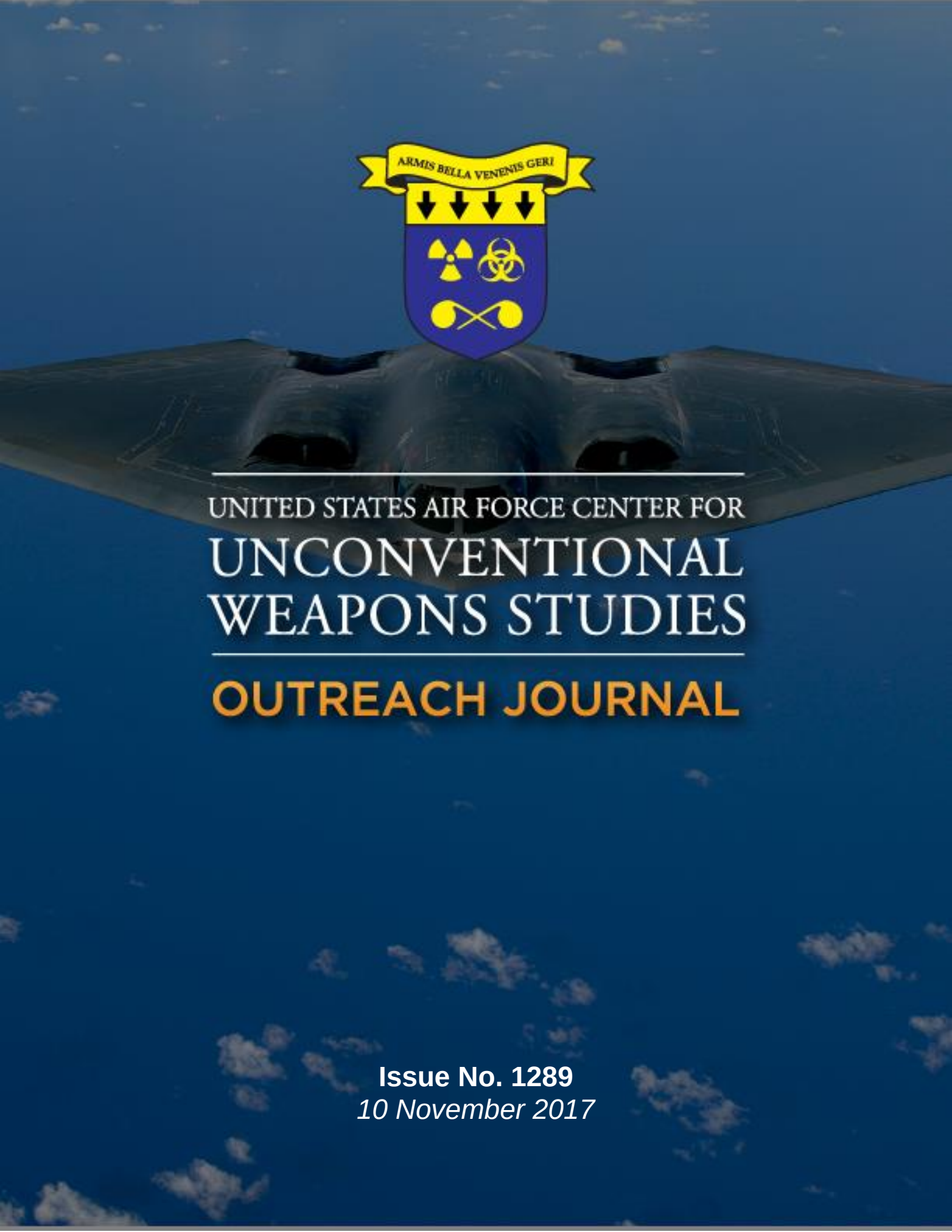

UNITED STATES AIR FORCE CENTER FOR

UNCONVENTIONAL WEAPONS STUDIES

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Featured Item

"*The Use of Highly-Enriched Uranium as Fuel in Russia*". By Pavel Podvig, Editor, and Nikolay Arkhangelskiy, Anatoli Diakov, Anton Khlopkov, Dmitry Konukhov, Dmitry Kovchegin, and Eugene Miasnikov; published by the International Panel of Fissile Materials; 2017

http://fissilematerials.org/library/rr16.pdf

Highly-enriched uranium presents a unique challenge from the nuclear security point of view. Because of its nuclear properties, HEU can be used relatively easily in a simple nuclear explosive device; it, therefore, poses significant danger with regard to potential use by non-state actors or states with limited nuclear weapon expertise. Moreover, the material is widely used in a range of non-weapon military and civilian applications, such as naval and research reactors or critical research facilities, which makes it vulnerable to diversion or loss. Substantial amounts of HEU are constantly moving through the fuel cycle, creating constant nuclear security risk. Civilian research facilities, which may lack sufficient protection, are the most problematic, but military uses of HEU also carry with them substantial nuclear security risks.

Understanding of the inherent security risks associated with the continuing use of HEU and of the nuclear proliferation risks associated with these activities helped initiate an international effort, led by the United States and supported by many states, to reduce the use of HEU in civilian applications. Over the last few decades, this effort has made significant progress in removing HEU from research facilities throughout the world and reducing the number of countries that have access to the material. Further progress in HEU minimization will critically depend on the participation of Russia, which currently operates more HEU facilities than the rest of the world combined and is committed to continue to use the material in a wide range of applications.

Russia has never declared the size of its HEU stock, nor has it disclosed detailed information about the facilities that use the material. Independent estimates suggest that it has about 680 tons of HEU, although this number is characterized by a very large uncertainty of about 120 tons. About 160 tons of HEU is probably in assembled nuclear weapons, active as well as those in reserve and awaiting dismantlement. An equivalent of about 25 tons of 90% HEU is believed to be in use in the naval fuel cycle, primarily in the cores of operational naval reactors. Most of the remaining 500 tons of HEU appears to be in the custody of Rosatom and may be stored in bulk form or in weapon components.

One of the key conclusions of this report is that significant progress in HEU minimization in Russia would be extremely difficult without a comprehensive international strategy for dealing with all aspects of HEU use. A program that is narrowly focused on civilian research reactors would not make a visible contribution to reducing the risks associated with the use of HEU in Russia. More importantly, a narrow program is unlikely to gain the support of key internal constituencies in Russia, such as its nuclear complex's technical community.

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US NUCLEAR WEAPONS

Daily Sabah (Istanbul, Turkey)

Removal of Nukes at Incirlik Might Benefit Both US, Turkey

By Ali Unal

November 7, 2017

Amid U.S. media speculation over the removal of nuclear weapons from İncirlik Air Base in southern Turkey, experts argue that the nuclear stockpile held over from the Cold War has lost its use for deterrence and therefore its removal might be beneficial for both sides. Existence of U.S. nuclear weapons in Turkey has been an open secret for decades, but it was acknowledged for the first time in a recent report from Parliament. The report, "Data on Nuclear Weapons," was released on Oct. 31, prepared by Parliament's Research Department.

It says the U.S has 150 nuclear weapons in five NATO member countries, including Turkey. More specifically, the report says that some 50 B-61 thermonuclear hydrogen bombs, which are 12-times greater than the atomic bomb that wiped out Hiroshima in 1945, are deployed at İncirlik.

Excusing the soured relations between the two countries, several U.S media outlets have speculated from time to time that that removal of the nuclear arsenal from Turkey would be to punish its NATO ally. Turkish-U.S relations are passing through turbulent times due to U.S support for the Gülenist Terror Group (FETÖ), which was behind last year's failed July 15 coup attempt, and the PKK Syrian affiliate Democratic Union Party's (PYD) People's Protection Units (YPG) militia.

Professor Mustafa Kibaroğlu from MEF University in Istanbul and senior lecturer Tom Sauer from the University of Antwerp argue in their article for Insight Turkey, "Mr. Trump, Post Nuclear Ban Treaty, NATO's Nuclear Weapons in Europe are Obsolete," that U.S nuclear weapons in European NATO countries, including Turkey, are becoming a liability on a variety of fronts rather than being a deterrent. "There is no consensus on withdrawing them, but at the same time there is no consensus on keeping them. This inertia is a recipe for escalating internal political frictions within the Alliance, and it is all the more problematic in an age where nuclear weapons are being banned."

According to the article, another compelling reason to withdraw the weapons is the reality that the delivery systems for these bombs are tactical aircraft such as F-16s, which cannot reach Russia. "During the Cold War, these aircraft were supposed to bomb the Warsaw Pact countries. Today, Central European states like Poland, Romania, Bulgaria, and the Baltic states have become full members of NATO and the European Union. In short, there is no military justification to retain American tactical nuclear weapons on European territory."

The article also argues that apart from their symbolic value as a representation of the U.S. commitment to NATO, the nuclear weapons are ineffective and have no deterrence ability. The academics also say that B-61 nuclear weapons at İncirlik need to be modernized in the foreseeable future along with the U.S arsenal in other European countries and that the modernization of each nuclear bomb will cost $25 million, making the total cost of updating the nuclear arsenal at İncirlik around $1.25 billion to NATO member country tax payers.

"If the strength of NATO depends on a few outdated tactical nuclear weapons that will not be used anymore, we are afraid that this state of affairs says a lot about the strength of the Alliance in general," the article says.

https://www.dailysabah.com/diplomacy/2017/11/09/removal-of-nukes-at-incirlik-might-benefit-both-us-turkey

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National Defense (Arlington, VA)

Nuclear Triad: Pentagon Taking Steps to Modernize Global Strike Weapons

By Jon Harper

November 3, 2017

As potential adversaries enhance their long-range weapons, the United States is moving forward with plans to bolster its own global strike capabilities. The stakes are high as officials try to keep their programs on time and on budget.

Russia, China and North Korea are modernizing their strategic weapon systems, defense officials and independent analysts have noted. At the same time, tensions are boiling in the Asia-Pacific following Pyongyang's recent tests of intercontinental ballistic missiles and nuclear warheads that could potentially reach the U.S. homeland.

To bolster deterrence and assure anxious allies, the Air Force has flown long-range bombers such as the B-52 near the Korean Peninsula and conducted an ICBM test without a warhead. The Navy has deployed ballistic missile submarines to the region, and allowed officials from allied nations to tour the USS Pennsylvania while it was docked in Guam.

"A lot of that diplomatically is just a show of force," Gen. Robin Rand, commander of Air Force Global Strike Command, said during a meeting with reporters at the Air Force Association's Air, Space and Cyber Conference in National Harbor, Maryland. It signaled that "we're ready to fight tonight," he added.

However, the United States' global strike systems are aging, and the Pentagon is pushing to modernize its arsenal.

The Navy plans to replace its Ohio-class ballistic missile submarines with 12 new Columbia-class boats. Advance procurement funding has already been allocated to the project. The lead vessel is to be procured in fiscal year 2021, and enter service in 2031.

Vice Adm. Terry Benedict, director of Navy strategic systems programs, said industry is enhancing shipbuilding facilities.

"Electric Boat is working very, very hard in creating new infrastructure … to handle the capacity necessary to deliver the Columbia," he said at a recent nuclear deterrence conference in Washington, D.C. "We can't do it within the existing footprint."

The Navy is aiming to reduce technical and schedule risk. That includes building infrastructure to test and validate systems and subsystems.

When the Columbia-class is delivered Navy officials will have high confidence that the new platforms are entering operational service with known reliability and system performance, Benedict said.

However, any disruptions to the program would be problematic, he said.

"There is no slack" in the schedule, he told National Defense. "We're trying to find ways to intelligently create that [slack] within our integrated master schedule. But … the buffer for when we need it based on the retirement dates for the Ohio, that's gone."

The new submarine is the Navy's top acquisition priority, with a projected program cost of $128 billion. Despite the high price tag, it appears to have strong backing from Congress. The sea-launched ballistic missile platform is expected to take priority when it comes to funding the Pentagon's nuclear modernization efforts, analysts said.

"Most people agree the SLBMs are kind of … sacrosanct," said Todd Harrison, director of defense budget analysis at the Center for Strategic and International Studies, a Washington, D.C.-based think tank. "You're not going to touch them [with a budgetary ax] because that is the most survivable leg of the triad."

The Columbia is "very safe" in the Pentagon's ongoing nuclear posture review, which is expected to wrap up by the end of the year, he said during a briefing with reporters.

Meanwhile, the Air Force has several nuclear modernization programs underway. One is the Ground-Based Strategic Deterrent, known as GBSD. It is expected to replace the Minuteman III system that has been in operation for decades.

In August the service awarded technology maturation and risk reduction contracts to Boeing and Northrop Grumman.

"We are not just buying a missile," said Col. Heath Collins, GBSD program manager at the Air Force Nuclear Weapons Center. "The GBSD program is a full recapitalization of the weapon system." It will include a new flight system, a new command-and-control system and modernized launch systems, he noted.

To improve their chances of success, service officials have examined the acquisition woes that have plagued other programs.

The program is not looking for "technology miracles," Collins said. "We want mature technology right at the get-go to be integrated together." A significant amount of risk reduction work is expected, he added.

Program officials are looking at missile development efforts by the Navy, the space community and the Missile Defense Agency that could be applied to GBSD. "We will take, beg, borrow, steal any type of technology, people, processes — anything we can" to improve the program, Collins said.

The first major requirements review with the prime contractors for the TMRR phase was slated to be completed by the end of October. "Every requirement that we have on contract we are taking a look at from a cost-capability trade perspective," Collins said.

The companies will conduct analyses "to make sure that we're not over-specing the program, making sure we understand and identify what the largest cost drivers are."

"If there are particular areas [where] we think that with a little bit of relief we could save big time [or] money, we'll continue to work that through as we finalize the program," he added.

The preliminary design review is expected to wrap up in 2020.

"We have the opportunity to make decisions in the next couple years that will save billions and billions of dollars over the lifecycle of GBSD," Collins said.

Defense Department cost estimates for the program have varied widely, from $62 billion to as much as $140 billion.

"It was unusually difficult to estimate the cost of a new ICBM program because there was no recent data to draw upon, and the older historical data was of very questionable quality or was nonexistent," the Pentagon's cost assessment and program evaluation office said in its most recent annual report. "This leads to considerable uncertainty and risk in any cost estimate."

The service plans to eventually deploy 400 new ICBMs. Initial fielding of GBSD is expected by 2029. Additional missiles are to be procured for periodic testing and to have spares.

However, a number of other major Air Force modernization efforts will also be ramping up in the early to mid-2020s, Harrison noted. The F-35 joint strike fighter, B-21 stealth bomber and KC-46 tanker are the service's top acquisition priorities. Funding for those programs could crowd out spending on GBSD, he said.

"This is going to require a pretty good increase in … their acquisition funding for major modernization programs," he said. "If they're not able to increase funding as they planned, they're going to have to make choices."

A schedule slippage — due to budget constraints or technical issues — is probably in the cards, he predicted.

If the nuclear posture review calls for cuts to any leg of the triad, it would probably be the ICBMs because they are the least survivable and they don't contribute to conventional missions, he added.

In addition to pursuing new ground-based weapons, the Air Force is moving to modernize its bomber fleet.

"Our bread and butter in this command is to be able to take off with ordnance with the support of Air Mobility Command and their phenomenal tankers and go a long way and very precisely deliver [weapons] on time, on target," Rand said.

The service's B-2 and B-52 bombers are undergoing upgrades and life-extensions so that they can fly for several more decades, he noted.

Rand and other senior leaders hope to be able to re-engine the B-52 to help keep it operational into the 2050s. But finding the money to do it has been a challenge.

Sen. John Hoeven, R-N.D., a member of the Senate Appropriations Committee, was optimistic that the necessary funding would be forthcoming.

"If I have my way, and I think there's a good chance I will, we're going to continue to put more money into [the B-52] including new engines, which I know is not a small price tag," he said.

Hoeven's home state, North Dakota, hosts B-52s and ICBMs.

The Air Force is also pursuing a next-generation stealth bomber, the B-21.

Rand said he's "very, very pleased" with the program so far.

"If we do this right… we have an opportunity between the United States Air Force and [prime contractor] Northrop Grumman to make this what I think could be a benchmark acquisition program for our nation," he said.

"The requirements are tight. … The funds you know are there. So we have the opportunity I think to really march out on this thing," he added.

The service hopes to learn from the problems that plagued the B-2 stealth bomber program. Production was stopped in the 1990s. Only 21 aircraft were built, and the plane ended up costing about $2 billion each.

The Air Force has put together a team to do a deep dive and assess where things went wrong. But Rand said one lesson is already crystal clear.

"If we've learned anything from the B-2 … [being] on time, on cost is really important because we need this capability and we need it in the sufficient numbers," he said.

"We cannot take our foot off the pedal," Rand said. "There's a lot of work to do in the months and years to come."

The B-21 program has been projected to cost $55 billion to $80 billion. The Air Force hopes to begin fielding the aircraft in the mid-2020s.

The service plans to buy at least 100 bombers, but officials have suggested that more may be needed as the global threat environment becomes more challenging.

Harrison doesn't expect the dual-mission capable B-21 to suffer from the nuclear posture review. "The size of the bomber force is almost entirely driven by the conventional mission of the bombers. And so the NPR, I think, is highly unlikely to affect that," he said.

In addition to buying new aircraft, the Air Force wants to acquire next-generation air-launched cruise missiles that could deliver nuclear weapons. The Long Range Stand-Off weapon, known as LRSO, is intended to replace aging legacy systems, which are difficult to maintain.

The Air Force recently awarded technology maturation and risk reduction contracts for LRSO to Lockheed Martin and Raytheon.

Air Force leaders have argued that a new cruise missile is needed to keep B-52s viable as nuclear bombers. The aircraft, which is not stealthy, would have difficulty penetrating sophisticated enemy air defenses, they said.

Legacy cruise missiles are also vulnerable to adversaries' counter-air capabilities, according to Air Force Gen. John Hyten, commander of U.S. Strategic Command.

"The air-launched cruise missile that was built 40 years ago for a Soviet threat is not the air-launched cruise missile that we need today," he said during remarks at the Hudson Institute, a Washington, D.C.-based think tank.

Although survivability wouldn't be as much of a concern for the stealthy B-21, the aircraft would still benefit from the LRSO because it would give the planes the ability to attack multiple targets at once rather than having to fly over each individual target to drop gravity bombs, Hyten noted.

The Air Force wants to procure about 1,100 cruise missiles. The projected cost of the program is about $10 billion, not including warhead modernization work that would likely be required.

However, a number of Democratic lawmakers have come out strongly against the project, arguing that it would be costly and destabilizing. Some observers expect a highly partisan, budgetary fight over the program.

But Sen. Heidi Heitkamp, D-N.D., said there is significant support for LRSO within her party.

"There are people who seem destined to oppose it," she said.

However, "we've had this discussion in groups of Democrats where someone will have said something that is negative [about the program] only to be very aggressively challenged by a number of us. So do not believe that the Democratic caucus is lockstep in any way. In fact, I think at this point … the position to not invest is a minority position," she added.

The planned modernization of the U.S. nuclear arsenal, including support systems, is expected to cost hundreds of billions of dollars in the coming decades. Retired Air Force Gen. C. Robert Kehler, former commander of Stratcom, is pessimistic about how it will unfold.

"I am skeptical that we are capable of remaining committed to a long-term project like this without basically messing with it and screwing it up," he said.

If officials keep adjusting the programmatics, "then pretty soon we're over budget, the time is too long and then it goes further over budget," he said. "We know what this litany looks like."

Additionally, the political consensus about the need for nuclear modernization is fragile, he said. "There will be overwhelming temptation to tinker with it or to abandon pieces of it, especially as the world situation ebbs and flows, which it will do over the next 15, 20 years as this recapitalization is going on."

http://www.nationaldefensemagazine.org/articles/2017/11/3/nuclear-triad-pentagon-taking-steps-to-modernize-global-strike-weapons

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Ploughshares Fund (Washington, DC)

Defense Experts Warn Nuclear Buildup Is 'Unsustainable and Must Be Rethought'

Author Not Attributed

November 2, 2017

CBO finds U.S. nuclear arsenal costs skyrocketing. $1.7 trillion price tag threatens other military programs. Alternative force structures cheaper, safer.

Washington, DC -- Yesterday, the Congressional Budget Office, CBO, released a new report estimating that the Trump administration's plans to maintain and replace the U.S. nuclear arsenal over 30 years would cost $1.2 trillion in constant dollars. With inflation, the total cost would be roughly $1.7 trillion. This is a massive increase over previous estimates and is leading defense experts to warn President Trump that the plans must be scaled back.

The new CBO report is the most comprehensive estimate to date of the total cost of rebuilding the U.S. nuclear arsenal, consisting of new, controversial Intercontinental Ballistic Missiles (ICBMs), air-launched cruise missiles, strategic submarines, long-range bombers, and the nuclear warheads they carry. Previous Pentagon cost estimates ranged from $350 billion to $1 trillion.

In response to the new report, William J. Perry, former Secretary of Defense, and General James E. Cartwright, former Vice Chairman, Joint Chiefs of Staff, and former Commander of U.S. Strategic Command sent a letter to President Trump warning that CBO's new estimate "should be a wake up call that current plans to rebuild the nuclear arsenal are unsustainable and must be rethought. Now is the time to stop and ask ourselves: which weapons do we need to maintain deterrence in the future, and which can we do without?"

"The rising cost of rebuilding the nuclear arsenal is a warning that these plans are unaffordable," they argue. "We should consider all aspects of our nuclear posture, and our conventional forces' needs, before rushing headlong into these expensive and contentious development programs."

In the letter, Perry and Cartwright express their support for new, nuclear-armed submarines and stealth bombers. But they question the need for a new generation of nuclear-armed cruise missiles and ICBMs, which together would cost roughly $150 billion.

They write, "our ICBMs are in danger of being launched in the case of another false alarm (we have experienced three to date), thereby starting a civilization-ending nuclear war by accident. This is not a theoretical problem; we had three false alarms during the Cold War, and on one of those, we narrowly averted a nuclear catastrophe."

Perry and Cartwright state that taking a more prudent course in rebuilding the U.S. arsenal would not only save money and help avoid accidental nuclear war, but would also "help avoid a new arms race with Russia that neither side should want." They point out that our current nuclear arsenal "was designed to fight an adversary that disappeared 25 years ago. Current Russian belligerence, although worrisome, does not constitute a renewed Cold War."

"The current nuclear modernization budget is growing at an unsustainable rate," agreed John Tierney, Executive Director of The Center for Arms Control and Non-Proliferation. "This unnecessary spending is drawing critical resources away from other pressing military priorities." Jon Wolfsthal, non-resident fellow at the Belfer Center and the Carnegie Endowment for International Peace, points out that the report represents a 20% increase from an estimate by the Center for Nonproliferation Studies two years ago.

"The report blows apart the "do everything or do nothing" false choice repeatedly posited by Pentagon officials," tweeted Kingston Reif of the Arms Control Association. The sheer size of the cost estimates in the report belie the all-or-nothing approach taken by hawks: "Military leaders, lawmakers, and defense contractors have been relentlessly pushing the excessive 'all of the above' modernization program under a false promise of a choice between modernizing or not having a nuclear deterrent or not," says Hans Kristensen of the Federation of American Scientists. "If the White House, DOD, and Congress don't make the right choices about priorities now at the outset of the modernization programs, future defense budgets will make the decisions for them."

Tom Z. Collina, Policy Director at Ploughshares Fund, said that, "Many elements of Trump's nuclear spending spree are excessive and dangerous, and we would be safer and richer without them." He cautioned against giving President Trump new weapons that could be used first in a crisis, or would make nuclear war more likely. "Americans are not comfortable with Trump's finger on the nuclear button," Collina said. "Let's not give Trump new nukes that he might actually use."

https://www.ploughshares.org/issues-analysis/early-warning/defense-experts-warn-nuclear-buildup-%E2%80%9Cunsustainable-and-must-be

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The Strategist (Barton, Australia)

Trident and the Nuclear Future

By Rod Lyon

November 2, 2017

The nuclear world is bifurcating. Along one fork sit those favouring the nuclear ban treaty—affronted by the ongoing role that nuclear deterrence plays in key global and regional security arrangements, appalled by the prospective humanitarian consequences of any direct use of nuclear weapons, and determined to beat swords into ploughshares at the earliest opportunity. Along the other sit those committed to nuclear deterrence—firmly attached to the idea that nuclear weapons make a positive contribution to international security, worried by the prospective return of great-power conventional war, and dedicated to modernising strategic nuclear-weapon systems for future decades.

We get a nice snapshot of that second fork by looking at the current modernisation plans for the US Trident D5 submarine-launched ballistic missile. Since submarine-based nuclear weapons tend to be the least vulnerable, and therefore the best suited to secure second-strike missions, they're

unlikely to be beaten into ploughshares anytime soon. And by 'anytime soon', I mean anytime before 2060 or 2070, which is about as far ahead as current modernisation planning sees.

In Western arsenals, submarines carry a disproportionate share of the load of strategic nuclear deterrence. When the New START Treaty deadlines come into force on 5 February next year, about 70% of deployed US strategic nuclear warheads will be based on the Trident D5s (1,090 out of the allowable 1,550 warheads). And the missile already supports 100% of the UK's nuclear deterrent—as it has done since 1998. (In Britain's case, the American-manufactured missiles are mated with nuclear warheads of British design and manufacture.) So the importance of the Trident life-extension program should come as no surprise.

Life-extended Trident D5 missiles were introduced to the US Navy earlier this year. They'll be the weapon system that links the current Ohio-class submarines to the future Columbia-class ones. The Ohios are forecast to move out of service between 2027 and 2040. But the incoming Columbias—the first is scheduled to enter service in 2031—will continue to deploy the Trident. And a common missile compartment, designed to house the missiles, will be a feature of both the Columbia design and the incoming British Dreadnought-class submarines, which will begin to replace the current Vanguard class from 2028.

Just how long can the Tridents last? Well, that's a moot point. The life-extension program is a major undertaking. Some years back, the director of the US Navy's strategic systems programs suggested that the two main challenges involved 'determining the service life of the three-stage boost motors that comprise the missile propulsion system and modernizing the extremely complex D5 guidance system and missile electronics'. US sources suggest the missile is meant to remain in service until 2042. But that date's probably a conservative estimate. Both Washington and London anticipate relying on sea-based nuclear deterrents into the 2060s and 2070s, and probably beyond.

Retrofitting a new missile into the common missile compartment at some point is surely possible. (After all, back in the late 1960s the Poseidon C3 was designed to use the same launch tubes as the smaller Polaris A3.) Still, much will depend on future assessments of the D5's ongoing reliability. The Americans like to get value out of their strategic weapon systems. It's not out of the question that a weapon system first deployed aboard the USS Tennessee in 1990 could celebrate its 60th birthday still at sea.

US Navy documents note that 'life extension efforts will push the Trident D5 missile's service life beyond that of all five previous systems combined'. (Those include the Polaris A1, A2 and A3, the Poseidon C3, and the Trident C4.) That's impressive. Still, long-lived strategic weapon systems can also be found in the other two legs of the US nuclear triad. The US ICBM, the Minuteman III, first entered service in 1970—and current plans suggest it won't retire until 2030. Meanwhile, the B-52 strategic bomber first saw service in the 1950s, and some tens of the H variant (the last of which rolled off the production line in October 1962) will still be part of the US strategic arsenal formally limited under New START.

What does all that tell us? Well, nuclear modernisation efforts aren't undertaken lightly—necessity is typically the driver. The Americans and the British have embarked on a modernisation program for the sea-based leg of their nuclear triad which is intended to ensure a safe, secure, effective arsenal for the next 50 years. Lest readers imagine that Washington and London are forcing the pace in nuclear modernisation, let me assure you that they aren't. Russia's already well down this path. China's making serious efforts to nurture its own sea-based nuclear capabilities. And France is currently retrofitting its new M51 missile to its Triomphant-class ballistic-missile submarines. Conclusion? Nuclear weapons aren't about to disappear from the world.

https://www.aspistrategist.org.au/trident-and-the-nuclear-future/

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US COUNTER-WMD

Defense News (Vienna, VA)

US Installs Final Ground-Based Missile Interceptor to Counter ICBM Threat

By Jen Judson

November 7, 2017

WASHINGTON — The final ground-based interceptor for the Ground-based Midcourse Defense system — designed to protect the homeland from intercontinental ballistic missiles threats from North Korea and Iran — is now in place at Fort Greely, Alaska, the U.S. Missile Defense Agency has confirmed.

"MDA and Boeing emplaced the 44th interceptor in its silo at the Missile Defense Complex at Ft. Greely on Thursday, Nov. 2," the agency said in a statement sent to Defense News.

The agency planned to have all 44 required interceptors in the ground and ready to respond to threats by the end of 2017.

It's been a monumental year for the GMD system as it went up against an ICBM-class target for the first time in a May test, completely obliterating the threat. Previous tests had featured intermediate-range ballistic missile targets that approached ICBM speeds.

The much-anticipated test follows a series of successes and failures. Trouble with the interceptor's exo-atmospheric kill vehicle, designed to destroy targets in high-speed collisions after separating from a booster rocket, plagued the program.

The test and the installation of all 44 ground-based interceptors could not come at a more important time, as North Korea continues to increase its testing both in frequency and capability and the country's rhetoric against the United States grows more bellicose.

The Pentagon and the MDA have indicated in recent months a serious move to build up beyond 44 interceptors. In September, the Pentagon proposed reprogramming $136 million in fiscal 2017 to start raising the number of ground-based interceptors from 44 to 64 in a new Missile Field 4 at Fort Greely. The boost was part of a $416 million reprogramming request targeting missile defense needs.

And the White House submitted a supplemental budget request for FY18 on Nov. 6 that asked for further funding to increase the number of ground-based interceptors by 20 and to build an additional missile field at the Alaska base.

https://www.defensenews.com/land/2017/11/07/final-ground-based-missile-defense-interceptor-in-place-at-fort-greely/

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Contagion Live (Cranbury, NJ)

New Biosecurity Threats Appear in Less Familiar Forms

By Saskia V. Popescu

November 1, 2017

Infectious diseases pose a threat from multiple avenues—naturally occurring events such as outbreaks, accidental incidents like lab errors, and intentional acts of bioterrorism. Globalization, growing populations, and increasing encroachment of humans onto animal habitats have increased the risk for spillover and natural outbreaks. From the laboratory side, the threat is a mixture of biosecurity and biosafety. Biosecurity measures are those that seek to protect the organisms from nefarious actors, while biosafety practices look to protect investigators (or the public) from accidental exposures. The Ebola outbreak in 2014 and 2015, the Zika virus epidemic of 2015 and 2016, findings of smallpox vials in National Institutes of Health laboratory freezers in 2014, and continual lab errors involving mishandling and shipping of live select agents all highlight the threat of natural and accidental events. Although these recent occurrences have reinforced the need for preventive and responsive measures, the threat of bioterrorism can seem a bit distant; however, with advances in biotechnology and global travel, we must remain vigilant.

The 2001 Amerithrax attacks easily come to mind when discussing the threat of bioterrorism. Following the September 11, 2001, attacks, letters laced with anthrax added a new horror to the United States, a country that was already vulnerable. The Amerithrax attacks killed 5 individuals and sickened 17 and are considered the worst biological attacks in US history. The decontamination costs alone were estimated to be $320 million, and challenges with postexposure prophylaxis recommendations and compliance only added to the chaos. Perhaps one of the most unexpected aspects of this attack was the conclusion that US Army Medical Research Institute of Infectious Diseases biologist and anthrax expert Bruce Ivins, PhD, was considered the most likely culprit (he later took his own life prior to charges being filed).

Typically, bioterrorism is thought of in terms of attacks like the ricin release by Aum Shinrikyo in the Tokyo subway and the poisoning of salad bars with Salmonella by the Rajneeshee cult in Oregon. All these attacks involved fanatical groups and revealed deep-rooted challenges with the science of acquiring, growing, weaponizing, and disseminating complex biological weapons. The Amerithrax attacks were different because the anthrax was delivered in a fine powder that ensured easy inhalation exposure. Many were surprised that the threat came from not only a scientist but also an American researcher working at an infectious disease institute aimed at protecting the United States. Moreover, Dr. Ivins had the means and capacity to make the attack exponentially worse but simply had chosen not to.

It was during this time that significant gaps were found within the United States' response to such an attack. Whether it was who was responsible for decontamination, physician capacity to diagnose agents likely to be used for bioterrorism, or the sensationalized news, numerous factors left the United States truly struggling to handle such an event. The Amerithrax attacks gave insight into not only the poor American preparedness and response for bioterrorism but also a new source for weapons: skilled scientists.

Although there is always the potential for nonstate actors—ISIS, for example— to develop crude biological weapons, a more recent focus regarding biothreats has aimed at emerging technology. The scientific capabilities and tacit knowledge of bioterrorism will ultimately affect the bioweapon, whether it be the selection of organism, the crude design or complex dissemination method, etc.

The Amerithrax attacks gave us a small window into the capabilities of a nefarious individual with significant skills and knowledge in bacteria. Recent biotech advances have added a new spin to biothreats.

For example, the biotech industry is rapidly growing, bringing new technologies like synthetic biology, digital-to-biological converters, and gene-editing tools like CRISPR-Cas9 to the masses. CRISPR can effortlessly be purchased online for $150, making the process significantly easier. A tool that can easily edit DNA like a pair of scissors with a copy and paste has the potential to prevent mosquitoes from transmitting malaria and to remove chronic conditions from humans. Gene editing also has the capacity for gene drive, which allows genetic traits to be quickly passed down through generations. The potential for CRISPR is endless, and yet it has many scientists worried. The ease of use and access, not to mention very limited federal oversight, could have unintended effects due to a garage-biohacker's tinkering around with DNA. Jennifer Doudna, PhD, one of the inventors of CRISPR, expressed her worry about this very act, noting, "I think there's sort of the potential for unintended consequences of gene editing in people for clinical use. How would you ever do the kinds of experiments that you might want to do to ensure safety? "

Although CRISPR has made gene editing easier and more accessible, there also exists the hazard of dual-use research of concern (DURC), like that of gain-of-function research (GoF). DURC is life sciences research that, despite its good intentions, has the capacity to be directly misapplied to pose a threat to humans, animals, the environment, agriculture, etc. The recent news that a Canadian research team reconstituted horsepox with little specialized knowledge, mail-ordered DNA fragments, and $100,000 highlights the DURC debate. Although the research has yet to be published, the concern is not only that this process could be applied to reconstitute smallpox but also that the research was not flagged in the review process for risks related to dual-use research. The horsepox experiment points out the possibility that such work can be done and that even at the most structured level, proper risk review is not being done. Moreover, such an experiment raises concerns for lowering the barriers to experiments using smallpox and normalizing DURC in a manner that could be dangerous.

GoF is one of the most common examples of DURC. Experiments with GoF involve increasing the virulence, transmissibility, or host range of pathogens. Although this research is performed to better understand current diseases and what it would take for them to evolve to have more pandemic potential, this research inherently worries many in the research community because of the risk of accidental release or intentional misuse by a nefarious actor. This first became an issue in 2012 when 2 research teams genetically modified H5N1 viruses to transmit efficiently between mammalian hosts to show the genetic mutation needed for the virus to sustain human-to-human transmission. The concern over this research led to a federal moratorium's halting funding for such experimentation until guidance could be developed.

What do CRISPR and DURC have to do with bioterrorism? In a word, everything. The growing biotech industry makes the science of genetic engineering easier and more accessible, while DURC means that research with pathogens of pandemic potential poses both a biosecurity and biosafety risk. Imagine a lab failure, which history proves can happen, that results in the release of a strain of H7N9 that has been modified to be easily transmitted among people or a strain of Neisseria meningitis that is highly resistant to antibiotics. This becomes even more relevant as the dramatic increase in biodefense activities and in the number of biosafety level 4 labs continues.14 Moreover, imagine that this incident is not an accident; rather, it has occurred because of a person with bioterrorist ambitions who acquired access to these labs or even an insider threat like Bruce Ivins. The truth is that the threat of bioterrorism is no longer beholden to the state program or cultish group with a makeshift lab in their garage but may also include a DIY biohacker or laboratory worker with nefarious intent.

How can we, as infectious disease practitioners, prepare or respond? First, knowledge is key. It is crucial to understand the threats, whether they are a natural outbreak, a lab breach you read about, or even just a review of the signs and symptoms of organisms we tend to worry about but may not see in the United States (such as severe acute respiratory syndrome, Middle East respiratory syndrome, anthrax, etc). Researchers should also consider the implications of their work and take the necessary review processes to ensure the proper biosecurity measures are taken.

Second, as simple as it sounds, practice vigilant infection control. That's right—hand hygiene, personal protective equipment use, rapid isolation of potentially infectious patients, and working with your infection prevention and control (IPC) resources. Fundamentally, these practices will provide the first and most vital line of defense against the exposure and spread of a disease.

Third, keep an open communication channel with those IPC resources and your local public health department. If something seems off, say something. You are without a doubt the most vital part of identifying patients with unusual or concerning disease presentations. Every outbreak begins with someone asking questions and knowing when to bring in additional resources. Consider a surge of patients with the same symptoms during an off time of year or with symptoms of a rare disease. Although the surge could be a flu epidemic, or the result of a crowd from a major sporting event being exposed to a food-borne pathogen, it could also be something more sinister. By touching base with public health officials, you allow them to start investigating.

Last, don't stop what you're doing. Infectious disease threats present from all angles—natural, accidental, or as acts of bioterrorism—but they all require identification, isolation, and treatment from practitioners. The field of infectious disease and public health isn't for the weary, and every person is vital to global health security.

http://www.contagionlive.com/publications/contagion/2017/november2017/new-biosecurity-threats-appear-in-less-familiar-forms?p=2

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Associated Press (New York, NY)

Trump Seeks Nearly $6 Billion to Counter North Korean Missiles, Repair Navy Ships

By Richard Lardner

November 6, 2017

WASHINGTON — The Trump administration is seeking nearly $6 billion to pay for urgent missile defense improvements to counter the threat from North Korea, increased U.S. troop levels in Afghanistan and fast repairs to Navy ships in the Asia-Pacific theater.

The budget request delivered to Capitol Hill on Monday coincided with tough words for Pyongyang from U.S. President Donald Trump during the first stop of his lengthy Asia trip. Trump sought to ratchet up pressure on North Korea by refusing to rule out eventual military action and declaring that the United States "will not stand" for North Korea menacing America or its Asian allies.

Trump denounced North Korea as "a threat to the civilized" for pursuing nuclear weapons and the development of the long-range ballistic missiles to deliver them.

The spending request designates $4 billion of the total to support "additional efforts to detect, defeat, and defend against any North Korean use of ballistic missiles against the United States, its deployed forces, allies, or partners," according to the document. That includes current and projected threats to the U.S. homeland, Guam, South Korea and Japan.

Portions of the money would be used for the construction of an additional ground-based interceptor field at Fort Greely, Alaska; the initial procurement of 20 new ground-based interceptors; ship-based missiles; and interceptors for the Terminal High-Altitude Area Defense, or THAAD, a U.S. mobile anti-missile system.

Roughly $1.2 billion in the request would allow the Defense Department to deploy an additional 3,500 U.S. troops to Afghanistan as part of Trump's new strategy for the country where the U.S. has been fighting since 2001, according to the budget request. Trump in August unveiled his new plan for the 16-year Afghan war, declaring that American troops would "fight to win" by attacking enemies, "crushing" al-Qaida and preventing terrorist attacks against Americans.

About $700 million of the spending package would go to the Navy to make repairs to the destroyers John S. McCain and Fitzgerald. Both ships from the Pacific-based 7th Fleet were damaged in deadly collisions that led to eight top Navy officers, including the 7th Fleet commander, being fired from their jobs.

The McCain and an oil tanker collided near Singapore in August, leaving 10 U.S. sailors dead. And seven sailors died in June when the Fitzgerald and a container ship collided off Japan.

https://www.defensenews.com/global/the-americas/2017/11/06/trump-seeks-billions-of-dollars-to-counter-north-korean-missiles/

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U.S. Army (Washington, DC)

Task Force Wraith Increases CBRN Response Capability

By Capt. Stephen James

November 4, 2017

CAMP BUEHRING, Kuwait - Soldiers from the 29th Combat Aviation Brigade's Task Force Wraith completed combined training with the 208th Chemical, Biological, Radiological and Nuclear Company and Camp Buehring's emergency services at Udairi Landing Zone, Kuwait, Oct. 24, 2017 to increase their capability to respond to a chemical attack.

The training event was a simulated chemical attack that required an aeromedical evacuation of casualties followed by the decontamination of Soldiers and Task Force Wraith's UH-60L MEDEVAC helicopter.

"This was the first time that we have ever done any real CBRN training with aircraft," said 2nd Lt. Mitchell Hoh, battalion CBRN officer from Task Force Wraith's 1-147th Assault Helicopter Battalion.

Furthermore, this training provided an opportunity for Soldiers from Task Force Wraith to learn from the technical expertise of Soldiers from the 208th CBRN Company and Camp Buehring's emergency management personnel.

"Anytime that we work with other organizations we build capability," said Lt. Col. Scott Bush, the commander of the 1-147th Assault Helicopter Battalion, Task Force Wraith. "We can learn a lot from each other."

The 208th CBRN Co. taught the aircrew how to decontaminate their aircraft, said 208th CBRN Co. 1st Sgt. Billy Heatherly.

"Conducting an operation of this complexity relies upon having the expertise and experience of a unit who is solely dedicated to this mission," said Capt. Larry Halvorson, the 29th Combat Aviation Brigade's CBRN officer.

The exercise also required coordination and actual training with other emergency management organizations at Camp Buehring, including the fire department.

"This was a great exercise that brought a lot of entities together," said Bush.

This training was a chance for both Soldiers from Task Force Wraith and the 208th CBRN Co., to build solid relationships and further the trust between the two organizations, said Hoh.

Although the training exercise itself occurred over the course of one morning, it will have a far-reaching impact on CAB elements.

"The implications of this training will go beyond what is learned on Udairi Landing Zone and will help shape our tactical standard operating procedures as we continue to provide support within our area of operations," said Halvorson.

https://www.army.mil/article/196432/task_force_wraith_increases_cbrn_response_capability

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US ARMS CONTROL

Reuters (New York, NY)

Mattis Looking at Ways to Bring Russia into Compliance with Arms Control Treaty

Author Not Attributed

November 9, 2017

BRUSSELS (Reuters) - U.S. Defense Secretary Jim Mattis said on Thursday he had discussed Russia's violation of an arms control treaty with his NATO counterparts and they were looking at how to bring Moscow into compliance with it.

"We have a firm belief now over several years that the Russians have violated the INF and our effort is to bring Russia back into compliance," Mattis said, speaking with reporters during a meeting of NATO defense ministers.

U.S. officials have said Russia has deployed a cruise missile despite complaints by Washington that it violates the arms control treaty banning ground-based, U.S. and Russian intermediate-range missiles.

Russia however, has said in the past that it appears that Washington, now in the midst of a $1 trillion, 30-year modernization of its ageing ballistic missile submarines, bombers and land-based missiles, that was in breach of the same treaty.

"Many of the nations already have their own evidence of what Russia has been up to and we have been in active discussions amongst ourselves on the issue," Mattis said.

He added that the United States and NATO would be engaging with Russia to try and resolve the issue.

http://www.reuters.com/article/us-usa-nato-russia/mattis-looking-at-ways-to-bring-russia-into-compliance-with-arms-control-treaty-idUSKBN1D91N5?il=0

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Tehran Times (Tehran, Iran)

Amano Counters Trump's Objections to Nuclear Deal

Author Not Attributed

November 7, 2017

Yukiya Amano, the director general of the International Atomic Energy Agency, has countered U.S. President Donald Trump's objections to the 2015 nuclear deal.

"We have had access to all the locations that we needed to visit," he told Financial Times in an interview published on Tuesday.

He said its inspectors had been able to visit military locations and that the role of such sites in its monitoring program had been "overly exaggerated".

Amano also said, "'Section T' is not [an] access clause, it is a clause related to dual-use and we are verifying it using the Additional Protocol."

The IAEA director general met with Federica Mogherini, the EU's foreign policy chief, in Washington on Tuesday and discussed the nuclear agreement.

In his new Iran strategy declared on October 13, Trump decertified the nuclear deal and asked Congress to decide about the fate of the agreement. Congress now has to decide whether to reimpose economic sanctions on Tehran that were lifted under the deal. Trump said if Congress does nothing he himself will terminate the deal.

The IAEA is tasked with monitoring Iran's commitments under the nuclear agreement. So far, the agency has confirmed Iran's compliance for eight times.

The nuclear deal, known as the Joint Comprehensive Plan of Action, was signed by Iran, the European Union, Germany and the five permanent members of the UN Security Council - the United States, Britain, France, China and Russia in July 2015. The agreement went into effect in January 2016.

Amano reiterates Iran's compliance to JCPOA

On Monday, Amano once again confirmed that Iran has been committed to its obligations under the nuclear deal.

"Now, almost two years since Implementation Day (January 16, 2016), I can state that the nuclear-related commitments made by Iran under the JCPOA are being implemented," Amano told a conference on nuclear energy at the Woodrow Wilson International Center for Scholars in Washington.

He said that the IAEA "is not a party to the agreement, but we played a key role in bringing it about".

He noted that Iran has "agreed to additional transparency measures" under the nuclear accord, and that the agency's inspectors have "expanded access to locations."

"Iran is now subject to the world's most robust nuclear verification regime. It has committed itself to fully implementing its comprehensive safeguards agreement and is provisionally applying the Additional Protocol," Press TV quoted him as saying.

http://www.tehrantimes.com/news/418330/Amano-counters-Trump-s-objections-to-nuclear-deal

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Intelligencer Post (New York, NY)

Trump Urges Pyongyang to Negotiate and Denuclearize

Author Not Attributed

November 7, 2017

US President Donald Trump has urged North Korea to "come to the table" and discuss giving up its nuclear weapons. In Seoul, Trump also said he "hoped to God" he did not have to use the US military against Pyongyang.

US President was speaking at a press conference with his South Korean counterpart Moon Jae-in, as part of his tour of Asia. He is on a five-nation tour of Asia, where North Korea's nuclear ambitions have been high on his agenda.

The two presidents repeated their call for the North to denuclearize. Trump said it makes sense for North Korea to make a deal, and to do the right thing, not only for North Korea but for humanity all over the world.

"It really makes sense for North Korea to come to the table and make a deal," Trump told reporters at a joint news conference with Moon.

No will for negotiations in Pyongyang

Despite Trump's renewed threats against North Korea, it was a more diplomatic approach than the one he has pursued in recent months, including his previous dismissal of any diplomatic efforts with Pyongyang as a waste of time.

North Korean leader Kim Jong-Un has made clear, however, that he has little interest in negotiations, at least until he has developed a nuclear-tipped missile capable of hitting the US mainland, Reuters reports.

Trump and Moon also called on China and Russia to put pressure on Pyongyang, and said they were lifting the limit on South Korean missile payloads, which they had agreed to do over the phone in September.

Trump and Moon: Stronger cooperation

Trump also said that South Korea would be ordering "billions of dollars" in military equipment from the US, which he said would reduce their trade deficit.

It was unclear if a deal was already struck, but Moon said they had agreed to "begin consultations on acquisitions" that would enhance South Korea's defense capabilities.

Protests against Trump, as well as counter-rallies welcoming him, have been held in Seoul and elsewhere, BBC reports.

Many in South Korea are hoping that Trump will not repeat his strong rhetoric against North Korea, which many here regard as unnecessary and incendiary. Also, there is a great opposition to the THAAD defense systems in parts of South Korea.

Military drills

Three U.S. aircraft carrier strike groups will exercise together in the Western Pacific in the coming days in a rare show of force as the US President visits Asia with warnings about the nuclear threat from North Korea, US officials say.

The drill will include the USS Nimitz, the Ronald Reagan, the Theodore Roosevelt and their accompanying warships, the first time three U.S. aircraft carrier strike groups have exercised together in the region in a decade.

A Japanese destroyer, the Inazuma, will join the armada, two Japanese government officials said, following a separate three-day exercise with the Reagan and two Indian warships in the Sea of Japan that ended Monday.

Officials have previously said the drill was under consideration and that planning was under way. The decision to soon go forward with the exercise in the Western Pacific has not been previously published.

http://www.intelligencerpost.com/trump-urges-pyongyang-negotiate-denuclearize/

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Phys.org (Isle of Man, UK)

Nuclear Energy Programs Do Not Increase Likelihood of Proliferation, Study Finds

Author Not Attributed

Nov. 6, 2017

Contrary to popular thought, nuclear proliferation is not more likely to occur among countries with nuclear energy programs, according to research published in International Security.

In a historical analysis of the relationship between nuclear energy programs and proliferation from 1954 to 2000, the study finds that the link between the two has been overstated. Out of more than 15 countries that have pursued nuclear weapons since the first nuclear power reactor came online in the 1950s, only five—Argentina, Brazil, India, Iran and Pakistan—began pursuing nuclear weapons after a nuclear energy program had already been initiated. Most countries either pursued nuclear weapons following a more covert approach or had already begun seeking nuclear weapons before they had started nuclear energy programs. Moreover, countries that pursued nuclear weapons under the cover of an energy program have not been significantly more likely to acquire nuclear weapons, when compared to countries that seek nuclear weapons without an energy program.

As the study points out, nuclear energy programs do provide an increased technical ability to develop nuclear weapons. However, countries with nuclear energy programs face political obstacles that help counter this proliferation risk, including improved intelligence by outside actors, and the prospect of costly nonproliferation sanctions, which jeopardize the international trade and supplies required for most energy programs to operate. When a country announces plans to develop nuclear energy, this provides an open signal for foreign intelligence agencies to pay closer attention. As nuclear energy programs become operational, the procurement of technology and materials from foreign firms provide these same agencies with opportunities for surveillance, increasing the likelihood that suspicious activities are detected in a timely fashion. Furthermore, given that the nuclear power plant industry relies on a small number of global suppliers, nearly all of whom require International Atomic Energy Agency safeguards and the peaceful use of exported materials, countries with energy programs are generally wary of risking disruptions in supply by seeking to develop nuclear weapons.

"The findings suggest that international efforts to manage the proliferation risks of nuclear energy programs have been quite effective," says author Nicholas L. Miller, assistant professor of government at Dartmouth. "Even when countries become more technically capable of developing

nuclear weapons due to an energy program, they can often be restrained by timely intelligence and the prospect of sanctions."

In the past, the U.S. has helped advance and enforce nonproliferation by leveraging its role as a major supplier of nuclear power plants and enriched uranium fuel. This leverage has diminished in recent years, as the U.S. is now only a marginal supplier in a nuclear export market dominated by Russia, with China also aiming to increase its share. To restore this important leverage, Miller proposes that the U.S. work to revive its role as a major nuclear supplier.

For nuclear cooperation agreements, Miller calls on the U.S. to forego a demand for the "gold standard" in which recipient countries must pledge not to pursue enrichment or reprocessing. This stringent requirement may scare off potential buyers, who then take their business elsewhere, which in turn reduces the United States' potential for leverage. While the U.S. should continue to oppose the spread of enrichment or reprocessing technology, it can pursue this objective via more effective strategies, such as consultations with other nuclear suppliers and quiet but forceful diplomacy with countries attempting to acquire this sensitive technology.

https://phys.org/news/2017-11-nuclear-energy-likelihood-proliferation.html

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ASIA/PACIFIC

Sputnik International (Moscow)

North Korea: We Will Build Nuclear Power Until the US Leaves Us Alone

Author Not Attributed

November 7, 2017

To herald the arrival of US President Donald Trump in South Korea, North Korea has reaffirmed their resolve to bolster their nuclear arsenal and oppose the US and its allies. The sky-high tensions in the Korean Peninsula have entered their seventh month, with no signs of breaking.

The official publication of the Workers' Party of Korea, Rodong Sinmun, chastised the US for its "reckless military provocations facilitating self-destruction." Specifically, the statement pointed to planned US military exercises that would involve aircraft carriers skirting North Korean territorial waters.

The aircraft carriers USS Nimitz, USS Ronald Reagan, USS Theodore Roosevelt, and all their accompanying retinues are expected to participate in joint exercises in the Pacific later this week. The announcement of the exercises, which came on Tuesday morning, has been interpreted as a show of the sheer power of the US Navy: no military on Earth other than the Americans' has more than two aircraft carriers in service. The US has 10.

"US warmongers are increasing extreme tension here by holding a joint military exercise in the nearby waters of the peninsula with three nuclear aircraft carrier strike groups," Rodong said, noting that they expected "provocation" during Trump's Asia visit.

"As long as the US and its puppets engage in hostile acts and invasive attempts against us, and as long as imperialism, the root of evil and injustice, is left on Earth, we will further build up our nuclear power."

To the surprise of many, Trump took a conciliatory tone during a press conference in South Korea. Although he engaged in the usual rhetoric pertaining to the North, claiming that Pyongyang is "threatening millions and millions of lives so needlessly" and that its missile program is "a threat, not only to the people of South Korea, but to the people all across the globe," he also hinted that he was interested in a diplomatic solution.

Or a "deal," in the parlance of the businessman-in-chief. Trump said that both he and South Korean President Moon Jae-in were "strongly urging" North Korea to "come to the table [and] make a deal" with the US and South Korea.

"It makes sense for North Korea to do the right thing," said Trump. "[It] really makes sense for North Korea to come to the table and make a deal." He also cryptically remarked that he did "see certain movement" coming from Pyongyang.

Moon added that he and Trump agreed to maximize military, economic and diplomatic pressure until North Korea returned to "sincere" talks regarding an end to their missile and nuclear programs. Should the DPRK cooperate, Moon said, they could be facing a "bright future."

Protesters against U.S. President Donald Trump hold placards while waiting for Trump's motorcade to pass by in central Seoul, South Korea, November 7, 2017

Trump's past rhetoric has been far more bellicose, though. In August, Trump tweeted that "talking is not the answer" to the current stand-off, and that US Secretary of State Rex Tillerson was "wasting his time trying to negotiate with [North Korean leader Kim Jong-un.]" He has also vowed to unleash "fire and fury" against North Korea if they continued to threaten the US in August, and to "totally destroy" the insular Asian nation if it attacked the US or its allies.

Previously, Kim has claimed that he would not negotiate unless he could do so from a position of strength, meaning a nuclear intercontinental ballistic missile (ICBM) that could strike anywhere in the US. Twice in 2017, the DPRK tested their Hwasong-14 ICBM, which may be able to do just that.

https://sputniknews.com/asia/201711071058899145-north-korea-nuclear-power-deterrent/

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Asia Times (Hong Kong)

New Test Preparations at N. Korea Nuke Site?

Author Not Attributed

November 8, 2017

38 North says reports of tunnel collapse can't be corroborated

Commercial satellite imagery of Pyongyang's nuclear test site shows activity at an unused tunnel complex that might be part of preparations for a new nuclear test, according to an analysis by 38 North. The specialist website on North Korea hosted by Johns Hopkins University also says that reports of tunnel collapses and trapped workers following tremors at the site cannot be corroborated by the photos.

"Commercial satellite imagery of the Punggye-ri nuclear test site subsequent to North Korea's sixth underground nuclear test shows significant movement of equipment, mining carts, material and netting within the area of the West Portal—a yet unused tunnel complex where little or no activity had been seen for the past several months," said the article by 38 North analysts Frank V. Pabian, Joseph S. Bermudez Jr. and Jack Liu.

"While it is not possible to determine the exact purpose of these activities from imagery alone, they could be associated with new nuclear test preparations at the West Portal, further maintenance on the West Portal in general and/or the abandonment of the North Portal," the writers added.

Activity at the North Portal where the last five of six nuclear tests were conducted, in comparison, has been downsized. Some structures have been removed and no vehicles or equipment have been observed in this area since the test.

The analysts also say a recent report by Japan's TV Asahi claiming that hundreds of North Korean personnel had been trapped within collapsed tunnels at the test site cannot be corroborated with available satellite imagery. "Significant movement of equipment and material has been observed near the West Portal since the most recent test, providing sufficient evidence that mining personnel have been inside the West Portal," 38 North said. "But while the three most recent post-test tremors could have caused some damage to the tunnel networks, no observable signs of such a tunnel collapse or intensive rescue/recovery operations are visible outside any of the portals or within any of the support areas."

http://www.atimes.com/article/new-test-preparations-n-korea-nuke-site/

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Bloomberg News (New York, NY)

Japan in Talks with U.S. on Buying Aegis Missile Defense

By Anthony Capaccio

November 6, 2017

The Pentagon is providing Japan with initial pricing and technical data to decide if it wants to buy a ground-based version of the Aegis missile defense system used on U.S. Navy cruisers and destroyers, according to officials and documents.

Exchanges of information about the Aegis Ashore system, with radar and command-and-control equipment from Lockheed Martin Corp. and a missile from Raytheon Corp., is the first step in a process that sometimes takes years to complete, according to the officials, who asked not to be identified discussing the preliminary contacts. It could culminate in a formal notification to the U.S. Congress of a proposed sale.

In a visit to Tokyo on Monday, President Donald Trump talked up Japanese purchases of U.S. defensive military systems, both to blunt the threat from North Korea's nuclear program and to improve the balance of trade between the two allies.

"One of the things I think is very important is the prime minister is going to be purchasing massive amounts of military equipment, as he should," Trump said with Prime Minister Shinzo Abe by his side. "It's a lot of jobs for us and a lot of safety for Japan."

Japanese officials have expressed interest in buying two Aegis Ashore systems that would go into operation by 2023, according to media reports in Japan.

A Japanese official with the country's acquisition agency said the government is working to introduce new ballistic-missile defenses, based around Aegis Ashore, as quickly as possible.

Relevant departments within the Japanese military are coordinating to speed consideration, but at this stage it hasn't been decided which version would be acquired or exactly when they'd be

introduced, according to the official, who spoke on condition of anonymity to discuss internal deliberations.

Ellen Lord, the Pentagon's top weapons buyer, was briefed by staff about the status of the talks before a meeting Monday with Lockheed officials including Chief Executive Officer Marillyn Hewson.

Aegis Ashore is a deckhouse that replicates the Aegis air and missile defense system on Navy vessels. A version has been operational in Romania since 2016. A second site will be built in Poland for operations starting next year.

Advanced Versions

Japan is receiving information about the existing system as well as one with an advanced radar that Raytheon is developing for the newest Navy destroyers and another with a solid-state radar from Lockheed that hasn't been purchased by the U.S., according to the officials and documents. Costs for the different versions haven't been disclosed.

The U.S. Navy's international affairs office plans to provide Japan with packages of information this month on the newer versions.

Japan already operates four Kongo-class destroyers equipped with Aegis missile defense equipment.

Lockheed spokeswoman Maureen Schumann and Raytheon spokesman Mike Doble declined to comment.

Tom Crosson, a spokesman for the Pentagon's Defense Security Cooperation Agency, which is managing the information exchange on behalf of the State Department, said in an email that "as a matter of policy, we do not comment or confirm proposed defense sales or transfers until they have been formally notified to Congress."

The increased activity concerning Japan's potential purchase of the Aegis Ashore system comes as Trump is seeking $4 billion in added U.S. spending "to support urgent missile defeat and defense enhancements to counter" the threat from North Korea's missiles.

The amendment to this year's defense budget proposed by Trump on Monday would include funds for a new missile-defense field at Fort Greely, Alaska; initial funding for 20 more ground-based interceptors made by Orbital ATK Inc. and Raytheon to be deployed there; 16 newer model Standard Missile-3 interceptors from Raytheon for Navy ships; and 50 additional Thaad interceptors made by Lockheed.

https://www.bloomberg.com/news/articles/2017-11-07/japan-is-said-to-talk-with-u-s-on-buying-aegis-missile-defense

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War on the Rocks (Washington, DC)

Hard Constraints on China's Nuclear Forces

By David Logan

November 8, 2017

China is the only nuclear weapon state recognized by the Nonproliferation Treaty that is actively expanding its nuclear arsenal. Its nuclear forces have increased modestly from an estimated 130 to 200 warheads in 2006 to an estimated 170 to 260 today. The qualitative changes to its nuclear forces have been more significant, with the introduction of more mobile solid-fueled missiles, multiple independently targetable reentry vehicles (MIRVs), and an emerging fleet of nuclear-powered ballistic missile submarines (SSBNs).

This modernization program has raised concerns over the past several years that China is currently attempting or might soon attempt a nuclear breakout. Concerns of a Chinese breakout come in two forms: either that Beijing will develop a nuclear warfighting capability that could neutralize U.S. conventional superiority, or that Beijing will expand its strategic arsenal to achieve parity with the United States, which could undercut U.S. security commitments to its regional allies.

While China is indeed in the midst of a significant modernization effort, the changes to its nuclear forces do not yet represent a fundamental strategic shift. Rather, China's nuclear evolution appears to be driven by a desire to maintain a secure second-strike capability in the face of advancing U.S. capabilities, which Beijing believes might threaten its nuclear deterrent. As I demonstrate in a new article in the Nonproliferation Review, China's nuclear arsenal and strategy are constrained by its limited views of the utility of nuclear weapons. Moreover, Beijing would face several "harder" technical constraints in pursuing the kind of nuclear breakout about which some commentators warn.

Concerns of an Impending Chinese Breakout

First, some commentators have argued that China may be currently developing a nuclear warfighting capability, or at least the nuclear arsenal to support one. A nuclear warfighting capability can refer to either a force designed to attack an adversary's nuclear arsenal, or a nuclear force designed for use on the battlefield, though most commentators mean the latter when referring to China. These developments, they argue, could lead to China introducing nuclear weapons into an otherwise conventional conflict.

Other observers have contended that China may attempt a "sprint to parity," a rapid buildup in its strategic nuclear arsenal until it has roughly as many nuclear weapons as the United States (One scholar has even fantastically claimed, based on an analysis of the underground tunnel system designed to protect China's missiles, that it may already possess more than 3,000 nuclear weapons). This would entail a dramatic expansion in the size of China's nuclear arsenal.

China's Current Nuclear Posture

China's nuclear forces and policies are constrained, first and foremost, by the country's distinctive approach to nuclear weapons. As Jeffrey Lewis has written, Chinese leadership has historically believed that nuclear deterrence is largely unaffected by the size and configuration of the adversary's nuclear arsenal, so long as the country can threaten a counterstrike of a few — or even one — nuclear warheads. Marshall Nie Rongzhen, a leading figure in China's early nuclear weapons program, called this "the minimum means of reprisal." Recent research by Fiona Cunningham and M. Taylor Fravel, based on reviews of Chinese doctrinal and academic writings and interviews with Chinese military and civilian experts, indicates that these fundamental views have not changed and that China is likely to continue adhering to its relatively restrained strategy of "assured retaliation."

In recent Track-1.5 and Track-2 dialogues between the United States and China, Chinese participants have said that China could credibly threaten the United States with only "a few," a "handful of," or even "one" nuclear warhead.

Designed to support more limited goals, China's nuclear forces are generally believed to be smaller and less alerted than those of other states. The country has yet to develop an early warning system and some experts believe China would wait several days after suffering a nuclear strike before launching its own nuclear counterattack. Observers believe Beijing does not mate its nuclear warheads to missiles in peacetime, instead storing them separately. According to the counting rules of the New START treaty, China has nearly zero deployed nuclear weapons.

China's ongoing nuclear modernization program is indeed significantly changing the character and configuration of the country's nuclear forces. But these changes appear to be driven by a desire to maintain the survivability of the country's second-strike capability, not a fundamentally new view of nuclear weapons in Beijing. China has identified advancing U.S. capabilities in conventional prompt global strike and ballistic missile defense as serious threats to its nuclear forces. Regardless of whether these concerns are reasonable, they appear sincere. By deploying more mobile missiles, China hopes to increase the survivability of its overall deterrent. By deploying SSBNs and equipping some of its land-based missiles with MIRV capability, it hopes to enhance its ability to penetrate U.S. missile defenses.

Hard Constraints

In addition to these "softer" political constraints on a Chinese nuclear breakout, China would face several "harder" technical barriers to both developing a nuclear warfighting capability and undertaking a sprint to parity.

A nuclear warfighting capability would require China to deploy a more diversified nuclear force, with smaller-yield warheads affixed to more accurate missiles. However, the country's current warhead designs, designed for the more limited strategy of assured retaliation, are too heavy and too powerful. During the Cold War, the average yield of U.S. tactical weapons was reported to be 4 kilotons, and NATO war planners set an upper limit of 10 kilotons for bombs that could be used on their own territory. More recently, the nuclear warhead for the U.S. Tomahawk cruise missile had a variable yield of 5 to 150 kilotons and weighed 130 kilograms. By comparison, China's smallest nuclear warhead is estimated to have a yield of 200 to 300 kilotons and to weigh 500 kilograms.

China's record of nuclear weapons testing does not give it an ideal basis for developing reliable, smaller, modern designs. Most of China's tests involved heavy, high-yield devices. Beijing did successfully test an enhanced radiation device in the late 1980s that could serve as the technical foundation for tactical nuclear weapons, though it's not clear this design would be suitable for developing a robust warfighting arsenal. Even if China were to rely on this design, it might face production constraints stemming from limited tritium and fissile material stockpiles. China might choose to resume nuclear testing to develop newer warhead designs, but it would take time and resources to design and certify new warheads, and the international community would detect any new testing.

Finally, China generally lacks the supporting infrastructure needed to employ a nuclear warfighting capability. Such a capability would require developing new technical capabilities, organizational arrangements, and operational practices, which China has generally avoided. For instance, a nuclear warfighting capability would likely require more flexible command and control arrangements, including delegating more authority to military commanders, as Pakistan has done to support its "asymmetric escalation" strategy. By contrast, China has prioritized strict political control over its nuclear weapons, keeping its nuclear forces somewhat insulated from its conventional ones.

China would face similar constraints in attempting a strategic sprint to parity. The most significant challenge is its limited fissile material stockpile. China's modern warhead designs use plutonium fuel, but analysts believe Beijing last produced weapons-grade plutonium in 1991 and that it currently maintains a stockpile of only 1.8 metric tons. In addition, China has relied on conservative warhead designs that use more fuel than other countries' warheads. Given these high fuel requirements and its limited stockpile, in a best-case scenario China could produce no more than 250 to 450 plutonium-based warheads.

China could resort to using uranium-based designs, though it faces a limited uranium stockpile as well. More significantly, the uranium designs it has tested in the past were relatively unsophisticated and ill-suited for a modern arsenal. To develop modern and reliable uranium-based warheads, China would likely have to resort again to testing new designs.

Certainly, China possesses the underlying economic, industrial, and technological bases on which to either develop a nuclear warfighting capability or attempt a sprint to parity. However, attempting either form of nuclear breakout would entail significant changes to China's nuclear program, possibly including developing new warheads, resuming weapons testing, renewing weapons-grade fissile material production, and significantly changing operational practices. Given China's historically conservative approach to its nuclear weapons program, it appears unlikely that it could undertake a military significant nuclear breakout in the near term or accomplish one in the long term without being detected.

Analysts who have warned of an impending nuclear breakout may be assuming that China's ongoing modernization program is more expansive than it is, conflating a push for greater survivability with a desire for "usability," or viewing the modest quantitative growth in China's arsenal as a prelude to something much more expansive. Certainly, China has made tremendous progress in developing and deploying advanced ballistic missile systems, which would be a crucial component of any nuclear warfighting capability. Indeed, some observers worry that the hardware and operational practices associated with the conventional force could bleed over and end up benefitting the nuclear force. But a broader review of the other technical requirements of either developing a nuclear warfighting capability or pursuing strategic parity suggests China would nonetheless face harder obstacles.

Policy Implications

The constraints on China's nuclear forces have important implications for U.S. policy. Policy decisions should rest on realistic threat assessments of China's nuclear program and avoid provoking self-fulfilling prophecies. Washington should recognize the constraints on Beijing's nuclear policy and work to reinforce those constraints and maintain strategic stability.

First, observers should watch for indicators that China is fundamentally altering its approach to nuclear weapons. This could include more obvious moves such as the resumption of production of military fissile material, new rounds of nuclear weapons testing, or a shift in political statements about the purpose of China's nuclear weapons. Important indicators might also be subtler, such as changes in the organization and operation of the military organizations that operate China's nuclear weapons.

Second, the United States should attempt to strengthen and reinforce the constraints on China's program. Ratifying the Comprehensive Test Ban Treaty would strengthen the international norm against testing, while funding the Comprehensive Test Ban Treaty Organization increases the chance of detecting tests should they occur. (Though it would likely be more difficult to detect small-yield tests of tactical warheads compared to the massive tests of China's past, the history of the international monitoring system is cause for optimism. For example, it detected North Korea's

2006 nuclear test, which had an estimated yield of only 0.6 kilotons.) The United States should also attempt to stem the rise of reprocessing in East Asia, which could raise regional anxieties by lowering the barriers to some states producing nuclear bombs.

Finally, policymakers should recognize that Chinese nuclear policies are driven in part by perceived threats from the United States itself. Expanding conventional prompt global strike, ballistic missile defense, and the role of U.S. nuclear forces could exacerbate Chinese threat perceptions and trigger just the kind of nuclear breakout scenarios that observers fear. Calls to develop so-called tailored nuclear options based on assumptions of an impending Chinese nuclear breakout should be met with skepticism. Rather than exacerbating these dynamics, the U.S.-China nuclear relationship might be best served by a dose of strategic restraint.

https://warontherocks.com/2017/11/china-nuclear-weapons-breakout/

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EUROPE/RUSSIA

Reuters (New York, NY)

Sweden Seeks to Buy $1 Billion U.S. Patriot Air Defense Missile System

By Johannes Hellstrom and Mike Stone

November 7, 2017

STOCKHOLM/WASHINGTON (Reuters) - Sweden will start negotiations on a $1.2 billion Raytheon Co Patriot air defense missile system, as interest in missile defense systems strengthens amid heightened regional tensions and ballistic missile technology improves globally.

The Swedish government said on Tuesday negotiations with the U.S. company will target delivery beginning in 2020, and for the system to be operational by 2025 at the latest.

Iran, North Korea and Russia, among others, have made advancements in their missile technology.

Raytheon said, “Sweden’s announcement brings them closer to joining the growing group of European nations depending on the combat-proven Patriot to defend against ballistic and cruise missiles, and advanced aircraft and drones.”

The Swedish government said, “based on this tender and the decision of the Riksdag (the Swedish Parliament) on the proposal to acquire a new medium-range air defense system in the 2018 budget bill, the government will make a final decision on the acquisition during 2018.”

Lockheed Martin Corp, the Pentagon’s No. 1 weapons supplier, said in August its customers want to defend themselves against possible incoming missile attacks and are increasingly asking about missile defense systems.

Raytheon has built more than 220 Patriot fire units and delivered them to customers in 13 nations including The Netherlands and Germany.

The Swedish Defense Materiel Administration (FMV) has been authorized to send a L\letter of request to the United States, and to enter into negotiations for procurement of the Patriot system.

The contract value is estimated to exceed 10 billion Swedish crowns ($1.2 billion), FMV said in a statement.

U.S. soldiers and German airmen fired the first of dozens of live Patriot and Stinger missiles on Monday as part of an exercise at a NATO base in Crete aimed at strengthening the response to possible attacks from Russia or other countries.

The exercise, which continues through Thursday on the Greek island, will include a series of emerging "real world threats" such as the use of drones, electronic warfare and electromagnetic pulses, U.S. Army Colonel David Shank, commander of the 10th Army Air and Missile Defense Command, told Reuters.

The exercises come amid a big push by the United States, Germany and other NATO members to rebuild short-range air defense systems after the shock of Russia's annexation of the Crimea region of Ukraine and its support of separatists in the Donbass region of Ukraine.

http://www.reuters.com/article/us-sweden-defense-raytheon/sweden-seeks-to-buy-1-billion-u-s-patriot-air-defense-missile-system-idUSKBN1D72WM

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The Hill (Washington, DC)

Uranium One Deal Led to Some Exports to Europe, Memos Show

By John Solomon and Alison Spann

November 2, 2017

After the Obama administration approved the sale of a Canadian mining company with significant U.S. uranium reserves to a firm owned by Russia's government, the Nuclear Regulatory Commission assured Congress and the public the new owners couldn't export any raw nuclear fuel from America's shores.

"No uranium produced at either facility may be exported," the NRC declared in a November 2010 press release that announced that ARMZ, a subsidiary of the Russian state-owned Rosatom, had been approved to take ownership of the Uranium One mining firm and its American assets.

A year later, the nuclear regulator repeated the assurance in a letter to Sen. John Barrasso, a Wyoming Republican in whose state Uranium One operated mines.

"Neither Uranium One Inc. nor AMRZ holds a specific NRC export license. In order to export uranium from the United States, Uranium One Inc. or ARMZ would need to apply for and obtain a specific NRC license authorizing the exports of uranium for use in reactor fuel," then-NRC Chairman Gregory Jaczko wrote to Barrasso.

The NRC never issued an export license to the Russian firm, a fact so engrained in the narrative of the Uranium One controversy that it showed up in The Washington Post's official fact-checker site this week. "We have noted repeatedly that extracted uranium could not be exported by Russia without a license, which Rosatom does not have," the Post reported on Monday, linking to the 2011 Barrasso letter.

Yet NRC memos reviewed by The Hill show that it did approve the shipment of yellowcake uranium — the raw material used to make nuclear fuel and weapons — from the Russian-owned mines in the United States to Canada in 2012 through a third party. Later, the Obama administration approved some of that uranium going all the way to Europe, government documents show.

NRC officials said they could not disclose the total amount of uranium that Uranium One exported because the information is proprietary. They did, however, say that the shipments only lasted from 2012 to 2014 and that they are unaware of any exports since then.

NRC officials told The Hill that Uranium One exports flowed from Wyoming to Canada and on to Europe between 2012 and 2014, and the approval involved a process with multiple agencies.

Rather than give Rosatom a direct export license — which would have raised red flags inside a Congress already suspicious of the deal — the NRC in 2012 authorized an amendment to an existing export license for a Paducah, Ky.-based trucking firm called RSB Logistics Services Inc. to simply add Uranium One to the list of clients whose uranium it could move to Canada.

The license, reviewed by The Hill, is dated March 16, 2012, and it increased the amount of uranium ore concentrate that RSB Logistics could ship to the Cameco Corp. plant in Ontario from 7,500,000 kilograms to 12,000,000 kilograms and added Uranium One to the "other parties to Export."

The move escaped notice in Congress.

Officials at RSB, Cameco and Rosatom did not return repeated phone calls or emails seeking comment.

Uranium One's American arm, however, emailed a statement to The Hill on Wednesday evening confirming it did export uranium to Canada through the trucking firm and that 25 percent of that nuclear fuel eventually made its way outside North America to Europe and Asia, stressing all the exports complied with federal law.

"None of the US U308 product produced to date has been sold to non-US customers except for approximately 25% which was sold via book transfer at the conversion facilities to customers from Western Europe and Asia," executive Donna Wickers said. "Any physical export of the product from conversion facilities to non-US destinations is under the control of such customers and subject to NRC regulation."

The United States actually imports the majority of the uranium it uses as fuel. In 2016, according to the U.S. Energy Information Administration, 24 percent of the imports came from Kazakhstan and 14 percent came from Russia.

The sale of Uranium One to a Russian state-owned firm, however, has created political waves that have led to multiple congressional investigations. Republicans say they want to learn how the sale could have been approved and whether there was political interference.

http://thehill.com/policy/national-security/358339-uranium-one-deal-led-to-some-exports-to-europe-memos-show

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Newsweek (New York, NY)

Russian Nuclear Forces Can 'Inflict Unacceptable Damage' on Enemy and Bypass Missile Defenses, Says Moscow

By Damien Sharkov

November 7, 2017

Russia has upgraded the majority of its strategic nuclear capacities and is now confident it can overcome any missile defense system in the world, the military's chief of general staff said Tuesday.

"On the whole, the proportion of ground-based, airborne and naval strategic nuclear forces with modern military kit has reached 74 percent," General Valery Gerasimov told officials during a briefing for the Ministry of Defense.

According to Gerasimov, "today, the strategic nuclear forces are guaranteed to deal unacceptable damage to any aggressor, including one that has anti-missile defense measures," state news agency Itar-Tass reported.

Russia's Strategic Missile Troops' equipment, which forms a formidable part of its nuclear striking abilities, has also been updated by 66 percent, Gerasimov said—up from 60 percent in in April, according to the Ministry of Defense. "The ability to overcome anti-missile defense systems has increased by 30 percent," he added.

Moscow is currently in the process of setting up a test for the RS-28 Sarmat missile, hoping it will be a successful upgrade to its intercontinental ballistic missile (ICBM) arsenal. Its state media has put out a series of reports about how formidable the missile will be, estimating its strongest hit could "sink half of California" and scorch an area the size of France or Texas. With its tests repeatedly postponed, these capabilities have not been verified. Gerasimov gave no details about the progress of the Sarmat missile, merely confirming that work on ICBM reinforcement is one of several projects in progress.

"Their technical characteristics will allow us to implement more effective types of combat equipment, as well as measures of overcoming anti-missile defenses," Gerasimov said.

Moscow is in the process of modernizing equipment across all military branches. Since 2011, commanders have been ditching old Soviet-era models of jets, vessels and arms to increase so-called "modern" kit to 70 percent by 2020. Some programs have struggled to produce entirely new replacements for Soviet-made equipment and have favored "modernizing" existing units.

The new Sarmat missile is only one of several long-anticipated upgrades for the Russian military. The country's fifth-generation stealth combat jet, which first went on flight tests in 2010, only received a non-prototype name this summer, with at least another year of testing to go before entering service in 2019 at the earliest.

The PAK-FA prototype, set to be called the Su-57, has proven too expensive for the military to acquire in bulk, reportedly slashing its initial order of 52 jets to only 12 in 2015.

Russia's widely lauded new Armata T-14 tank has prompted its manufacturer to declare its armor impenetrable by contemporary anti-tank kit. For all of Russia's televised annual tank competition showcases, the public has seen little of the T-14 besides an infamous breakdown in Moscow's Red Square in 2015. According to the National Interest, it may be the $3.7 million price tag that will make it difficult for the Kremlin to replace its 2,500-strong tank force with Armata units.

http://www.newsweek.com/russian-nuclear-forces-can-inflict-unnacceptable-damage-enemy-703738

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RT (Moscow)

Smart Weapons Get High-Priority Status in New Russian State Arms Program

Author Not Attributed

October 31, 2017

High-precision weapons will be among the top priorities contained in the new Russian State Arms Program, along with strategic nuclear forces and intelligence support for military operations, Deputy Defense Minister Yuri Borisov has said.

The further development of nuclear weapons as a deterrent will continue to be a main objective of the program, Borisov told Russian newspaper Military-Industrial Courier in a major interview.

"Our nuclear missile shield must be very reliable, so that no one entertains a slightest idea to test our strength," he said, adding that the development of high-precision weapons will rank second in terms of importance in the program. The deputy minister expects the Russian defense industry to develop more types of such weapons in the near future.

The third key element of the program will be the development of "intelligence and information support for combat operations," Borisov said, explaining that this includes the space group, navigation devices, and unmanned aircraft.

Earlier this year, Borisov told reporters that the new program would include hypersonic weapons, cutting-edge drones, and weapon systems "based on new physical principles."

Russia had been scheduled to adopt the new 10-year State Arms Program by 2015, but the move was delayed during the preceding year because of economic difficulties. Last September, Russian Deputy Prime Minister in charge of the military industrial complex, Dmitry Rogozin, told reporters that the new program would be approved by the end of this year.

https://www.rt.com/politics/408307-smart-weapons-receive-high-priority/

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MIDDLE EAST

Mehr News Agency (Tehran, Iran)

'Legitimate Deterrence' Narrates 60 Years of Iran's Nuclear History, Diplomacy

Author Not Attributed

November 7, 2017

TEHRAN, Nov. 07 (MNA) – 'Legitimate Deterrence', a 3-volume book focusing on Iran's nuclear program, has entered the book market.

Written by former Chief Correspondent of The Associated Press Ali Akbar Dareini, 'Legitimate Deterrence' has been published in English. It contains over 1,600 pages, more than 1,100 pages in writing and about 500 pages in color pictures.

This book is a documented account of 60 years of Iran's nuclear history and diplomacy with a particular emphasis on the last 15 years since Iran's key nuclear facilities of Natanz and Arak were preemptively exposed in August 2002.

'Legitimate Deterrence' is a book that reveals how Iran obtained nuclear technology, despite all legitimate paths to buy equipment publicly were blocked by Western governments one after the other, to master uranium enrichment and take its nuclear program to an advanced stage short of weaponization.

It explains that Iran's nuclear program was not aimed at building atomic bombs but it was aimed at elevating Iran's international standing, boost its prestige and win regional and global recognition, attention and respect without violating its obligations under the nuclear Non-Proliferation Treaty (NPT). In short, it says Iran acquired nuclear material for leverage, not actually detonate a weapon.

This book elaborates on how Iran used its uranium enrichment technology, and its stockpile of enriched uranium, as potent bargaining chip in negotiations with world powers to force the United States and its Western allies into concessions and reaching a grand bargain.

As suggested by the title, 'Legitimate Deterrence' says Iran's nuclear strategy was meant to create a breakout capability to serve as a credible deterrent without building an atomic bomb and enhance its national security without violating Iran's commitments under the NPT.

This book also reveals some thrilling stories from inside Iran's atomic riddle that have never been told before, including the overt and covert cat and mouse games played between Iran and the West in the ever-intensifying nuclear dispute before reaching a historic deal with world powers in 2015.

The book also covers the post-JCPOA (Joint Comprehensive Plan of Action) developments and America's new anti-Iran strategy under President Donald Trump.

https://en.mehrnews.com/news/129279/Legitimate-Deterrence-narrates-60-years-of-Iran-s-nuclear-history

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JewishPress.com (Brooklyn, NY)

Iran-North Korea Nuclear Collaboration Is Israel's Worst Nightmare, Says Expert

By Andrew Friedman

November 7, 2017

An international commitment to a failed model of diplomacy, coupled with loopholes in the Joint Comprehensive Plan of Action (JCPOA) international nuclear deal with Iran could create a fertile breeding ground for the Islamic Republic to collaborate with North Korea and achieve nuclear capability without technically violating the 2015 agreement, a panel of experts said Monday.

"There are more differences between North Korea and Iran than there are similarities, but both countries are determined nuclear proliferaters," Dr. Emily B. Landau, head of the Arms Control Program at the Institute for National Security Studies at Tel Aviv University told a conference entitled No Good Options on North Korea, Regional and Global Implications from an Israeli Perspective.

Landau said the international community should recognize that 25 years of diplomacy as the "strategy of choice" vis-à-vis North Korea did not prevent Pyongyang from achieving nuclear capability, and there is no reason to expect the same model will work with respect to Iran.

"The international community must understand the limits of diplomacy if there is any hope to derail Iran's nuclear program," Landau said.

The panel, hosted by the Jerusalem-based Israel-Asia Center at the Tel Aviv Stock Exchange, also featured researcher Dr. Alon Levkowitz of the Begin Sadat Center for Strategic Studies and an expert on the history and politics of the Korean Peninsula at Bar-Ilan University and Dr. Daniel A. Pinkston, a lecturer in international relations at Troy University and a former Northeast Asia Deputy Project Director at the International Crisis Group in Seoul.

Levkowitz has noted that North Korea's history of collaborating with Israel's enemies stretches back at least 50 years, when the country sent soldiers to fight with Arab armies against Israel during both the Six Day War in 1967 and the Yom Kippur War six years later.

On Monday he said Israel's "biggest fear" would be for Pyongyang to offer to develop nuclear weapons on behalf of Iran, thus allowing the Islamic Republic to become a nuclear state without violating the terms of the nuclear agreement signed with the P5+1. But Levkowitz added it would not be the only way for North Korea could pose a threat to Israel.

"North Korea is selling missiles to Syria, for example, selling light ammunition to just about every terrorist group in the region," Levkowitz said. "In the old days they sold [weapons] to Egypt. So it is a huge matter of concern for Israel – Israel needs the U.S. to intercept the shipments on the way to the Middle East, or if they don't manage to do that, we have to bombard them."

Levkowitz has also written extensively about North Korea's involvement in constructing Syria's nuclear reactor, which Israel destroyed in 2007, four years before the start of the civil war there.

Asked whether Israel's close diplomatic ties with China and Russia – two countries that also share diplomatic ties with both Iran and North Korea – Levkowitz told Tazpit Press Service (TPS) that Israel's growing relationship with both countries is unlikely to move either to press the issue on Israel's behalf.

Russia, he said, is far less influential in Asia than China, and added that Israel's ability to act in the Far East is limited by American foreign policy concerns.

"Our leverage is not that big," Levkowitz said. In the 1990s we tried to make a deal with North Korea, but there was a disagreement between the foreign office (ministry) and the Mossad [about whether we could trust the North Koreans to respect the terms of a deal]. But the Americans said 'go away,' this is our region. This is our meeting. You know I wish we were able to convince Beijing or put pressure on Pyongyang. But it doesn't work. I wish it did."

Landau warned that the history of Western talks with successive North Korean administrations doesn't bode well for the attempts to use diplomacy vis-à-vis Iran. She praised U.S. President Donald Trump for changing the tone of American diplomacy after what she called former U.S. President Barack Obama's policy of "strategic patience" but added that effecting change to a deeply flawed deal would require cooperation on the part of the other members to the agreement – something that does not appear to be in the offing.

"Look, there are some positive signs," she said. "A year ago, supporters of the deal wouldn't even admit the agreement wasn't perfect. Now, at least they are saying 'it may not be perfect, but…

"But 25 years of diplomacy failed. North Korea is a nuclear state now. As far as Iran is concerned it isn't too late. There are things that can be done now. But the international community has got to realize the threat here. Right now, I don't see it," she said.

http://www.jewishpress.com/news/us-news/iran-north-korea-nuclear-collaboration-is-israels-worst-nightmare-says-expert/2017/11/07/

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Reuters (New York, NY)

Khamenei Says Iran, Russia Should Cooperate to Isolate U.S., Foster Middle East Stability

By Denis Pinchuk

November 1, 2017

TEHRAN (Reuters) - Iranian Supreme Leader Ayatollah Ali Khamenei told visiting Russian President Vladimir Putin on Wednesday that Tehran and Moscow must step up cooperation to isolate the United States and help stabilize the Middle East, state TV reported.

Iran and Russia are the main allies of Syrian President Bashar al-Assad, while the United States, Turkey and most Arab states support rebel groups fighting to overthrow him.

Putin met Iranian political leaders in an effort to nurture a warming relationship strengthened since U.S. President Donald Trump threatened recently to abandon the international nuclear deal with Iran reached in 2015.

“Our cooperation can isolate America ... The failure of U.S.-backed terrorists in Syria cannot be denied but Americans continue their plots,” Khamenei told Putin, according to Iranian state television.

Since Russia’s military intervention in Syria’s war in 2015, and with stepped-up Iranian military assistance, Assad has taken back large amounts of territory from rebels as well as swathes of central and eastern Syria from Islamic State militants.

Moscow is now trying to build on that success with a new diplomatic initiative, including a congress of Syria’s rival parties it plans in the Black Sea resort of Sochi on Nov. 18, though a major opposition bloc has refused to take part.

Pragmatist Iranian President Hassan Rouhani echoed Khamenei, saying Iran and Russia together could tackle “regional terrorism” - an allusion to Sunni Muslim armed groups hostile to Iran, Assad and many other Arab states.

“Our cooperation has helped the fight against terrorism in the region ... Together we can establish regional peace and security,” Rouhani said in a televised joint press conference with Putin and Azerbaijan President Ilham Aliyev, who took part in a three-way summit in Tehran.

RAPPROCHEMENT

The rapprochement between Iran and Russia is worrying for both Saudi Arabia, Shi‘ite Muslim Tehran’s main Sunni rival for dominance in the Middle East, and the United States. Putin praised cooperation with Iran as “very productive”.

“We are managing to coordinate our positions on the Syrian issue,” Putin said.

Moscow is also an important ally for Iran in its renewed confrontation with the United States, where Trump broke ranks with major allies on Oct. 13 by de-certifying Tehran’s nuclear deal with six world powers including Washington under his predecessor Barack Obama.

Trump has called the agreement “the worst deal ever negotiated” and branded Iran a “terrorist nation” for involvement in conflicts in the Middle East.

“We oppose any unilateral change in the multilateral nuclear deal,” Putin told Khamenei, Iranian state TV reported.

Russia has criticized Trump's disavowal of the nuclear agreement, which has opened a 60-day window for the U.S. Congress to act to reimpose economic sanctions on Iran. These were lifted under the 2015 accord in return for Tehran curbing nuclear activity of potential use in developing an atomic bomb.

"This is a very important visit (by Putin) ... It shows the determination of Tehran and Moscow to deepen their strategic alliance ..., which will shape the future of the Middle East," an Iranian official told Reuters on condition of anonymity.

"Both Russia and Iran are under American pressure ... Tehran has no other choice but to rely on Moscow to ease the U.S. pressure," said the official.

Another Iranian official said Trump's hawkish Iran policy had united the Islamic Republic's often feuding leadership - split into hardline conservative, pragmatist and reformist factions - in alignment with Russia.

During Putin's visit, Russian oil producer Rosneft and the National Iranian Oil Company agreed an outline deal to work on a number of "strategic" projects in Iran together worth up to $30 billion.

The deal appeared to dovetail with Putin's strategy to reassert Russian political and economic influence in the Middle East that faded after the 1991 collapse of the Soviet Union.

https://www.reuters.com/article/us-iran-russia-putin/khamenei-says-iran-russia-should-cooperate-to-isolate-u-s-foster-middle-east-stability-idUSKBN1D14CK

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Xinhua News Agency (Beijing, China)

China Calls for Patience over Probe of Chemical Weapons Use in Syria

Author Not Attributed

November 8, 2017

UNITED NATIONS, Nov. 7 (Xinhua) -- A Chinese envoy called on the Security Council members to be patient on Tuesday over the investigation of the use of chemical weapons in Syria.

The Security Council was briefed Tuesday afternoon on the findings of a latest report of the Joint Investigative Mechanism (JIM) of the Organization for the Prohibition of Chemical Weapons and the United Nations.

Since there is call within the Security Council for the improvement of JIM's methodology and a refinement of its mandate, Security Council members should continue to patiently negotiate on JIM's methodology, its mandate and the extension of its mandate and strive for a united message, said Wu Haitao, the charges d'affaires of the Chinese mission to the United Nations.

"This will help find out the truth of the attacks and bring those responsible to justice and deter attacks in Syria in the future," Wu told the council.

China supports JIM to carry out its work in a thorough, objective and impartial way. However, the investigation should be based on solid evidence and reach conclusions that can stand the test of time and is based on verifiable facts, he said.

China noted that JIM decided not to carry out on-site field investigation in Khan Shaykhun and Umm Hawsh partly due to security concerns, he said.

China strongly opposes the use of chemical weapons by any state, organization or individual, for any purpose, or under any circumstances, said the Chinese envoy. "China strongly condemns the use of chemical weapons in Syria."

He said a political solution is the only way out for the Syria issue, and thanks to international efforts, there is positive momentum.

Political settlement of the Syria crisis is at a new and critical stage, he said.

"China calls on members of the Security Council to focus on the big picture of maintaining the Syrian political process and stay united on the Syrian chemical weapon issue so as to create favorable conditions for the attainment of a solution acceptable to all parties in Syria through Geneva talks and at the same time play a constructive role for the thorough, impartial and appropriate solution of the Syria issue as soon as possible."

http://news.xinhuanet.com/english/2017-11/08/c_136735389.htm

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INDIA/PAKISTAN

The Indian Express (Mumbai, India)

No Mediation but US to Focus on Reducing India-Pakistan Tension, Says American Diplomat

Author Not Attributed

November 8, 2017

The new South Asia strategy of the Trump administration focuses on reducing tension between India and Pakistan, a top American diplomat said on Wednesday, but ruled out any mediator role for the US between the two neighbours.

“The South Asia strategy also focuses on reducing tensions between Pakistan and India,” Alice Wells, Acting Assistant Secretary for South and Central Asia, told lawmakers during a Congressional hearing on Afghanistan and Pakistan held jointly by House Foreign Affairs sub-committees for Middle East and North Africa and Asia and Pacific.

“The US does not seek a role as a mediator between India and Pakistan, but encourages both countries to restart dialogue at the earliest opportunity. An improved relationship between these two countries is critical to regional security and stability,” Wells told the lawmakers.

The Trump administration, she said, was increasingly concerned about the threat to strategic stability in South Asia associated with the introduction of new nuclear-capable ballistic or cruise missile systems in the region. “In particular, the region and the world looks to both Pakistan and India to safeguard against a nuclear conflict in South Asia,” she said.

“In this context, the US remains concerned about Pakistan’s growing fissile material stockpiles and its expanding and diversifying nuclear and missile programmes,” Wells said. With India, she told lawmakers that the Trump administration valued the role New Delhi could play in global security and stability as part of its shared vision of a free and open Indo-Pacific region.

“We also want to work with India to counter terrorist threats. And we see significant economic and business opportunities in both countries that we intend to explore for the benefit of all of our citizens,” she said. The US welcomes the central role of India in the Indo-Pacific region and throughout the world, she said.

"Our two democracies have a shared commitment to uphold the rule of law, freedom of navigation, universal values, and free trade," she said. Secretary of State Rex Tillerson also noted the US viewed India as a partner for peace in Afghanistan and welcomed India's economic and development assistance efforts.

http://indianexpress.com/article/world/no-mediation-but-us-to-focus-on-reducing-india-pakistan-tension-says-american-diplomat-4928727/

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The Economic Times (Gurgaon, India)

Report: India Thinks China's Nuke Coop with Pakistan Violates Its NSG Commitment

Author Not Attributed

November 6, 2017

India has "misgivings" about Russia's limited contacts with the Taliban as a "legitimate political force" in Afghanistan, a joint report by an Indian and a Russian think tank has said.

The report also said that India was concerned over China's reported nuclear ties with Pakistan and, according to the Indian view, the cooperation violates China's commitments as a member of the Nuclear Suppliers Group (NSG).

The report prepared by Russian International Affairs Council and Vivekananda International Foundation to mark the 70th year of Indo-Russia ties, examines various facets of the time-tested relations between the two countries besides delving into key geopolitical issues.

"As regards Afghanistan, although Russia and India do not differ much in their views on the situation in the country, India has misgivings about Russia's limited contacts with Taliban as a 'legitimate political force' in Afghanistan," it said.

Referring to defence cooperation, the report said the Russian side has raised the issue of "lengthy bureaucratic procedures" in India related to tendering for military equipment and contract negotiations, which can take longer than delivery time frames themselves.

"More frank exchanges between the two sides are required to redress some structural issues in the relationship and to agree on mutually beneficial terms of long-standing deals in future," it said, adding joint development and manufacture of defence platform is a reliable option to transfer of technology.

The report found that in the near future, Russia's share in the Indian market may decrease, although it will retain its leadership in absolute terms.

Despite the US emerging as the biggest supplier of defence hardware to India in the recent years, the country continues to be heavily dependent on Russia as almost 70 per cent of its defence equipment is still based on Soviet era platforms, according to the report.

It said in India's view China's expansion into Eurasia is a counter to the US pivot towards the Asia-Pacific, apart from creating markets for its excess capacity in certain sectors.

"China's military and nuclear cooperation with Pakistan continues to be of serious concern to India. This includes civil nuclear cooperation that in Indian view violates China's commitments as an NSG member," it said.

The report said Russia's military ties with Pakistan is a new development that India has noted with concern. For its part, Russia has concerns regarding India's growing ties with the US.

It said despite the privileged political partnership between the two countries, trade and economic ties remain the weakest part of the relations.

In 1989 and 1990, Russia's share in India's foreign trade was 16 per cent and 17 per cent respectively. In 1994, it dwindled to 2 per cent and in 2015-2016 it further came down to 0.96 per cent, said the report.

Cooperation in oil and gas industry is extremely promising, as Russian on-shore technology is considered one of the most advanced in the world, it said.

The report said India could consider investing in hydrocarbon exploration in the Arctic.

https://economictimes.indiatimes.com/news/defence/report-india-thinks-chinas-nuke-coop-with-pakistan-violates-its-nsg-commitment/articleshow/61535483.cms

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Scout Warrior (Brentwood, TN)

Pakistan Says it's Ready to Use Nuclear Weapons

By Zachary Keck

November 3, 2017

Pakistan is ready to use nuclear weapons against India, a senior Pakistani official confirmed on Monday.

Appearing on the Pakistani television channel "Geo," Pakistan's Defense Minister Khawaja Asif said that [3] Islamabad is willing to use nuclear weapons to ensure its survival.

"We should pray that such an option never arises, but if we need to use them (nuclear weapons) for our survival we will," Asif said, according to Geo's website. His remark was widely reported by Indian media outlets.

Asif went on to accuse India of supporting anti-Pakistani terrorist groups in a proxy war against Islamabad. "Fuelling terrorism directly or indirectly is India's proxy war in Pakistan," Asif said. He singled out Tehreek-e-Taliban Pakistan (TTP), the Pakistani Taliban, and Baloch separatists as two of the groups that India is allegedly supporting.

Asif's statement about Pakistan's willingness to use nuclear weapons is in line with Islamabad's long-standing nuclear doctrine. In contrast to India and China, which both maintain no first use nuclear doctrines, Pakistan has always maintained that it could resort to nuclear weapons to blunt a conventional attack from India.

Nor is Asif the first high-level Pakistani official to threaten to use nuclear weapons. Former President Pervez Musharraf issued a similar threat [4] (albeit, after he left office), when he stated: "We do not want to use nuclear capability but if our existence comes under threat, who do we have these nuclear weapons for?"

More tellingly, in an interview back in 2002, Lt. Gen. Khalid Kidwai, the first head of the Strategic Plans Division (SPD), which is responsible for Pakistan's nuclear arsenal, outlined four scenarios where Pakistan would consider using nuclear weapons against India:

1. If India conquers a large part of Pakistan;

2. If India destroys large parts of Pakistan's army or air force;
3. If India tries to strangle Pakistan economically;
4. If India tries to destabilizing Pakistan politically, including by creating large scale internal subversion.

Notably, in his interview this week, Asif seems to suggest that India is doing the fourth scenario by supporting terrorist groups inside Pakistan.

Pakistan has backed up its rhetoric by creating an operational nuclear force capable of making good on its threats. For example, when Indian officials began discussing a Cold Start doctrine—in which Indian forces would make quick and limited incursions into Pakistan in response to Islamabad-supported terrorist attacks in India—Pakistan began developing tactical nuclear weapons to thwart such attacks.

In 2011, Pakistan first tested its Hatf-9 (Nasr) missile [5], which it referred to as a "Short Range Surface to Surface Multi Tube Ballistic Missile." The statement announcing the test elaborated: "NASR, with a range of 60 km, carries nuclear warheads of appropriate yield with high accuracy, shoot and scoot attributes. This quick response system addresses the need to deter evolving threats."

It went on to add that "the test was a very important milestone in consolidating Pakistan's strategic deterrence capability at all levels of the threat spectrum."

It has continued to test the Nasr missile in the years since, including using firing it in four missile salvos using a "state-of-the-art multi-tube launcher."

Earlier this year, Marine Corps Lt. Gen. Vincent R. Stewart, the director of the U.S. Defense Intelligence Agency, confirmed that Pakistan is continuing to build up a tactical nuclear weapons force. In testimony before the Senate Armed Services Committee in February, Stewart said: "We anticipate that Pakistan will continue [its] development of new delivery systems, including cruise missiles and close-range 'battlefield' nuclear weapons to augment its existing ballistic missiles."

https://scout.com/military/warrior/Article/Pakistan-Says-Its-Ready-to-Use-Nuclear-WeaponsShould-India-Worry-109876924

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Times of India (New Delhi, India)

India Successfully Tests Its First Nuclear-Capable Cruise Missile

By Rajat Pandit

November 7, 2017

NEW DELHI: India on Tuesday successfully flight-tested its indigenous Nirbhay (the fearless) land-attack cruise missile, which can deliver nuclear warheads to a strike range of 1,000-km, after a string of failures since March 2013.

The development is significant because the armed forces have long been demanding nuclear land-attack cruise missiles (LACMs), with ranges over 1,000-km and versatile enough to be fired from land, air and sea.

Often brandished as India's answer to the famed American Tomahawk missiles, as also an effective counter to Pakistan's Babur LACM, the Nirbhay had been in the making for a decade without much success till now.

The sub-sonic missile, designed to carry a 300-kg nuclear warhead, had failed during its first test in March 2013. Though the second test in October 2014 was a partial success, the third and fourth tests in October 2015 and December 2016 also flopped, leading to talk that the project may have to be scrapped.

But the fifth test on Tuesday, at 11.20 am from the Integrated Test Range at Chandipur off Odisha coast, was dubbed a "complete success" by DRDO. "The flight test achieved all mission objectives completely from lift-off till the final splash. The missile majestically cruised for 50 minutes, achieving the range of 647-km," said an official.

Defence minister Nirmala Sitharaman, on her part, expressed "optimism", saying the successful trial would take India into "the select league of nations that possesses this complex technology of sub-sonic cruise missile capability".

A series of successful tests of this ground-launched version of Nirbhay will pave the way for its induction into the armed forces, though its sea-based variant capable of being fired from nuclear-powered submarines will be the real game-changer.

Ballistic missiles like the Agni follow a parabolic trajectory, leaving and re-entering the earth's atmosphere before hitting their targets. Cruise missiles like Nirbhay, in turn, are designed to fly at low-altitudes, almost hugging the terrain, to evade enemy radars and missile defence systems.

"Nirbhay has the capability to loiter and cruise at Mach 0.7 at altitudes as low as 100-metre," said the official. After an initial blast off with a solid-propellant booster rocket engine to gain speed and altitude, Nirbhay deploys its smallish wings and tail fins in the second-stage to thereafter fly like an unmanned aircraft. It's designed to be highly maneuverable with "loitering capabilities" to first identify and then hit the intended target with precision.

The supersonic BrahMos missiles, produced jointly with Russia, have already been inducted into the armed forces. But the BrahMos, which flies almost three times the speed of sound at Mach 2.8, is meant to carry only conventional warheads and currently has a strike range of only 290-km.

At least three tests of the extended range (450-km) BrahMos have been conducted after India joined the 34-nation Missile Technology Control Regime (MTCR) in June 2016. India, of course, has come a long way in developing nuclear-capable ballistic missiles like the Agni series, which have strike ranges from 700-km to over 5,000-km.

https://timesofindia.indiatimes.com/india/india-successfully-tests-its-first-nuclear-capable-cruise-missile/articleshow/61550465.cms

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COMMENTARY

Real Clear Defense (Chicago, IL)

Getting Real on North Korea

By Daniel DePetris

November 8, 2017

The scene has been repeated on countless occasions since President Ronald Reagan's time. A senior U.S. official, perhaps a Defense Secretary or the president himself, travels to the Demilitarized Zone dividing the two hostile Koreas. He peers through a set of binoculars at the North Korean troops manning their posts and pledges that the strength and solidarity of the U.S.-South Korean alliance is ironclad. The entire ordeal is meant to demonstrate a bond between the United States and South Korea that has lasted for over sixty years.

President Trump will not be making the trip to the DMZ during his two-day stop in South Korea, but his meetings with South Korean President Moon Jae-in will be important nonetheless. Indeed, Trump has an opportunity to embrace a refreshingly realist approach to the North Korean nuclear problem being brutally honest about what the U.S. can and cannot achieve on the Korean Peninsula. And as difficult as it is to admit, this requires giving up on the Kim regime's denuclearization.

Washington's North Korea policy across successive administrations has centered on pressuring or persuading Pyongyang to shutter its nuclear weapons program in exchange for economic or political incentives from the international community. President George H.W. Bush ordered the withdrawal of tactical nuclear weapons from South Korea in 1991 partly to reinforce the U.S. objective of keeping the Korean Peninsula nuclear-free. The gesture did not work.

In 1994, the Clinton administration tried direct negotiations with Pyongyang and even arrived at an agreement that traded shipments of heavy fuel oil, the construction of proliferation-resistant light reactors, and prospects for a normalization of relations in exchange for the closure of North Korea's plutonium reactor. While the plutonium reactor at Yongbyon was indeed frozen for roughly eight years, the U.S. intelligence community would catch Pyongyang working on a uranium enrichment program. The accord quickly fell apart.

President George W. Bush spent roughly five years of on-and-off diplomacy within the Six-Party Talks framework, coming close to reaching an accord. That is until diplomacy broke down again over issues of transparency, access, and verification.

President Barack Obama tried diplomacy for a time, but largely gave up after newly ascendant leader Kim Jong-un violated the ill-fated "Leap Day deal" weeks after it was agreed to.

Trump appears to believe that the last four administrations were too soft on Pyongyang, too incompetent to strike a deal in America's best interest, and too weak-kneed to push the North Korean regime to its breaking point. He has repeatedly blasted his predecessors for failing to solve the North Korean nuclear problem as if the North Korean problem is actually solvable.

Put simply, it is not.

At this late stage in the game, North Korea can at best be managed—but only if the administration realizes that the U.S. policy of denuclearization is unrealistic short of catastrophic (likely nuclear) war and likely will be as long as a Kim is ruling the country. The Kim dynasty has been a member of the nuclear club for more than a decade when it tested its first primitive nuclear device underground. With CIA Director Mike Pompeo estimating that North Korea is only several months away from acquiring the capability to launch a nuclear-tipped intercontinental ballistic missile

toward a target on the continental U.S., the chances of Kim denuclearizing regardless of the pressure Washington brings to bear is slim to none.

The only viable option available to the Trump administration is to acknowledge the reality as it exists today. Moreover, the first step on that road without launching a war that everyone acknowledges would be extremely violent and bloody is through deterrence and containment.

We know deterrence is an effective strategy because it has worked for the last 72 years. If Washington could successfully deter the Soviet Union throughout the Cold War when the Kremlin possessed tens of thousands of nuclear bombs pointed at American cities and military bases, there is no reason why the U.S. could not do the same thing with a North Korea that possesses a few dozen.

Kim Jong-un—much like the Joseph Stalin and Nikita Khrushchev—may sound crazy at times and treat his people horribly, but like past Soviet and Chinese premiers, Kim is egotistical and obsessed above all else with survival and self-preservation. He does not want the regime his grandfather founded and his father sustained killed off.

A U.S.-led containment and deterrence strategy would look both similar and slightly different to the policy nine American presidents followed for seven decades followed during the Cold War.

First, a reliable line of communication would be established with Pyongyang to make it abundantly clear that any attempt to use its nuclear capability against the U.S., South Korea, or Japan would be the end of the Kim regime. If Kim Jong-un, for instance, attempts to initiate a conflict with Seoul—thinking that he can deter the U.S. military from coming to South Korea's assistance—he will have sorely miscalculated the credibility of the U.S. alliance commitment.

Second, the Trump administration would initiate far more diplomacy with the North Koreans than they have been willing to offer in the past. Unlike in the past, dialogue would not be used to launch a comprehensive negotiation about denuclearization. Instead, it would be used for the express purposes of minimizing misunderstanding between both nations; ensuring that red lines are delivered and received clearly; and to maintain a line of communication between U.S. and North Korean military officials that could possibly be leveraged in the future for a discussion about political normalization or detente when the time is appropriate.

Third, the Pentagon will need to be certain that the U.S. Pacific Command possesses the naval and Air Force assets, anti-missile defenses, and proper alliance coordination necessary to quickly respond to a provocation in the event the North Koreans begin one. Intelligence community relationships in East Asia, including with China, will need to be more synchronized to monitor Pyongyang's illicit export of military technology. Countries can no longer be given the benefit of the doubt on implementing U.N. Security Council resolutions, especially those seeking to combat the arms trafficking or dual-use technology exports Pyongyang will try to engage in as other revenue streams are foreclosed or reduced.

Our military and defense leaders must face facts and pursue the best policies for the U.S. based on reality, not Washington fantasy. If another round of intensive U.S.-North Korea diplomacy breaks down or does not start in the first place, President Trump ought to dust off the Cold War playbook. Deterrence is a far safer and more effective (and moral) alternative than a preventive military strike that would escalate into a full-scale and devastating (nuclear) war.

https://www.realcleardefense.com/articles/2017/11/08/getting_real_on_north_korea_112607.html

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Daily Pakistan (Lahore, Pakistan)

Japan's Ascent Erodes India-Pakistan Peace

By Naveed Ahmad

November 7, 2017

Much of the 1970s marked the period of thaw in the Cold War whereby hostility between the capitalist and the communist blocs lessened and confidence-building measures were adopted at various levels. Kremlin and Tokyo attempted to normalize relations while Delhi basked in the glory of their remarkable success in creating Bangladesh. Pakistan, a frontline member of the western bloc, bore the brunt of the fallout from all sides. While the US did not stand by its words, Japan was amongst the first few to acknowledge Dhaka's new status. Even Pakistan, Japan's earliest post-war partner, had not formally given up its eastern part yet.

In the years to follow, both continued trade but high level visits became a thing of the past. Bhutto's anti-capitalist rhetoric was one of the factors that contributed to this situation too. Meanwhile, Japan was shocked by India's 1974 nuclear test in the Rajasthan desert. It condemned the act while dispatching scientists and high-level officials to Pakistan. Tokyo offered to build several nuclear reactors under the IAEA watch. As an expert in international law, Bhutto had earlier advised Japan against signing Nuclear Non-Proliferation Treaty (NPT) and eventually seek a greater role in Asia-Pacific through partnerships. The island nation was not ready for this daring policy departure from the US. Moreover, Tokyo felt at relative ease with the warmth in relations with Moscow and Beijing. Islamabad's case was to the contrary. Bhutto's unheeded advice was fresh in Tokyo's institutional memory.

As Japan continued to lure Pakistan away from the nuclear option and adopt the civilian route of nuclear energy, Bhutto was heavily distracted by a turbulent political climate. His arrogance and strong-arm tactics furthered stiffened the opposition parties. The talk could not reach fruition. As the US-Soviet mistrust surged again, the Cold War returned with Kremlin's Afghanistan campaign in 1979. The neighboring superpower with territorial disputes invoked Tokyo's insecurity, and it turned to Pakistan again for support against raging Soviet military hardware in the rugged Afghan landmass. General Zia welcomed the Japanese support. The Russian bear reaching the coastline of north Arabian Sea was a terrifying idea for the erstwhile superpower's energy security could have been jeopardized. Somewhere during the 1960s and into the 1970s, Tokyo had even mulled over establishing fuel storage depots in Gwadar.

While the US began to realize the potential of armed opposition that could be offered by Afghan tribesmen against the invading Red Army, General Ziaul Haq toured Japan in July 1983. The week-long visit aimed clearly at reviving ties including strategic cooperation. Prime Minister Yasuhiro Nakasone reciprocated next year in early May to become the first Japanese chief executive to set foot on Pakistani soil in over two decades. Cooperation on Afghan issue apart, Tokyo observed Islamabad's bids for the nuclear device.

Japan's drive against nuclear weapons

Since Tokyo toed Washington on almost everything even after the Cold War ended, it's nervousness about the South Asian nuclear aspiration only surged. The Pressler Amendment was not only a discriminatory US legislation against an ally but also a worldwide warning of Pakistan's nuclear ambitions. Come early 1990s, the island nation linked official development aid with the atomic program. Nawaz Sharif, the then premier, paid an extensive visit aiming to tempt businessmen and allay the Japanese concerns about the nuclear aspirations. Tokyo remained unconvinced but agreed to encourage Japanese investment. When the Nawaz-led government preferred a South Korean

company to the Japanese in contest for the country's first motorway, many questions arose. The 1990s remained an era marred by Tokyo's frustration towards South Asia.

Benazir Bhutto's second visit in 1996, the first being in 1989 on the eve of Emperor Hirohito's funeral, could not break the ice either. Japan consistently demanded that Pakistan and India sign the NPT. India dragged South Asia to nuclearization on May 14, 1998. A fortnight later, Pakistan followed suit. Japan slapped sanctions on both the nations.

India and Pakistan still remained important for the Asian economic giant, mainly due to business interests. Prime Minister Yoshiro Mori's visit in 2000 occurred when General Musharraf was the country's chief executive while the elected prime minister was languishing in Attock jail. A year later, the terrorist attacks on September 11 changed the world's perception of the entire region. Japan woke up to the challenge of lawless Afghanistan after a decade of slumber. The 2002 Tokyo Conference was indeed a generous and thoughtful move towards addressing Afghanistan's core issues, except that Washington did not exactly share the perspective of its allies like Japan and Britain.

2005 marked the last time a Japanese premier landed in Islamabad. Two months later, Pakistan's premier Shaukat Aziz reciprocated the visit. Ever since then, the relations have been shadowed by the narrative of fighting terrorism. Meanwhile, India has managed to intensify a multifaceted engagement including strategic cooperation. On the contrary, Japan-Pakistan security dialogue is dominated by counter-terrorism sans deliberations on any sort of technological transfer or military-to-military relations whatsoever.

Yet, Pakistan remains monopoly for substandard and under-equipped vehicles of Japanese brands i.e. Toyota, Honda and Suzuki. The road safety record of the cars produced under joint ventures has been poor while the price tag remains exorbitant. Under the Nawaz government, foreign investment and boosting exports have not been a priority, barring the special cases of China and Turkey. Thus, Pakistan not only requires a comprehensive review of its trade woes with Japan but across the board. During his four years in the PM office, he neither visited the Land of Rising Sun nor made serious efforts to welcome Abe Shinzo who did fly to India twice.

The China factor in Japan's relations

Japan and China share a long history of animosity. Even though Japan lost World War II and had to renounce its right to go to war, the gulf between the two Asian neighbors could not be bridged. After the Pakistan-assisted entry to the open world, China's relations with the West significantly improved, less so with Japan with longstanding territorial disputes and ideological difference loomed large. Bilateral trade notwithstanding, both the Asian giants have become increasingly assertive over the past decade. Meanwhile, Pakistan's relations with China have been adversely impacting its friendship with Japan.

Throughout much of the Cold War and more so after enactment of the Pressler Amendment in 1985, its geostrategic compulsions in the face of western cold feet pushed Islamabad closer to Beijing. Tokyo preached the pacifist ideology without questioning the anarchist western policies. It is fair to say that the country had little room for daring and proactive policies.

After China's One Road One Belt initiative, Japan is more cautious than ever about the rival's military and economic hegemony. Gwadar port connects China to the North Arabian Sea which Japan could have utilized had it adopted prudent policies in the 60s and beyond. Public sector infrastructure development projects have already become public domain, which are mostly awarded without competitive bidding. Additionally, Chinese automobiles along with western brands are soon going to compete with Japanese brands in the Pakistani market. The walkover in favor of Beijing is detrimental for Tokyo's interest. Over the past two decades, Pakistan-Japan

bilateral trade share in accumulative percentage has witnessed a steady decline. Pakistan's trade deficit surged unimpeded. Besides other factors including import restrictions, Tokyo has preferential trade agreements with ASEAN member countries while Islamabad has shopped more from Chinese manufacturers.

Abe's quest for regional leadership

Abe has been voted afresh into power today after Liberal Democratic Party outperformed others in snap elections last week. He has led the country since 2012 with his famous three-pronged policy called Abenomics. The country politics may be rowdy and divisive but its economy is no less a challenge.

Abenomics seeks a colossal upsurge in financial stimulus in the economy through public sector spending; reforming and liberalizing the unconventional central bank policy; and last but not the least, continuous structural advances in the economic system. The Japanese leader is criticized that the 'trickle-down economics' only worked for the rich. The suicide rate has fallen to the lowest in four decades and unemployment has nosedived from 54 percent in 2001 to 32 percent.

Yet, the economic doctrine is a means for Abe's to become a regional strongman seeking annul pacifist clauses of the constitution in quest for a globally more assertive Japan. So far, he has attained total control of the party by removing or sidelining critical thinkers within the ranks. Abe is mandated to lead the party till 2021 and by managing to stay in power until then, he would not only become the most powerful but also the longest serving leader of modern Japan.

Two years into power, Abe-led parliament – Diet – lifted a ban on arms export and amended the pacifist provision in the constitution in 2015 to permit military operations abroad. Though no significant arms exports have taken place yet, the country has aroused enormous interest amongst deep-pocketed states. Not only will the arms sales create stable jobs and strengthen the economy but also enable Japan to create a bloc and alliance with the importing nations. The 63-year-old's next task is to repeal pacifist Article 9, which other segments including the leftists want untouched.

Given the pretty low turnout in last week's elections, Abe will have to tread carefully in realizing his militaristic ambitions. The public is sensitive towards conflicts and Japan's role lies beyond self-defense. Besides a mature debate in Diet between the left and right on the subject, Tokyo may have to call a referendum on the fate of Article 9. Abe's popularity has eroded and the election win is not reflective of his personal charisma but of public thanksgiving for the country's economic uplift.

In the wake of a referendum on the Japanese equivalent of Brexit, Abe may have a rude awakening. Thus, he may maneuver his way around it inside the parliament.

The North Korean missile over-flights and nuclear testing are bringing Abe's point home. Earlier, the pretext for depacification was China's rising economic and military might. Abe's critics believe that Tokyo has not invested in diplomacy with Beijing enough, as LDP prefers to thrive on fear-mongering.

Prior to Abe, the sentiment to form alliances with major regional powers did exist in Japan. In 2006, it became more pronounced with the Tokyo's notion of the 'arc of security and freedom' that proposed India and Australia as two other partners against China.

Delhi could not have asked for more from the world's technology leader seeking to ally with her. India successfully negotiated a civil nuclear reactor acquisition and support to join the Nuclear Suppliers Group (NSG) in 2008. Abe found a likeminded statesman in Narendra Modi after his elevation to the prime minister's office. While Australia has not entered the partnership with as much vigor, India and Japan are aspiring to challenge China in Africa where its development projects have won quite many friends.

Japan's future vision has no significance for Pakistan, which prefers hyphenated with China now after four decades of the same with America. Being a geographical neighbor, the Sino-Pak relationship is more vital than Cold War-era partnership in the western alliance. Is it worth it for Pakistan to ignore other important regional countries? Japan's technological expertise assisting India in the military and civilian realm can have game-changing consequences for Pakistan. Whether we talk about the fifth-generation stealth fighter jet or ultra-quite nuclear-powered submarines or electronic warfare, Delhi will have access to it all. In the name of a more muscular policy, the rather far-off Asian giant will be playing with the precarious balance of power in South Asia. Giving a walkover to India in East Asia will prove disastrous for the Islamic republic. Frankly, the lack of vision is not an anomaly in case of East Asia, but it is a pattern that persists in relations with the European Union, the GCC, and the Middle East too.

As for Japan, it is not too late for Pakistan to engage with the government to press upon its anguish at the troubling implications of technology transfer to India. Abe's popularity and opposition to his worldview offer Islamabad a window to pursue a proactive public diplomacy in Japan. Besides, effective outreach to LDP's political opponents and civil society can help too. Unlike the public perception, Pakistan has sufficient expertise on East Asia but has not been paid heed to. If Federal Minister Ahsan Iqbal can spare some time soon from lambasting PMLN's political opponents, he must engage with policymakers in Tokyo.

Sooner than later, Pakistan needs to wean itself from China. Beijing is a very important neighbor and a time-tested ally of Pakistan but not the only friendly country on the planet. Throughout the Cold War, Islamabad has paid the cost of aligning itself too closely with Washington and to an extent with Beijing. In today's world, every country is for itself, including China. The world is devoid of tightly compartmentalized military or geopolitical alliances. Pakistan has always stood by Japan despite occasional lack of reciprocity. Now is the time for Tokyo to return the favor.

https://en.dailypakistan.com.pk/opinion/japans-ascent-erodes-india-pakistan-peace/

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New York Times (New York, NY)

North Korea and the Threat of Chemical Warfare

By Theo Emery

October 27, 2017

The war of words between President Trump and the North Korean leader Kim Jong-un over Pyongyang's nuclear program has rattled nerves around the world. But the trial of two women in Malaysia for using the nerve agent VX to kill Mr. Kim's half brother is a reminder that North Korea's lethal arsenal isn't limited to nuclear weapons. The North's chemical weapons pose a grave risk to South Korea and to regional stability.

Experts say chemical munitions have long been deployed along the demilitarized zone that separates the North and South. In the event of a military attack against the North, analysts say, the regime sees chemicals as an option for a first response. Seoul and its 10 million inhabitants could be hit immediately.

Estimates of casualties are staggering. Images from Syria of children gassed with sarin in recent years have horrified the world; imagine a death toll in South Korea a thousand times larger.

In a June article in Bulletin of the Atomic Scientists, the military historian Reid Kirby used the term "sea of sarin" to describe such an attack. Accounting for sarin's toxicity, the types of artillery along

the DMZ, and vulnerability of children and the elderly, he estimated that a sarin attack could kill as many as 2.5 million people in Seoul and injure millions more. There are about 24,000 United States military personnel in South Korea, along with their families, and thousands of American expatriates.

No one outside of the North Korean government knows with certainty the composition of the country's chemical stockpile, but intelligence from defectors and the South Korean government suggests that Pyongyang has 2,500 to 5,000 metric tons of some 20 chemical warfare agents.

Experts have long suspected that the North's arsenal includes VX, which is far more toxic than sarin. The gruesome murder in February of Mr. Kim's estranged half brother, Kim Jong-nam — a brazen killing in a Malaysian airport that prosecutors say was carried out by two women, trained by North Korean agents, who rubbed the victim's face with VX — has dispelled any doubts that the North has the chemical. Unlike sarin, VX is "persistent," meaning it lingers in the environment rather than disperses. The mustard gas that drenched World War I battlefields is the original persistent chemical.

Kim Jong-nam's murder also raises the specter of new proliferation of chemical arms. The fact that VX made its way out of North Korea undetected to another country could indicate that Mr. Kim would use the North's extensive criminal smuggling networks to secretly assist other nations, or nonstate actors, in obtaining or producing it.

The chemical menace from North Korea recalls a time when chemical weapons posed far more of a global threat than they do today. The doctrine of strategic deterrence — maintaining stockpiles of powerful weapons to keep a similarly armed adversary in check — didn't begin with nuclear weapons; rather, it emerged from gas warfare in World War I.

In the war's aftermath, the Geneva Protocol of 1925 banned chemical warfare but not chemical weapons. The rationale for that apparent contradiction was that rogue nations might disregard international law and use chemical arms to attack cities and civilian populations in much the way North Korea threatens to do today. The way to deter such attacks, the logic went, was to maintain a stockpile. If signatory nations suffered a chemical attack, they could then retaliate in kind.

The United States Senate, convinced that the agreement was folly in a dangerous world, refused to ratify the pact. Many nations developed sophisticated chemical weapons programs, as well as biological weapons. By the 1990s, the United States had an arsenal of 27,700 metric tons of chemical agents, and Russia had at least 40,000.

The threat of chemical warfare diminished because of the far greater power of nuclear weapons, but also because of the 1997 Chemical Weapons Convention, which outlawed the weapons altogether. The United States and South Korea are among the 192 nations party to the agreement, and they agreed to destroy their chemical arsenals. North Korea did not join.

After President Bashar al-Assad of Syria was accused of using sarin in 2013, he joined the convention. He promptly violated it with more chemical barrages, including the sarin attack in Khan Sheikhoun in April that spurred President Trump to retaliate with a missile strike.

A similar show of force against Mr. Kim's regime could have catastrophic consequences for South Korea. The North's nuclear arms are one layer of deterrence against attack; the chemical arms are a second. Many experts say that Mr. Kim, if attacked with conventional weapons as a warning or a pre-emptive strike, could see chemical weapons as a way to retaliate without escalating to nuclear weapons.

After the Syrian sarin attack in April, Mr. Trump used unusually emotional terms in his speech about his decision to launch the missile strike. "Even beautiful babies were cruelly murdered in this very barbaric attack," he said. "No child of God should ever suffer such horror."

Let's hope that the president's memory of those searing images will make him think twice before attacking Kim Jong-un. The fate of millions of South Koreans within range of Mr. Kim's chemical arsenal may depend on it.

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Reagan and the Case for Tactical Nukes in South Korea

By Joseph Bosco

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To resolve the problem of North Korea's nuclear weapons, President Donald Trump should take a page from the book of Ronald Reagan, learning from when that president confronted a similarly fraught situation at the height of the Cold War. First, some background.

The Soviet Union and its puppet East European Communist regimes wielded a massive conventional arms and manpower advantage over the combined resources of Western countries in the NATO alliance. But tactical battlefield nuclear weapons fielded by the United States, France, and Great Britain offset the Warsaw Pact's conventional edge and achieved a rough strategic balance on the European continent.

Yet, Moscow, with its aggressive designs on Western Europe, wanted not a balance of power but an imbalance that worked in its favor. So, in the 1970s, the Soviet Union began deploying medium-range theater ballistic missiles to its bases in Eastern Europe. By targeting bases in France, Germany, Italy, and other NATO countries, the Soviet SS-20s would neutralize the West's tactical nuclear deterrent and the strategic standoff would revert to its default posture: advantage, Soviets.

Despite his experience as a former nuclear submarine commander educated on Russian ambitions, Jimmy Carter had entered the presidency decrying the West's "inordinate fear of Communism." He found his eyes opened with Moscow's brutal invasion of Afghanistan in 1979. Carter said the invasion "made a … dramatic change in my opinion of what the Soviets' ultimate goals are."

Having watched both Moscow's buildup in Afghanistan and the SS-20 deployments, Carter decided he needed to show some spine on the European continent. He supported NATO's decision to deploy comparable medium-range cruise and Pershing ballistic missiles in Western Europe. But the actual deployment would not occur for another four years, to give time for additional disarmament negotiations with the Soviets.

When Reagan replaced Carter as president in 1981, he was determined to take a different approach to Moscow's missile challenge. Mistrusting Soviet intentions in negotiations, he abandoned Carter's policy of strategic patience and decided that, for the response to be effective, NATO's missile deployment would need to occur sooner rather than later, starting in less than two years.

Global protests that had been sporadic and relatively low-key during Carter's administration now escalated exponentially in response to Reagan's tough rhetoric and apparent steely resolve to actually deploy the American missiles. He was widely attacked as an irrational war-monger, recklessly playing with nuclear brinkmanship that could quickly escalate into World War III.

Pacifists and Western Communists exercised critical roles in inspiring and organizing the demonstrations on American and European streets. But as more mainstream citizens joined the cause against the nuclear danger, the protests grew massively. Numbering in the hundreds of

thousands, it became the largest peace movement in U.S. history, eclipsing even the Vietnam War protests.

Moscow's strategic communications campaign was working according to plan. It had preempted the West with the fait accompli of its earlier announced SS-20 deployment, portraying it as a "leveling" response to NATO's tactical nuclear weapons. Its propagandists were able to persuade many Western citizens that U.S. deployment of the cruise and Pershing missiles was the provocation upsetting the nuclear status quo.

They were helped immeasurably by the emergence of a global Nuclear Freeze movement that called for a halt to further nuclear weapons deployments. That would have stopped NATO's missile deployments but left in place the already-deployed SS-20s. Moscow and its allies naturally loved the freeze concept. It was championed in the United States by Senators Al Gore and Edward Kennedy, along with other public officials identified with disarmament and liberal positions on national security.

They were joined and encouraged by scientist Carl Sagan and a host of celebrities and religious leaders. At a Harvard conference of nuclear experts, scholars, and public intellectuals organized to address these issues in January 1983, Gore made a strong pitch for the nuclear freeze. (At the conference, a leading American pollster proudly told luncheon companions that in conducting his recent poll showing broad support for the freeze and opposition to Reagan's proposal, he had cleverly "cooked the books.")

As the date for deployment of the cruise and Pershing missiles approached, the anti-nuclear and freeze movements focused on trying to close the bases where the weapons would be stationed. Confrontations and altercations with the police occurred in England, Germany, and Italy. Nervous American and European politicians began to have second thoughts, and several governments were on the verge of falling over the issue.

Throughout the tumult, Reagan never wavered. His steadfast message to Moscow was clear: remove the SS-20s or we put in our missiles. To the protesters, the message was: direct your anti-nuclear protests at the Communist government that created the problem, not at the democracies that are trying to eliminate it.

The deadlines arrived in mid-1983 and NATO's missiles were indeed deployed. Within 18 months, Reagan and Mikhail Gorbachev, the new Soviet leader, agreed to remove all SS-20s, Pershings, and cruise missiles from Eastern and Western Europe. Four years later they signed the Intermediate-Range Nuclear Forces Treaty, calling for the complete destruction and banning of all such weapons, and broader arms control agreements were consummated in subsequent years.

Fast forward to today's nuclear confrontation with North Korea (aided and abetted by China).

In East Asia, as in Eastern Europe, Communist governments control armies that vastly outnumber the forces of democratic Japan and South Korea and stationed American troops, a differential that was manifested in the Korean War. After that conflict ended in stalemate in 1953, the United States deployed tactical nuclear weapons on the Korean Peninsula to offset the North Korean and Chinese manpower advantage, just as was done in Europe.

North Korean leader Kim Il-sung eventually decided that he needed nuclear weapons as well and pursued that goal until his death in 1994. His son, Kim Jong-il, and grandson, Kim Jong-un, accelerated the pace of development. Washington, Seoul, and Tokyo all opposed North Korea's nuclear weapons program. China, rather than directly opposing its ally in Pyongyang, preferred the more generic policy of calling for the denuclearization of the Korean Peninsula. All the while, however, it supported the North's nascent nuclear and missile programs as Chinese weapons

technology found its way to Pyongyang (and other anti-Western regimes) by way of Pakistan's A.Q. Khan network.

To win Chinese cooperation in terminating the North Korean program and show U.S. good faith, Washington unilaterally withdrew its tactical nuclear weapons from the South in the early 1990s. But Pyongyang surged ahead with its own programs anyway and China did nothing to stop it. On the contrary, Beijing constantly provided diplomatic cover for North Korea at the United Nations Security Council by vetoing, threatening to veto, watering down, delaying, and failing to implement a series of economic and financial sanctions intended to curtail the program.

At the same time, Beijing continued to provide its Communist ally with all the economic support it needed to hold onto power and remain as the cruelest, most totalitarian regime on Earth. China shamelessly acknowledges that it prefers this outcome to the fearful alternative of a reunified, democratic Korea (which speaks volumes about the nature of the Chinese Communist regime itself). With Beijing having its back, North Korea has had no incentive to give up its nuclear and missile programs. And with a credulous West accepting that China is incapable, or with "good" reason unwilling, to compel Pyongyang to change, Beijing has had no incentive to fundamentally change its policy.

So, without the avenues of good-faith negotiations or sustained, harsh, China-supported sanctions, and short of the use of force, Washington and its allies should consider the approach Reagan employed in Eastern Europe: either North Korea gets rid of its nuclear weapons, or South Korea gets its own. The United States can accomplish that by returning its tactical nuclear weapons to South Korea, or it can support a Seoul program to develop its own. The Seoul government recently said it will not "build or own" nuclear weapons, but it was silent on the re-introduction of U.S. weapons. Deploying tactical nuclear weapons to South Korea may well mean that Japan will also want an indigenous nuclear weapons capability.

All this was predictable, indeed predicted by many. It is largely China's doing (though Moscow had a hand in it) and, like the Soviet Union facing new Western nuclear weapons on its borders in the 1980s, Beijing knows what it must do to avoid the predicament it has created.

President Trump has adopted Ronald Reagan's belief in peace through strength; he should follow as well his practice of disarmament through rearmament.

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ABOUT THE USAF CUWS

The USAF Counterproliferation Center 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 Director for Nuclear and Counterproliferation (then AF/XON), now AF/A5XP) and Air War College Commandant established the initial manpower 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.

The Secretary of Defense's Task Force on Nuclear Weapons Management released a report in 2008 that 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." As a result, 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 continuing education through the careers of those Air Force personnel working in or supporting the nuclear enterprise. This mission was transferred to the Counterproliferation Center in 2012, broadening its mandate to providing education and research to not just countering WMD but also nuclear deterrence.

In February 2014, the Center's name was changed to the Center for Unconventional Weapons Studies 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.

The CUWS'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.