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## Feature Report

***“Iran Military Power”***. Published by Defense Intelligence Agency; 2019

[https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/Iran Military Power\\_LR.pdf](https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/Iran_Military_Power_LR.pdf)

JOINT BASE ANACOSTIA-BOLLING, D.C. , Nov. 19, 2019 —

The Defense Intelligence Agency (DIA) today released “Iran Military Power,” an intelligence product that examines the core capabilities of Iran's military.

This volume in DIA's series of military power reports provides details on Iran's defense and military goals, strategy, plans, and intentions. It examines the organization, structure and capability of the military supporting those goals, as well as the enabling infrastructure and industrial base.

“As Tehran expands its capabilities and role as both an unconventional and conventional threat in the Middle East, it is more important than ever that we understand Iran’s military power and the threat it poses to our interests, our allies, and our own security,” Defense Intelligence Agency Director Lt. Gen. Robert P. Ashley, Jr. said in his introduction.

Throughout its 40-year history, the Islamic Republic of Iran has remained implacably opposed to the United States and its presence in the Middle East. Iran has built its military power primarily to serve two important goals: ensuring the survival of the regime and securing a dominant position in the region.

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We think this assumption deserves to be questioned because, if nothing else, holding it requires ignoring the long and rich history of deterrence and nuclear strategy, nearly all of which operated *without* a hostile detonation.

# NUCLEAR WEAPONS

Air Force Magazine (Arlington, Va.)

## **DIA: Iran Gaining More Military Power**

By John A. Tirpak

Nov. 20, 2019

Iran has successfully pursued an asymmetric strategy of militarily offsetting the US and its Persian Gulf neighbors, but a UN ban on selling high-end weapons to Tehran expires in less than a year, potentially opening the floodgates to Iran becoming a much more formidable adversary, according to the Defense Intelligence Agency.

“Iran Military Power,” unveiled by the DIA Nov. 19, said Iran has built credible deterrence and attempted hegemony of the Persian Gulf region relying on a unique triad of capabilities: ballistic missiles, a diverse and large naval presence in the Gulf, and special forces/support of proxies in its near-abroad. While it has not yet developed nuclear weapons, its pursuit of a nuclear program has taken it in some ways beyond the limits that would have been imposed by the Joint Comprehensive Plan of Action abandoned by President Donald Trump, and this progress remains a “significant concern” for the US, according to the report.

“We see Iran’s goal here as trying to deter attacks on Iran, and we also see Iran wanting to be able to project its power and influence in the region and secure that dominant regional presence,” said a defense official, briefing reporters at the Pentagon.

Iran has made up for having a third-rate, largely obsolescent air force by fielding a largely modernized ground-based air defense system, some of which is now home-grown; a reasonably well-equipped and trained army; and developing a large number of indigenously produced unmanned aerial systems for use in intelligence, surveillance, and reconnaissance or limited precision attack, the DIA said.

“Lacking a modern air force, Iran has embraced ballistic missiles as a long-range strike capability to dissuade its adversaries from attacking Iran,” Christian Saunders, DIA’s senior analyst for Iran, said at a Pentagon press conference. Iran’s ballistic missile force is the largest in the Middle East, he said, with short-, medium- and long-range missiles, the latter of which are able to hit targets as far as 2,000 km away. Iran is adding to its missile inventories and developing new, more accurate and long-ranged systems, including land-attack cruise missiles, Saunders noted.

However, Iran may no longer have to pursue an asymmetric approach starting in October, 2020, when UN Security Resolution 2231 expires, Saunders pointed out. Under that rule, Iran can’t buy most kinds of conventional weapons, but when UNSR 2231 runs out, Tehran will have the “opportunity to acquire some advanced capabilities that have been beyond its reach for decades.”

Among these, the report said, are advanced fighters and other combat aircraft, which Iran has been discussing with China and Russia for several years. Iran’s air force today is comprised largely of western aircraft bought during the reign of the Shah, small handfuls of Russian MiG-29s, SU-24s, and Su-25s—largely acquired from Iraq—and some up-gunned F-7 Airguard jets, the Chinese version of the MiG-21. The most recent of those aircraft entered Iran’s inventory in the late 1990s. Though Iran has rolled out some interesting-looking aircraft mockups it claims are stealthy, the report dryly observes that these programs remain “aspirational.” Absent legal partnerships with other countries, the DIA deems Iran incapable of developing advanced aircraft on its own.

The expiration of the embargo would also allow Iran to upgrade its nearly 2,000-strong tank forces, which are predominantly 1980s-vintage Russian T-72s. Altogether—providing Tehran has the cash—it could sharply increase its military options with a few well-chosen modernization programs if the UN doesn't renew the embargo.

Iran has built “layered maritime capabilities” ranging from large combat vessels to small boats, submarines, mines, unmanned aerial vehicles, air defense systems, and coastal missiles, Saunders asserted, employing “asymmetric tactics” to “overwhelm an adversary’s naval force.”

Iran also funds and trains numerous “partners, proxies,” and other forms of “unconventional warfare” in the broader Middle East. These include the Houthi rebels in Yemen; Hezbollah; Iraq Shia militants; the Taliban in Afghanistan; Bahraini Shia; and some Palestinian groups. This network operates as far afield as Sudan, Afghanistan, Iraq, Syria, Lebanon, Yemen, and several other Gulf countries. An attack on Saudi oil refineries earlier this year was attributed to Iran—or Houthis using Iranian equipment—with Iranian UAV wreckage offered as evidence.

Saunders said Iran’s “rapid progress” in developing UAVs is a “point of concern.” The report described eight types of platform “families” with 14 different variants, able to fly ISR missions throughout the region or conduct limited but precise attacks with small munitions.

Iran’s air defense systems provide layered coverage of about 60 percent of the country, focused mainly on protecting Tehran, Persian Gulf naval bases, and Iran’s nuclear development sites. In addition to old systems, such as the American Hawk and British Rapier acquired in the pre-revolutionary days, Iran has “invested heavily in domestically developing and producing” surface-to-air missiles, radars, and command and control systems, according to the report. It has developed a solid capability to upgrade the old systems with modern elements, and routinely conducts exercises demonstrating that its air defense system is indeed integrated, although the report notes that in recent years, Tehran has emphasized that units be able to operate autonomously, without direction from central control.

“Iran is developing the long-range Bavar-373 SAM system, which it claims is more advanced than the Russian S-300,” the report notes, and it has deployed the Russian S-300 (SA-20) as well. Other air defense systems include the SA-5 (S-200) missile and the SA-15.

In acquiring the SA-20C in 2016, Iran obtained “its first capability to defend itself against a modern air force,” Saunders noted. Still, the greater concern is that Iran now has a domestic capability to develop both liquid- and solid-fueled precision-guided missiles on its home soil.

Iran is also making substantial progress in developing an indigenous space launch vehicle program, which could translate into a truly intercontinental missile capability. The two-stage liquid-fueled Safir space launch vehicle has been in development since 2008 and has achieved several successful launches. The Simorgh SLV, which is designed to carry satellites to higher orbit, is also a two-stage rocket and could be the basis of an ICBM.

Saunders didn’t say much about Tehran’s known offensive cyber capabilities, except to note that Iran views cyber operations “as a safe, low-cost method to collect information and retaliate against perceived threats,” and is continuing to up its game in this arena.

He noted that Iran’s ground forces are largely centered on homeland defense, but it has in recent years “taken steps toward developing a limited expeditionary capability” through its operations in Iraq and Syria, against ISIS.

The report marks DIA’s third foray into providing a detailed but unclassified military assessment of a potential adversary. It started in 1981 with the first edition of “Soviet Military Power,” which was



discontinued at the end of the Cold War but returned in 2017 as “Russia Military Power.” That was followed by this year’s “China Military Power.”

<http://www.airforcemag.com/Features/Pages/2019/November%202019/DIA-Clock-is-Ticking-on-Iran-Gaining-More-Military-Power-When-Embargo-Expires.aspx>

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The Hill (Washington, D.C.)

## **Pope Appeals to World Leaders to Renounce Nuclear Weapons**

By Rebecca Klar

Nov. 25, 2019

Pope Francis on Monday reportedly urged world leaders to renounce nuclear weapons during his trip to Japan, where he visited the only two cities to experience atomic bomb attacks.

“[I] invite all persons of good will to encourage and promote every necessary means of dissuasion so that the destruction generated by atomic bombs in Hiroshima and Nagasaki will never take place again in human history,” Francis told dignitaries including Japanese Prime Minister Shinzo Abe, according to Reuters.

Francis also reportedly said that dialogue was “the only weapon worthy of man and capable of ensuring lasting peace.”

Abe said Japan was committed to a world free of nuclear weapons, according to Reuters.

Francis’s urging comes as North Korea continues to test missiles, even after President Trump’s visit with North Korean leader Kim Jong Un earlier this year.

Francis, who backs a United Nations treaty aimed at a nuclear weapons ban, will also discuss nuclear devastation during his Monday meeting with Emperor Naruhito, Reuters reports.

<https://thehill.com/policy/international/asia-pacific/471867-pope-appeals-to-world-leaders-to-renounce-nuclear-weapons>

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# US COUNTER-WMD

Breaking Defense (Washington, D.C.)

## **In First, NATO Ships Share Target Data & Knock Down Ballistic Missiles**

By Paul McLeary

Nov. 21, 2019

WASHINGTON: Warships from several NATO allies tracked and knocked down ballistic missile targets from the sea for the first time sharing targeting information across a shared alliance network.

The multinational, live-fire Formidable Shield exercise, which took place in May off the coast of Scotland, saw a French frigate knock down a supersonic target with an Aster 15 missile, while the Royal Canadian Navy tracked and hit another supersonic target with an Evolved Sea Sparrow missile. Both were firsts for the respective sea services.

The exercise, which simulated both ballistic and cruise missile threats, was a key test for integrating NATO's sea forces across a single network that can push information across a deployed task force, something of incalculable importance in the confined spaces of Baltic Sea or North Atlantic if Russian missiles were launched from Kaliningrad or the Kola Peninsula.

"As we look for opportunities to expand our network of partnerships, we need to take care that our partners and allies can operate in our networks," Kevin Gillis of the Navy's Integrated Warfare Systems told the American Society of Naval Engineers. "This is a trend that's here to stay and its confirmed by the number of cooperative deployments occurring with our allies ...this is a key to success in the 'fight tonight' ethos our combatant commanders practice today."

While the French and Canadians hit their targets as NATO AWACS aircraft cleared airspace around the drill, Formidable Shield also marked the first key test of a new NATO command and control structure, including the first at-sea deployment of Naples, Italy-based Commander Task Group 64, which runs the integrated air and missile defense mission for US Naval Forces Europe-Africa and the commander of 6th Fleet.

The 13-ship task force, which included Canada, Denmark, France, Italy, the Netherlands, Norway, Spain, UK and the US, merged tactical information using NATO's Air Command and Control System to coordinate movements, Gillis said, and was able to link sea and shore-based units together — including a simulated Aegis Ashore unit which successfully simulated the launch of SM3 BlockIIA missiles at a ballistic target. Several allies were also able to track ballistic missile targets and share space tracks over tactical data links with the entire task group, Gillis added.

The Missile Defense Agency emulated threats for the exercise, while the US Air Force Europe used F-16s to launch AQM-37 supersonic target drones.

Speaking earlier in the day at the same conference, MDA chief Vice Adm. Jon Hill said it's getting harder to track new ballistic and cruise missile threats as technologies mature more quickly and more countries develop their own capabilities.

"Speed is a big deal," he said. "We are driven by the threat, and it is amazing what we're up against ... It is stunning. What also is stunning is how the threat is changing." Working with the Navy is also a growing part of what his organization does, since sea-based deterrence is increasingly important. "Defense itself is deterrence ... as a cost-imposing measure on the adversary."

<https://breakingdefense.com/2019/11/in-first-nato-ships-share-target-data-knock-down-ballistic-missiles/>

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## US ARMS CONTROL

VOA (Washington, D.C.)

### **Experts: North Korea's Nuclear Weapons, Missiles Make It Less Secure**

By Christy Lee

Nov. 20, 2019

WASHINGTON - Contrary to Pyongyang's belief that nuclear weapons and missile programs safeguard its security and ensure its survival, experts said they make the country less safe because they leave it prone to U.S. military targets.

North Korean leader Kim Jong Un "thinks that nuclear weapons are the guarantee of his regime survival," said Bruce Bennett, a senior defense analyst at the Rand Corp. research center. "In reality, they're the guarantee of his regime destruction."

Although Kim promised he will commit to denuclearization since he began engaging with the U.S. in 2018, North Korea has not shown a serious willingness to reach a deal agreeing to forgo nuclear weapons.

Experts said North Korea's reluctance to reach a denuclearization deal stems from its dogmatic view of nuclear weapons as essential for its security.

Evans Revere, a former State Department official who had negotiated with North Korea extensively, said, "I am convinced that North Koreans believe nuclear weapons guarantee their security."

"And as long as that is the case, there is no chance that Pyongyang will give them up," he added.

### **Stalling**

Rather than committing itself toward reaching a viable denuclearization deal with Washington, Pyongyang has been stalling while blaming Washington for refusing to make concessions.

North Korea said on Monday it is not interested in having another summit with the U.S. in an apparent response to President Donald Trump's Sunday tweet urging Kim to "act quickly" to "get a deal done."

Mr. Chairman, Joe Biden may be Sleepy and Very Slow, but he is not a "rabid dog." He is actually somewhat better than that, but I am the only one who can get you where you have to be. You should act quickly, get the deal done. See you soon!

North Korean Foreign Ministry adviser Kim Kye Gwan said, "We are no longer interested in such talks that bring nothing to us," in a statement carried by the country's official Korean Central News Agency (KCNA). "As we have got nothing in return, we will no longer gift the U.S. president with something he can boast of."

Progress on denuclearization talks has been stalled since the Hanoi Summit held in February failed when Trump denied Kim's request for sanctions relief in exchange for partial denuclearization. Trump, instead, asked Kim to fully denuclearize before any lifting of sanctions can be granted.



After months of stalled negotiations, working-level talks were held in Stockholm in October, but the talks ended quickly without a deal reached when North Korea walked away from the negotiating table.

<https://www.voanews.com/east-asia-pacific/experts-north-koreas-nuclear-weapons-missiles-make-it-less-secure>

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Arms Control Association (Washington, D.C.)

## **U.S. Seeks 'New Era of Arms Control'**

By Shannon Bugos and Kingston Reif

November 2019

The Trump administration continues to say it would like a new arms control agreement with Russia and China while remaining silent on the possibility of extending the 2010 New Strategic Arms Reduction Treaty (New START) with Moscow, according to U.S. and Russian officials.

During a session of the UN General Assembly First Committee on Oct. 10, Thomas DiNanno, acting U.S. assistant secretary of state for arms control, verification, and compliance, stated that the administration is seeking “a new era of arms control, one in which Russia and China are at the negotiating table and willing to reduce nuclear risks rather than heighten them.”

“Today, the Cold War approach, with its bilateral treaties that covered limited types of nuclear weapons or only certain ranges of adversary missiles, is no longer sufficient,” he added. DiNanno did not mention New START except to say that some of the new long-range nuclear delivery systems under development by Russia would not be subject to the agreement.

In an Oct. 20 interview with The Washington Times, he referenced New START specifically, saying that “technology has rapidly changed” and pointing out “not what New START does, but what it doesn’t do in the 2020 deteriorating security environment.”

DiNanno did not explain how the United States plans to achieve a broader agreement with Russia and China.

Details on such an agreement also were not forthcoming from the White House. In an Oct. 21 interview with Fox News, President Donald Trump said, “I believe that we’re going to get together with Russia and with China, and we’re going to work out our nuclear pact so that we don’t all continue with this craziness.” China has repeatedly stated that it is not interested in joining multilateral talks with the United States and Russia on arms control at this time.

In the aftermath of the end of the 1987 Intermediate-Range Nuclear Forces Treaty in August, New START is the only remaining arms control agreement limiting the U.S. and Russian nuclear arsenals. The Trump administration is expected to make a decision on whether to extend the treaty next year. New START allows for an extension of up to five years, until 2026, if the presidents of the United States and Russia agree to do so.

In an Oct. 11 interview, Russian Deputy Foreign Minister Sergey Ryabkov called on the United States “to stop wasting time” regarding an extension of New START. “There is almost no time left” before the treaty expires, he said. “At least, it is important to understand what they plan to do with the treaty.”

Ryabkov added that “the extension period is subject to discussion. We are poised to exercise flexibility in this respect.”

Although Russia emphasizes the importance of extending New START, Moscow argues that any future nuclear arms reduction agreement should be multilateral and address a broad array of factors that impact strategic stability.

In a statement to the First Committee on Oct. 11, Vladimir Yermakov, director of the Department for Nonproliferation and Arms Control in the Russian Foreign Ministry, said these factors include “unrestricted deployment of the U.S. global missile defense, development of high-precision strategic offensive non-nuclear weapons, prospects for deployment of strike weapons in outer space, destruction of the international system of arms control treaties and agreements, [and] attempts to weaken defense potential of other countries by using illegitimate methods of unilateral pressure, bypassing the UN Security Council.”

Meanwhile, Fu Cong, director-general of the Department of Arms Control of the Chinese Foreign Ministry, reiterated Beijing’s position that it does not plan to participate in talks on arms control with the United States and Russia. Instead, he urged the United States to respond to the Russian call to extend New START, “while substantially reducing its gigantic nuclear arsenal and creating favorable conditions for other nuclear-weapon states to join in multilateral nuclear disarmament negotiations.”

U.S. allies in Europe continue to express their support for prolonging New START.

In October, Finnish President Sauli Niinisto became the first head of state to publicly call for an extension of New START in a public appearance with Trump.

During a joint press conference on Oct. 2, Niinisto said, “Some of us remember the worst years of cold war in [the] 1960s. There was no agreement at all, just Cold War. We can't let the situation return [to having] no agreement at all about arms control, and that is why it is important to try to negotiate new agreements and to continue...New START.”

Trump did not respond to Niinisto’s comments on the treaty.

New START, set to expire in February 2021 unless extended, caps deployed U.S. and Russian strategic nuclear arsenals at 1,550 warheads and 700 missiles and heavy bombers each.

The U.S. State Department in October released updated information on the current status of U.S. and Russian nuclear forces limited by the treaty. As of Sept. 1, the data show the United States deploys 1,378 warheads on 668 missiles and heavy bombers. Russia deploys 1,426 warheads on 513 missiles and heavy bombers.

In addition, the State Department reported that as of Oct. 17, the United States has conducted 14 inspections in Russia this year, and Moscow has conducted 14 inspections in the United States. A total of 18,889 notifications have also been exchanged according to New START requirements.

<https://www.armscontrol.org/act/2019-11/news/us-seeks-new-era-arms-control>

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# COMMENTARY

38 North (Washington, D.C.)

## **Troops for Nukes: Should the US Trade Its Forces in South Korea for North Korean Denuclearization?**

By Daniel R. Depetris

Nov. 21, 2019

US-DPRK negotiations on denuclearization are on life support and there are bleak prospects for recovery before the end-of-the-year deadline for progress declared by North Korean leader Kim Jong Un. It is not unimaginable that US President Donald Trump, as he did when he decided to deal directly with Kim, will go for a bold and unconventional move to break the impasse: a proposal to pull US forces out of South Korea in exchange for North Korea's final, complete and verifiable denuclearization. Such a last-gasp attempt to keep diplomacy alive may seem attractive to the impulsive and mercurial Trump, but it would inevitably confront a myriad of daunting negotiating, diplomatic, political and technical problems that would likely strangle the idea in its crib.

### **Will Trump Pull the Trigger on a US Force Withdrawal?**

For Trump, who has demonstrated a penchant for demanding an exorbitant increase in Seoul's contribution to US defense costs on the peninsula, the departure of US forces from South Korea would have significant personal and political appeal. As far back as his time as a private real estate developer, Trump has accused US allies and partners of ripping the American people off. The president has been most passionate when discussing South Korea and Japan, two wealthy countries he thinks are taking advantage of the United States' generosity. During the 2016 presidential election, Trump suggested that it would be a smarter US policy to encourage Japan and South Korea to attain their own nuclear weapons capability rather than maintain long-term US troop deployments in both countries.

Unilaterally removing US forces in the South without getting anything of value in return would be politically impossible and strategically misguided. However, linking such a withdrawal in return for the Kim regime's nuclear disarmament would at least be more defensible in the court of public opinion. This gambit would also kill two birds with one stone for a president who views diplomacy and relationships in strictly transactional terms: accomplishing the Kim regime's denuclearization—an achievement he could plausibly tout as vindication of his politically risky, top-down nuclear diplomacy—while extricating the US military from what he views as a costly burden.

In fact, it is easy to imagine the president claiming this deal as a great diplomatic triumph and a major campaign promise kept to his core supporters. The question is whether such a bargain would serve US security interests and command domestic support. There is considerable evidence that a US troop departure under any circumstances would be a tough sell domestically and run into serious implementation problems.

### **A US Troop Withdrawal: For North Korea, It's Complicated**

The roughly 28,500 US troops in the South have long been an overarching security concern for the Kim dynasty. Pyongyang has consistently pointed to this presence as the foundation of Washington's hostile policy towards the North and the main impediment to agreement on a peace and security regime on the Korean peninsula. A withdrawal of US troops would remove a major security threat to North Korea and a central justification for North Korea's nuclear weapons program. That said, there are serious questions about the practicality of such a proposal.

A simple troop withdrawal-for-denuclearization scheme would likely be rejected by Pyongyang as too high a price to pay for dismantling its nuclear deterrent if the Trump administration were unwilling to completely transform the bilateral US-DPRK relationship. In other words, given the high level of North Korean mistrust of the US, pulling out American troops would have to be one of many American concessions included as part of an agreement, including the normalization of diplomatic and economic relations, the suspension or termination of US and United Nations Security Council (UNSC) sanctions, security assurances and perhaps a complete rupture of the seven-decade-old US-ROK alliance.

The conventional wisdom notwithstanding, there are also reasons to doubt that the North is hell-bent on seeing US troops pack up and go home. Kim no doubt harbors serious concerns about China's willingness to abide by the 1961 Treaty of Friendship, Cooperation and Mutual Assistance in the event the Kim regime bumbled into a conflict. The Global Times newspaper, a prominent periodical in official PRC circles, has publicly broached the question of whether the treaty needs to be revised in order to prevent the People's Liberation Army from being sucked into an unnecessary and deadly conflagration of Pyongyang's making.

During times of crisis, China does not hesitate to criticize North Korea and has periodically partnered with its American and European colleagues on stronger sanctions measures at the UNSC. Kim is not naïve; he understands that when push comes to shove, North Korea will likely be forced to fend for itself. He is also mistrustful of Chinese intentions toward North Korea, wary of North Korean economic dependence on China and fearful that Beijing wants to encroach on Pyongyang's autonomy. For all these reasons, Kim may see a continued US troop presence in the South as a counterweight to China.

#### A United Front of Opposition in Washington, Seoul and Tokyo

The real-world prospects of a US troop withdrawal from South Korea, even if North Korea's final and complete denuclearization were part of the equation, are slim at best. No influential political constituency in Washington would support this move. Maintaining a permanent US force presence in South Korea commands a solid, bipartisan majority on Capitol Hill; as a consequence, there would be intense congressional opposition to a US troop withdrawal—and probably any major drawdown in US troop strength. In fact, concerns about Trump making a sudden lurch in this direction prompted Congress to include a provision in the 2019 National Defense Authorization Act preventing the reduction of active-duty US forces below 22,000 unless the president certified that the US national security interest would be served.

Resistance would be equally fierce in the executive branch, particularly from the US Department of Defense, and the uniformed military leadership, which believe that the US presence on the Korean peninsula is critical to preventing Chinese hegemony in Northeast Asia and maintaining a credible deterrent against North Korean aggression. And while it may not matter to Trump, the US Department of State and his key national security advisors in the White House would worry about the detrimental effects of a US troop withdrawal on America's system of global alliances as well as the potential for nuclear proliferation in the region.

There would also be strong and nearly universal opposition in Seoul and Tokyo. For both countries, the US commitment to their security is an integral component of their national defense strategies. The removal of US troops from South Korea could prompt Seoul and Tokyo to reconsider their status as non-nuclear weapons states. While this may not bother Trump, it would be the cause of intense concern across the national security apparatus and practically eliminate the president's flexibility to actually implement a US drawdown.

#### Grand Bargains Have Never Worked in the Past

In the unlikely event that Trump and Kim could strike a grand bargain of troops for nukes, the prospects for full implementation of the agreement are deeply problematic. US-DPRK negotiations over the last 25 years have never produced comprehensive grand bargains. The trust deficit between Washington and Pyongyang, weighed down by an acrimonious history, is simply too large to bridge with a dramatic diplomatic proposal. Previous proposals for grand bargains have been summarily dismissed precisely because both sides have a tendency (partly justifiable) of assuming the worst intentions about the other. The Kim regime's outright refusal to accept former National Security Advisor John Bolton's go-for-broke sanctions relief for total dismantlement proposal last February was entirely predictable.

A withdrawal-for-denuclearization scheme would be beset by intractable implementation problems. The process would likely spur intense bickering between US and North Korean officials over the schedule and pacing of the US redeployment, the extent of Pyongyang's nuclear rollback and its sequencing with troop reductions and the verification requirements, including the scale and scope of the International Atomic Energy Agency's monitoring and verification authorities.

### Conclusion

US-DPRK denuclearization appears to be headed for a train wreck, making a bold move to shake things up attractive to a president who takes pride in being unconventional and is obsessed with winning, and whose decisions are driven by his personality and politics. A troops-for-nukes trade would provide the president with an opportunity to claim success on two of his principal objectives: the Kim regime's nuclear disarmament and ending a US security contribution in South Korea he has long derided as unfair. But it would be bad policy and even worse strategy and would face enormous implementation problems. In the final analysis, Trump would quickly discover that talking about a US troop withdrawal is much easier than executing it.

<https://www.38north.org/2019/11/ddepetris112119/>

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The Hill (Washington, D.C.)

### **China's Nuclear Development Show Its Acceptance of Limitations**

By Gregory Kulacki

Nov. 18, 2019

China does not voluntarily disclose information about the size of its nuclear arsenal. But that is no reason to speculate about the magnitude and purpose of recent improvements. Independent analysts of China's nuclear program have enough reliable information to make a few definitive statements about Chinese nuclear capabilities and intentions.

We know China produced a limited amount of weapons-grade plutonium before joining a voluntary moratorium on production several decades ago. We also know China conducted a limited number of explosive nuclear weapons tests. Those two critical factors constrain the future quantity and quality of China's nuclear forces.

China has a few hundred nuclear warheads and enough weapons-grade plutonium to make several hundred more. The United States has 3,800 nuclear warheads (active and reserve) and enough weapons-grade plutonium to make approximately 5,000 more.

China could currently deliver 75 to 100 of those nuclear warheads to targets in the United States via ground-based intercontinental ballistic missiles (ICBMs) and a maximum of 60 more on its soon-to-

be 60 submarine-launched ballistic missiles (SLBMs). The United States currently deploys 400 nuclear warheads on its 400 ICBMs and about 900 nuclear warheads on its 248 SLBMs, but could deliver as many as 800 ICBM warheads and 1,900 SLBM warheads. The United States also currently deploys 1,010 nuclear gravity bombs and 528 nuclear-armed cruise missiles that are delivered by aircraft. China does not currently deploy any of its nuclear weapons on aircraft.

Given those numbers, the rate of recent increases in the number of Chinese nuclear warheads targeting the United States will not allow China to catch up or even come close to U.S. totals. Even if it does nothing, the United States can maintain this inordinate nuclear superiority over China for many decades to come.

In addition to this huge quantitative advantage, the United States also enjoys an enormous qualitative edge. The United States conducted a total of 1,054 explosive nuclear weapons tests before signing the Comprehensive Nuclear Test Ban Treaty (CTBT) in 1996. Frequent testing helped U.S. designers use plutonium more efficiently and experiment with many different warhead designs. Currently, the United States has seven different types of nuclear warheads, two of which have adjustable yields. It has the capability to strike Chinese targets with nuclear warheads with yields as small 0.3 kilotons and as large as 1.2 megatons with 11 other yield options in between.

China conducted a total of 45 explosive nuclear weapons tests before signing the CTBT. It only has three high-yield options: a several hundred kiloton warhead for its solid-fueled ICBMs and SLBMs, a 2-megaton warhead for its liquid-fueled intermediate range missile and a 5-megaton warhead for its liquid-fueled ICBM. None of those yields is suitable for what Americans call “tactical” or “nonstrategic” nuclear weapons.

Chinese nuclear experts argue that China does not need tactical nuclear weapons since China is not preparing to start or fight a nuclear war with the United States. They also don’t believe the United States is likely to start a nuclear war with China, at least as long as China remains able to retaliate should the United States strike first. That is not a high bar to meet. This is why China’s leaders seem content with a comparatively small and simple nuclear force that, unlike the U.S. force, is kept off alert.

Chinese strategists do worry the United States may mistakenly believe it could avoid Chinese nuclear retaliation by combining a massive first strike with ballistic missile defenses good enough to intercept whatever a first strike might miss. China’s comparatively modest modernization efforts are intended to prevent any U.S. president from taking that risk. Chinese leaders seek to convince their U.S. counterparts that enough Chinese ICBMs can survive a U.S. first strike and that these survivors can penetrate U.S. missile defenses.

The best way for Congress and the American public to address legitimate concerns about China’s nuclear modernization program is to constrain it with two binding international arms control agreements: the CTBT and the Fissile Material Cut-off Treaty (FMCT). Ratification and entry into force of the CTBT would verifiably prevent China from resuming explosive nuclear testing it would need to develop more efficient and varied warhead designs. Successfully negotiating the entry into force of the FMCT would verifiably cap the size of China’s nuclear arsenal at its current level.

China repeatedly has expressed a willingness to participate in international nuclear arms control negotiations in the United Nations. Chinese participants in multilateral nuclear dialogues have said that China will ratify the CTBT when the United States does. China also has stated it is open to beginning negotiations on the FMCT.

China’s willingness to accept these constraints on its nuclear forces is worth remembering when considering questions about the magnitude and purpose of its current modernization programs.



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<https://thehill.com/opinion/international/470764-chinas-nuclear-development-shows-its-acceptance-of-limitations>

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Real Clear Defense (Washington, D.C.)

## **GBSD: An Imperative without Delay**

By Carl Rehberg

Nov. 21, 2019

The Air Force has been working for some seven years to replace the Minuteman III ICBM, which is rapidly approaching the end of its sustainable life through the Ground-Based Strategic Deterrence (GBSD) program. After delaying the recapitalization and modernization of the legacy Minuteman III missile force for well over a decade, the Air Force is running out of time to develop and field new replacement missiles.[i] There is a debate about the merits of the Air Force acquisition strategy following Boeing's intention to depart from the competition. There are clear dangers of revising that acquisition strategy given tight timelines that outweigh the drawbacks of sole sourcing. A single [competitive] offer, while not ideal, can and has worked in the past and is different from sole source.[ii]

The Minuteman III force needs to be replaced and cannot be extended further.[iii] In an era of renewed great power competition, nuclear deterrence systems should receive top priority. It will be especially important in an increasingly competitive global threat environment to maintain a credible strategic deterrent that underpins the defense of the United States as well as our extended nuclear deterrence guarantees to our allies.[iv]

The Air Force launched an industry competition for GBSD over three years ago and has invested in reducing some technical risk through Technology Maturation and Risk Reduction (TMRR) contracts with industry. Until recently, two strong industry teams, one by Northrop Grumman and the other by Boeing, were bidding for this program.[v] Boeing then announced in July that it did not plan to submit a bid. However, Boeing is not officially out unless they do not turn in a bid by the December 2019 deadline. Of late, some in the defense community have begun calling for a national team to design and build the GBSD. In addition, some that are advocating the Air Force adopt a "national team" are also those that have denied the importance of the land-based triad altogether or believe that the land-based ICBM modernization should be deferred.[vi]

National teams do best when a single industry team cannot offer a technical solution—where there is no alternative, even if it ultimately costs more, and the path is problematic. Historically, the U.S. had used national teams out of necessity when there was no way to develop unknown technologies, and there was no industrial base. Past examples come to mind that includes atomic weapons, the first ICBMs, and NASA's mission to land a man on the moon. The GBSD program does not fall into this category.

Competitive awards do best when multiple industry teams can offer credible and competitive bids. Competition is the bedrock of American values, and it works. There are few exceptions, but as much as feasible, competition should be the foundation of U.S. acquisition. It encourages bids from industry teams that have the right mix of experience, talent, and capacity as well as a history of

working together to solve very complex technical and supply chain challenges yielding lower costs and better solutions.

Nevertheless, single offers resulting from a competitive process provide the government with the benefits from competition and the ability to obtain certified cost and pricing data to ensure a fair price for the goods or services provided. There are also recent examples when the government launched an industry competition and received only one bid: GPS III, VH92A Presidential Helicopter, Armored Multi-Purpose Vehicle, and the Combat Rescue Helicopter, et al.

For GBSD to be effective and on-time, the Air Force should continue to follow the best practices of executing a major defense acquisition program, which means following the processes in place. This includes a disciplined focus on managing requirements, reducing risk, and holding contractors responsible for on-time, on-cost deliveries that meet requirements. The Air Force launched the formal competition for this program in 2016 with a strategy to deliberately develop GBSD so the system could field in the late 2020s. All indications are that the program is on track.[vii]

Changing the acquisition approach at this point would likely delay the program significantly since the Pentagon and Congressional approval process would take a considerable amount of time. It could set the GBSD program up for a "graveyard spiral" of schedule slips and cost growth. It would likely give critics of a strong nuclear deterrence an opening to either move to a dyad-only strategy that would forego the GBSD altogether or defer it.

The Air Force should be commended for pursuing a focused and disciplined acquisition strategy since 2014 with the intent to competitively award a development contract in 2020. Let us hope that our defense priorities concentrate on the most effective way to achieve the Air Force's goal for a GBSD program that is on cost and schedule. The Air Force should be free to choose the team most qualified to safely, securely, and affordably provide the nation this critical deterrence capability in the most expeditious manner possible.

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[https://www.realcleardefense.com/articles/2019/11/21/gbsd\\_an\\_imperative\\_without\\_delay\\_114860.html](https://www.realcleardefense.com/articles/2019/11/21/gbsd_an_imperative_without_delay_114860.html)

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Bulletin of the Atomic Scientists (Chicago, Illinois)

## **Would Terrorists Set Off a Nuclear Weapon If They Had One? We Shouldn't Assume So**

By Christopher McIntosh and Ian Storey

Nov. 20, 2019

For decades, the specter of nuclear terrorism has haunted the halls of Washington policy-making and the imagination of Western popular culture. While this was true even before September 11, 2001, in the days since, a consensus has formed from which few dare deviate: Terrorist organizations are looking to acquire nuclear weapons, and if they are successful, they will use them in an attack as soon as possible. In a recent paper, we referred to this principle as the "acquisition-use assumption." The underlying consensus around this is now virtually sacrosanct. It orients US strategic posture around the proposition that, as President Obama expressed it, nuclear terrorism is "one of the greatest threats to global security," and "there is no doubt that if these madmen ever got

their hands on a nuclear bomb or nuclear material, they most certainly would use it to kill as many innocent people as possible.”

The idea that terrorist organizations see value in trying to obtain nuclear weapons is fairly well-documented, and we don’t intend to question that here. But the assumption that terrorists only want those weapons in order to immediately attack Western capitals and local rivals deserves more scrutiny. In our work, we ask: How would a nonstate actor behave if it acquired a nuclear weapon? Is the working assumption of the policy and academic community that “acquisition equals use” a good one? We think this assumption deserves to be questioned because, if nothing else, holding it requires ignoring the long and rich history of deterrence and nuclear strategy, nearly all of which operated without a hostile detonation. And getting to the bottom of the matter will have important consequences. Assuming that use is a foregone conclusion holds world leaders hostage to only a single, worst-case version of a threat, while jettisoning the assumption enables planning for more tailored responses for a range of outcomes.

To be sure, understanding and predicting how a terrorist organization would behave if it had nuclear weapons is difficult and requires new ways of thinking about strategy. But the study and history of these organizations indicates that terrorists do behave strategically, and proceeding directly to a nuclear attack could be a strategically disadvantageous decision—and therefore less probable than many might think.

Nuclear weapons and terrorist strategy. While there are any number of far more likely scenarios for nuclear terrorism broadly understood, we focus only on groups with a working nuclear device, not a radiological dispersal device or the ability to attack a nuclear reactor. The threat posed by an operational device is fundamentally different, not least because possession would radically change the nature of the organization as a strategic, warfighting group.

A large body of work in terrorism studies teaches us that terrorist groups do behave strategically. Communications within Al Qaeda, Princeton Near Eastern Studies expert Michael Doran has written, have shown that the group behaves “almost exclusively according to the principle of *realpolitik*,” and is “virtually compel[led]” to do so by the “central doctrines of Islamic extremism” itself. While it may not appear so based on terrorists’ tactics, most groups have all the hallmarks of strategic decision-making, command and control, and sensitivity to costs.

This is all the more true for the hypothetical that concerns us: Only a large, well-organized, and heavily funded group would be able to attain operational nuclear capability. Regardless of what one thinks about the debates regarding terrorist organizations and their ability to acquire these weapons—either by theft or gift—acquisition and maintenance is going to be resource-intensive and difficult.

So, it stands to reason that if a group is able to cross this threshold and obtain a weapon, it will weigh all of its options seriously. And these options are not limited to a binary choice of attack or hold. In reality there are a slate of options for how to “use” a nuclear weapon, and we can divide these into five categories, only one of which is detonation.

For the other four options, there are two critical variables: whether to go public with the new capability or to remain covert, and whether to publicly communicate how they intend to use it as a strategic bargaining chip or leave their red lines unstated. While we isolate these for clarity’s sake, in practice strategic options interact with each other in important ways.

The first option—one we see in movies and television—is to reveal the new capability and publicly state under what conditions it would be used. In essence, this is nuclear “blackmail”: The organization declares that it has a weapon and will use it unless certain conditions are met.

Alternatively, the organization could make its new capability public, but not lay out terms for its use. This is the second option, which we term “opacity.” Pursuing this strategy has the virtue of instilling fear in the organization’s enemies without committing the organization to a definite strategic path.

While it may seem counterintuitive, it is equally possible for an organization to keep its new capability a secret while continuing its campaign of violence. So, as a third option, an organization could pursue a strategy of “latency” by keeping their bomb a secret, yet simultaneously making statements and threats about what it would do if it had one. Such an approach has been the core of Israel’s strategic posture for years.

Finally, given the high uncertainty that the first nuclear-armed nonstate actor in the world would face, the organization might just initially opt for “dormancy,” keeping the bomb “in the basement” until it decided that strategic conditions were ripe for global revelation.

Each option has its advantages and disadvantages depending on the context, but all of them entail strategic opportunity costs for the organization. For instance, once a group goes public as nuclear (and is presumably verified), it becomes nearly impossible to meaningfully return to a strategy of either latency or dormancy. Similarly, once conditions for use are articulated, going back on them would erode the credibility of the organization as a strategic bargaining partner, something of constant concern for these organizations. With states, we may fear a “use it or lose it” situation, but for an organization looking to get the most out of a limited, non-iterable capability, the reality is almost the opposite. The organization faces the traps of an escalation ladder: Each potential benefit it might accrue by adopting a more aggressive posture (declaring their weapons, making demands on their opponents) comes at a parallel cost to the group’s bargaining and strategic flexibility.

If these kinds of questions appear to be thoroughly familiar terrain for the history of nuclear strategy, that’s (part of) the point. Even more than for states, they take on an acute, existential significance for a terrorist organization. Because these organizations are engaged in asymmetric warfare against states that usually wield orders of magnitude more military might, terrorist organizations are forced to be even more exacting and calculating in their strategic decisions.

Terrorists might lose more than they gain by detonating a nuclear bomb. While terrorist organizations vary widely in their internal organization and structure, almost all are highly sensitive to benefits and costs, both external and internal. By examining these, it will become clear that terrorists might have more to lose than gain by proceeding directly to an attack. Doing so might alienate their supporters, cause dissent among the ranks, and give away a bargaining chip without getting anything in return.

Externally, terrorist groups rely on the support of the society in which they are embedded. As a result, they are deeply intertwined with the local population. Hezbollah is a paradigmatic example: In addition to possessing a quasi-independent political arm, it operates an extensive network of schools, hospitals, and other social services. These extended administrative networks provide a source of recruits, public support, and crucial cover for their financiers. They also engender a risk—what they have put so much effort into building can ultimately be undone by poor strategic decision-making.

Beyond the inevitable military response, committing a nuclear attack would represent an existential threat to an organization of this form. The unprecedented death toll of transgressing the nuclear taboo would have a predictably devastating effect on the support networks on which these organizations depend. Afterwards, maintaining the kind of large-scale external finance necessary to sustain them would become virtually impossible, particularly in the context of predictably

heightened international law enforcement. In short, the organization would face radical alienation from its public base, as well as, where it exists, its state sponsorship.

From the outside looking in, it's tempting to presume that the kind of public and even the kind of fighters who support Al Qaeda or the Islamic State simply don't care about the level of violence those groups perpetrate. Empirically, however, this is simply untrue. Sustained analysis of the history of terrorist campaigns—even among those organizations willing to commit large-scale attacks—evinces a delicate balancing act between highly symbolic violence and concerns with stepping over invisible lines.

Equally, detonating a nuclear weapon in an attack would create intense strains on the internal dynamics of the organization itself. The sheer magnitude of the decision to proceed with a nuclear attack takes previously available opportunities off the table—returning to small-scale conventional attacks would appear to be a weakening of the organization's position post-nuclear attack. The opportunity costs presented by the weapon have a significant potential to splinter organizations already concerned about command and control. As the last 20 years have demonstrated, terrorist organizations factionalize and splinter over goals and tactics under even conventional pressure. Post-attack, that pressure would increase exponentially and potentially reorder the international environment in ways that risk the organization's continued existence. This reality is only magnified by the fact that most terrorist organizations exist in a political landscape in which they are not the only show in town; both the Taliban and Al Qaeda in Afghanistan, for example, face a constant competition with the Islamic State over recruits, bases of operation, and resources.

The result is a paradoxical effect on the calculations of terrorist leaders: Obtaining new capacity (even well shy of nuclear weapons) creates powerful incentives toward organizational centralization to prevent unauthorized activity, but such centralization could sideline or alienate certain factions, making it more difficult to hold the organization together. A nuclear attack, then, is the worst possible option for organizational leadership from the perspective of internal politics. This is because it risks setting in motion a series of events that could unravel the organization as a whole at precisely the moment when it needs unity to survive what will (likely) be an overwhelming reaction by the target state and its allies.

Finally, it must be remembered that what victory and defeat mean for the archetypal organization engaged in a terrorist campaign is significantly different than in interstate warfare. In conventional war, surrender is followed by capitulation to the opposition's demands, even if exact terms must be worked out at the peace table. In conflicts between terrorist organizations and states (as well as other nonstate actors), determining what exactly constitutes "victory" or "capitulation" for either side is terminally ambiguous. Even a complete victory for the terrorist group on its own terms, such as the withdrawal of state forces from a region, will likely still be followed by reprisals—such as airstrikes or financial sanctions against the group. As a result, terrorists are inevitably circumscribed in what "success" could look like. Even with a nuclear attack, they could neither threaten the extinction of their opponent (as under the doctrine of mutually assured destruction, or MAD), nor threaten to further escalate costs, having already jumped straight to the top of the escalation ladder. Having played the entirety of its hand to bloody effect, a post-nuclear attack terrorist organization would face a hardened opposition and the prospect of a massive increase in costs, with little in hand to match.

Negotiating with nuclear-armed terrorists. If the processes we describe are accurate, then presumption should lie squarely on the side of skepticism whenever the threat of a nuclear attack is raised. But our analysis also highlights which conditions make an attack most likely and which make it increasingly difficult, revealing an entire palette of pressure points and leverage that states can use to further reduce the risk of an attack.

For example, a state might use both carrots and sticks to maximize the amount of pressure on key axes like organizational cohesion and local public support. The multiple audiences of a terrorist organization do not belong to them alone: Those audiences are themselves at the intersection of multiple lines of influence that can be pushed and pulled, if not always directly by the states themselves. The skillful use of threats and dangled political incentives can be highly effective in further deterring a nuclear attack. Intelligence is critical in this arena as well, particularly on the financial side. Financial knowledge allows potential target states to know how to threaten existential costs on an organization that might otherwise believe itself relatively impervious to such a threat.

In sum, we need to look at the strategic and organizational dynamics in play within terrorist groups in a clear-eyed way, without resorting to simple short-hand heuristics like the acquisition-use assumption. States have somehow muddled through the initial stages of the nuclear revolution with a set of reasonably intelligible and predictable strategies to match their capacities. There is no good reason to presume that a nonstate actor wouldn't do the same.

<https://thebulletin.org/2019/11/would-terrorists-set-off-a-nuclear-weapon-if-they-had-one-we-shouldnt-assume-so/>

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## ABOUT THE USAF CSDS

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

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

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

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

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