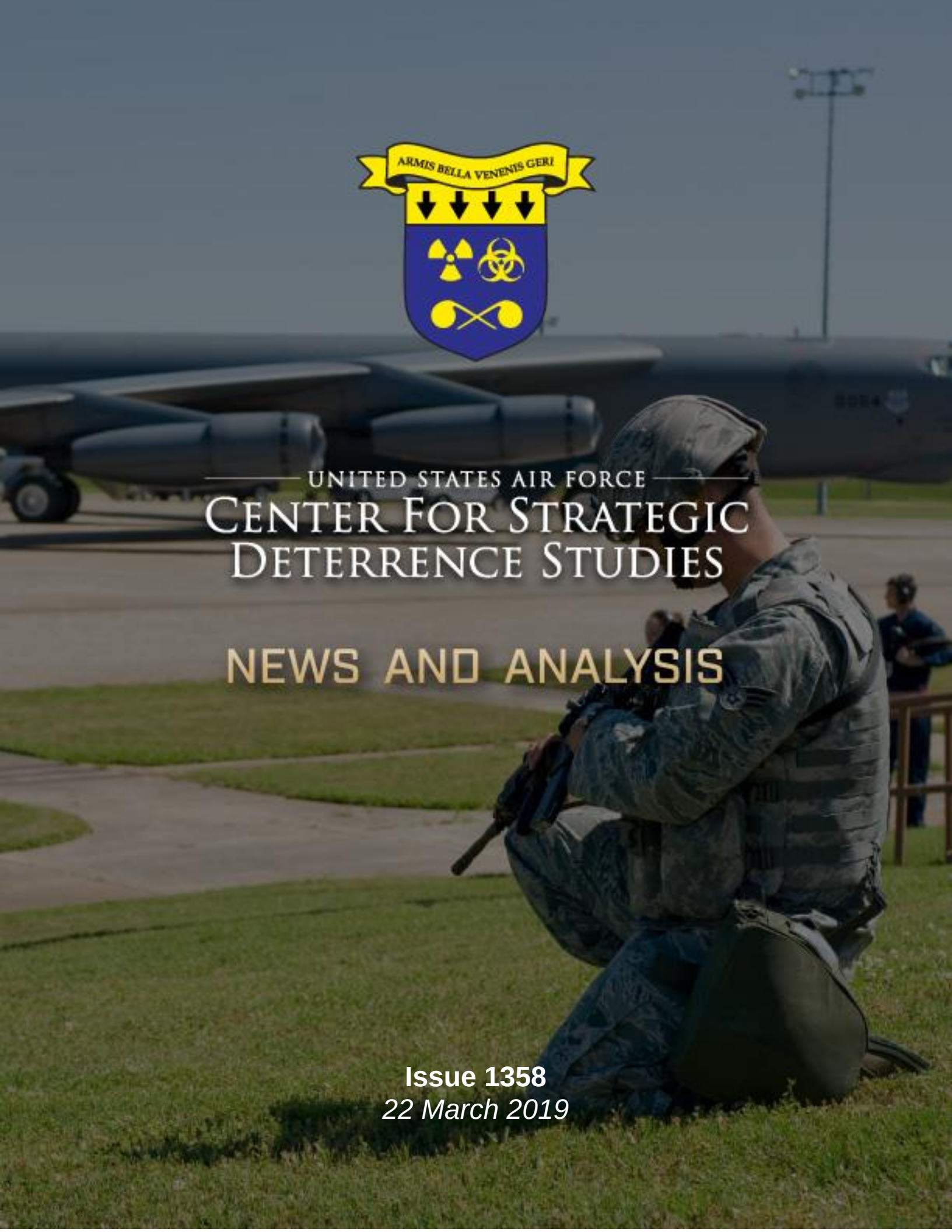

Issue 1358
22 March 2019

Feature Report

"Bio Plus X: Arms Control and the Convergence of Biology and Emerging Technologies".
Published by Stockholm International Peace Research Institute; March 2019

https://www.sipri.org/publications/2019/other-publications/bio-plus-x-arms-control-and-convergence-biology-and-emerging-technologies

Technological advances in the biological sciences have long presented a challenge to efforts to maintain biosecurity and prevent the proliferation of biological weapons. The convergence of developments in biotechnology with other, emerging technologies such as additive manufacturing, artificial intelligence and robotics has increased the possibilities for the development and use of biological weapons.

This report, written by SIPRI experts on technology and arms control, provides a nuanced picture of the risks and challenges posed by this convergence. It analyses the extent to which concerns arising from new technological developments can be dealt with through existing governance mechanisms. Based on the limitations identified, the authors recommend the action that needs to be taken by national governments, international organizations, academia, the private sector and the DIY community.

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NUCLEAR WEAPONS

Aiken Standard (Aiken, S.C.)

$220M Requested for 'Orderly and Safe' Closure of MOX, Budget Documents Show

By Colin Demarest

March 19, 2019

President Donald Trump's latest budget request heralds the administration's continued desire to mothball the Mixed Oxide Fuel Fabrication Facility and pursue another avenue of weapons-grade plutonium disposition.

His fiscal year 2020 budget pitch – released last week, and the finer details are being rolled out now – includes $220 million for the "orderly and safe closure" of MOX, according to the U.S. Department of Energy's lengthy budget justification.

The request also includes $79 million to support dilute-and-dispose, the MOX alternative. A summary portion of Trump's budget states dilute-and-dispose will be "aggressively" backed.

The potential funding falls under the umbrella of the National Nuclear Security Administration, a semiautonomous DOE agency. The presidential request includes roughly $16.5 billion total for the NNSA. That figure is heavily dominated by the "weapons activities" account.

Trump's FY19 budget request included $220 million for MOX shutdown and $59 million for dilute-and-dispose.

The budget blueprint, a far cry from actual appropriation, allocates about $1.6 billion to U.S. Department of Energy Office of Environmental M…

The NNSA terminated the MOX project, located at the Savannah River Site, on Oct. 10, 2018, five months after U.S. Secretary of Energy Rick Perry told congressional defense committees he would ax the undertaking.

MOX – more than a decade in the making and marred by both cost and schedule overruns – was designed to turn surplus defense plutonium into nuclear fuel.

Dilute-and-dispose involves mixing plutonium with inert material for longterm burial at the Waste Isolation Pilot Plant in New Mexico.

Both Perry and NNSA chief Lisa Gordon-Hagerty have said dilute-and-dispose trumps MOX. For one, it's approximately half the lifecycle cost, $19.9 billion compared to $49.4 billion, Perry has certified.

U.S. Rep. Joe Wilson, R-S.C., on March 12 said he appreciates the president's specific mention and support of dilute-and-dispose.

Wilson represents South Carolina's 2nd Congressional District.

https://www.aikenstandard.com/news/m-requested-for-orderly-and-safe-closure-of-mox-budget/article_c7a0258a-4a4e-11e9-8ec4-f773c9952069.html

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Minot Daily News (Minot, N.D.)

Air Force Secretary, Chief of Staff Confirm Importance of Modernizing Nuclear Triad

Author Not Attributed

March 17, 2019

WASHINGTON – Secretary of the Air Force Heather Wilson and Air Force Chief of Staff Gen. David Goldfein confirmed the importance of updating the nation's nuclear forces at Minot Air Force Base, according to a news release from Sen. John Hoeven's office on Thursday.

"Our state makes tremendous contributions to the nation's security and is positioned to play an even bigger role," Hoeven said. "The nuclear triad is only growing in importance as we see hostile regimes working to secure a nuclear weapon or grow their existing nuclear arsenals. That's why it's vital we continue to modernize our nuclear forces, like the bomber fleet and ICBMs in Minot, while also replacing Minot's helicopters to improve security."

Minot Air Force Base is the only base with two legs of the nuclear triad – the 5th Bomb Wing's B-52 bombers and the 91st Missile Wing's Minuteman III ICBMs in underground facilities in the surrounding area. Ballistic missile submarines are the third leg of the triad.

Hoeven reviewed the progress of updates to the nation's nuclear forces efforts with Wilson and Goldfein. They reviewed the progress during a review of the fiscal year 2020 budget at a Senate Defense Appropriations Committee hearing this past week.

Updates of the state's nuclear missions include:

Minot AFB – Nuclear Modernization & Helicopter Replacement

– The Long Range Stand Off (LRSO) missile to replace the aging Air Launched Cruise Missile carried on the B-52.

– The intercontinental ballistic missile (ICBM) fleet, including the Ground-Based Strategic Deterrent program to replace the Minuteman III.

– Upgrades for the B-52, including new engines.

– A replacement for the Vietnam-era Huey helicopters that provide security for the ICBM silos.

Hoeven recently introduced a bipartisan resolution supporting the modernization and maintenance of the nation's ICBM fleet.

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Cramer: Nuclear triad remains necessity

Sen. Kevin Cramer recently penned an article on the nuclear triad published in the March 11 edition of the National Review. He responded to a comment made by Rep. Adam Smith of Washington state, then ranking member of the House Armed Services Committee and now its chairman, who said late last year that the rationale for the the numbers of nuclear weapons doesn't exist anymore.

Cramer disagrees, according to a news release from Cramer's office about his article. "Such dangerous disregard for the effectiveness of the nuclear triad directly contradicts the consensus of our military and intelligence communities and the lessons we've learned throughout history," he said in the article.

He said he has discussed the issue with Gen. John E. Hyten, commander of U.S. Strategic Command, who, on multiple occcasions, has reiterated that "the surest way to prevent war is to be prepared for it."

Cramer said the fundamental, foundational truth is deterrents work. "They have worked before and they are working now. Eliminating a deterrent does not eliminate the underlying threat; the world does not become a safer place when we remove what keeps us safe," Cramer said.

http://www.minotdailynews.com/news/local-news/2019/03/air-force-secretary-chief-of-staff-confirm-importance-of-modernizing-nuclear-triad/

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

Trump Request Contains Funding for LANL Upgrades, Projects

By Tris DeRoma

March 15, 2019

The White House's 4.7 trillion budget request contains a $1.1 billion increase over fiscal year 2019 budget request for the Department of Energy.

Trump is requesting funding that supports the Department of Energy and National Nuclear Security Administration's plans to increase plutonium pit manufacturing at the lab, the lab's weapons life extension programs, infrastructure upgrades, funding that fully supports the lab's mission of maintaining and securing the U.S. nuclear stockpile.

"Specifically, the budget completes development and production of the W76-2 warhead, begins production of the B61-12 and the W88 Alteration 370, and continues development of the W80-4 and the W87-1," a statement in the request said. "The budget also continues support of the underlying Stockpile Stewardship Program, which facilitates stockpile modernization while advancing scientific understanding that can be applied to other national security missions."

According to DOE Under Secretary for Nuclear Security and NNSA Administrator Lisa E. Gordon-Hagerty, the budget request includes $16.5 billion for the NNSA, she said. That's an increase of $1.3 billion above the adopted NNSA budget for fiscal year 2019.

"The President's budget request reflects the Trump Administration's strong commitment to ensuring that U.S. nuclear capabilities are second to none," Gordon-Hagerty said. "This vital funding will enable us to continue modernization of the Nuclear Security Enterprise to face 21st century threats."

In a fact sheet provided by the DOE, Trump's proposal includes $8 billion to sustain and modernize the U.S. Nuclear stockpile, $3.2 billion to modernize aging infrastructure, $1.2 billion for physical security, information technology and cybersecurity, $1.6 billion for nuclear proliferation, $400 million for counterterrorism and emergency operations, $1.6 billion for integrated nuclear propulsion systems to the U.S. Navy and $400 million for salaries and expenses.

The budget also includes a request that may have some impact on the county's power grid.

Los Alamos County buys hydropower from the Western Area Power Administration. Los Alamos Department of Public Utilities spokeswoman Julie Williams-Hill said Los Alamos County's Department of Public Utilities said the impact to the department and its customers should be small.

"If that part of the proposal is approved by both House and the Senate, it would affect us, but minimally. This is simply because our federal hydropower through WAPA is a fairly small percentage of our energy portfolio," Williams-Hill said.

A week ago, the lab announced that it put out requests for proposals to help usher in the next phase of supercomputing with its "Cross Roads" computer, a more advanced super computer that will eventually replace the lab's Trinity supercomputer.

"The Budget provides $5.5 billion for the Office of Science to continue its mission to focus on early-stage research, operate the national laboratories, and continue high priority construction projects," a statement in the request read. The request would set aside $500 million for the Department of Energy's supercomputing program.

The budget also contained good news for LANL's aging infrastructure.

In April 2018, the Council of the Inspectors General on Integrity and Efficiency released a report documenting the DOE's issues with LANL's stockpile stewardship infrastructure.

The budget also acknowledged facilities within the DOE's nuclear enterprise are aging, half being over 40 years old, and need upgrades.

As part of the NNSA's goals of getting 30 plutonium pits annually from LANL by 2026, the DOE has proposed expanding the lab's PF-4 facility in Tech Area 55. In his request, the president mentions LANL's partner in plutonium pit manufacturing, the Savannah River Site. The NNSA wants the site to produce 50 pits a year.

Regional environmental and safety groups were critical of Trump's proposed funding for the country's national labs.

"We don't think the NNSA or the lab needs more money to do their job. It's important for LANL facilities to be safe, but we don't think investments of expanding to 30 pits per year are supported by a National Environmental Policy Act analysis, that they'll be effective, or necessary," Los Alamos Study Group Executive Director Greg Mello said.

However, U.S. Sen. Martin Heinrich (D-NM) did not like that Trump's proposed budget asked for decreases in funding for clean energy, Medicare and Medicaid.

https://www.lamonitor.com/content/trump-request-contains-funding-lanl-upgrades-projects

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BBC News (London)

Brazil Gunmen Shoot at Convoy Carrying Nuclear Fuel in Angra dos Reis

Author Not Attributed

March 20, 2019

Gunmen have attacked a convoy of trucks carrying uranium fuel to a nuclear power plant near the Brazilian city of Rio de Janeiro, police say.

The convoy came under attack as it drove past a community controlled by drug traffickers in Angra dos Reis, a tourist city 145km (90 miles) from Rio.

Police escorting the convoy responded and a shootout followed. No-one was injured or detained.

The convoy reached the Angra 2 plant safely 20 minutes after the attack.

The attack in the Rio-Santos highway is the latest in a series of violent incidents in an area popular with visitors.

In 2017, a British woman was shot and wounded after her family's car drove by mistake into a community run by gangs.

The convoy was carrying uranium fuel fabricated in Resende, in Rio de Janeiro state, to supply Angra 2, one of the two nuclear power plants in Angra dos Reis, which began operations in 2001.

The gunmen targeted the police officers that were part of the convoy as it passed the Frade community at around 12:00 local time on Tuesday (15:00 GMT), Brazil's federal highway police said in a statement.

"Sadly, attacks by criminals have become frequent in that area... Such a beautiful region, with great tourist demand has become a dangerous place," spokesman José Hélio Macedo was quoted by O Globo newspaper as saying.

The uranium was being transported in armoured containers in a "natural state" and would not have offered any risk as it had the same level of radioactivity as when it is found in nature, Brazil's nuclear agency Eletronuclear said.

The agency, however, said the convoy "had not been attacked by bandits" directly - it was passing in the area at the moment a shootout was happening.

Some bandits scared by the heavy police presence shot at a police vehicle in the convoy, it added in a statement.

Violence has increased in Angra dos Reis in recent years and heavily armed criminals are now present in once-peaceful communities, correspondents say.

Reports say the shootout in Frade was a result of fighting between rival gangs.

Angra dos Reis Mayor Fernando Jordão urged the state's government to improve security in the region. "We have nuclear plants here. It's a sensitive area."

https://www.bbc.com/news/world-latin-america-47635706

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US COUNTER-WMD

Defense News (Washington, D.C.)

Is the Pentagon Moving Quickly Enough on Hypersonic Defense?

By Aaron Mehta

March 21, 2019

WASHINGTON — As the Pentagon looks to catch up with China and Russia in the hypersonic arms race, there is a widespread acknowledgement that the technology to defend against weapons capable of reaching Mach 5 or higher simply isn't there.

"If war breaks out tomorrow, we're probably not going to kill hypersonic boost glide missiles," Mike Griffin, the Pentagon's undersecretary of research and engineering, said during a March 20 speech. "The issue about the higher speed hypersonic systems, the boost glide systems, which are not air breathers, is that they are just so much faster. ... By the time you can see it, they are inside our track loop.

"We are behind on hypersonic defense. We need to catch up, and we will."

But this won't be a quick process, and the defensive side of hypersonics isn't a departmental priority.

Mike White, the Pentagon's assistant director for hypersonics, told reporters during the fiscal 2020 budget rollout that the department sees a three-step plan for hypersonics, and it starts with investing heavily in offensive capabilities first, followed by defensive systems, and then finally, at least a decade away, reusable systems such as airborne vehicles.

"If you look at the portfolio and the time phasing on the portfolio, we are stepping out first on the offensive side as we study and asses the path forward to get a robust defensive strategy, and then I think you will see a commensurate increase in emphasis on the defensive side," said White, who serves as the department's de facto hypersonics czar under Griffin.

"It's clear that we are stepping forward, currently in this submission, with an aggressive offensive portfolio," he continued. "The defensive aspect, we're making significant investment in the underlying technologies and the knowledge necessary to move forward aggressively to build a system, and I suspect that's not very far behind."

That discrepancy between offense and defense shows up in the dollar values in the FY20 request; while overall hypersonic investments come in around $2.6 billion, defensive developments take up only $157.4 million of that, according to the Missile Defense Agency's request.

And that figure for defensive developments drops over the coming years, going to $142.3 million in FY21, $116.9 million in FY22, $119.7 million in FY23 and $122.0 million in FY24.

While other work relevant to defensive capabilities is undoubtedly being done elsewhere — the space sensor layer falls under the purview of the recently stood up Space Development Agency, for example — a road map laid out in the MDA's budget justification book shows no system element tests planned through the next five years.

While warning not to read into that particular budget drop too much, Tom Karako, a missile defense expert with the Center for Strategic and International Studies, did note "it's not a positive trend. It's a bit at odds with the verbal priorities that they're giving to that mission overall."

Specifically, Karako was surprised to see the space sensor layer, which was identified by Griffin as the key to the department's missile defense efforts for the future, receiving only $15 million in FY20 to create "a prototype proliferated Low Earth Orbit (pLEO) communications and data transport layer," per the Space Development Agency's budget request.

"That's just enough to build some paper satellites. That's not prioritizing the space sensor layer as it needs to be — that's kicking the can," Karako said. "This isn't the missile defense 'masterpiece,' this is 'Masterpiece Theater.' "

"I think Mike Griffin has an idea of what's the path forward. I would have liked to have seen some milestones for that path. But I don't. It's just not here. I expected to have more meat here in term of the budget submission," he added. "It sure looks to me like somebody lost a battle there. They prioritized the offensive side, and that's fine. But the counter-hypersonic architecture is going to take some time to design, develop and build."

That offense will be the focus early on doesn't mean industry isn't eyeing what it expects will be a lucrative business on the defensive side.

Northrop Grumman, for example, recently launched a new website dedicated to advertising its hypersonic defense strategy. While light on details, the advertising push is a clear sign that the company sees a large potential market, even if down the road.

Joanna Cangianelli, Northrop's director of business development for missile defense solutions and counter-hypersonics, said it was logical that offensive capabilities are getting the initial funding, as they are further along than defensive technologies. But the company wants to start investing now so it's ready for when the department pluses up its defensive budget.

"If you look at it from a business development standpoint, 2022 and 2023 are not that far away. and you need to start investing in solutions now, in capabilities and technologies, and pulling those together in order to develop something that can be fielded in 2024 or 2025 when the money starts flowing," she said.

Added Kenn Todorov, vice president of missile defense solutions and the lead for Northrop's counter-hypersonic efforts: "We're investing a lot of our own resources to give us a leg up and to do somethings so we'll be ready, forward-looking as opposed to reactionary. We clearly are anticipating that those [budget] numbers will come, and we want to be ready for them and be out front when we do so we'll be well-positioned."

https://www.defensenews.com/pentagon/2019/03/21/is-the-pentagon-moving-quickly-enough-on-hypersonic-defense/

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Defense News (Washington, D.C.)

With an Eye to China and Russia, the US Navy Plans a Lethal Upgrade to Its Destroyers

By David B. Larter

March 20, 2019

WASHINGTON — Facing ever-faster missiles and increasingly complicated air threats from China and Russia, the U.S. Navy is moving toward a major upgrade to its stalwart Arleigh Burke destroyer fleet.

The service is planning to buy a scaled version of Raytheon's SPY-6 air and missile defense radar to replace the SPY-1D arrays on the Flight IIA destroyers, Defense News has learned. The upgrade will bolster the radar sensitivity and sophistication of the Flight IIA Burkes.

The move is likely prompted by the Navy's concern about the proliferation of anti-ship cruise missiles with sophisticated evasive maneuvers and ever-increasing speeds, investments that China and Russia make no secret about pursuing.

In a statement, the Navy acknowledged it was pursuing the SPY-6 array upgrades as part of the 2020 budget.

"Per the President's Budget submission for FY2020 Navy will begin procurement of 24 Radar Module Assembly (RMA) SPY-6 radar sets, and associated electrical and cooling equipment in FY2022, for installation in a DDG Flight IIA beginning in FY2025. The specific hull will be named later," the statement reads.

The array is a smaller version of the SPY-6 intended for the Flight III DDG, the first of which is now under construction at Huntington Ingalls Industries. The SPY-6 destined for DDG-125 will have 37 of what are known as radar modular assemblies, or RMA, which are 2-foot-by-2-foot-by-2-foot boxes that use gallium nitride technology to direct radar energy on air targets. The Flight IIA version will have 24 RMAs in the array.

A version of the radar planned for the FFG(X) future frigate is a nine-RMA configuration.

The Navy is aiming to upgrade all of its DDGs to Aegis Baseline 9 or higher with a ballistic missile defense capability and extend the service lives to 45 years as part of an effort to grow the fleet.

But the Navy is going to try to get 50 years out of its Flight IIA ships. The IIAs make up the bulk of the DDG fleet, with 46 total planned for the service — DDG-79 through DDG-124. DDG-127 will also be a Flight IIA.

That upgraded SPY-6 will be far easier to maintain than the current SPY-1D. Raytheon claims the radar can be maintained by simply removing an RMA and switching it out with a new one, with the rest of the work performed off-site.

In a statement, Raytheon's head of naval radars, Scott Spence, said the upgrade would bring increased capability to the IIA ships.

"Upgrading Flight IIA ships with a SPY-6 radar will deliver unmatched capability to the surface fleet," Spence said. "The benefits include a significant increase in terms of sensitivity and range, as well as simultaneous air and missile defense capability, all of which provides commanders with the operational flexibility to address current and emerging threat in ways never before possible."

Bryan McGrath, a retired destroyer skipper and defense consultant, said that if the Navy follows through on the program, it would be a significant upgrade to the destroyer fleet.

"If indeed the Navy decided to [retrofit] the IIAs with SPY-6, it would greatly increase the sensitivity of the radar and allow the ship to track and engage targets with more difficult kinematics, moving at higher speeds and executing more difficult maneuvers," McGrath said.

The SPY-6 and variants of it are becoming more widespread in the fleet, something else that would be an advantage, he added.

"It is essentially the same radar they are putting in the FFG(X) and in the Flight III," he said. "That gives you the opportunity to execute some more advanced networked radar techniques and aids in life cycle cost management."

https://www.defensenews.com/naval/2019/03/21/with-an-eye-to-china-and-russia-the-us-navy-plans-a-lethal-upgrade-to-its-destroyers/

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Homeland Preparedness News (Washington, D.C.)

Emergent BioSolutions Launches Phase 3 Trial of Anthrax Vaccine

By Dave Kovaleski

March 19, 2019

Emergent BioSolutions said on Tuesday it will begin a Phase 3 trial of a new anthrax vaccine it is developing.

The Phase 3 trial will evaluate the lot consistency, immunogenicity, and safety of the vaccine, called AV7909. AV7909 is designed to elicit a faster immune response than other anthrax vaccines that are currently available.

Specifically, AV7909 is an Anthrax Vaccine Adsorbed (AVA) with CPG 7909 adjuvant. It follows a two-dose schedule administered intramuscularly in healthy adults. The vaccine is being developed for post-exposure prophylaxis of disease resulting from suspected or confirmed Bacillus anthracis, or anthrax, exposure.

“Emergent is pleased with the advancement of the AV7909 development program,” Abbey Jenkins, senior vice president and vaccines and anti-infectives business unit head at Emergent BioSolutions, said. “Dosing the first subject in this large clinical study is a milestone achievement and we look forward to continuing to execute on our development and procurement contract for AV7909.”

Adding the compound CPG 7909 adjuvant to AVA was shown in Phase 1 and Phase 2 studies to safely accelerate and enhance the immune response, the company said. The Phase 3 study will involve 3,850 adults across 35 sites within the U.S. with an overall study duration of approximately 20 months.

Emergent BioSolutions, based in Gaithersburg, Md., is a global life sciences company that provides specialty products for civilian and military populations that address accidental, intentional, and naturally occurring public health threats.

Emergent currently manufactures BioThrax, the only vaccine licensed by the U.S. Food and Drug Administration for the prevention of anthrax disease. Over 14 million doses of BioThrax have been administered to more than 3 million individuals, the company said last year.

https://homelandprepnews.com/stories/32998-emergent-biosolutions-launches-phase-3-trial-of-anthrax-vaccine/

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US ARMS CONTROL

VOA (Washington, D.C.)

Pompeo, Netanyahu Vow to Roll Back Iranian Aggression

By Cindy Saine

March 20, 2019

U.S. Secretary of State Mike Pompeo and Israeli Prime Minister Benjamin Netanyahu are vowing to counter what they call Iran's aggression in the Middle East.

"We need to increase it, we need to expand it, and together the United States and Israel are working in close coordination to roll back Iranian aggression in the region and around the world," Netanyahu said Wednesday, noting U.S. pressure on Iran is already having an impact.

He made the comments after regional security talks with Pompeo, who arrived in Israel from Kuwait earlier in the day.

During Wednesday's talks, Netanyahu and Pompeo emphasized the closeness of the U.S.-Israeli relationship and vowed to deter Iranian threats to Israel. Both leaders also announced President Donald Trump will host Netanyahu at the White House next week.

The Israeli prime minister thanked the U.S. secretary of state for the Trump administration's support for Israel and the U.S. withdrawal from the 2015 Iran nuclear deal, calling the decision "historic."

Pompeo noted what he called threats toward Israel from Iran's Ayatollah Khamenei.

"The Ayatollah has declared that the annihilation and destruction of Israel is his primary goal," Pompeo said. "With such threats a daily reality of Israeli life, we maintain our unparalleled commitment to Israel's security and firmly support your right to defend yourself."

The top U.S. diplomat also said the Trump administration is dedicated to combating anti-Semitism, and hatred and bigotry in all forms.

"With the dark wave of anti-Semitism rising in Europe and in the United States, all nations, especially those in the West, must go to the barricades against bigotry," Pompeo said.

On Thursday, the secretary said he and his wife will visit the newly-opened U.S. embassy in Jerusalem, as well as historic and holy sites in the city.

Netanyahu's government is headed to a tough April 9 re-election contest as the prime minister is embroiled in a corruption investigation and facing allegations of bribery, fraud and breach of trust.

Pompeo, in comments to reporters on route to the Middle East, dismissed the suggestion that his meeting with Netanyahu could be seen as the United States intruding in the Israeli election in support of Netanyahu.

A senior State Department official said last week that Pompeo would not be meeting with Netanyahu's opponents, but Netanyahu alone as the current head of the Israeli government.

Pompeo, speaking while traveling to the region, said the recent U.S. shift away from terminology describing the West Bank and Syria's Golan Heights as "Israeli-occupied" to that of "controlled" by the Jewish state was not accidental. He said that the characterization in a recent State Department report on human rights around the world about Israeli control of the disputed territories "was a factual statement about how we observe the situation. And we think it's very accurate, and we stand behind it."

From Israel, Pompeo will travel to his third and final stop on his Middle East trip, Beirut, Lebanon.

"We'll spend a lot of time talking with the Lebanese government about how we can help them disconnect from the threat that Iran and Hezbollah present to them," Pompeo said.

The United States considers Hezbollah, a militant Islamist political group, as a pro-Iranian "terrorist" organization, even though it is represented in the coalition government of Prime Minister Saad Hariri, a U.S. ally.

https://www.voanews.com/a/pompeo-netanyahu-vow-to-roll-back-iranian-aggression/4839799.html

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USNI News (Annapolis, Md.)

Russians Use U.S. Navy's Aegis Ashore as Excuse to Deploy Strategic Bombers to Crimea

By Sam LaGrone

March 18, 2019

Russian defense officials say they are deploying "squadrons" of Tupolev Tu-22M3 Backfire bombers as a counter to U.S. Navy Aegis Ashore missile defense installations in Poland and Romania, according to a report in Russian state-controlled media on Monday.

In comments made to the TASS news agency, Russian lawmaker Viktor Bondarev said Russia was sending the bombers to the Gvardeyskoye airbase in Crimea in a move to directly counter the U.S. Aegis Ashore missile defense installations.

"The deployment of American missile defense systems in Romania came as a major challenge, in response to which the Russian Defense Ministry made the decision to deploy long-range missile-

carrying bombers, Tupolev Tu-22M3s, at the Gvardeyskoye airbase," Bondarev said. "This move has drastically changed the balance of forces in the region."

The strategic bombers are capable of carrying nuclear weapons, but it's unclear if those weapons would come with the bombers if they deployed to Crimea.

The announcement comes shortly after Russian President Vladimir Putin visited the region to celebrate the five-year anniversary of the forced annexation of the Crimea.

A Pentagon spokesperson told USNI News on Monday that U.S. and allied forces were closely monitoring movements on NATO's eastern flank and "posturing as appropriate" without specifically addressing the claims Russia was moving bombers into Crimea.

Aegis Ashore is based on radar and missile systems found aboard American guided-missile destroyers and cruisers but configured as a ground installation. Each site features an AN/SPY-1D(v) air search radar and a battery of two dozen Standard Missile 3 ballistic missile interceptors. Like the four ballistic missile defense-capable Arleigh Burke-class destroyers stationed at Naval Station Rota, Spain, the sites in Romania and Poland can detect, track, target and launch interceptors to take on a ballistic missile threat. While the Aegis Ashore batteries field SM-3s, they could be outfitted with other weapons.

The forward-deployed destroyers and the two ground installations were part of the Obama Administration's European Phased Adaptive Approach to missile defense that was designed to interdict small numbers of missiles from countries like Iran.

However, some have said the role of the Aegis Ashore installations could change after the U.S. departed the Intermediate-Range Nuclear Forces treaty, which Russia formally suspended its participation in on March 4.

Abraham Denmark, director of the Asia program at the Wilson Center and former Defense Department deputy assistant secretary of defense for East Asia, said the installations could be shifted from a Middle East threat to a direct threat against Russia.

Last month, Chief of Naval Operations Adm. John Richardson said the two installations send a message to Russia.

"That capability makes a tremendous statement," he said.

https://news.usni.org/2019/03/18/russians-use-u-s-navys-aegis-ashore-excuse-deploy-strategic-bombers-crimea

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VOA (Washington, D.C.)

North Korea, US Spar over Sanctions

By VOA News

March 19, 2019

North Korea believes there are no legitimate reasons to maintain sanctions against the country since it has not conducted nuclear and missile testing for well over a year, a North Korean diplomat said Tuesday.

"The U.S. publicly recognized the DPRK (Democratic People's Republic of Korea) had discontinued nuclear tests and rocket launches for the past 15 months" However, it does nothing to remove U.S.

sanctions as corresponding measures, diplomat Ju Yong Chol said at the U.N.-sponsored Conference of Disarmament in Geneva.

Ju said disputes between the two countries should be resolved on a case-by-case basis in an effort to build trust but "Instead, they came up with the preposterous argument that sanctions relief is impossible prior to denuclearization."

Ju's remarks came in response to a senior U.S. arms control official who said the only way Pyongyang can achieve stability is to abandon its weapons of mass destruction and ballistic missile programs. "Our stance is unwavering with regards to North Korea," Yleem Poblete, U.S. Assistant Secretary of State for Arms Control, said in Geneva.

Poblete also called on countries to stop any weapons or military collaborations with North Korea, saying, "You are violating U.N. Security Council resolutions that explicitly prohibit such transfers," she said without identifying countries.

North Korea is mulling a suspension of negotiations with the U.S. and may reconsider a freeze on missile and nuclear tests unless the U.S. makes concessions, a senior Pyongyang diplomat said last week, according to news accounts from Pyongyang.

South Korea is seeking to end the impasse after last month's summit in Vietnam between U.S. President Donald Trump and North Korean leader Kim Jong Un ended several hours early.

"We agree with the view that no deal is better than a bad deal ... However, in reality, it is difficult to achieve complete denuclearization at one stroke," Seoul's presidential Blue House said in a statement Monday. "I think we need to reconsider the so-called all or nothing strategy."

Trump said after the summit that North Korea had wanted "sanctions lifted in their entirety, but we couldn't do that ... we had to walk away from it."

But Pyongyang disputed Trump's claim, with Foreign Minister Ri Yong-ho maintaining North Korea made "realistic" suggestions in exchange for a partial lifting of sanctions."

https://www.voanews.com/a/north-korea-us-spar-over-sanctions/4837728.html

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COMMENTARY

Defense One (Washington, D.C.)

A Technological Path Out of the Missile-Defense Security Dilemma

By Brian Dunn

March 19, 2019

It is a curious feature of nuclear strategy that anti-missile systems that deter rogue states also destabilize relations among major powers. But new technology, combined with intensive diplomacy, may offer a way out of this trap.

Let's start with reviewing how ABM systems are destabilizing. An ideal mutually-assured-destruction scenario — forgive the absurdity — confers no advantages to the nation that shoots first. Sure, a first strike might knock out a good number of nuclear installations, but the remaining arsenal would still be more than capable of delivering annihilation. This means decision-making under pressure is relatively straightforward: don't fire nuclear weapons first. No matter how

suspicious you are of your enemy, restraint always offers a chance for survival. A first strike guarantees your own destruction.

However, when you throw ABM systems into the mix, the situation grows considerably murkier. With sufficient defenses, a nation might just be able to stop (or at least blunt) a weakened second strike. This changes the calculus completely. If confronted with a possible enemy strike, leaders may feel they have no choice but to fire pre-emptively and take their chances at defending against a second strike: "Nuclear war should be avoided, but if you're going to have one it's best to shoot first."

This logic led Nixon and Brezhnev to sign the 1972 Anti-Ballistic Missile Treaty, limiting the number of anti-ICBM missiles to a paltry 100 each. Three decades later, George W. Bush withdrew from the agreement, citing the (then-potential) threat from North Korea and (still-only-potentially) Iran. If Pyongyang could develop long-range missiles, then it could invade South Korea while threatening a nuclear strike on the U.S. mainland. Would the United States risk Los Angeles or San Francisco to come to Seoul's aid? Bush argued that ABMs were needed to protect the United States and allies alike.

But as these systems deployed — THAAD to South Korea, Aegis Ashore to Europe, Ground Based Midcourse Defense to Alaska and California, and the Navy's Aegis Ballistic Missile Defense on the world's oceans — China and Russia grew increasingly alarmed. These systems may be primarily aimed at North Korea and Iran, but with enough improvement, they might eventually be used to stop (or blunt) a superpower's second strike.

Russia's concerns can be seen in its recent proliferation efforts. It has recently announced new hypersonic missiles that can theoretically penetrate any missile defenses and deployed 9M729 missiles on land, violating the INF treaty. China will likely also look to bolster its arsenal if it sees its nuclear forces as increasingly ineffective against U.S. missile defense schemes. So, by seeking to protect itself against smaller, hostile states, the United States is igniting an arms race among the more powerful nuclear states. Or is there another way?

Today's missile defenses target incoming weapons in their midcourse or terminal phases, thanks largely to technical challenges that have ruled out interception during the boost phase. This phase only lasts a short time, so the interceptors must be positioned close to the launch area and ready to fire instantly.

However, with recent advances in laser technology and networked communications, viable boost-phase defense is within reach. Lockheed is slated to deliver a 60-150-kilowatt laser for integration with the Aegis system by 2020. An earlier 30-kilowatt model has shown the ability to shoot down drones and disable a truck from a mile away. Indeed, the Defense Department's 2019 Missile Defense Review says, "Developing scalable, efficient, and compact high energy laser technology holds the potential to provide a future cost-effective capability to destroy boosting missiles in the early part of the trajectory." Lasers have the advantage of near-instantaneous time to target and are not limited by the number and cost of interceptors. Also mentioned is the possibility of arming F-35s with interceptors, made possible by the improving network-centric coordination of targeting information across multiple platforms.

Boost-phase defenses help solve at least one tactical problem: MIRVs, or Multiple Independently-Targetable Reentry Vehicles, long the bane of ABM developers. Within a few minutes of launch, a MIRV-equipped missile can send its warheads and dummies off on different trajectories. The best way to deal with this is to hit the missile before one target becomes ten.

But boost-phase defenses offer a key strategic advantage as well. They can, and indeed must, be placed close to their targets. Their batteries would be able to intercept North Korean missiles but

not launches from deep within mainland China and unlike current forward-deployed regional systems, they can have verifiably limited ranges. China is currently up-in-arms over the deployment of THAAD in South Korea, while Russia is livid about the placement of Aegis batteries in Romania and Poland. As terminal-phase and midcourse-phase systems, these are inherently long-range. THAAD interceptors have a range of over 200 kilometers, while an Aegis-fired SM-6 can fly as many as 240 kilometers. The THAAD-ER and SM-6 IIB upgrades only extend these ranges. On the other hand, a Sidewinder fired from an F-35 has a maximum range of about 35 kilometers. For the foreseeable future, atmospheric lasers will be similarly short-ranged.

This also provides a solution to China's other gripe with the placement of THAAD: that the accompanying radar system penetrates deep into Chinese airspace. Large radar ranges are a necessary component of any midcourse or terminal-phase system. If THAAD is going to intercept a ballistic missile 200 kilometers out, then it needs to launch the interceptor long before then, and it will need to acquire the missile even further out. As such, the AN/TPY-2 radar that accompanies the THAAD system has an estimated range of at least 1,000 kilometers, which could reach from Seoul to Beijing and would allow the United States to monitor all activity in that part of Chinese airspace. However, boost-phase defenses work on the principle of targeting missiles inside a predetermined area. Therefore, they can use less powerful, more localized radars focused just on North Korean ICBM sites rather than the whole region.

But a technology change alone isn't enough to extract the United States from its security dilemma; that will require trust and communication. U.S. officials must take the initiative to convince Russia and China that these systems are not aimed at them. Boost-phase defense provides the technical basis for this, but it must be accompanied by openness and transparency. This could include allowing inspections of missile defense installations to verify their short-ranged nature. Unfortunately, current diplomatic trust is not high, as shown by the collapse of the INF treaty. The situation is further hindered by statements such as President Trump's words at the Missile Defense Review rollout: "Our goal is simple. To ensure that we can detect and destroy any missile launched against the United States anywhere, anytime, anyplace."

As ABM technology improves, especially the effectiveness of lasers, the United States would do well to focus on localized, surface-based, boost-phase defenses rather than attempting to build a massive Reagan-style missile defense scheme that would serve only to destabilize the current world order. This will provide an effective defense against current and future rogue states, while maintaining the status quo among the major nuclear powers.

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The Hill (Washington, D.C.)

Whatever Happened to Nuclear Abolition?

By Paul Bracken

March 19, 2019

The failed "denuclearization" summit held in Hanoi between the United States and North Korea took place just as a border flare up played out between nuclear-armed Pakistan and India. So it's easy to warn in vivid — and realistic — ways about the danger of nuclear war.

It's easier still to call for an end to the madness of nuclear weapons. This point of view has its merits. It shows that one's heart is in the right place. But let's not overlook how recent efforts to abolish the bomb have hit a complete dead end, as North Korea, Pakistan and India demonstrate.

Doubling down on calls to get rid of the bomb is just as likely to go nowhere as it has with these and other countries. It makes us feel good, but it distracts us from more serious efforts to get through this second nuclear age in one piece.

After the Cold War, the overwhelming policy emphasis in the United States and Europe was on arms control and nuclear nonproliferation. Nonproliferation especially had wide backing. It had more support than any other policy, whether economic, educational or environmental.

In those fields, there were disagreements over goals and the ways to reach them. But there was no such squabbling when it came to nonproliferation and reducing the role of nuclear weapons in American defense. Hawk, dove, Republican, Democrat, liberal, conservative — it didn't matter. All were on board to oppose nuclear arms.

U.S. nuclear weapons were cut by two-thirds after the Cold War. In the late 2000s, the abolition of all nuclear weapons seemed to be coming. President Barack Obama advanced such a plan in a 2009 speech in Prague.

The foreign policy establishment backed it: Henry Kissinger, George Schultz, Sam Nunn and William Perry all supported "global zero" — the elimination or very sharp reduction of nuclear weapons for all countries, including the United States.

Academics, think tanks and intellectuals quickly jumped onto the bandwagon. For a time, it really looked like there was going to be an antinuclear turn in U.S. strategy.

I disagree with those who argue that the effort to get rid of the bomb was never serious. There's a long history of such disarmament proposals, true enough.

At the dawn of the nuclear age, the 1948 Baruch Plan to put all nuclear weapons under U.N. control was never considered anything but a propaganda stunt by Washington. It was a way to make the Soviet Union look bad because we knew they would reject it.

Likewise, Ronald Reagan's awakening to the horrors of nuclear war wasn't really a practical plan. It was quickly derailed by the Pentagon.

The abolition movement of the 2000s was different. Largely because banning nuclear weapons, or sharply reducing their role, locked in U.S. conventional advantages. In the 2000s, the U.S. technological edge still looked certain.

So nuclear abolition — seen from Moscow, Beijing, Pyongyang — looked like a way to make the world safe for U.S. conventional strong-arm tactics. No one else had the global, lethal military reach of the United States. So getting rid of the bomb made sense, at least to many Americans.

So why did the effort to get rid of the bomb, or sharply cut back its significance hit a dead end? Because the world changed, and the United States didn't have enough power to stop the changes. Trying to get North Korea, Pakistan, India or Israel to "denuclearize" wasn't in the cards.

No arms control treaty was going to restore the world of 1975, when two big superpowers could run the planet on nuclear matters. It wasn't lack of will, partisan politics or a military industrial complex that derailed nuclear abolition.

It was the international order changing in natural ways, as sovereign states could pretty much do what they wished inside their own borders.

This is the nub of the problem. It's the real reason that a movement with wide public support, bipartisan agreement and grudging Pentagon backing, nonetheless, hit a dead end.

The 2000s, seen from Russia, China and North Korea perspective, posed a mortal danger: a technologically dominant United States that would be unrestrained by the risk of an "explosion" to massive destruction from nuclear weapons.

Others — Israel, India and Pakistan — didn't like the anti-nuclear shift either, as they might be victims of conventional attack.

Today, the major powers — the United States, Russia and China — have strategic nuclear modernizations programs underway. U.S. policy is responding to this change. There's a return to a nuclear emphasis, whether anyone cares to say so or not.

Nine countries now have the bomb, and a prudent bettor would likely put his or her money on this number going up, not down.

But I would bet on something else as well: Arms control will come back. Right now,the price of "arms control stock" is in the basement, true. But let's not forget that it's been there before. In the 1962 Cuban Missile Crisis and in the Reagan nuclear build-up of the 1980s, its price was even lower.

Yet arms control came back both times. And it will again. Why? Because it has to. In these earlier episodes, the dangers of the arms race itself were seen as greater than those of falling behind the enemy.

With nine nuclear weapons states today and big nuclear modernizations underway, at some point the dangers will force the big powers to understand the same thing. No one can say whether there will be a happy ending to the arms race. I can imagine a wide range of possibilities here, except one: disarmament.

Paul Bracken is a professor of management and political science at Yale University.

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Defense One (Washington, D.C.)

Russia is Turning Up Its Nuclear Rhetoric. That's a Problem

By Matthew R. Costlow

March 19, 2019

In the past 20 years, American presidents have devoted precisely 38 words — combined — in their State of the Union addresses to supporting the country's nuclear deterrent. President Trump's 2018 contribution — "As part of our defense, we must modernize and rebuild our nuclear arsenal, hopefully never having to use it, but making it so strong and powerful that it will deter any acts of aggression" — was just the deterrent's second supportive mention in a SOTU since the Cold War.

In stark contrast, Russian President Vladimir Putin recently blew past this mark in one paragraph. His latest speech to the Federal Assembly, roughly the Russian equivalent to the State of the Union, ultimately delivered more than a half-dozen paragraphs on Russian nuclear capabilities, and another half-dozen hypocritically accusing the United States of violating the Intermediate Range Nuclear Forces Treaty.

And that is no aberration. In last year's speech, Putin spent even more time on the subject, extolling, and playing animated videos of, five new Russian strategic weapons. If anything, his speech this year, which introduced just one hypersonic missile, displayed a Russian version of restraint.

Such bluster is nothing new for Russian leaders, but its increasingly "nuclear" nature and the range of actions it threatens is a new and worrying development. For example, a Russian defense official reportedly threatened to add Norway to their list for nuclear attack if it participated in a joint military exercise involving only 300 U.S. Marines.

Why are Russian officials, from Putin on down, issuing so many nuclear threats? One possibility is that it's a chance to highlight one of Russia's only technological achievements that rival the West's, in a message aimed primarily at a domestic audience.

Or this nuclear rhetoric may be aimed at deterring foreign leaders, primarily the United States and NATO. In this year's speech, Putin wondered aloud, "But can they count? Probably they can. So let them calculate the range and speed of our future arms systems. This is all we are asking: just do the maths [sic] first and take decisions that create additional serious threats to our country afterwards."

Finally, Russia may be trying to sway Western publics against their governments' nuclear modernization policies. In the 1980s, the Soviet Union hyped its nuclear threats to sow dissent among NATO allies and induce radical peace groups to pressure Western governments to make unilateral concessions, according to declassified CIA documents. Putin may be hoping for a similar effect from his rhetoric – perhaps already manifest in some of the recent Western articles and reports that advocate for unilateral U.S. nuclear reductions as a response to Russian aggression.

Whatever the Russian motivation, U.S. and NATO officials have an interest in steering Russian rhetoric away from its focus on nuclear weapons. Repeated Russian nuclear threats, especially those that are vastly out of proportion to the situation, could have a "dulling" effect on U.S. and allied officials, making future nuclear threats appear less credible. In addition, if Putin perceives his nuclear threats as being effective, he may be tempted to use them more frequently.

If not sufficiently addressed, Russian nuclear threats could also divide NATO unity among current members, and perhaps discourage potential future members from joining. One-off braggadocious comments by lower-level Russian officials need not evoke panic in the West, but the systematic,

repeated, and high-level nuclear threats seen today appear to be part of a tailored Russian information warfare strategy meant to advance Russian interests at the expense of NATO.

What can be done to disabuse the Russians of the notion that nuclear threats can be productive? The Trump administration is already taking some important steps: calling out Russian arms control violations and hypocrisy in detail, building NATO support at the highest levels, and sanctioning Russian companies.

If Russian rhetoric continues its radical slide, however, President Trump can borrow a page from the playbook of a predecessor with experience countering Russian "active measures": Ronald Reagan.

National Security Decision Directive 75, often called the Reagan administration's "blueprint" for policy on the Soviet Union, directed U.S. officials to counter Soviet propaganda "at all available fora" so that lies never went unchallenged. Under NSDD 75, U.S. officials also sought to "Prevent the Soviet propaganda machine from seizing the semantic high-ground in the battle of ideas through the appropriation of such terms as 'peace.'"

For today, this means effectively countering Russian officials, commentators, and troll armies on the internet. It also means having U.S. officials with a list of talking points always at the ready to counter Russian disinformation whenever a reporter asks. An effective U.S. inter-agency working group made up of Russia specialists, information warfare practitioners, deterrence and assurance analysts, and communication professionals may be needed to quickly counter Russian disinformation campaigns before their talking points become mainstream and relatively uncontested.

A deft presidential response can also be of use. In 1984, President Reagan was asked whether he was worried about a report that the Soviets had deployed more submarines with nuclear cruise missiles off the U.S. coast, to which he responded "If I thought there was some reason to be concerned about them, I wouldn't be sleeping in this house tonight…They're announcing and they're publicizing, but those submarines are off both our coasts." There was no mimicking of the Soviet bluster or exaggeration, just a disarmingly simple and reassuring response that got to the heart of the issue.

The United States must continue to counter Mr. Putin's nuclear rhetoric by building allied support, rejecting pressure to unilaterally cut its nuclear forces, and speaking the truth about Russian activities around the world at every forum available. The United States has the capabilities needed to address Russian nuclear rhetoric; now it needs top-level support, guidance, and coordination among supporting agencies. Such a strategy may not mute all of Moscow's nuclear rhetoric, but it may mitigate some of its more pernicious effects.

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ABOUT THE USAF CSDS

The USAF Counterproliferation Center (CPC) was established in 1998 at the direction of the Chief of Staff of the Air Force. Located at Maxwell AFB, this Center capitalizes on the resident expertise of Air University — while extending its reach far beyond — and influences a wide audience of leaders and policy makers. A memorandum of agreement between the Air Staff's Director for Nuclear and Counterproliferation (then AF/XON) and Air War College commandant established the initial personnel and responsibilities of the Center. This included integrating counterproliferation awareness into the curriculum and ongoing research at the Air University; establishing an information repository to promote research on counterproliferation and nonproliferation issues; and directing research on the various topics associated with counterproliferation and nonproliferation.

In 2008, the Secretary of Defense's Task Force on Nuclear Weapons Management recommended "Air Force personnel connected to the nuclear mission be required to take a professional military education (PME) course on national, defense, and Air Force concepts for deterrence and defense." This led to the addition of three teaching positions to the CPC in 2011 to enhance nuclear PME efforts. At the same time, the Air Force Nuclear Weapons Center, in coordination with the AF/A10 and Air Force Global Strike Command, established a series of courses at Kirtland AFB to provide professional continuing education (PCE) through the careers of those Air Force personnel working in or supporting the nuclear enterprise. This mission was transferred to the CPC in 2012, broadening its mandate to providing education and research on not just countering WMD but also nuclear operations issues. In April 2016, the nuclear PCE courses were transferred from the Air War College to the U.S. Air Force Institute for Technology.

In February 2014, the Center's name was changed to the Center for Unconventional Weapons Studies (CUWS) to reflect its broad coverage of unconventional weapons issues, both offensive and defensive, across the six joint operating concepts (deterrence operations, cooperative security, major combat operations, irregular warfare, stability operations, and homeland security). The term "unconventional weapons," currently defined as nuclear, biological, and chemical weapons, also includes the improvised use of chemical, biological, and radiological hazards. In May 2018, the name changed again to the Center for Strategic Deterrence Studies (CSDS) in recognition of senior Air Force interest in focusing on this vital national security topic.

The Center's military insignia displays the symbols of nuclear, biological, and chemical hazards. The arrows above the hazards represent the four aspects of counterproliferation — counterforce, active defense, passive defense, and consequence management. The Latin inscription "Armis Bella Venenis Geri" stands for "weapons of war involving poisons."