Feature Report

“Modernizing U.S. Nuclear Command, Control, and Communications”. By Lt Gen David A. Deptula, USAF (Ret.), and Dr. William A. LaPlante, with Robert Haddick. Published by Mitchell Institute for Aerospace Studies; February 2019

http://docs.wixstatic.com/ugd/a2dd91_ed45cfd71de2457eba3bcce4d0657196.pdf

For over 50 years the forces of America's nuclear triad have prevented the use of nuclear weapons in combat. However, the majority of the aircraft forming one of the triad's legs today have an average age of over 50 years. The land-based Minuteman III intercontinental ballistic missile (ICBM) leg of the triad is approaching 50 years, and the Navy's Ohio-class submarines carrying the sea-launched ballistic missile (SLBM) leg of the triad are approaching 40 years. Given the age of these systems that are fundamental to the continued success of the triad, urgency is growing to modernize these nuclear forces. This imperative is exacerbated by the fact that Russia and China have been actively fielding several new nuclear systems, to include new land-based strategic missiles, new strategic missile submarines, new sea-based strategic missiles, improved weapons for their bombers, and multiple ground, sea, and air-launched tactical nuclear weapons. To date, these threats have grown in the absence of any American response in kind.

While the modernization of the systems that make up the nuclear triad are currently planned and now under debate, the fundamental underpinning for their success tends to get little attention. Specifically, the nuclear command, control, and communications (NC3) system that allows positive control of these weapons in peace and, if necessary, in war is a crucial modernization requisite. It is these systems that define an architecture that coalesces in a coherent fashion all the activities, processes, and procedures performed by military commanders and support personnel that, through the chain of command, allow for senior-level decisions on nuclear weapons employment.

As a result of the highly classified nature of these activities, little has been written about the NC3 architecture. The intent of this study is to illustrate, in an unclassified setting, America's NC3 infrastructure in order to convey the absolute criticality of modernizing it. Only with a modernized NC3 system can we ensure that the U.S. retains a resilient and robust command and control architecture that is fundamental to the effectiveness of the nuclear triad. In this regard, the NC3 enterprise is truly the “fifth pillar” of the nation’s overall nuclear modernization program—along with modernization of the triad’s weapons systems, and the nuclear warhead stockpile itself. Simply put, when it comes to nuclear modernization, NC3 is the least expensive, yet perhaps the most critical.
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NUCLEAR WEAPONS

Defense News (Washington, D.C.)

Smith: Trim Budget Fat in America’s Nuclear Triad

By Joe Gould
March 12, 2019

WASHINGTON — A powerful skeptic of U.S. nuclear weapons spending, House Armed Services Committee chairman Adam Smith said Tuesday he was open to cutting back quantities of nuclear arms instead of one leg of the nation’s nuclear triad.

The comments, at the Carnegie Endowment for International Peace’s annual nuclear arms forum, came days after Smith, D-Wash., triggered Republican pushback when he said publicly that the intercontinental ballistic missile leg of the triad is not necessary to deter Russia and China. On Tuesday, Smith seemed to soften on that argument, conceding he believes nuclear weapon systems ought to be modernized but maintaining his stance the U.S. needs fewer nuclear weapons.

“I think a deterrent policy, having enough nuclear weapons to ensure that nobody launches a nuclear weapon at you because you have sufficient deterrent, I think we can do that with fewer warheads,” Smith said. “I’m not sure whether that means getting rid of one leg of the triad or simply reducing the amount in each leg.”

At a March 6 hearing, Smith had said ICBMs aren’t “necessary for deterrence because of the submarines we have and the bombers,” though a few HASC Democrats at the hearing parted with those remarks.

The episode highlighted the internal divisions and partisan cross currents facing Smith. Without specifying who, Smith acknowledged Tuesday that colleagues are viewing his fresh approach to limiting nuclear arms, “with trepidation.”

“When it comes to the nuclear stuff in particular, they’re a little bit freaked out by what I’ve been saying, to be perfectly honest with you, because it’s not been said” before, Smith said of his colleagues. “[It’s] the mere fact that I don’t want to spend as much money as is humanly possible on what they want, the fact that somebody is asking the question... but let’s just hold up a minute here.”

The Trump administration is rolling out a $750 billion budget for national defense that represents a $34 billion increase over FY19 and includes a 9 percent increase for the National Nuclear Security Administration budget. The NNSA has five major modernization programs underway, including the W76-2, a controversial low-yield warhead for the submarine-launched Trident II D5 ballistic missile.

Smith maintained his opposition to the W76-2 but tamped down expectations that Democrats, who widely oppose the warhead, would be able to scuttle it, as Republicans control the Senate and the presidency.

“I would like to kill the low-yield nuclear weapon program. I don’t think it’s a good idea,” Smith said. “Many others disagree with me; we’ll see how that plays out.”

Overall, Smith said he wants to press the Pentagon to operate more effectively and efficiently and to create more maneuvering room for other priorities, especially in light of President Donald Trump’s FY20 budget.
"I think that there are other important priorities in this country and if we spend all the money on defense we might be able to meet those priorities. Witness the budget the president just presented," Smith said. "We got a $600 billion dollar shortfall in infrastructure. [Trump] wants to cut it by another 5 percent."

On Trump’s plans to boost defense by $34 billion, Democrats are fractured, House Budget Committee Chairman John Yarmuth, D-Ky., acknowledged to reporters on Monday.

“I don’t think we have many members who want to go that high, [but] I think we have some members who want an increase in defense spending,” Yarmuth said. “We have members who want to cut defense spending. I think the pressure from the Democrat side is more internal.”

As the annual defense policy bill is drafted in the coming months, there’s friction over nuclear weapons expected between Smith and, chiefly, his Republican counterpart leading the Senate Armed Services Committee, Sen. Jim Inhofe.

Still, Smith repeated Tuesday that he is committed to reaching a bipartisan compromise for an annual defense policy bill that the president will sign, in order to ensure the Defense Department functions properly.

To press Smith and other lawmakers, Republicans are highlighting views from the defense establishment. Last week, SASC Strategic Forces Subcommittee Chairwoman Deb Fischer, R-Neb., issued a statement blasting Smith’s ICBM remarks and excerpting testimony from U.S. Strategic Forces Command’s Gen. John Hyten.

“Both the Obama and Trump administrations agree on the value of the triad, as has every administration since the Eisenhower-era. The testimony from our senior military leaders has also been clear and consistent: Our nuclear triad is necessary to keep our nation safe,” Fischer said.

Hyten told lawmakers earlier in the month that the ICBM is the most ready element to respond to a quick surprise attack, because there are 400 separate targets across the United States; all would have to be independently targeted by an adversary.”


Defense News (Washington, D.C.)

**Trump Budget Increases Funding for Nuclear Weapons Agency amid New Production**

By Aaron Mehta

March 11, 2019

WASHINGTON — The National Nuclear Security Administration will receive an 8.3 percent increase over its current budget, with an eye on completing production of a new low-yield nuclear missile this upcoming fiscal year.

The NNSA, a semiautonomous agency within the Department of Energy that has oversight on America’s nuclear weapons stockpile, is requiring $16.5 billion in the fiscal 2020 budget, up $1.3 billion from its FY19 total. Weapons-related activities would see an allocation of $12.4 billion, an 11.8 percent increase over how much funding went to that mission in FY19. NNSA’s proposed budget comprises 52 percent of the DOE’s total budget request.
“The President’s budget request reflects the Trump Administration’s strong commitment to ensuring that U.S. nuclear capabilities are second to none,” NNSA Administrator Lisa Gordon-Hagerty in a statement. “This vital funding will enable us to continue modernization of the Nuclear Security Enterprise to face 21st century threats.”

The agency has five major modernization programs underway: life extensions of the B61-12 gravity bomb; W80-4 warhead design for the Air Force’s long-range standoff weapon; W88 Alteration 370 for the Trident II ballistic missile; and the W87-1 Modification Program for intercontinental ballistic missile warheads. The fifth program is the W76-2 modification, perhaps the most controversial.

A low-yield nuclear warhead that the Trump administration first introduced as a requirement with the Nuclear Posture Review at the start of 2018, the W76-2 is moving along quickly. In January, the NNSA announced production had begun on the first unit; the budget documents released March 11 state that the system “completes development and production” in FY20.

In addition, that includes funding for investments in “Exascale computing and experimental capabilities to support weapons design, science-based stockpile stewardship, and stockpile certification.” Investments in high-end computing are a major focus for the DOE writ large; overall, the department is investing $119 million for artificial intelligence, $809 million for the Exascale Computing Initiative and $168 million for quantum systems research.

Aside from weapon systems, the administration’s budget includes nonproliferation ($1.99 billion, 3.3 percent higher than FY19); personnel ($434.7 million, 6 percent higher); and naval reactors ($1.6 billion, a 7.8 percent drop from FY19 enacted levels).


National Defense (Arlington, Va.)

Nuclear Command, Control, Comms Under Scrutiny

By Jon Harper

March 8, 2019

The Pentagon is taking a closer look at its nuclear command, control and communications needs as it fleshes out what technologies it plans to buy.

Existing systems are aging. The last major upgrade of the architecture took place in the 1980s, noted a recent report by the Mitchell Institute for Aerospace Studies titled, “Modernizing U.S. Nuclear Command, Control and Communications.”

These capabilities include air-, land- and space-based sensors and platforms, communications networks and other technologies that enable the military to detect incoming attacks, report false alarms, securely communicate with senior leaders and command the use of strategic weapons.

“Modernizing NC3 is an open-ended process that is likely to intensify over the next decade,” the report said.

The Congressional Budget Office estimates that operating and modernizing these systems could cost $77 billion from fiscal years 2019 to 2028.

Maj. Gen. Stephen Davis, director of global operations at U.S. Strategic Command, said the Defense Department is setting up a new nuclear C3 enterprise center to refine operating concepts and
future capability requirements that account for evolving threats and technologies. The organization is expected to be up and running in April.

“We know that our next NC3 system will be very different, but we don’t exactly know what it will look like,” he said at a recent conference on Capitol Hill. “We’re looking for a framework for a flexible, continuously evolving ... set of capabilities,” he added.

The Pentagon will also be conducting a nuclear C3 portfolio management review this year. More than 100 acquisition programs will be examined, Assistant Secretary of Defense for Acquisition Kevin Fahey noted at a recent conference hosted by the National Defense Industrial Association.

“The biggest focus will be on how do we use it to inform our resources, ... where do we have gaps, where do we need to fix programs and where do we need to work [on] technologies,” he said.

Meanwhile, the U.S. military is modernizing other components of its strategic arsenal, including the ground-based strategic deterrent, ballistic missile submarines, bombers and warheads. The CBO estimates that plans for operating, maintaining and modernizing the nation's nuclear forces would cost $494 billion over the next decade.

Retired Lt. Gen. David Deptula, dean of the Mitchell Institute, said Congress will need to pony up the money required to modernize command, control and communications systems if the United States is to maintain an effective nuclear deterrent. “To spend billions on new mission systems without investing in the heart of the command-and-control system makes absolutely no sense.”

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US COUNTER-WMD

Breaking Defense (Washington, D.C.)

**Pentagon’s New Ballistic Missile Interceptor Doesn’t Work, Suffers Years-Long Delay**

By Paul McLeary
March 13, 2019

PENTAGON: The Pentagon’s next-generation interceptor warhead to kill ballistic missiles, the Redesigned Kill Vehicle (KV), is at least two years away from working out its issues, despite years of development. That pushes back the fielding of the last pieces of a $40 billion dollar missile defense system that has struggled since the late 1990s.

The RKV delay won’t effect the overall expansion of the Ground-based Midcourse Defense (GMD) system from 44 to 64 interceptors based in California and Alaska — meant to protect the United States from North Korean missiles — but it does ensure that the existing interceptor, the Exoatmospheric Kill Vehicle (EKV), will stay in service even longer, despite a spotty track record.

Both the fledgling RKV and the current EKV are built by Raytheon. Both go on the same booster rocket, the Ground-Based Interceptor. The GBI soars above the atmosphere into space, where the kill vehicle detaches and collides with the incoming ICBM, destroying it (hence the name “kill vehicle”).


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The delay, which was outlined in the Missile Defense Agency’s 2020 budget request released Tuesday, pushes back the new system’s first potential test intercept until fiscal year 2023 (which begins Oct. 1 2022). The Redesigned Kill Vehicle will not be placed on missiles until around 2025 at the soonest.

“We’ve got to take a look at the whole design,” Rear Adm. Jon Hill, deputy director of the Missile Defense Agency told reporters. “We’re reassessing the whole program.” Neither Hill nor the budget documents

The current EVK has logged only 10 successful tests out of 18 tries since 1999. The new RKV has not performed up to expectation in initial tests, Missile Defense Agency officials said Tuesday, leading them to push back its fielding while they take a harder look at its shortcomings.

The Missile Defense Agency said in 2016 that the first flight test of the RKV was expected in 2019, with fielding in 2020.

Hill added that the RKV is still in the Pentagon’s plans, but “we’re going back to assess that design, do the proper testing, do the analysis, then we’ll go to the critical design review when we’re ready.”

The US is building 20 more missile interceptors to install at Fort Greeley, Alaska, adding to the 44 already in place there and in California. All these interceptors will have their current Exoatmospheric Kill Vehicle (EKV) replaced with the RKV when it’s ready.

Overall, the MDA saw its 2020 budget cut by $1 billion to $9.4 billion, after several years of funding increases as North Korea continued to conduct missile tests. Both Pentagon comptroller Elaine McCusker and MDA acting comptroller Michelle Atkinson told reporters (in two separate briefings) that the decline was really just a return to more normal but still robust funding levels as the agency wraps up programs boosted over the past few years.

But the recently concluded Missile Defense Review proposes a wide range of new and costly programs. The current Pentagon budget includes about $1.3 billion in MDR-related technologies, but these are outside the Missile Defense Agency. When the initial studies lead to actual weapons programs, however, MDA will probably pay a large part of the bill — somehow.

Sydney Freedberg also contributed to this article.


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Where are the Laser-Armed Drones? Missile Defense Review Wish List Missing from MDA’s Budget

By Jen Judson
March 12, 2019

WASHINGTON — The U.S. Missile Defense Agency’s $9.4 billion budget request for fiscal 2020 — while slightly smaller than last year’s budget of $9.9 billion — maintains many efforts from previous years to defend the homeland and counter regional threats, but it does not reflect some of the major ambitions laid out in the recently released Missile Defense Review.

The two-year delayed Missile Defense Review, released in January, lists space-based missile defense sensors and laser-armed drones as part of a wish list for missile defense capabilities, but these new desires are not highlighted in the agency’s FY20 summary of its budget request released March 12.

The lack of new efforts to get after MDR ambitions could partly be due to the fact that the review called for a significant number of studies over the next six months to gain clarity on the way forward for a variety of potential missile defense efforts, such as the development and fielding of a space-based missile intercept layer capable of boost-phase defense as well as other tracking and discrimination technologies.

With so much up in the air, the FY20 budget looks familiar. This budget, just like last year’s, aims to increase reliability and the robustness of the current system, while building on capacity and capability and developing technology to counter advanced missile threats.

Homeland defense

The MDA is requesting $1.2 billion in FY20 to continue the expansion of the Ground-based Midcourse Defense system, or GMD, designed to counter a rapidly developing intercontinental ballistic missile threat from North Korea.

The MDA received funding last year to expand the fleet of GMD interceptors, or GBI, from 44 to 64 in silos at two missile fields in Fort Greely, Alaska, requesting $926.4 million in FY19 to expand the system.

According to the MDA’s request, the agency plans to equip 20 GBIs with its Redesigned Kill Vehicle. The agency is requesting $412.4 million in FY20 to develop the RKV.

The RKV will increase the performance of the current exoatmospheric kill vehicle, which has struggled in testing.

The MDA is also planning a major test of the GMD system in FY20 that should build off the expected FY19 salvo test of the system, where two GBIs will be fired (which is more operationally realistic) against an ICBM threat. That test will focus on proving the effectiveness of an upgrade to the GBI’s booster, Michelle Atkinson, the MDA acting director for operations, told reporters at the Pentagon on March 12.

The MDA is asking for $98.1 million for the test program as well as $9.5 million to mitigate GBI obsolescence-driven redesign and testing, and another $153.2 million for maintenance and sustainment.

Additionally the MDA will continue to fund the Sea-based X-band radar, asking for $128.2 million in FY20. Atkinson said the radar spent 500 days without a port visit. The radar is expected to log 305 days at sea and 60 days in port for maintenance in FY20. It’s expected a replacement dome will be fielded in 2021.
The MDA is also planning the initial fielding of its Long Range Discrimination Radar at Clear Air Force Station, Alaska, in FY20, and the agency is requesting $136.4 million for the project. It's expected the radar will be fully operational in 2022.

The MDA is moving forward on its plan to establish a homeland defense radar in Hawaii and is asking for $247.7 million in FY20 to improve threat discrimination capability and increase the ability of the GMD system to defend the island state. Its initial fielding is expected in 2023.

The agency is also proceeding with plans to add a Pacific discriminating radar to its web of layered defense in the Pacific region. The MDA is requesting $6.7 million in FY20 to develop the program and field it in the 2026 time frame, but has yet to determine a location for the radar.

Regional defense

The Pentagon continues to focus on the Aegis ballistic missile defense system and Aegis Ashore systems in Romania and Poland, as well as the Terminal High Altitude Area Defense system and the Patriot air and missile defense system for regional defense and to have a variety of strategically positioned radars.

The agency is asking for $727.5 million in Aegis BMD efforts including the integration of the SM-3 Block IIA missile into the Aegis BMD weapon system.

Funding is also requested to conduct a flight test of the SM-3 Block IIA capability in FY20 against an ICBM following test failures. The entire Aegis BMD test program requires $169.8 million, according to the request.

The agency also plans to spend $697.8 million in FY20 for SM-3 procurement.

The MDA would like to spend $302.8 million for THAAD development in FY20 to include efforts to tie together Patriot and THAAD capabilities, also funded last year, as part of an emerging operational need out of South Korea. The agency also wants $425.9 million to procure 37 more THAAD interceptors after a large plus-up last year.

Another $99.8 million is requested in FY20 to maintain THAAD operations including the two forward-deployed batteries in Guam and South Korea.

Delays

The MDA budget request acknowledges several delays in key programs.

The RKV, which will initially outfit 20 GBIs, is delayed by two years. The agency rescheduled its critical design review of the system from late 2018 to 2020, according to budget documents.

"While the overall RKV design is mature and robust, MDA does not want to enter the CDR until the complete RKV design meets all of the requirements," the MDA's budget summary states.

"We came through a preliminary design review as we approached the critical design review at the end of last year," Rear Adm. Jon Hill, the MDA deputy director, said during the Pentagon briefing. "We did not believe as a government team that we were ready to take that step into that critical design review, and so, through coordination in the department, all the way up to the undersecretary for research and engineering, we determined that the best thing to do was to go back and assess that design and take the time to do it right."

Hill added, alluding to the previous struggles with the GMD exoatmospheric kill vehicle: "We could do what some programs do and what the Missile Defense Agency did years ago, which was to go ahead and produce what we've got and then deal with reliability issues within the fleet and then erode the confidence of the war fighter. We know that is the wrong step."
The plan is to conduct the first controlled flight test of the RKV in FY22 with an intercept flight test in FY23 and a second test in 2024.

As a result of the delay of the RKV critical design review, the plan to finish up the installation of the 20 new GBIs at Greely will see a delay to 2025.

Additionally, it was expected the Pacific radar would be fielded in FY24, but it’s now expected to be fielded in FY26, according to a slide provided during MDA’s Pentagon briefing. According to last year’s request, the agency had planned to conduct site surveys in FY19.

The Aegis Ashore system in Poland is delayed and won’t reach operational capability until 2020. The site was supposed to reach operational capability last year. According to Hill, there were delays constructing the site, not related to quality of construction, but rather due to weather issues, a lack of available materials and a need for more on-site workers. Those issues have been resolved, he confirmed.

Space-based layer

The agency’s space-related funding remains focused on its Space-based Kill Assessment experiment and it is requesting $27.6 in FY20 to continue with the effort.

The SKA uses a network of sensors hosted on commercial satellites, which are now deployed as of the end of calendar year 2018, to detect and track missile threats.

The SKA will be used in the upcoming salvo test of the GMD system, according to Hill.

In FY20, the agency will assess what steps would be necessary to add the system to the operational ballistic missile defense system.

The MDA is also continuing to fund satellite operations and sustainment of the Space Tracking and Surveillance System, requesting $35.8 million in FY20 to keep the satellites, first launched in 2009, orbiting.

And while the MDR calls for a study to look at a space-based sensor layer, Hill was unable to say whether the MDA, the Pentagon or a specific service might take leadership of any efforts once more clarity is gained on a way forward.

But without a clear path forward, funding and projects remained consistent with the FY19 priorities.

New tech

On a path to understanding the feasibility of a space-based directed-energy missile intercept layer, the MDA is investing in a new line of effort, experimenting with neutral particle-beam technology.

“MDA will address laser scaling by investing in laser component technology required to demonstrate efficient electric lasers,” the MDA summary states.


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Army Reboots Cruise Missile Defense: IFPC & Iron Dome

By Sydney J. Freedberg Jr.

March 11, 2019

WASHINGTON: The Army is effectively rebooting a key air and missile defense program, IFPC, to refocus it on higher-end threats like cruise missiles. This is just one of the sweeping changes in the service’s $190 billion budget request for 2020, as the service urgently pivots from fighting terrorists to focus on high-tech “strategic competitors,” Russia and China. The Army had planned to spend $517 million on IFPC through 2023, but that’s likely to change when the new numbers come out tomorrow.

The new approach will tone down some “gold-plated” requirements that asked the Indirect Fire Protection Capability to do too many missions at once, said Brig. Gen. Randall McIntire, director of the Army’s Cross Functional Team for air & missile defense modernization.

“We were trying to make it do two different mission sets, quite frankly,” McIntire told me. IFPC was originally meant to shoot down everything from drones swarms and rocket barrages — large numbers of relatively low-performance threats — to cruise missiles — which come in much smaller numbers but are much harder to catch. The competing demands for long range and lots of shots in a relatively mobile package just proved too much to reconcile.

But now the Army is buying not one but two new systems that take on the lower-end, more tactical threats, allowing IFPC to focus on the higher end cruise missiles. (Ballistic missiles, which are highest and fastest of all, are covered by Patriot and THAAD).

The first battery of Maneuver Short-Range Air Defense enters service in 2020. MSHORAD mounts a variety of missiles on 8×8 Stryker armored vehicles to protect frontline mechanized forces from drones, helicopters, and attack jets. The first prototype is already in production at General Dynamics’ Lima tank plant; safety testing starts in October. The first battery is operational next year. All in all, the Army plans to buy 144 vehicles for four battalions by 2022. McIntire calls MSHORAD his top priority, just ahead of IFPC.

This year, the Army is also buying two batteries of Israel’s Iron Dome — two command posts, two radars, 12 launchers, and 480 missiles — with delivery expected in 12 to 14 months. Iron Dome has a strong track record against unguided rockets and at least some capability against cruise missiles, although the Iranian-built weapons Israel faces are less sophisticated than Russia’s or China’s.

Another issue is that Iron Dome is a bulky system that the Israelis deploy permanently in static sites, but McIntire says it could be redeployed “fairly quickly” on a truckbed, just like the command posts, supply depots, airfields, and other “semi-fixed” sites it will protect. Overall, the Army’s ambivalent about Iron Dome, and it took a direct order from an impatient Congress to get the service to buy it.

“The trigger really was MSHORAD allowing us to step back and try to not goldplate this thing,” McIntire told me. With MSHORAD and Iron Dome entering service, the Army should have the tactical threats covered. That means IFPC can focus on the other urgent threat — cruise missiles — without being constrained by size requirements to fit on the back of a truck.

IFPC’s truck-mounted Multiple Missile Launcher was a flawed take on a great concept: a single set of tubes that could fire a wide variety of interceptors depending on the target, from Lockheed’s 28-inch Miniature Hit To Kill to Rafael’s 9.8-foot Tamir — used by Iron Dome — and Raytheon’s 9.9-foot AIM-9X Sidewinder — originally built for fighter jets. But it sounds like the Army was trying pack too much in.
“Some of it's classified,” McIntire told me, "but....the biggest thing I would tell you is we had some technical challenges with the missile and we weren't comfortable with the reloading procedures.”

Now the Army can make the IFPC launcher bigger, to accommodate larger missiles, more missiles, or both. “You trade maneuverability for firepower,” he told me. “We're actually going to be much better off with this approach.”

What went wrong with the old approach? The IFPC requirement was written in a different era, for a different threat. Even the acronym stands for “Indirect Fire Protection Capability”: “Indirect fire” typically means either howitzers — which Russia and China do have in abundance — or rockets and mortar shells — a constant threat to US bases in Afghanistan and Iraq at the time. IFPC was in many ways a follow-on to the ad hoc use of naval Phalanx gatling guns for Counter-Rocket, Artillery, & Mortar (C-RAM) defense, meant to be more versatile — for example by taking on cruise missiles as well as RAM — and more mobile.

But as is all too often the case with Army procurement, IFPC's requirements proved unrealistically ambitious and the technology to meet them took so long to develop that the world it was being built for went away.

“This was a classic case,” McIntire told me. Training & Doctrine Command wrote a requirement without enough input from Army acquisitions. Acquisitions built a product without checking back enough with the requirements writer. They ended up with a weapon that disappointed both sides and took so long to develop that other solutions were invented in the meantime, such as Iron Dome. The newly created Army Futures Command, McIntire noted, is meant to prevent exactly this kind of problem by unifying requirements and acquisition.

“They designed the specs on the Multi-Mission Launcher, and the size of the missiles that go into it, before the return of history,” summed up Tom Karako, a missile defense expert at the Center for Strategic & International Studies. “Now we have a more sophisticated air and missile threat from major powers.”

That said, Karako continued, “maybe it needs to be bigger, maybe it needs to carry different things, but the basic concept of a layered defense in a box, that’s important — and that’s important not to lose.”

Layered Defense

The Army now envisions IFPC as a key link in a chain of overlapping air and missile defense systems, from the venerable shoulder-fired Stinger to the 20-foot-long THAAD. (The still-larger Ground-Based Interceptor for homeland defense belongs to the Missile Defense Agency). Instead of pure IFPC formations, there'll be a battery of IFPC in each battalion of MSHORAD to handle threats too high-end for MSHORAD.

There'll also be a battery of IFPC in each battalion of Patriots to handle threats too low-end to efficiently kill with Patriots, which can intercept cruise missiles but are optimized against much faster and higher-altitude ballistic missiles. As technology develops, the Army is also optimistic it can complement missiles with laser weapons of various sizes, which offer unlimited shots but don’t work as well in bad weather or at all against targets over the horizon.

Tying all this together will be the IBCS network. (That's an awful nested acronym for "Integrated Air & Missile Defense Battle Command System"). IBCS has gone through some well-publicized agonies and delays, but it's now set to enter service in 2022.

The central idea: Instead of each air and missile defense system coming with its own custom-built launcher, radar, and command post, all of which only work with each other, IBCS will share data from every sensor over the network for any weapon to use. Just today, Northrop Grumman
announced it had integrated the first non-US systems into the IBCS network, MBDA’s Common Anti-air Modular Missile (CAMM) family. Even the Israeli Iron Dome, which the Army’s buying complete with its proprietary command posts and radar, will be tested with a prototype IBCS control system and data from US-made radars like the Army’s Sentinel and the Marines’ G/ATOR.

That plug-and-play approach is also shaping the competition for the Lower-Tier Air & Missile Defense Sensor, which is holding a “sense off” among potential radars this spring, followed by a contract award in early 2020 and the first unit fielded in 2022, ’23 at the latest. LTAMDS is McIntire’s third priority, after MSHORAD and IFPC. While the radar evolved out of a program to upgrade the Patriot specifically, he now sees it as a key component of the IBCS network broadly.

As part of that networked approach — and in an effort to avoid another overly ambitious requirement — the Army says it’s willing to accept a LTAMDS radar that, like the current Patriot radar, only covers a given sector of sky and lacks a 360 degree field of view. Instead, the service thinks it can network multiple radars’ partial perspectives together to get a full picture.

CSIS’s Karako thinks that’s a mistake. It’s great to combine data from different radars, he told me, “but you have to actually have the sensors to fuse together” in the first place. Even if IBCS delivers as promised, an adversary could still hack or jam the network. Or a battery might just have to relocate rapidly — to avoid attack, or to keep up with advancing or retreating troops — to an area where the only radar coverage is what it brings with it. In either case, you want your standard-issue radar to be capable of covering all directions by itself, not dependent on the network.

“Either you build in the 360 capability at the battery level,” Karako told me, “or you may not have it.”

The Army still says 360-degree coverage is a desired objective for the radar, just not a mandatory requirement. So it’s entirely possible one or more contractors will not only show up with a 360° system but win the day with it. But we won’t yet even know for sure who all the competitors will be. Raytheon, Lockheed, and Northrop are confirmed, with Israeli Elta rumored. And we won’t see their radars in action until the sense-off starts at White Sands Missile Range late April.


VOA (Washington, D.C.)

**US Urges UN to Restore Missile Curbs on Iran**

By Reuters

March 8, 2019

UNITED NATIONS — The United States has accused Iran of defying a U.N. Security Council resolution with one ballistic missile test and two satellite launches since December and has urged the council to "bring back tougher international restrictions" on Tehran.

A 2015 U.N. resolution "called upon" Iran to refrain for up to eight years from work on ballistic missiles designed to deliver nuclear weapons following an agreement with six world powers. Some states argue that the language does not make it obligatory.
In a letter Thursday to the 15-member council, acting U.S. Ambassador to the United Nations Jonathan Cohen said Iran tested a medium-range ballistic missile on Dec. 1, 2018, and attempted to place satellites in orbit on Jan. 15 and Feb. 5.

"Iran has carried out these three launches in defiance of the expressed will of the U.N. Security Council, and such provocations continue to destabilize the entire Middle East region," Cohen wrote.

Asked for a response to the letter, spokesman Alireza Miryousefi for the Iranian mission to the United Nations said Iran does not have any ballistic missiles designed to carry nuclear weapons, "therefore none of the ballistic missile launches of Iran are covered by that resolution."

At a Security Council meeting in December, U.S. Secretary of State Mike Pompeo urged the body to toughen that measure to reflect language in a 2010 resolution that left no room for interpretation by banning Iran from "activity related to ballistic missiles capable of delivering nuclear weapons, including launches using ballistic missile technology."

Cohen's letter called upon the council to "join us in imposing real consequences on Iran for its flagrant defiance of the council’s demands and bring back tougher international restrictions to deter Iran's missile program."

The United States has not yet proposed any concrete action by the council to toughen missile restrictions on Iran. Any such move would likely be opposed by Russia and China, which both have veto power.

Most U.N. sanctions imposed on Iran were lifted in January 2016 when the U.N. nuclear watchdog confirmed that Tehran fulfilled commitments under the nuclear deal with Britain, France, Germany, China, Russia and the United States. But Iran is still subject to a U.N. arms embargo and other restrictions.

The U.N. sanctions and restrictions on Iran are contained in the 2015 resolution, which also enshrines the 2015 Iran nuclear accord. European powers have been scrambling to salvage the deal following U.S. President Donald Trump’s withdrawal of the United States in May 2018.

Some have argued that renewing New START without extending the types of weapons it covers would be “a gift” to the Kremlin.

Anatoly Antonov, Russia’s ambassador to the United States, said that was a nonstarter. “We have to stick with the provisions of the Treaty,” Antonov said at the Carnegie Endowment’s nuclear policy conference.

The ambassador declared that any discussion of weapons not currently in New START should be part of a separate discussion about other issues. He rattled off a list of U.S. actions, programs, research activity, etc., that Russia takes exception to, which would conceivably by part of the new side discussion. They included U.S. missile defense in Europe; conventional armed forces in Europe; and cyber security. “What about the possibility to deploy weapons of any type in outer space?” he asked, referring to current Pentagon research into the feasibility of what’s called “space-based intercept” as well as current research into outfitting the F-35 Joint Strike Fighter with new weapons to take out missiles on the launch pad.

“We are very concerned with what is going in the United States in terms of strategic defensive arms,” he said, referring to the space-based intercept and F-35 concepts.

The message was clear: if you want to talk about our newest nuclear weapons, we can have a big discussion about all sorts of things; but Russia is not interested in amending the New START Treaty to include her new nukes.

Antonov then went on to claim that the evidence showing that Russia is in violation of the INF was a “fairy tale” and also suggested that his country has no doctrine allowing for the first-use of nuclear weapons — despite the fact that it does. Here’s the 2014 version of the Military Doctrine: “Russia reserves the right to use nuclear weapons in response to a use of nuclear or other weapons of mass destruction against her and (or) her allies, and in a case of an aggression against her with conventional weapons that would put in danger the very existence of the state.”

Antonov’s counterpart on the panel, James Miller, who served as defense undersecretary for policy until 2014, sounded similarly down on the prospect of renewal. “There is no certainty at all that this Administration would agree to an extension” even though, Miller said, doing so was “strongly in the interests of the United States.”


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VOA (Washington, D.C.)

US: No Phased Approach to North Korea Denuclearization

By William Gallo

March 11, 2019

The United States will not agree to a phased approach to North Korea’s denuclearization, the top U.S. envoy to Pyongyang said Monday.

"We are not going to do denuclearization incrementally," Steve Biegun told a nuclear policy conference in Washington. "The president has been clear on that and that is a position around which the U.S. government has complete unity."
The comments are the latest evidence the U.S. is hardening its public position following a meeting in Hanoi, Vietnam between President Donald Trump and North Korean leader Kim Jong Un that failed to result in a deal.

Before the summit, U.S. officials had suggested they were open to a phased approach, whereby North Korea would give up its nuclear weapons in stages as the U.S. takes corresponding measures. Biegun on Monday said the U.S. would not lift sanctions until North Korea "completes the denuclearization process," though he did say there are "other areas outside lifting sanctions" that the U.S. could offer.

North Korea is seeking sanctions relief before it takes any further steps to dismantle its nuclear program.

Missile test?

Since the Hanoi summit, U.S. officials have threatened to expand sanctions, while commercial satellite images suggest Pyongyang could be preparing a missile test or satellite launch.

Trump has said he would be disappointed if North Korea fired a rocket or missile. But Biegun downplayed the importance of the satellite images showing the North Korean activity.

"We don't know that it's meant to send any particular statement to us," Biegun said.

Commercial satellite imagery suggests North Korea has rebuilt parts of a satellite launching station and has increased activity at a site used to assemble ballistic missiles.

In the past, such activity was a sign North Korea was preparing to launch a rocket or missile. Analysts have said the North could be threatening a test in an attempt to improve its bargaining position.

U.N. sanctions ban North Korea from conducting ballistic missile tests. Although Pyongyang insists its satellite launches are part of a peaceful space program, the U.S. views the satellite launches as thinly disguised tests of missile technology.

North Korea has not conducted a missile or nuclear test since late 2017. At the Hanoi summit, Trump said Kim promised him that North Korea would not resume the testing.


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COMMENTARY

The Pandora Report (Fairfax, Va.)

The ABCs of Death: Anthrax, Bruce Ivins, and Congress
By Stephen Taylor and Michael Krug
March 7, 2019

On October 16th, 2001, an unsuspecting staffer in the office of Senate Majority Leader Thomas Daschle opened a letter from US Army biodefense scientist Bruce Ivins packed with Bacillus anthracis spores. The anthrax-causing agent aerosolized, immediately exposing 28 Senate staffers to the deadly agent. Senator Daschle recalled the events of the anthrax attacks in a recent discussion with Biodefense students at the Schar School of Policy and Government at George Mason University. Daschle reminisced on his sense of powerlessness as he rushed to his office in the Hart Senate Building. He also recalled the chaos in the immediate aftermath of the attack. First responders and federal investigators were overwhelmingly unprepared for a biological attack, evident by the fact that exposed staffers were cleared to leave the office building and return home without undergoing decontamination of any kind. The following day federal investigators requested that the staffers bring their anthrax-laden clothes back to work to be surrendered to the investigation. That nobody in the Hart building died in the aftermath of the attack is a feat that Senator Daschle attributes to the meticulous supervision and leadership of Dr. Greg Martin, who oversaw medical care of those exposed in the Hart building.

The events of October 2001 forced political leaders to reconsider how biodefense fit into the national security agenda. Sen. Daschle reflected on three lessons learned throughout this process, which included: 1) revamping mail security, 2) rethinking large-scale emergency responses, and 3) developing contingency plans for biological events. Despite efforts to harden America’s biosecurity posture, however, our national biodefense enterprise today remains fractured, inefficient, and largely dysfunctional. One such example is the application of the BioWatch program. Technical shortcomings and false-positives have plagued the program from its conception. However, while the frustration of the program has been clear, there must remain a drive for innovation from all involved in the biodefense network.

A major driving force behind reorganizing the U.S. biodefense direction has come from the Blue Ribbon Study Panel on Biodefense, of which Sen. Daschle is a co-chair. The panel has worked diligently since 2014 to persuade administrations to implement strategies that harness the U.S. biodefense network. In 2018, the Trump administration published their National Biodefense Strategy. The strategy called upon the Department of Health and Human Services (HHS) to be the prime coordinator of the strategy. Within the Cabinet, however, HHS is widely viewed as lacking the clout to overcome interdepartmental vying and deploy a coherent strategy to the executive branch. This decision to delegate coordination authority to an agency outside of the executive office was deemed ineffective by Sen. Daschle and the Blue Ribbon’s original National Blueprint for Biodefense. Instead, their panel advocated for a level of authority only carried by the President and Vice President. The lack of interdepartmental convening authority at the helm of the biodefense enterprise plagues the successful implementation of preparedness and response initiatives.

On the legislative side, there are over 60 congressional committees and subcommittees with some responsibility for biodefense. It is impossible for that many actors to coordinate their efforts, meaning that the governing branch with budgetary authority is not able to cost national biodefense in a coherent way. Senator Daschle observed that, while most Congressional representatives are
concerned with biodefense, it seems to be everyone’s “fifth or sixth priority.” As a country, we have been lucky that places far away from us, like Brazil and West Africa, have borne the brunt of recent pandemics. As a consequence, however, legislators fail to view biodefense with the appropriate urgency.

As a result of political paralysis over biodefense, private sector companies are unable to lend their considerable innovative talent and resources to address biological threats. The medical countermeasure (MCM) industry’s principal client is the United States government. Currently, the U.S. government’s primary interaction with the industry is to purchase MCMs in batches, years apart, to stockpile in case of emergencies. Without a steady demand for countermeasures, the industry cannot turn an attractive profit. Worse still, when drugs and biologics are only manufactured in periodic bursts, production expertise is difficult to advance or even simply maintain. If the MCM industry is going to be an effective partner in strengthening national biodefense, it needs the U.S. government to incentivize companies with multiyear funding commitments that deliver profitability while also providing the stability to unlock the innovative potential of the market.

Finally, national biodefense strategy cannot be a federal responsibility alone. First responders are principally found at the local level. Senator Daschle praised states like Kansas that have performed exemplary work in coordinating local resources like first responders and universities to maximize their response impact in the face of a biological event. Such state and local level leadership must be emulated across the board.

In order to foster the full protective potential of the U.S. biodefense enterprise, national and local leaders must raise the profile of biothreats to the U.S. to engender greater coordination among Federal, state, and local agencies and higher funding levels. In the wake of the Amerithrax letters of 2001, this confluence of strategy and funding briefly materialized, but have since fallen to the wayside. This fundamental failure to recognize a glaring demand for biodefense strategies is one of the reasons that Sen. Daschle continues to advocate for strengthening decision-making authority in the executive and legislative branches and increasing funding for this vital area of national security. It is crucial that policymakers not allow the gruesome lessons of this attack to be forgotten or wait for another incident to relearn them.


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

Balakot, Deterrence, and Risk: How This India-Pakistan Crisis Will Shape the Next

By Arzan Tarapore

March 11, 2019

The India-Pakistan crisis seems to have peaked. The two sides continue to trade intermittent small-arms and artillery fire across the Line of Control that divides Kashmir. Skirmishes have occurred elsewhere near their border and at sea, but the situation is no longer escalating. Pakistani airspace is reopening, and even the cross-border passenger train has resumed operations.

For nearly two weeks after the Feb. 14 suicide car-bomb attack in Pulwama, analysts speculated about India’s likely response. Another special forces incursion across the Line of Control, of the type that India launched after the 2016 terrorist attack in Uri, would have been too predictable — terrorist staging bases would probably have been vacated in anticipation — and would exact no
operational cost or psychological shock on the Pakistani establishment. Instead, in the pre-dawn hours of Feb. 26, the Indian Air Force launched an air strike against a Jaish-e Muhammad training facility near Balakot, Pakistan. This was a significant escalation — India traditionally averred from air strikes in Pakistani territory, even during the 1999 Kargil war, because it considered such strikes too escalatory. Pakistan responded the next day by launching an even larger number of aircraft towards Indian airspace, shooting down one Indian MiG-21 and capturing its pilot. The two countries seemed to be on the precipice. They mobilized forces and moved tanks to front-line positions.

But then, almost as suddenly as the crisis began, Pakistan quickly announced the release of the pilot, handing him over at the Wagah border crossing in a made-for-TV gesture of de-escalation. The provocative air combat phase of the crisis seems to be over, replaced by more familiar cross-Line of Control artillery duels.

To a large degree, India’s crisis behavior was an effort to placate a swelling domestic thirst for revenge, fueled by a manic news media, especially with Prime Minister Narendra Modi facing re-election beginning in April. But of course, India’s strike at Balakot was also designed to deter future Pakistani attacks. To do that, India demonstrated a new appetite for imposing costs on Pakistan, and especially for crossing thresholds and accepting risk. Its actions probably still won’t deter Pakistan, though they will make the next crisis more dangerous. India may now assess that henceforth it can strike its neighbor; absorb a proportionate Pakistani retaliation, and safely de-escalate later in a crisis. But with Pakistan now more concerned about its own deterrent, this crisis may induce both sides to take riskier action next time.

Attempting Deterrence Three Ways

The Balakot strike and ensuing crisis could have established general deterrence in three possible ways. The first and most obvious was by India imposing costs through punishment. By destroying an important Jaish-e Muhammad facility, India would inflict costs on Pakistan and its proxies, hoping that would force them to rethink their campaign of irregular conflict against India. For punishment to work, however, India would need to impose unacceptable, possibly existential costs — only then would the adversary revise its cost-benefit calculus and change policy. Minor, easily absorbed costs would only feed the revisionist narrative of the ‘perfidious Indian.’

A single air strike was always highly unlikely to impose the necessary costs. This is especially true if the marauding aircraft failed to destroy the target, as some open-source analysts claim. In the past, even massive, operationally successful ground offensives did not deter Pakistan. In 1965, India responded to a Pakistani invasion of Kashmir by hurling two corps of infantry and armor into Pakistan’s Punjabi heartland, fighting the biggest tank battles since World War II. In 1971, India cleaved Pakistan in two, creating the new state of Bangladesh, taking 90,000 prisoners of war, and humiliating Pakistan’s army. Over subsequent decades, India fought a Pakistan-backed insurgency in Kashmir and repelled the 1999 Kargil invasion. Through it all, Pakistan’s ideological revisionism only hardened. Now shielded by nuclear weapons, its irregular campaign against India is the core of its national security strategy. Losing four buildings — or maybe not — at a terrorist camp in the wilderness will not shift Pakistani preferences.

The second way India’s strike could have helped to establish deterrence was by deliberately crossing thresholds, signaling India’s resolve to punish Pakistan with escalatory and unpredictable action. In recent decades, India has taken military action, from artillery duels to special-forces raids, in Pakistan-controlled Kashmir — disputed territory marked by varying levels of continuing violence. This time, with an air strike in Balakot, India escalated both vertically and horizontally — it showed it was willing not only to use air strikes, but also to attack a target in Khyber Pakhtunkwa, undisputed Pakistani territory, not Kashmir.
This was a significant threshold to cross. It sets a precedent that Indian military strikes are no longer geographically confined. As one astute journalist observed, "If it is Balakot today, it could be Bahawalpur or Muridke tomorrow" — referring to cities in Punjab that host the headquarters of Jaish-e Muhammad and Lashkar-e Taiba, respectively. This was a significant escalation from the 2016 post-Uri raid, which itself crossed a threshold after years of military inaction against terrorism. But India still framed escalation as being measured. India's foreign secretary, in announcing the strike, made clear it occurred in an unpopulated area to avoid civilian casualties, was undertaken against a non-military target and therefore not against the Pakistani state, and was a pre-emptive action against an imminent threat and therefore legal. There were some thresholds, in other words, which India did not cross, at least not this time.

The third possible way the crisis might have helped to establish deterrence was by elevating risk for both sides. The quick cycle of attack and counter-attack on Feb. 26 and 27 raised the specter of general – even nuclear – war, which convinced both sides to de-escalate. Pakistan's Prime Minister Imran Khan pointedly warned, "with the weapons you have and we have, can we afford a miscalculation?" He called for bilateral talks and unilaterally released the captured Indian pilot. Both sides reverted to cross-Line of Control firings.

Pakistan also de-escalated in 2016, by not even acknowledging an Indian special-forces raid that would have required a riposte. In both 2016 and 2019, Pakistan was apparently responding to the risk of an uncontrolled gallop towards nuclear war, rather than any direct tactical costs imposed by India. In both cases, it was Indian action that initiated that gallop — "India's leader was the unpredictable one." This manipulation of risk may moderate Pakistani behavior in ways that cost-imposition never has.

Still, concern over these risks is unlikely to force an end to Pakistan's irregular warfare strategy. Pakistan has made a show of detaining Jaish-e Muhammad personnel, and harsher anti-militant action may come – the February war scare seems to have convinced various other countries to tighten the screws on Pakistan. But its publicized crackdowns against militants are usually cosmetic and fleeting. All the same, concern over risk did keep the crisis from escalating further and likely altered Pakistan's expectations of Indian responses in the next crisis.

The Fire Next Time: A New Crisis Escalation Paradox

Assuming this crisis has now peaked, Pakistan will emerge from it largely undeterred. Another terrorist attack by Jaish-e Muhammad or Lashkar-e Taiba — possibly larger than the last — is inevitable. The costs India imposed at Balakot will not dissuade the Pakistani establishment. If and when India responds next time, it will again be incentivized to cross some notable threshold, to get the Pakistanis' attention once and for all. But Pakistan will equally be incentivized to answer the provocation in kind — as it did with Balakot — lest its own deterrent be discredited.

Just as significant as the lack of deterrence in this crisis is how these events will shape the escalation dynamics of the next crisis. Analysts have long considered that the key decision point in India-Pakistan crises is India’s move two – whether, in its response to the terrorists' move one, India would shrug off the provocation or “opt-in” to the crisis. Any Indian military action was almost presumed to unleash an unstoppable cycle of escalation. In the past, India has been exceedingly restrained, opting not to retaliate after successive crises, including the devastating “26/11” attacks in Mumbai. In contrast, this latest crisis has shown that there are key decision points at every step of the crisis. India did retaliate at move two, with Balakot, and Pakistan did respond at move three, with air combat at the Line of Control. Both India and Pakistan then paused – in particular, Pakistan broadcasted conciliatory gestures, and India chose not to escalate with move four. They both had strong incentives to de-escalate after their point had been made — to each other and to domestic audiences — with demonstration attacks.
This presents a new crisis escalation paradox, not unlike the stability-instability paradox, which predicts low-level conflict between nuclear powers. Here, India and Pakistan have tested and proven that viable off-ramps exist at subsequent steps in the crisis, which may incentivize India to opt in to future crises with military action. India may deliberately introduce more risk, no longer fettered by fears of inevitable escalation, and confident — or over-confident — in its ability to pause and de-escalate at move four. The great danger is that if India miscalculates Pakistan’s expected reactions, it may find itself boxed in, compelled to escalate rather than de-escalate — its clever risk-generating plans foiled.

With the current crisis now cooling, India may believe it has found space for limited conventional strikes without triggering Pakistan’s trump card, tactical nuclear weapons. Indian proponents of Cold Start — the erstwhile doctrine of rapid mobilization and quick, shallow ground incursions — may become newly energized. If India undertakes credible preparations for Cold Start, it may present these as a signal of its increasing appetite to generate risk in a crisis; and in the next crisis, a move to demonstrate new mobilization processes may ratchet up that risk to an unprecedented level.

Meanwhile, Pakistan’s generals also have a well-honed appreciation for risk. One retired Corps Commander argued in the midst of this crisis that Pakistan must escalate sharply in order to show that any conflict would not remain limited at low levels — that any Indian attack could risk nuclear war. If the Pakistan Army laments that India called its nuclear bluff, the lesson it learns may be to escalate more boldly. Next time, Pakistan’s actions may not allow India to calmly de-escalate at move four.

India has shown itself to be more and more militarily aggressive after the 2016 and 2019 responses. Unlike the deniable 2016 raid, India’s 2019 strike at Balakot compelled Pakistan to retaliate. Next time, with each side facing incentives to show even more resolve, they may accept even more risk. Indian hawks may celebrate this evolution. But with dubious and shrinking claims of India’s achievements, the military response seems now to have accomplished little except generating risk. Risk can be productive, if managed deftly – India has certainly shown that risk can moderate Pakistani behavior. But an India with few other viable options for deterrence, increasingly enamored by military swashbuckling and encouraged by the United States, may become seduced by competitive risk-taking. Its adversary hinges its entire national defense on brandishing nuclear risks, so a more dangerous spiral is waiting to happen – and a rising India has a lot to lose.

CORRECTION: A previous of this article erroneously referred to Imran Khan as the president of Pakistan. He is the prime minister.

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America and Japan in a Post-INF World
By Sugio Takahashi and Eric Sayers
March 8, 2019

How long do estimates suggest it would take the People’s Liberation Army Rocket Force to destroy all major U.S. air, naval, and logistics bases in Japan? Some have argued that the answer is not days, but hours. Let’s come back to this though, after first setting the record straight on how the U.S.-Japan alliance has found itself in such a dire position.

After five years of attempting to bring Russia back into compliance with the Intermediate-Range Nuclear Forces (INF) treaty, earlier this month the United States, at the urging of Congress, exercised Article 15 of the treaty and notified Russia of its intent to withdraw in six months. Unsurprisingly, Russia subsequently wasted little time in officially suspending its participation in the treaty.

As a result of Russia’s decisions, following Aug. 2, 2019, the U.S. Department of Defense will now be able to test and deploy ground-based cruise and ballistic missiles with a range of 500 to 5500 kilometers. The implications of this decision for Europe and the NATO alliance have been discussed at length. What has not been explored is how a post-INF world, and particularly the conventional missile aspects of said world, will affect the U.S.-Japanese alliance and America’s defense posture in East Asia. No longer restrained by the treaty, the United States will be able to work with Japan to explore a series of relatively affordable, near-term options to bolster the conventional military balance with China and impose new costs on Beijing’s military planners. The alliance will need to move carefully and with purpose to take advantage of these newfound benefits.

As the treaty comes to an end it is important to reflect on the unique role Japan played in its final negotiation during the mid-1980s. At the time, the United States and European countries were ready to accept the Soviet Union’s plan for a regional ban of intermediate-range weapons solely in the European theater. However, Tokyo objected to a geographical limitation and maintained that the treaty should be global in scope because the Soviets could move a residual SS-20 ballistic missile force to the Far East and threaten regional security in Asia. Japanese Prime Minister Yasuhiro Nakasone insisted to President Ronald Reagan that any INF agreement should not be perceived by the Japanese public as disadvantageous to Japan and that Asian concerns should be given the same consideration as European concerns. Japan’s intervention was instrumental in leading to the global elimination of ground-launched, intermediate-range weapons as part of the final 1987 treaty agreement.

Three decades later, INF-range missiles have proliferated to East Asia, including North Korea and China (while South Korea is currently developing them). The proliferation of ground-launched ballistic and cruise missiles has rapidly shifted Tokyo’s security environment and the military situation facing the U.S.-Japanese alliance. Not a party to the treaty, China has invested heavily in a modern military and has specifically prioritized a conventional missile force that can hold naval ships and military bases at risk across East Asia. Beijing owns the largest arsenal of such missiles in the world and is now estimated to have 1,400 to 1,800 of these weapons. The result is a China more confident in its conventional military prowess and the continued erosion of regional strategic stability. The United States relies on a series of naval and air bases in Japan at Kadena, Sasebo, Iwakuni, Yokosuka, Misawa, and Anderson in Guam to generate offensive combat power. By targeting these critical nodes and other naval assets in the theater in a quick, sharp strike, China could move to paralyze American power projection and present the United States and the alliance with a fait accompli. If this trend continues, Beijing could conclude that they can deter U.S. military
intervention and may find the option to use force to achieve its objectives in a place like Taiwan, or the Senkakus, more appealing.

With the arrival of a Chinese military that can pose a credible military threat to the U.S.-Japanese alliance, Nakasone’s original dictum that Asian concerns about intermediate-range weapons should be given the same consideration as European concerns holds truer than ever. The treaty has placed an undue burden on an American joint force that must operate from great range across Asia’s geography and has to rely on a limited number of bases to project power from.

The INF Treaty also forces the United States to exclusively use air-launched and sea-launched cruise missiles fired from expensive platforms that have finite munitions magazine depth. As a result, the United States faces a regional ”strike gap” against Chinese land and sea targets. Just as Nakasone did not want Asia to bear the cost of a limited INF Treaty in 1987, Japan and America’s Asian allies should not be expected to carry the consequences of the failed treaty in 2019 and beyond. In many ways East Asia has already been living in a post-INF world, with only the United States continuing to abide by the Cold War-era restrictions.

America’s decision to finally recognize the failure of the treaty means that the U.S.-Japan alliance can now consider a new defense agenda that aims to strengthen the alliance and bolster the military balance in East Asia. Adm. Phil Davidson recently testified to the Senate Armed Services Committee on the utility of ground-based systems, concluding that “for (Indo-Pacific Command) to have a land-based component with (intermediate-range) capability restores maneuver to the force, making the air, maritime and land component much more viable in any warfare scenario and presents a much greater challenge for adversaries to threaten.”

The United States should start by launching a study, including a series of war games, about the most effective mix of ground-launched systems to address the strike gap with China. This will serve to offset the striking power of air- and sea-launched platforms and introduce new dilemmas for the PLA that will complicate their planning and potentially force additional investments in defensive systems. Given the importance of the U.S.-Japanese alliance for regional stability and the unique advantage of Japan’s geographical location, this study should be conducted in consultation with the government of Japan.

The INF Treaty prohibited any kind of ground-based, intermediate-range missile system regardless of the target, meaning even surface-to-ship missiles were prohibited. Considering the geographic characteristics of the Western Pacific, one lucrative choice for the alliance would be the development of a surface-to-ship cruise missile. Japan already has a surface-to-ship missile capability with a range of roughly 200 km, but this limited range makes it insufficient to contribute to coordinated strikes with air- and sea-launched missiles. Given Japan’s experience with surface-to-ship missiles, Washington and Tokyo would benefit most in the near-term from the joint procurement of a surface-to-ship cruise missile with a range of 500 to 1000 km. This would give the alliance the ability to conduct multi-azimuth and time-coordinated strikes against adversary’s surface ships throughout the East China Sea.

This capability could be tested and deployed expeditiously by integrating an existing mobile launcher with a surface-to-ship munition that is currently in production like the Long-Range Anti-Ship Missile or Naval Strike Missile. The U.S. military is already procuring both munitions and Japan decided to procure a version of both in its recent National Defense Program Guidelines. Instead of developing an entirely new munition, this option presents a relatively inexpensive and near-term way to bring this new capability into the alliance arsenal.

While a surface-to-ship missile of this range would need to be deployed to the first island chain to be effective, the United States does not have to base this new surface-to-ship missile battery in
Japan. Instead, the capability could be based forward in a location like Guam or Alaska where the United States Air Force has large transportation aircraft. This would allow it to be positioned in the theater and able to move rapidly forward to conduct joint exercises with Japan’s Ground Self-Defense Force or as a flexible deterrent option to signal alliance resolve during a crisis.

Finally, over the medium-term, the alliance should consider the option of developing land-attack cruise missiles with a range of 1000 to 1500 kilometers to offset the current strike gap between China’s ground-based strike power and America’s air- and sea-launched striking power. This could include the Tomahawk or the Joint Air-to-Surface Standoff Missile integrated on a mobile ground launcher. If the United States could deploy conventional ground-launched systems that could hold China’s interior at risk, it would potentially force greater Chinese investment in missile defense systems to protect their military infrastructure. Every dollar spent on a defensive system is a dollar Beijing cannot devote to offensive systems along its coast or in its maritime and aerospace forces. That is the sort of competitive strategy alliance planners should be eager to exploit and that the 2018 National Defense Strategy specifically mandates. There is also the possibility that the development of a land-attack cruise missile might also be leveraged in the future to pressure China to discuss a regional arms control regime, just as the Pershing II deployment shaped the Soviet’s choice to start INF Treaty negotiations in the early 1980s. This is an important and overlooked point by the arms control community today. As early as 1980-81, Reagan offered the Soviets a zero-zero agreement to eliminate all INF missiles. Moscow continually refused Reagan’s offers until America and the NATO alliance demonstrated that it could and would deploy ground-launched Pershing II and Tomahawk missiles.

Critics to our suggested approach will contend that Tokyo will never be able to accept the deployment of cruise missile batteries to Japan following the withdrawal of the INF Treaty. First, despite the focus on nuclear weapons in the original treaty, it must be clear that we are only discussing the utility of conventional intermediate-range weapons. Second, critics of the U.S. decision have insisted Japan is opposed to INF withdrawal, pointing to press reports where Chief Cabinet Secretary Yoshihida Suga said INF withdrawal was “undesirable.” But Suga carefully placed the blame on Russia in his full statement, saying that “the situation under which the Treaty is forced to be terminated is undesirable (author emphasis).” Third, the types of munitions we are proposing already exist in the U.S. arsenal and many of them are stored at American bases in Japan for loading on sea and air platforms today. In Japan, the Marines already employ the ground-launched missile systems that would be required for these munitions. Fourth, just like nuclear aircraft carriers, the V-22 Osprey, and missile defense systems in the past decade, we agree that any new capability introduced into Japan will require careful alliance consultation and coordination. Fifth, the fact that the decision to accept the deployment of ground-based strike systems would have great political significance magnifies the effect of its deployment as a flexible deterrent option. Finally, to mitigate a “fear of entrapment” in Japan, both Tokyo and Washington must deepen intelligence sharing and consultation on allied defense strategy to form a common perception of the strategic situation and a shared sense of required capabilities. Fortunately, this process has already begun, including on the subject of anti-ship missile capabilities, as demonstrated during the most recent Rim of the Pacific military exercise. The key point is that, just as has been the case in the past, it is the responsibility of alliance managers to work through issues that can be sensitive politically. It is also their duty to have a frank discussion about the challenges the alliance faces and the capabilities required to maintain a favorable conventional military balance.

A decision on whether to accept the deployment of ground-based strike systems will hold some controversy in Japan. However, how to offset the strike gap is one of the most important national security questions Tokyo faces. Therefore, this should not be treated as traditional “gaiatsu,” or listening to “what the American thinks” first and then discussing “how the Japanese responds to the
American request.” Since the strike gap is a serious physical challenge to the Japanese homeland rather than the American homeland, what Japan should do first is to discuss how the alliance should address the strike gap, and then cooperate with or ask support from Washington to offset this gap. Based on serious assessments of strategic reality, the answer to this controversial issue must be found by the Japanese government and public.

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ABOUT THE USAF CSDS

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

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

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

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

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