Rep. Adam Smith (D-Wash.) told a webcast meeting of the Ploughshares Fund, a D.C.-based disarmament group Smith regularly joins for public forums. “‘We gotta get rid of nuclear weapons’ is not a winning message. Deterrence is the argument. We have to reduce the number of nuclear weapons so that we can adequately deter our [adversaries] but not have unnecessary spending and unnecessary risk.”

Democrats may have won the White House on Nov. 3, Smith said, but they failed to capture the Senate — a razor-thin margin is up for grabs in January’s Georgia Senate run-offs — and clung to their House majority while losing 12 seats.

While a united government might have given Democrats a path to slow down the \$13-billion Ground Based Strategic Deterrent (GBSD) contract the Air Force awarded to Northrop Grumman this year to build the first of 400 new intercontinental ballistic missiles, a divided Congress basically puts that goal out of reach, Smith said.

“To strike down the GBSD is going to be a tough battle to win in the environment we’re in right now, given where people are at,” said Smith. “I know what the Republicans will do, I know the approach they will take, and I’m not optimistic about how that battle comes out in those districts we need to win.”

GBSD will begin replacing 400 Boeing built Minuteman III intercontinental ballistic missiles around 2030. The new missiles will carry W87-0 and, eventually, W87-1 warheads provided by the Department of Energy’s National Nuclear Security Administration. W87-1 will be a newly manufacturing copy of the existing W87, which now tip some Minuteman III missiles, but with a brand new NNSA-furnished plutonium pit.

The NNSA is in the middle of building a new pit-production complex that would cast warhead cores for substantially the rest of the 21st century, during which some existing pits will become too old to be reliable, the agency has said.

In the nearer term, Smith said GBSD could be paused and Minuteman III could be extended “for another 30 or 40 years” if NNSA and the Pentagon refurbish existing pits and missiles.

Smith tried to get buy-in for that idea last year in the 2020 National Defense Authorization Act, but the GOP-controlled Senate rolled Democrats in conference negotiations and ensured that the bill reached President Donald Trump’s desk with the requested funding for GBSD, and now directive to seriously pursue another Minuteman III extension.

“I support no first use, I support revisiting the triad, I support reducing the number of nuclear weapons and the amount of spending on it,” Smith said, running off a list of nuclear-minimalist positions for the virtual audience of passionate disarmament faithfuls. “To build the support for those positions, I really urge everyone to take a serious look at how do we persuade the people we need to persuade.”

CONGRESSIONAL

By Susan Cornwell

CONTINUING RESOLUTION

- **December 11: Current CR (HR 8337) will end**

DEFENSE AUTHORIZATION

- **SASC and HASC have passed their respective Bills**
 - *ALL ICBM PEs at PB*
- **AUTHORIZATION CONFERENCE**
 - **This week:** markup began

DEFENSE APPROPRIATION

HAC

- **July 8: HAC-D Marked up the FY21 Defense Bill**
 - *GBSD lost \$60M*
 - *Missile Repl/Eq Ballistic lost \$1.53M*
 - *ICBM Fuze Mod lost \$3.458M*
 - *MM Mods lost \$23.684M and transferred \$4.173 to another line*

SAC

- **November 12: SAC Marked up the FY21 Defense Bill**
 - **RDT&E**
 - *MM Squadrons lost \$25.6 M for concurrency of FT3 Development and 1.5M for Schedule slip of APTR*
 - *ICBM Fuze Mod lost \$10M listed as Improving funds management: forward financing*
 - *GBSD lost \$15M listed as Restoring Acquisition accountability; Acquisition Strategy for planning and design*
 - *This was for converting MM III launch facilities and centers into GBSD facilities*
 - *Committee suggested construction funds should not be in RDT&E but rather military construction*
 - **SAC LANGUAGE ON GBSD** (page 212 of Explanatory Statement)
 - Use of Research, Development, Test and Evaluation Appropriations.—The fiscal year 2021 President's budget request includes \$15,000,000 in Research, Development, Test and Evaluation, Air Force funding to be used as planning and design for construction associated with the GBSD program. The Committee does not agree with this proposed use of research and development funds, nor the associated legislative proposals, and recommends a reduction to the budget request accordingly. Further, the Committee directs

that none of the funds appropriated in this act for research, development, test and evaluation may be used for military construction activities, unless expressly allowed in this act.

- **Procurement**
 - *MM Mods had a transfer: \$4.173 in AF Initial spares was transferred to line 18 (Missile Spares Repair Parts)*

APPROPRIATION CONFERENCE: TBD

•
Formal NDAA talks to begin

https://www.defensenews.com/congress/2020/11/17/formal-ndaa-talks-begin-under-shadow-of-confederate-renaming-issue/?utm_source=Sailthru&utm_medium=email&utm_campaign=EBB%2011.18.20&utm_term=Editorial%20-%20Early%20Bird%20Brief

By: [Joe Gould](#) for Defense News // 1 day ago

WASHINGTON — U.S. House and Senate conferees will meet Wednesday to wrangle over the massive [2021 defense authorization bill](#), but they still face potentially bill-derailing fights over whether to keep plans [requiring](#) the retitling of Confederate-named bases and regarding an Afghanistan drawdown.

As lawmakers are set to hold their [“pass the gavel” meeting Wednesday](#) morning to formally kick off the bicameral talks, the two provisions are among the sticking points for getting an agreement on a final National Defense Authorization Act, which sets broad policy for the military and is expected to authorize \$740.5 billion. House Armed Services Committee ranking member Rep. Mac Thornberry, R-Texas., warned Tuesday that the bill could be upended over the Confederate-renaming language.

Lawmakers have been meeting informally, and for most everything else, “there’s a good chance we will be able to resolve ... in a short amount of time,” he said. A cadre of 37 Senate Democrats have [called for](#) lead negotiators to buck President Donald Trump’s veto threat, and essentially to resist the temptation to remove the language, since President-elect Joe Biden supports removing the names and could do so when he enters office.

Yet, the mandate passed in both chambers, and the prospect of bipartisan compromise has grown cloudy amid the race for a pair of Senate seats in Georgia early next year and Trump’s denial the Biden won the presidential election. Democrats are saying privately that a veto of the popular bill in order to protect Confederate names and symbols would be a political error and potentially animating in the Georgia runoffs.

Thornberry urged a compromise for the sake of the overall bill. “I am concerned there is at least the potential that political concerns, especially with the Georgia runoffs, are going to play a bigger role than what’s good for the men and women of the military, and all of the good in this bill,” Thornberry said, adding that there are riders unrelated to the military that lawmakers should compromise to preserve.

“To say what everybody knows: The incoming Biden administration is going to deal with the base-naming issues anyway, so really what we’re down to is whether it has to be in this bill just this way and whether it would provoke a veto,” he said. Thornberry, who is retiring before the new Congress is seated on Jan. 2, warned against punting the NDAA into next year. The bill would likely be delayed for weeks as the new Congress is sworn in, the new Armed Services committees are formed and the presidential inauguration is held.

“I worry that people will say, ‘Oh, we can just do it later’ — flippant — ‘because it’s just too politically volatile right now’ because of all the good in the bill and nearly insurmountable obstacles to resurrecting it,” Thornberry said. Amid news Trump is expected to withdraw a significant number of U.S. troops from Afghanistan and a smaller number in Iraq by the final days of his presidency, Thornberry was asked whether that placed new weight on a bipartisan provision in the House-passed NDAA to prohibit troop reductions below 8,000 without a series of conditions first being met.

Alluding to Biden’s less absolute stand on a troop withdrawal, Thornberry said the issue transcended the election results and pointed to the “bipartisan support and interest to make sure that we do not precipitously withdraw and undercut our mission, not only in Afghanistan but in other places.” Thornberry and other lawmakers of both parties have pushed back against Trump’s efforts to withdraw troops from Afghanistan, arguing that the withdrawal ought to be based on conditions in the country and that it’s a unilateral concession in U.S. peace talks with the Taliban.

“Increased military pressure brought the Taliban to the table, and pretty much everybody agreed that further reductions would be conditions-based,” he said. “In other words: They give and we give. And I don’t know of any condition which justifies reducing further the troops that we have in Afghanistan.” As of Tuesday morning, Thornberry said he had received no explanation of the administration’s plans, but that acting Defense Secretary Christopher Miller had reached out and would be speaking with Thornberry later that day. Despite increased partisan infighting in recent years, the defense authorization bill has passed out of Congress for 59 consecutive years.

Smith urges anti-nuke advocates to focus on deterrence

InsideDefense.com, 18 Nov 20 Tony Bertuca

House Armed Services Committee Chairman Adam Smith (D-WA) today said Democrats currently lack a winning national message and urged nuclear arms control advocates to focus more on the deterrence of war and less on eliminating the ultra-destructive U.S. arsenal.

“We’re losing this argument at the moment,” he said during a virtual event hosted by the Ploughshares Fund.

Smith, who noted Democrats lost 12 House seats and did not take a decisive majority in the Senate, said the party does not currently have a message capable of winning a “large turnout election.”

“More people voted in this election than at any point in history and that’s great,” he said. “We didn’t win, OK?”

While Democrats will continue to hold the House in the next Congress, the Senate majority will remain unknown until the completion of two Georgia runoff elections in January.

While Smith said it is obviously good for Democrats that President-elect Biden was able to deny President Trump a second term, he stressed that real policy change remains an uphill battle for the party without broader national support and more congressional seats.

Smith, who supports a variety of nuclear arms restrictions, said anti-nuclear groups like Ploughshares should pivot their focus to deterrence, rather than ridding the world of nuclear weapons.

"It's not an easy thing to hear," he said. "We've got to work on the message because a lot of the message within the anti-nuclear groups is: 'We've got to get rid of nuclear weapons.' That's not a winning message. Deterrence is the argument. We have to reduce the number of nuclear weapons so that we can adequately deter our adversaries but not have unnecessary spending and unnecessary risk."

Smith said he will continue to push for a halt to the Ground-Based Strategic Deterrence program, which is designed to replace the aging arsenal of intercontinental ballistic missiles. He stressed, however, that stopping GBSD is unlikely given the politics of the matter in Washington.

"To strike down the GBSD is going to be a tough battle to win in the environment we are in right now," he said.

Smith said the incoming Biden administration is committed to conducting a new Nuclear Posture Review. Lobbying the Biden administration on that document, he said, will be key to curtailing nuclear spending in the future.

"We have to revisit that," he said, adding that Biden's new National Defense Strategy will also be important in terms of military prioritization.

Smith, meanwhile, has predicted there is a "big fight coming" within the Democratic party over defense spending, which progressive lawmakers want to cut significantly. Smith has said he is open to the debate, but remains "unconvinced" by the liberal wing of his party.

Top GOP post on House Armed Services Committee draws tough competition

https://www.defensenews.com/congress/2020/11/18/top-gop-post-on-house-armed-services-draws-tough-competition/?utm_source=Sailthru&utm_medium=email&utm_campaign=EBB%2011.19.20&utm_term=Editorial%20-%20Early%20Bird%20Brief

By: [Joe Gould](#) for Defense News // 1 day ago

WASHINGTON — The decision on who will replace [Rep. Mac Thornberry](#) as the top Republican on the House Armed Services Committee will be resolved in a few weeks, but the campaign for his seat has been underway for years.

House Homeland Security Committee ranking member Mike Rogers, R-Ala., and House Strategic Forces Subcommittee ranking member Mike Turner, R-Ohio, have been quietly campaigning for the influential post even before Thornberry's retirement announcement last year. Now, with a final resolution a few weeks away, the showdown is heating up. HASC's unique bipartisan traditions make its ranking member influential, and that leverage should grow with Democrats in a slimmer majority and [fractured](#) on national defense issues.

The ranking member can act as an unofficial restrictor plate in the process of drafting the panel's annual National Defense Authorization Act, able to say what provisions would be too controversial for Republicans and then decide how combative he and his members will be. Rogers and Turner declined to be interviewed for this story, but both potentially have strong arguments for the role as knowledgeable, longtime members of the committee.

Their styles both mirror Thornberry more than some of their better known (and more controversial) GOP colleagues: strongly conservative, but also level-headed and willing to seek out bipartisan compromise. The House GOP Steering Committee is expected to hold a closed-door vote in early

December. But for months, the leadership contenders have lobbied members individually. In past races, some lawmakers have even produced glossy brochures to outline their priorities.

Their final arguments will come immediately before a vote, where Rogers and Turner are each expected to make a presentation to the entire caucus outlining their respective national security agendas. Turner, a 60-year-old former mayor of Dayton and former president of the NATO Parliamentary Assembly, is a longtime advocate for Wright-Patterson Air Force Base in Ohio and for robust defense budgets.

He's known for agitating under House Speakers Paul Ryan, R-Wis., and John Boehner, R-Ohio, to unite their party in fully funding the Pentagon's requests in the face of statutory budget caps.

Turner opted out of a previous bid for the top Republican spot on HASC in 2014. Then, Thornberry, who was the panel's vice chairman at the time, was chosen by party leaders to succeed retiring Rep. Howard "Buck" McKeon, R-Texas.

In a move that went virtually unnoticed in Washington, McKeon and Boehner endorsed Turner when he announced his bid to the [Dayton Business Journal](#) two months ago. McKeon and Boehner are lobbyists since leaving Congress. "As Speaker of the House, I worked with Mike to bring jobs home to Ohio," Boehner said in a statement to the newspaper. "Mike has been a fierce advocate for Wright-Patterson Air Force Base in Congress and has served on the Armed Services Committee since being elected.

Mike will make for a strong top Republican voice on the Committee, and I know he will continue to fight for our national security and Ohio." In recent weeks, Turner has said his top priority is "to defend the topline for the overall defense budget" in favor of "growth of 3-5 percent over the next several years to be able to accomplish modernization" and to carry out existing defense plans. That figure echoes what defense leaders said they would need to realize the Trump administration's National Defense Strategy after it launched.

Turner has been a tough foe for Democrats, but also a friend. Last year, Turner was a top voice for Republicans who refused to support the House's first go at a 2020 NDAA over Democratic "poison pills," and he blasted a [draft prohibition on deploying lower-yield nuclear weapons](#) as "partisan and irresponsible." At the same time, Turner has teamed with Rep. Anthony Brown, D-Md., to add diversity-focused personnel and reporting in the services, and he's worked alongside other panel Democrats in a year's long fight to strengthen the military justice system against sexual assault.

Turner has offered bipartisan legislation on military sexual assault every year following the 2007 rape and murder of his constituent, Marine Lance Cpl. Maria Lauterbach. Turner and Rogers are equal in seniority and have broadly similar records on defense, but it appears Turner has been the louder voice on countering Russia and China as well as adapting the Pentagon to compete with them.

As a member of the House Select Committee on Intelligence, Turner spent time in the [national spotlight](#) discrediting Democrat-led impeachment proceedings against President Donald Trump — even earning a Twitter [shoutout](#) from Trump himself. But Rogers, 62, likely has the edge in the contest. A source familiar with Rogers' thinking said the lawmaker will emphasize his conservatism and argue that he is closest to Thornberry in temperament and approach. "He can get big things done, he can work across the aisle for the most conservative product.

We can roll up our sleeves and work together, or punch you in the mouth and go at it if Democrats decide to go with a partisan [defense] bill,” the source said. Rogers, whose deep red district hosts Anniston Army Depot and part of Fort Benning, is expected to tout his role as an architect in what eventually became the Space Force — the first new military branch since 1947 — in tight cooperation with Rep. Jim Cooper, D-Tenn., when they led the Strategic Forces Subcommittee together.

First arguing in 2016 that the Air Force was [lagging](#) behind Russia’s and China’s nascent anti-satellite capabilities, the duo fought resistance from the Pentagon and [Republicans who worried](#) about adding bureaucracy — all of this before Trump’s [support in 2018](#) gave the idea the political momentum it needed to [become real](#). The House GOP Steering Committee chooses chairmen based not only on seniority, subject matter expertise and leadership, but also fundraising ability on behalf of the National Republican Congressional Committee — which is where Rogers achieved a decisive advantage across the last election cycle.

Turner was reelected this month with an 18 percent lead, but the Democratic Party declared his district part of its “offensive battlefield,” which helped his young challenger out-fundraise the veteran lawmaker. Because of Turner’s tough race, he had less cash to contribute to the NRCC, whereas Rogers, who had a less-serious reelection fight, contributed much more. Rogers contributed \$1.12 million to the NRCC (including \$100,000 during the two weeks prior to Election Day), which placed him within the top 10 of all members. Turner contributed \$561,000.

“Mike Rogers went above and beyond this cycle to get Republican members elected, and folks in the [House Republican] conference recognize that,” a Republican strategist told Defense News. Though Turner is a formidable debater and questioner, multiple congressional and industry sources said Rogers’ Southern charm has given him a leg up. “Everyone knows everyone, and Turner is generally acknowledged as a harder-edged guy, harder-driving and a bit of a hothead to some members,” a former congressional staffer told Defense News.

“Rogers, I think, has an upper hand in the race because he’s more affable and just has a more appealing personality.” Rep. Joe Wilson, R-S.C., who is just after Thornberry in seniority, isn’t a candidate, his office told Politico. Virginia Republican [Rep. Rob Wittman](#), the ranking member on the House Seapower and Projection Forces Subcommittee, is a contender, but close observers said the race is really between Rogers and Turner.

Turner is said to be focused on winning the HASC job, but if he is passed over, another coveted spot could be open to him. As a senior member of the House Permanent Select Committee on Intelligence, Turner could be considered to replace ranking member Rep. Devin Nunes, R-Calif., who is angling for the top Republican slot on the House Ways and Means Committee. Several sources on Capitol Hill said it could help Nunes hop committees if he observes a cooling-off period in between.

Markey reiterates calls for nuclear no-first-use policy amid Pentagon shake-up

The Hill Online, 11 Nov 20 Tal Axelrod

Sen. Ed Markey (D-Mass.) sounded the alarm Wednesday over a continued shake-up in Pentagon leadership following President Trump’s defeat in the White House race, reiterating calls for a nuclear no-first-use policy.

Markey, a vocal progressive, pointed to the shuffling in leadership while calling for a nuclear no-first-use policy, an issue for which he’s long

advocated.

“President Trump's replacement of Senate confirmed Pentagon officials with sycophants is extremely alarming. Gone are the so-called adults in the room, who couldn't stop Trump's worst impulses. Replacing them are bigots and party hacks,” Markey tweeted.

“Trump's erratic and vindictive behavior is a scary reminder that the U.S. president does not need the backing of ANYONE, sycophant or not, to authorize the use of a U.S. nuclear weapon. We need a nuclear no-first use policy for our country,” he added.

The remarks come after a flurry of resignations at the Pentagon after Trump fired Defense Secretary Mark Esper. Since Esper's ouster, the Pentagon's top policy official, James Anderson; the agency's top intelligence official, Joseph Kernan; and Esper's chief of staff, Jen Stewart, all submitted their resignations.

The departures exacerbated Democratic handwringing that Trump is trying to install loyalists to top government posts in the final two-plus months of his presidency.

“Dismissing politically appointed national security leaders during a transition is a destabilizing move that will only embolden our adversaries and put our country at greater risk,” House Armed Services Committee Chairman Adam Smith (D-Wash.) said Tuesday. “It has long been clear that President Trump cares about loyalty above all else, often at the expense of competence, and during a period of presidential transition competence in government is of the utmost importance.

“As soon as Former Vice President Biden became President-Elect Biden, President Trump and those loyal to him started to sow chaos and division. It appears that chaos has now reached the Pentagon.”

Trump is reportedly also considering dismissing other officials, including FBI Director Christopher Wray and CIA Director Gina Haspel, mainly over his gripes that they did not investigate his baseless claims of wrongdoing by Biden and his son, Hunter Biden, over the younger Biden's foreign business dealings.

AROUND THE WORLD



RUSSIA:

Putin Orders a New Nuclear-Proof Command Center

<http://jamestown.org/program/putin-orders-a-new-nuclear-proof-command-center>

By: [Roger McDermott](#), Eurasia Daily Monitor // November 18, 2020 05:08 PM Age: 20 hours

Russian President Vladimir Putin has ordered the creation of a new nuclear-strike-proof command-and-control (C2) center for the country's nuclear forces.

On November 13, he signed a decree (ukaz) on the implementation of the national defense plan for 2021–2025 ([Pravo.gov.ru](#), November 13). Reportedly, a key element in this planning process is the construction of a nuclear command center. As one commentary in *Izvestia* noted, its importance cannot be underestimated, as the ability of the Armed Forces to respond to strategic-level threats depends on such systems ([Izvestia](#), November 13). Putin's initiative, however, seems tied to the ongoing uncertainties around the nuclear arms control regime.

Notably, the last major nuclear weapons limitation treaty between Russia and the United States, the New Strategic Arms Reduction Treaty (New START), is scheduled to phase out in February 2021, unless both sides agree to extend it. The planned nuclear forces C2 center is thus meant to position Moscow for future talks with the incoming US administration in addition to the natural role it will play in Russia's ongoing military modernization efforts.

The presidential signing of a defense planning ukaz normally receives scant media attention. However, with almost all of this particular decree's details hidden from public view, the conspicuous emphasis on a nuclear command center was evidently meant to send a signal to Washington to accept a nuclear arms control deal now because Moscow would be negotiating from a significantly stronger security position in any future agreements.

The planned nuclear C2 system looks aimed at offering additional survivability for not only the senior Russian civil leadership but also the Strategic Rocket Forces (Raketnyye Voyska Strategicheskogo Naznacheniya—RVSN). Lieutenant General Aitech Bizhev, the former deputy chief of the Russian Air Force for the Commonwealth of Independent States' (CIS) Common Air-Defense System, explained the decision to create a new command center for the RVSN.

He noted that the need to manage all C2 is premised on “modern requirements” linked to automation and speed. According to the high-level officer, “the one who receives information that is more automated and faster wins.” Though he did not intend to imply anyone can “win” in nuclear conflict, Bizhev referred to ensuring a second-strike capability. According to the lieutenant general, the key issue in managing the RVSN is speed of reaction:

the side responding faster gains an advantage. Thus, Russia's existing C2 system required improvement, including a switch to new data transmission formats, since the nuclear triad needs "quick, reliable and flexible control" ([Izvestia](#), November 11).

Bizhev justified the initiative to modernize the RVSN's C2 in terms of ensuring survivability. If any enemy nuclear power attacks Russia with a nuclear strike, the new C2 system can guarantee the leadership survives, alongside the command of the RVSN. Of course, those assurances about a system still in the planning stages inadvertently raised questions about the current level of protection enjoyed by the Russian military-political leadership.

Nonetheless, Bizhev added that in the planned nuclear C2 system, optical, radar and orbital reconnaissance is all integrated into the control system. Therefore, "[e]ven if the potential enemy thinks [about launching an attack], the [Russian] political leadership will already know. No country can start a nuclear war without it becoming evident instantly" ([Izvestia](#), November 11). Aleksandr Mikhailov, the director of the Bureau of Political-Military Analysis, told *Izvestia* on November 11 that the new Russian nuclear command post will also have other political dimensions.

Mikhailov referred to the new RVSN command as a "super-protected control center," meeting the potential challenges it faces as never before. He asserted, "The US withdrawal from practically all international military agreements, including the looming global threat of the Americans withdrawing from New START, requires the Russian military to calculate all possible scenarios—including a massive nuclear strike by the enemy on the main military and infrastructural strategic facilities on the territory of Russia." Mikhailov explained that in the event of a nuclear strike on Russia, this new command center will ensure continued control over the nuclear triad to ensure an overwhelming response.

"In addition, the protected site must be of considerable size. [It will have to] accommodate equipment, life-support systems and several thousand people in the event of a nuclear apocalypse," the Russian expert added ([Izvestia](#), November 11). Prior to signing the ukaz on November 13, Putin was actively promoting the Kremlin line that Washington alone is disrupting the international nuclear arms control system. On November 10, during a meeting with defense ministry officials and defense industry executives, Putin stated that the US insists on bringing China into such future arms control agreements.

"We also see that the arms control system is openly shaking and degrading," he declared, before stressing that the nuclear triad remains the cornerstone of Russia's security. "The fate of, in fact, the last fundamental treaty in the field of limiting strategic offensive arms, the [New] START treaty, which expires, as you know, in February 2021, that is, very soon, remains unclear." Putin then praised the same treaty for providing the required levels of "transparency of strategic nuclear arsenals and restrain[ing] their uncontrolled race."

The Kremlin leader also used the opportunity to castigate the North Atlantic Treaty Organization (NATO) for not responding to Moscow's offer to reduce "military activity" during the coronavirus pandemic. Moreover, the intensity of aviation flights and operations of the fleets of the Alliance countries has only increased, Putin said, while offering no comment on the level of Russian military aviation flights or naval activity close to NATO's borders ([Izvestia](#), November 10).

Seeking to exploit internal differences within the North Atlantic Alliance, TASS highlighted a November 17 statement by the foreign ministers of France and Germany, which encouraged Washington and Moscow to extend New START. The joint statement by Jean-Yves Le Drian and Heiko

Maas was originally published by Le Monde: “We hope that the United States and Russia will be able to extend the New START treaty for the period after February 2021,” adding that they are ready to exchange views with Moscow “on all issues affecting European security. We expect Russia to give constructive answers,” the ministers stressed ([TASS](#), November 17).

While hoping that European leaders and the impending presidential transition in Washington might provide a final opportunity to revive the New START arrangements, Putin is signaling his willingness to play hardball. But simultaneously, he is preparing for how to avoid a new nuclear arms race with no real arms-control framework left. The decision to publicize the future C2 arrangements for the RVSN appears to be calculated in this context.

Russia Says U.S. Missile Defense Test Proves It Lied About Global Missile Shield

<https://www.msn.com/en-us/news/world/russia-says-us-missile-defense-test-proves-it-lied-about-global-missile-shield/ar-BB1bbiD1?ocid=uxbndlbing>

By: Tom O'Connor to Newsweek // 12 hrs ago

Russia has accused the United States of lying about its missile defense intentions after a recent intercontinental interception test used technology Moscow officials say the Pentagon has assured them were not aimed at Russia's long-range capabilities.

Two days after the U.S. military for the first time downed an intercontinental ballistic missile (ICBM) with a missile fired from a warship, Russian Foreign Ministry spokesperson Maria Zakharova branded the move "a new confirmation of the dangerous and destabilizing character" of Washington's anti-ballistic missile strategy "and its obvious anti-Russian orientation." She took exception at the Pentagon's use of a Standard Missile-3 (SM-3) Block IIA missile fired by Arleigh Burke-class destroyer USS John Finn to take down the ICBM launched from the Kwajalein Atoll in the Pacific Ocean.

The weapon is a part of the Aegis Ballistic Missile Defense System, which Moscow has long suspected to a major node in a U.S. global missile shield to undermine Russian military power, as opposed to the official U.S. line of countering regional threats such as Iran and North Korea. "For many years our American colleagues assured us that the interception of Russian ICBMs by American Standard systems—including this modification—is technically impossible," Zakharova told journalists, "and that they need a global missile defense system exclusively to counter some limited regional threats, recall the Iranian theme."

She said the latest test belied this narrative. "The recent test directly confirms the falsity of American assurances that the U.S. global missile defense system is not directed against Russia," Zakharova said. "This is direct evidence of a concrete example of how Washington manipulated the public opinion of its country, lied to its international partners and justified its actions in the international arena with absolutely far-fetched pretexts."

The SM-3 Block IIA missiles can also be found even closer to Russian soil, deployed to Aegis Ashore sites in Poland and Romania. "Naturally, we will have to take the necessary response measures," Zakharova said, "which we have talked about many times, proceeding from the tasks of ensuring national security and maintaining strategic stability." Russia has long contended that such Aegis Ashore sites constitute a violation of the Intermediate-range Nuclear Forces (INF) Treaty because they could theoretically be converted into offensive systems.

The United States left the 1987 agreement in August of last year, instead accusing Russia of breaking its terms with the deployment of the Novator 9M729, a cruise missile U.S. officials claim violates the agreement's 310 to 3,420-mile limit. The accusation was featured in last year's U.S. Missile Defense Policy Review, which as Zakharova pointed out Thursday, deemed Russia "a potential adversary."

She also said Russia had not yet closed the door on negotiations to extend the New Strategic Arms Reduction Treaty (New START), the last remaining bilateral nuclear weapons deal between the country since the collapse of the INF and the earlier Anti-Ballistic Missile Treaty. New START limits the U.S. and Russia's deployed ICBMs, submarine-launched ballistic missiles (SLBMs) and nuclear-capable heavy bombers to 700; their deployed nuclear air, land and sea nuclear warheads to 1,550; and their deployed and non-deployed ICBM launchers, SLBM launchers and nuclear-capable heavy bombers to 800.

It also provides crucial measures for the mutual verification of inspection of one another's strategic capabilities. The Trump administration entered into successive rounds of talks to renew New START this year. Discussions stalled, however, over the Washington delegation's insistence on conditions involving a wider, more comprehensive deal that included more weapons platforms as well as additional countries such as China, which has repeatedly refused due to its far smaller stockpile.

In Russian President [Vladimir Putin](#)'s most recent proposal last month, he offered to agree to the Trump administration's request for a nuclear warhead freeze should the U.S. sign off on a one-year extension of New START. The State Department welcomed the move, but little has been heard of efforts to resolve the issue since then. But U.S. special presidential envoy for arms control Marshall Billingslea, the lead negotiator on New START talks with Russia, did take the opportunity

Wednesday to comment on the latest U.S. ICBM interception test, calling it "a clear message to all who mistakenly think they can threaten the American people with long-range missiles." The deal is set to expire on February 5, just about two weeks after President-elect [Joe Biden](#) is scheduled to take office. As per his official foreign policy, the former vice president "will pursue an extension of the New START Treaty, an anchor of strategic stability between the United States and Russia, and use that as a foundation for new arms control arrangements."

Russia set to open naval base for nuclear warships in Sudan

<https://www.globalsecurity.org/wmd/library/news/russia/2020/russia-201113-presstv02.htm>

From: Iran Press TV // Friday, 13 November 2020 6:53 AM

Russia has signed a draft deal to build a naval logistics base in Sudan, where it will station up to four nuclear warships on the Red Sea coast.

Russia's Prime Minister Mikhail Mishustin approved the draft agreement on establishing a naval base in the Red Sea and will submit the proposal to President Vladimir Putin in due course. "The project stems from a mutual desire of Moscow and Khartoum to strengthen and develop military cooperation to increase the defense capacity of both states," Mishustin said in a statement. "The presence of the Russian naval logistics base in Sudan, which is set for defense purposes, meets with goals of maintaining peace and stability in the region, and not to pose any threat to other countries."

Once endorsed, the agreement will allow Moscow to station up to four warships, including those with nuclear capabilities, and up to 300 service members in a Sudanese port at any one time. It will also enable Moscow to use the Sudanese port for repairs and resupply. The naval base will be constructed in the city of Port Sudan, which is Sudan's main international trade hub, and the largest city on the Red Sea coast.

"The Sudanese side has the right to use the mooring area upon agreement with the authorized body of the Russian side," said the draft text. In return, the African county will receive weapons and military equipment free of charge to protect the base. Under the deal, which will extend for 25 years, Sudan will also commit to develop and modernize the country's infrastructure in order to maintain and supply Russian warships and provide hospitality services for crew members.

In 2017, Russia signed an agreement with the then-President of Sudan Omar al-Bashir to speed up the modernization of Sudanese forces. Last year, after a military coup ousted al-Bashir, a 7-year contract of military cooperation came into force. The contract stipulates, in particular, "an exchange of opinions and information on military and political issues and the issues of strengthening mutual trust and international security.'

Sudan, Russia's second-largest weapons buyer in Africa, is pursuing a deeper partnership with Moscow as it became a Russia-friendly country years ago. Russia has recently sought to help Sudan escape its isolation from the global economy caused by western sanctions. Sudan was put on the so-called terrorism list of the United States in 1993 over allegations that Omar al-Bashir was supporting terrorism. Under al-Bashir, Sudan was a staunch foe of Israel.

Earlier this year, the US lifted many sanctions on Sudan and called on Khartoum to follow the United Arab Emirates (UAE) and Bahrain in establishing ties with Israel in return for Sudan's removal from the terror list. Sudan, however, said it does not want to link its removal from a US "terrorism list" with the normalization of relations with Israel.

State Department Fears Russia's Poseidon Drones Could Swallow US Cities With 'Radioactive Tsunamis'

Sputnik News (Russia), Nov. 13 | Not Attributed

Russia's Poseidon nuclear drones threaten to annihilate American cities via biblical end of times-style scenarios and give cause to questioning Moscow's commitment to international law, the US assistant secretary of state for international security and non-proliferation Christopher Ford has alleged.

In a paper presented to the Global Security Institute and the American Bar Association on Friday, Ford called the Poseidon a "disturbing" weapon because he believes Russia has the intention "to fit [them] with multi-megaton nuclear warheads and launch [them] across the ocean in wartime in order to inundate US coastal cities with radioactive tsunamis".

"The very operational concept of the Poseidon – involving an enormously destructive warhead dispatched without possibility of recall on a trans-oceanic passage that could take days – raises serious questions about the extent to which it could be used in compliance with applicable international legal rules and principles," Ford argues.

'Dead Hand' Also a Problem

Ford expressed similar concerns about the Soviet-era 'Perimeter'/'Dead Hand' automated nuclear launch system, which Russia confirmed remains operational in 2011.

“If one assumes that this system actually exists and functions as reported, if switched on by the high command in time of crisis, Perimeter would apparently automatically launch the country’s nuclear arsenal if it detected nuclear explosions in Russia and its computer brain could not thereafter establish communications links to the General Staff,” Ford said, explaining the system’s operating principle.

“For anyone concerned with the morality of nuclear weapons, Perimeter surely raises disturbing questions. Can Russia defend Perimeter as anything more than just a vindictive and barbaric fun-house mirror vision of apocalyptic retribution? Russia would seem to have a lot of explaining to do,” the senior official added.

In his paper, Ford also attacked China’s nuclear position, despite Beijing’s ‘No First Use’ (NFU) commitment and ‘minimum deterrence’ approach, while praising the US as “by far the most forthcoming among the nuclear weapons possessors when it comes to issues of doctrines, postures, policies, budgets and future plans.”

China, he alleged, has been “extraordinarily opaque” about its nuclear doctrine while expanding its arsenals, and “few foreign observers take [NFU] terribly seriously.”

Guaranteed Russian Retaliation

Moscow began working on multiple ‘doomsday’ weapons in the 2000s, after the United States unilaterally scrapped the Anti-Ballistic Missile Treaty and began creating and deploying anti-missile systems in Eastern Europe, ostensibly to target ‘Iranian missiles’. Russian concerns were heightened by the Pentagon’s ‘Prompt Global Strike’ concept, which is the idea of a massed precision-guided conventional strike against an enemy to decapitate its leadership and defences, and disable its nuclear response capability.

In 2019, the Trump administration unilaterally withdrew from the Intermediate-Range Nuclear Forces Treaty, a Russia-US agreement banning the design, production and use of land-based missile systems in the 500-5,500km range. Russian officials are now urging Washington to renew the 2010 New Strategic Arms Reduction Treaty, or New START, before it expires in early 2021. New START is the last major strategic arms treaty between the nuclear superpowers.

Lowering the Threshold

In August, the Russian General Staff released an updated nuclear doctrine, with the document pledging Moscow never to be the one to initiate nuclear hostilities, and to use its nuclear arsenal only in the event of aggression that threatens “the destruction of Russia as a state”.

The document urges the US side to renew the New START agreement immediately, calling the treaty an effective way to “allow both sides to maintain control over strategic nuclear arms, ensure transparency of these arms and, as a result... make it possible to predict their combat capabilities of the specified period reliably” while working toward further limiting nuclear arsenals via new agreements.

The United States continues to work on a 30-year \$1.5 trillion nuclear modernisation programme. After the 2018 Nuclear Posture Review, the Trump administration provided additional funding for the programme, including for the building of new tactical and sea-launched nukes, and lowered the threshold for their use to allow them to be deployed against a non-nuclear adversary.

In March, the Russian Defence Ministry announced that its nuclear forces would reach a modernisation rate of 87 percent by the end of 2020.



CHINA:

China’s military research still using U.S. software

South China Morning Post (Hong Kong), Nov. 16, Pg. 8 | Stephen Chen

Chinese military researchers are continuing to use US software – including for cutting-edge developments in hypersonic weapons technology – despite Washington’s efforts to restrict China’s access to these powerful design tools.

A research paper published in the Chinese Journal of Aeronautics on Tuesday revealed US software had been used to simulate the aerodynamics of a hypersonic missile capable of taking out all existing defence systems.

Zhang Feng, a professor with the National University of Defence Technology in Changsha, in the central Chinese province of Hunan, led the research team which set out to identify how to control manoeuvrability at five times the speed of sound or above.

According to the research paper, the team used software provided by Ansys, a US company based in Canonsburg, Pennsylvania, for the bulk of its aerodynamic simulations which set out to solve the problem of controlling flight at such intense speeds.

Any moving part on the surface of a missile or aircraft travelling at hypersonic speed is subject to intense stress and heat but the researchers found the tiny gap between fin and missile body was capable of generating enough extremely hot air turbulence to burn the fin. The finding recalled a US X-51A hypersonic vehicle which crashed during a test flight in 2012 due to a “faulty fin”.

Zhang's university is not the only Chinese military research institute developing cutting-edge weapons with US software, nor is Ansys the only American company to license its products to institutes or companies in China on the infamous "entity list", according to publicly available information which includes academic papers and media reports.

The US government has tried to intervene by restricting China's access to these powerful tools, but with limited success. In June, the Harbin Institute of Technology – a research university engaged in a range of military programmes from nuclear submarines to spy satellites – announced it had lost access to popular US mathematical software MatLab.

The ban came hard on the heels of the university's listing by the US Bureau of Industry and Security as a hostile entity, unable to use any American products or services without special permission. The ruling led to chaos on campus, according to some mainland media reports, because teachers and students had been using the software for years.

More than 80 per cent of mainstream tools used by Chinese scientists and engineers come from overseas – mostly the US – according to some industry estimates. Hi-tech giants such as Huawei Technologies Co, for example, have used them to design some of the world's high-end computer chips.

In most circumstances, home-made substitutes were not available because of the years, even decades, required to develop mature software products as well as the lack of a big enough user base, contributing to China's reliance on Western companies for professional software in research and industry.

But Ma Baofeng, a professor with the Beijing University of Aeronautics and Astronautics, said American companies did not want to lose the huge and rapidly growing Chinese market with its intensive investment in research and development, second only to the US.

"Everyone wants to make money, so they will find various ways to go around," he said.

One strategy is to package different versions of the same software, differentiating between military and commercial users, according to some Chinese researchers who use these tools.

The military version may contain special algorithms to generate, for instance, more precise results, but it is mostly commercial versions of the software which are sold in China. The difference between military and civilian applications was always clear cut.

"For some studies, the commercial version is enough," said one scientist who asked not to be named due to the sensitivity of the issue.

Vague wording of US export control regulations can also give software companies "room to manoeuvre", according to a Shanghai-based researcher.

"Usually the regulations will not go into specifics, such as banning the sale of a particular software to China," he said. Ansys and several other US software companies did not respond to requests for comment.

Chinese scientists have found other ways to deal with the tightening restrictions, including “rolling back to yesterday”, as a Beijing-based space scientist put it – using pirated software, which was a common practice in China in the days when there was not enough research funding to support the purchase of expensive licences.

In some fields – where China is already ahead of the US – researchers are developing their own software tools to deal with difficult problems which are beyond the capability of Western software products, according to a researcher in Nanjing, Jiangsu province.

“Software is more difficult to ban than hardware,” he said.



NORTH KOREA:

North Korean leader presides over politburo meeting in first public appearance in 25 days

Yonhap News Agency (South Korea), Nov. 16 | Koh Byung-joon

SEOUL -- North Korean leader Kim Jong-un presided over a politburo meeting of the Workers' Party in his first public appearance in 25 days and discussed nationwide anti-coronavirus measures, state media said Monday.

During the enlarged politburo meeting held Sunday, Kim discussed "COVID-19 and the state anti-epidemic situation and clarified the tasks for the Party, military and economic fields to further tighten the emergency anti-epidemic front," according to the Korean Central News Agency.

He also stressed "the need to keep a high alert, build a tight blocking wall and further intensify the anti-epidemic work, being aware of the important responsibility for the security of the state and the well-being of the people," the KCNA added.

This marked his first reported public appearance since he was reported on Oct. 22 to have visited a cemetery in the North's South Pyongyang Province for fallen Chinese soldiers that participated in the 1950-53 Korean War. State media usually report the leader's activity a day after it happens.

North Korea has claimed to be coronavirus-free but has stayed on high alert since early this year, when it closed its borders and enforced antivirus measures.

Along with antivirus measures, the meeting also discussed "non-socialist practices in educational organizations and in society."

It, in particular, sharply criticized the party committee of Pyongyang University of Medicine for committing "a serious crime," and accused other relevant organizations, including the party's Central Committee, for their "irresponsibility and extreme dereliction of duty."

The KCNA did not provide more details on what the crime was. The criticism appears aimed at tightening discipline among state organizations amid the country's prolonged fight against the global pandemic and ongoing recovery work from summertime typhoons.

"The enlarged meeting of the Political Bureau emphasized the need to awaken the Party organizations at all levels once again and wage a fierce Party-wide struggle to root out practices against the Party," the KCNA said.

South Korea's unification ministry said it has no information on what the alleged wrongdoing is.

In February, state media also reported on "practices of privileges, indulgence in bureaucracy, corruption and irregularities" among senior officials of a cadre training institution of the party.

At the time, the North disbanded the party committee of the training institution and dismissed some senior officials in a related move.

Meanwhile, attending the latest party meeting were members of the Presidium and members and alternate members of the politburo of the party's Central Committee.

Others, including provincial party committees, the minister of public security and members of the state emergency antivirus organizations joined the meeting through a videoconference system, according to the KCNA.



SOUTH KOREA:

Suh, Miller reaffirm efforts to strengthen Korea-U.S. alliance

Yonhap News Agency (South Korea), 17 Nov 20 Byun Duk-kun

WASHINGTON -- South Korean Defense Minister Suh Wook and acting U.S. Defense Secretary Christopher Miller spoke by phone and reaffirmed their commitment to the alliance between the two countries, the Pentagon said Tuesday.

Miller also reaffirmed the U.S. commitment to South Korea's defense in his first phone call with Suh since taking office earlier this month after President Donald Trump fired Miller's predecessor, Mark Esper, just a few months before leaving office.

"On November 17, Acting Secretary of Defense, Christopher C. Miller, conducted a phone call with the Republic of Korea (ROK) Minister of National Defense Suh Wook to reaffirm the enduring strength of the U.S.-ROK Alliance," the Department of Defense said in a press release.

ROK stands for South Korea's official name, the Republic of Korea.

"Secretary Miller and Minister Suh discussed the outcome of the 52nd Security Consultative Meeting (SCM) in October and underscored the U.S. commitment to defend South Korea through the combined defense posture of the U.S.-ROK Alliance," the Pentagon said.

The SCM refers to annual defense ministers' talks between the two countries. This year's meeting took place in Washington last month between Suh and then U.S. Secretary of Defense Esper.

"Minister Suh and Secretary Miller both reflected on the importance of maintaining communication to deepen bilateral cooperation," the press release said. "The two leaders further pledged to pursue continued progress on the mutual security interests of the U.S.-ROK Alliance."

South Korea's defense ministry also issued a statement, saying Suh and Miller vowed continued cooperation to develop the alliance "in a future-oriented and mutually beneficial way."

The talks were arranged at the request of the new Pentagon chief, according to the ministry.

China's policy on North Korean denuclearization consistent regardless of U.S. leadership change – Amb. Xing

Yonhap News Agency (South Korea), 18 Nov 20 Kim Seung-yeon

SEOUL -- China's commitment to peace and denuclearization of the Korean Peninsula will remain consistent regardless of the leadership change in the United States, Chinese Ambassador Xing Haiming said Wednesday.

Xing also said during a forum hosted by his embassy that Chinese President Xi Jinping will visit South Korea first ahead of any other country once the coronavirus pandemic situation stabilizes.

"That remains unchanged," he said.

Asked about the prospects of Beijing's cooperation with Washington under the incoming administration of President-elect Joe Biden, Xing stressed that China is "consistent in its position about pursuing peace, dialogue, development and denuclearization of the Korean Peninsula."

"Regardless of whom, or what other countries say, we will keep pushing toward that direction. This is in the mutual interests of both China and Korea, this region and beyond, as well as for world peace," the ambassador said.

China has called for resolving the denuclearization issue with Pyongyang through dialogue, supporting the North's demand for a step-by-step process in which sanctions relief and security guarantees come in parallel with its denuclearization steps.

But the U.S. has demanded the North take significant denuclearization measures first in order for Washington to give any concessions, leaving the nuclear talks between the two deadlocked since the collapse of their leaders' summit in Hanoi in early 2019.

Xing declined to comment on media reports that Chinese Foreign Minister Wang Yi plans to visit Seoul next week, only saying that Seoul and Beijing are "close neighbors and partners" that need to communicate constantly.

"If we have an important visit coming, our foreign ministries will make an announcement," he said.

Perry says diplomatic solution still possible on North Korea's denuclearization

Yonhap News Agency (South Korea), 18 Nov 20 Koh Byung-joon

SEOUL -- Former U.S. Defense Secretary William Perry said Wednesday that it is still possible to achieve peaceful denuclearization of North Korea through a diplomatic solution despite the North's enhanced nuclear capabilities, Seoul's unification ministry said.

Perry made the remarks during a three-way video call with Unification Minister Lee In-young and Jeong Se-hyun, a former unification minister and current vice chairperson of the presidential National Unification Advisory Council, according to the ministry.

Perry, who served as defense secretary under President Bill Clinton's administration from 1994-1997, is known for his so-called Perry Process that sought a three-stage resolution to North Korea's weapons of mass destruction.

"Former Secretary Perry emphasized that things have changed, including the North's advanced nuclear capability, but diplomatic solutions to denuclearization (of the North) still remain effective," the ministry said.

Nuclear talks have been stalled since a no-deal summit between North Korean leader Kim Jong-un and U.S. President Donald Trump in early 2019 as they failed to find common ground over how to match Pyongyang's denuclearization steps with Washington's sanctions relief.

Uncertainty has grown further over Washington's North Korea policy since Joe Biden's election as new U.S. president.

During the three-way discussion, minister Lee called the "Perry Process" a basis for cooperation between South Korea and the U.S. in their North Korea policy, vowing to intensify cooperation with Washington in efforts to kick-start the stalled the Korean Peninsula peace process.

Jeong, who served as unification minister from 2002-2004, also lauded the Perry Process for contributing greatly to reducing tensions on the Korean Peninsula and stressed the need for an enhanced version of such a scheme for peace and denuclearization, the ministry said.



IRAN:

US attack risks ‘full-fledged war,’ says adviser to Iran’s leader

https://www.militarytimes.com/news/your-military/2020/11/19/us-attack-risks-full-fledged-war-says-adviser-to-irans-leader/?utm_source=Sailthru&utm_medium=email&utm_campaign=EBB%2011.20.20&utm_term=Editorial%20-%20Early%20Bird%20Brief

By: [Nasser Karimi, The Associated Press](#) and [Jon Gambrell, The Associated Press](#) for the Military Times // 11 hours ago

TEHRAN, Iran — An adviser to Iran’s supreme leader who is a possible 2021 presidential candidate is warning that [any American attack](#) on the Islamic Republic could set off a “full-fledged war” in the Mideast in the waning days of the Trump administration.

Speaking to The Associated Press, Hossein Dehghan struck a hard-line tone familiar to those in Iran’s paramilitary Revolutionary Guard, a force he long served in before becoming a defense minister under President Hassan Rouhani. A soldier has yet to serve as Iran’s top civilian leader since the 1979 Islamic Revolution, in part over the initial suspicion that its conventional military forces remained loyal to the toppled shah.

But hard-liners in recent years have openly suggested Iran move toward a military dictatorship given its economic problems and threats from abroad, particularly after President Donald [Trump pulled America out of Tehran’s 2015 nuclear deal](#) with world powers. “We don’t welcome a crisis. We don’t welcome war. We are not after starting a war,” Dehghan said Wednesday. “But we are not after negotiations for the sake of negotiations either.”

Dehghan, 63, described himself as a “nationalist” with “no conventional political tendency” during an interview in his wood-paneled office in downtown Tehran. He’s one of many likely to register to run in the June 18 election as Rouhani is term-limited from running again. Others likely include a young technocrat with ties to Iranian intelligence and former hard-line President Mahmoud Ahmadinejad.

Dehghan’s military service came under presidencies representative of the groups that largely compose Iran’s tightly controlled political arena — reformists who seek to slowly change Iran’s theocracy from within, hard-liners who want to strengthen the theocracy and the relative moderates between. Those calling for radical change are barred from running for office by Iran’s powerful constitutional watchdog known as the Guardian Council, which serves under Supreme Leader Ayatollah Ali Khamenei.

While discussing the world Iran finds itself in, Dehghan’s points mirrored many of Khamenei’s. The former head of the Guard’s air force who achieved the rank of brigadier general said any negotiations with the West could not include Iran’s ballistic missiles, which he described as a “deterrent” to Tehran’s adversaries. Propaganda involving Iran’s missile program has surged in recent weeks.

The front page of the English-language Tehran Times on Wednesday showed a map of Iran’s missile ranges with red stars marking American bases across the region under the words “Back off!” printed in big, bold letters. A headline above warned Iran would respond to “any melancholy

adventure by Trump.” “The Islamic Republic of Iran will not negotiate its defensive power ... with anybody under any circumstances,” Dehghan said. “Missiles are a symbol of the massive potential that is in our experts, young people and industrial centers.”

Dehghan, who has been sanctioned by the U.S. Treasury since November 2019, warned against any American military escalation in Trump’s final weeks in office. “A limited, tactical conflict can turn into a full-fledged war,” he said. “Definitely, the United States, the region and the world cannot stand such a comprehensive crisis.” President-elect Joe Biden has said he’s willing to return to the nuclear deal, which saw sanctions on Iran lifted in exchange for Tehran limiting its uranium enrichment, if Iran first complies with its limits. Since Trump’s withdrawal, Iran has gone beyond all the deal’s restrictions while still allowing United Nations nuclear inspectors to work in the country.

Dehghan said those U.N. checks should continue so long as an inspector is not a “spy.” In the time since, an advanced centrifuge assembly plant at Iran’s Natanz nuclear site exploded and caught fire in July. Dehghan said that reconstruction at Natanz was ongoing after satellite photos showed new construction at the site. He described the incident as “industrial sabotage.” “Those who were in charge of installing some devices possibly made some changes there that led to the explosion,” Dehghan said, without elaborating.

A Dehghan presidency likely would be looked upon with suspicion in Washington and Paris. As a young commander in the Guard, Dehghan oversaw its operations in Lebanon and Syria between 1982 and 1984, according to an official biography given to Iran’s parliament in 2013. Israel, Iran’s archenemy in the Mideast, had just invaded Lebanon amid that country’s civil war. In 1983, a suicide bomber in a truck loaded with military-grade explosives [attacked U.S. Marine barracks in Beirut](#), killing 241 American troops and 58 French soldiers.

While Iran long has denied being involved, a U.S. District Court judge found Tehran responsible in 2003. That ruling said Iran’s ambassador to Syria at the time called “a member of the Iranian Revolutionary Guard and instructed him to instigate the Marine barracks bombing.” Dehghan vehemently denied he was involved in the bombing, though he was the Guard’s top commander there at the time.

“The U.S. tries to link anything happening in the world to someone in Iran,” he said. “Do they really have evidence? Why do they link it to me?” While stressing he wanted to avoid conflict, Dehghan warned that Israel’s expanding presence in the Mideast could turn into a “strategic mistake.” Israel just reached normalization deals with Bahrain and the United Arab Emirates. “It is opening an extensive front,” he said. “Just imagine every Israeli in any military base can be a target for groups who are opposed to Israel.”

Dehghan also said Iran continues to seek the expulsion of all American forces from the region as revenge for the U.S. drone strike in Baghdad that [killed Guard Gen. Qassem Soleimani](#), the head of its expeditionary Quds Force in January. That strike saw Iran launch [a retaliatory ballistic missile attack on U.S. troops](#) in Iraq that injured dozens and nearly sparked a war. Iran’s retaliatory strikes were a mere “initial slap,” Dehghan said. And there would be no easy return to negotiations with the U.S. in part due to that, he added. “We do not seek a situation in which (the other party) buys time to weaken our nation,” he said.

Iran admits breach of nuclear deal discovered by UN inspectorate

<https://www.theguardian.com/world/2020/nov/18/iran-admits-breach-of-nuclear-deal-discovered-by-un-inspectorate>

Iran uses advanced uranium-enriching centrifuges in underground plant in breach of 2015 nuclear agreement

By: [Patrick Wintour](#) Diplomatic Editor for the Guardian // Wed 18 Nov 2020 09:33 EST -- Last modified on Wed 18 Nov 2020 09:35 EST

Iran's Natanz uranium-enrichment facility in 2019, where it has admitted starting to use **IR-2m centrifuges** in breach of the 2015 accord.

[Iran](#) has admitted a further breach of the 2015 nuclear deal by firing up advanced uranium-enriching centrifuges installed at its underground plant at Natanz. The finding was made by the UN nuclear weapons inspectorate, the International Atomic Energy Association, and confirmed by the Iranian ambassador to the IAEA. Donald Trump last week [considered but rejected a military strike](#) on Natanz, south of Tehran and the country's main uranium-enrichment site.

But the latest move by Iran may be regarded by his administration as a provocation that changes his, or Israel's, calculation of risk. The development comes weeks ahead of him standing down and being replaced by Joe Biden, who is committed to re-entering the nuclear deal struck under Barack Obama. According to the 2015 Iran nuclear deal, the Islamic Republic can only accumulate enriched uranium with first-generation IR-1 machines, which are the only ones it is permitted to operate at the underground plant.

But the IAEA report said that Tehran had been feeding uranium hexafluoride (UF₆) gas feedstock into advanced IR-2m machines. A previous IAEA report said that Iran had installed the IR-2m machines underground. And in its latest report, dated Tuesday, the IAEA states: "On 14 November 2020, the Agency verified that Iran began feeding UF₆ into the recently installed cascade of 174 IR-2m centrifuges at the Fuel Enrichment Plant (FEP) in Natanz."

The previous report was based on a visit to the plant on 2 November before Biden had been elected, but this latest assessment is based on Iranian actions after Biden's victory. Iran has been [steadily breaching limits](#) set in the nuclear agreement in what it portrays as a calculated and justified response to the US decision to quit the deal, (known as the Joint Comprehensive Plan of Action, or JCPOA), impose crippling sanctions and punish European companies that seek to trade with the country.

Iran had previously informed the agency that it would transfer three cascades of the uranium-enriching machines from an above-ground pilot plant at the Natanz nuclear site to the underground one. It did so after the above-ground centrifuge workshop exploded in an [apparent act of sabotage](#). The explosion was attributed to a fire, but it was unclear if Israel had been involved. So far, Iran is only using 174 of its IR-2ms, of which it has far more than 1,000.

The deal allows Iran to use about 6,000 IR-1s. If Tehran keeps the number of IR-2ms in use low, and even if it at some point installs other more advanced centrifuges but also keeps their numbers low, it could credibly argue it is simply trying to restore what it had above ground prior to the sabotage on 2 July of its previous Natanz facility. The IAEA declared last week that Tehran's explanations were unsatisfactory for how and why certain nuclear program-related particles were found by agency inspectors at sites where they should not have been present.

Iran's foreign minister, Javad Zarif, wants to ensure the US cannot unilaterally declare Iran in breach of the deal. Photograph: Russian Foreign Ministry In a lengthy interview published on Tuesday the Iranian foreign minister, Javad Zarif, clarified Iran's approach to talks with a Biden administration. He said: "If the US implements its commitments under the UN security council resolution 2231, we will implement our commitments under the JCPOA. This can be done automatically and needs no negotiations.

But if the US wants to rejoin the JCPOA then we will be ready to negotiate how the US can re-enter the deal.” Zarif’s wording suggests that as soon as the US lifts its sanctions on Iran the country will come back into compliance with the JCPOA and stop breaching the uranium enrichment limits. But Zarif is resisting allowing the US back into the deal until it has assurances that as a JCPOA member the US will not use its right unilaterally to declare Iran in breach of the deal’s terms, and so require the UN as a whole to reimpose UN sanctions on Iran.

The tussle with America is being held against an increasingly grim backdrop of mounting deaths across Iran due to the spread of coronavirus. Health officials announced on Wednesday that a record 13,421 new patients had been identified in the previous 24 hours and a further 480 people had died. The official total death toll stands at 42,941. The spiral in new infections suggests the death toll will continue to mount.

Iran expects US to return to nuclear deal without conditions

Iran’s President Hassan Rouhani said the era of maximum pressure is over.

https://www.al-monitor.com/pulse/originals/2020/11/iran-rouhani-biden-election-return-nuclear-deal-maximum.html?utm_source=Sailthru&utm_medium=email&utm_campaign=EBB%2011.13.20&utm_term=Editorial%20-%20Early%20Bird%20Brief

By: The Al-Monitor Staff // Nov 12, 2020

President Hassan Rouhani said today that he believes the era of maximum pressure on Iran is over.

“There are signs from America to Europe that show the world has understood that [maximum pressure will not yield](#) results, and it is coming to an end,” Rouhani said, speaking via videoconference to mark the inauguration of several national projects. The term "maximum pressure" has been used to describe US policy toward Iran. The Trump administration exited the 2015 nuclear deal known as the Joint Comprehensive Plan of Action (JCPOA) and reapplied US sanctions on Iran.

The goal, according to the Trump administration, was to have Iran sign a new agreement and also comply with a list of 12 demands, which included different issues such as Iran’s missile program and foreign policy. Reentry into the nuclear deal will not be easy. There will be immense pressure on the future Biden administration to use the leverage of sanctions to request more from Iran. Given the number of crises that the incoming administration will be dealing with, it makes sense that they will not be eager to use too much political capital on the issue.

As a result of the US withdrawal from the JCPOA and the reapplication of sanctions, Iran reduced its commitments to the JCPOA. Iran has said it is open to re-entering the deal if the United States drops the nuclear-related sanctions. Ali Rabiei, spokesman for the Rouhani administration, said that Iran expects the United States to return to the nuclear deal without new conditions. “[Our clear expectation](#) from the new officials in the White House is the return to previous commitments without conditions,” Rabiei said. He added that the first step would be “the removal of sanctions.”

He has also previously discussed the United States compensating Iran for the damages it has endured during this time. Due to US sanctions, Iran has had a hard time selling its oil and has lost considerable revenue. While Rouhani and his administration are touting the loss of Donald Trump as a sign that the maximum pressure campaign did not work, other conservatives have been more subdued in their reaction. [Kayhan newspaper](#), whose editor is chosen by Supreme Leader Ayatollah Ali Khamenei’s office, wrote in its headline.

“We are neither terrified of Trump staying nor excited for Biden’s arrival.” The comment was based on the statement made by Deputy Foreign Minister Abbas Araghchi, who was involved in the nuclear talks. Araghchi was likely trying to temper some of the expectations given the number of hurdles standing between the United States and Iran. Regardless of what happens with a new Biden administration, there will be many challenges between Iran and the United States. If negotiations do take place, they will take place within the JCPOA framework and include the other P5+1 members of that agreement.



INDIA:

Indian Missiles, Rockets Score Direct Hits On Pak Bunkers

<https://www.ndtv.com/india-news/in-video-indian-missiles-rockets-score-direct-hits-on-pakistani-bunkers-2324952>

Some of the targets hit also include Pakistani ammunition and fuel storage buildings and launch pads for terrorists to attempt infiltration across the Line of Control (LoC)

All India Reported by [Vishnu Som](#), Edited by [Debanish Achom](#) Updated: November 13, 2020 6:32 pm IST

New Delhi: --- Multiple videos shared by the Indian Army show the destruction of several Pakistani posts across the Line of Control after some of the most intense cross-border shelling broke out between Indian and Pakistani forces this year.

The videos show Indian anti-tank guided missiles and rockets hitting Pakistani bunkers spread across Uri, Naugaon, Tangdhar, Keran and Gurez in Baramullah, Kupwara and Bandipora districts of Jammu and Kashmir. Some of the targets hit also include Pakistani ammunition and fuel storage buildings and launch pads for terrorists to attempt infiltration across the Line of Control (LoC). In another video, a Pakistani soldier is seen sprinting for safety as an anti-tank guided missile fired by the Indian Army flies towards a bunker.

It scores a direct hit. Within seconds, two more missiles fired by the Indian Army hit the same bunker. The Pakistani military started targeting Indian positions along the LoC in several sectors including Dawar, Keran, Uri and Naugam using mortars and other heavy weapons. Three civilians were killed in the attacks with several more injured. Four soldiers, including three from the Indian Army and one from the Border Security Force, were killed in action.

The Pakistani firing came as some terrorists tried to cross into India from Keran sector. The infiltration attempt was stopped by Indian troops in forward posts, army sources said. Indian Army sources believe seven Pakistani soldiers were killed and 12 were injured in India's retaliatory barrage. This was the second infiltration attempt within a week. The earlier infiltration attempt in Machhal sector on November 7-8 was also stopped and three terrorists were shot dead.



PAKISTAN:

NSTR



UNITED KINGDOM:

NSTR



FRANCE:

NSTR



ISRAEL:

NSTR



JAPAN:

Japan foreign minister: maintaining behind-the-scene dialogue with North Korea

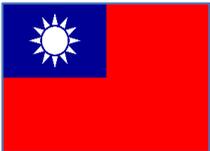
Reuters, Nov. 16 | Kiyoshi Takenaka

TOKYO -- Japanese Foreign Minister Toshimitsu Motegi said on Monday that Japan is maintaining dialogue with North Korea to resolve long-standing issues on its nuclear and missile developments and on Japanese citizens abducted by North Korean agents decades ago.

"Both former prime minister (Shinzo) Abe and Prime Minister (Yoshihide) Suga have said they are ready to hold face-to-face talks with leader Kim Jong Un," Motegi said.

"We are having various behind-the-scene communication with North Korea through not just our embassy in Beijing, but through other routes as well."

Motegi did not elaborate further.



TAWIAN:

NSTR



SAUDI ARABIA:

Saudi minister says nuclear armament against Iran ‘an option’

<https://www.aljazeera.com/news/2020/11/17/saudi-minister-wont-rule-out-nuclear-armament-over-iran>

Saudi Arabia reserves the right to arm itself with nuclear weapons if Iran cannot be stopped from making one, says the minister.

From: Al Jazeera News Bureau // 17 Nov 2020

Saudi Arabia reserves the right to arm itself with nuclear weapons if regional rival Iran cannot be stopped from making one, the kingdom’s minister of state for foreign affairs has said.

“It’s definitely an option,” Adel al-Jubeir told the DPA news agency in a recent interview. If Iran becomes a nuclear power, he said, more countries would follow suit. “And Saudi Arabia has made it very clear, that it will do everything it can to protect its people and to protect its territories.” Tehran has been working on the use of nuclear power for decades. In 2015, it signed a landmark nuclear deal with world powers to stop the development of a bomb in exchange for lifting sanctions.

But US President Donald Trump in 2018 [unilaterally withdrew](#) his country from the deal and brought it to the brink of failure. Trump's administration wants a more far-reaching programme and an end to Iran's regional interference – a position supported by Saudi Arabia. “We believe the Iranians have only responded to pressure,” said al-Jubeir. Asked what changes he anticipates could come once President-elect Joe Biden takes charge in January, he said: “We will have to see.”

Biden has promised to return to the nuclear deal but has said he will seek to put pressure on Iran's regional activities and missile programmes, among other things. Last week, Saudi Arabia's King Salman bin Abdulaziz Al Saud urged the world to take a “decisive stance” to address Iran's efforts to develop its nuclear and ballistic missile programmes. In response, Iranian foreign ministry spokesman Saeed Khatibzadeh called on the kingdom to refrain from “baseless allegations and hate-mongering”.



TURKEY:

NSTR