

**ICON Weekly and Report from the ICBM EAR/Peter Huessy,  
President of GeoStrategic-Analysis for the Week of September 25,  
2020**

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**Quote of the Week: General Hyten Explains the “Triad Truths”**

4. **VCJCS Gen. John Hyten:** (Remarks to the Minot Task Force 21 Symposium and to the NDU WMD Center.)

**Proposed House cut of ~\$2B from 2021 DoE/NNSA budget request, will effectively-collapse the recapitalization of the US Nuclear Triad. [“If you don’t have modernized-weapons, the platforms really don’t provide much of a deterrent...We have to keep the weapon-development in-line with the platform-development...We need the support of Congress...”]**

**Here is a link to all September 22, 2020: Minot Task Force 21 Symposium Presentations**

**<https://taskforce21.com/>**

a. **US Nuclear Triad deters against the full-range of adversary WMD & strategic-attacks,** (nuclear; biological; chemical; cyber; or combination). **Full US Nuclear Triad must be recapitalized now because there is absolutely no schedule-margin left.**

b. US Nuclear Triad has deterred “great-power-war” for 75 years. Russia is building hypersonic missiles; nuclear-powered cruise missiles; nuclear-powered torpedoes; all outside of New START Treaty. China has a stated “No First Use” Policy but is building the capability for a potential preemptive-nuclear-strike against the US, (missiles, bombers, submarines, hypersonic missiles). North Korea has a “small classified number of nuclear capabilities”.

c. **Gen. Hyten specifically-recommends against US adopting a formal “No First Use” Policy.** [“I can’t predict...what some adversary...might want to do to the United States...that might require a response with a nuclear weapon, to respond in-kind...I don’t want to tie a future President’s hands, by developing a policy that says ‘we will never respond, unless we are attacked with a nuclear weapon first’, which is the definition of a ‘No First Use’ Policy”]

d. New **“Joint Warfighting Concept”** consists of: (i) **contested-logistics**, (Army is lead); (ii) **JADC2**, (sensor-to-shooter massing of joint fires), (will include STRATCOM NC3), (USAF is lead); (iii) **Joint Fires**, (Navy is lead); (iv) **Information Advantage**, (J-7 Joint Staff is lead, with USD(Policy) & COCOM involvement). **JROC will publish formal Requirements documents for each leg, by end of 2020.**

e. No schedule-margin is left in the geriatric US Nuclear Triad. Get on with recapitalizing it! [Columbia SSBN; B-21; GBSD; LRSO; NC3] [“All of those programs...just barely-deliver in-time...”]

f. **Proposed House cut of ~-\$2B from 2021 DoE/NNSA budget request, will effectively-collapse the recapitalization of the US Nuclear Triad.** [“If you don’t have modernized-weapons, the platforms really don’t provide much of a deterrent...We have to keep the weapon-development in-line with the platform-development...We need the support of Congress...”]

g. **Arms-control treaties provide stability, but Russia blatantly violated INF Treaty, and is building large quantities of weapons outside of New START Treaty.** [Putin has actually televised public videos of hypersonic-nuclear-weapons destroying Florida. China is also building large quantities of nuclear weapons] New START Treaty currently-expires in February 2021. But even an extended New START Treaty would still expire in 2026, (requiring a comprehensive replacement).

h. **DoD must have “global-military-exercises”, to optimize JADC2, in future COCOM massing-of-fires,** (that degrades-gracefully in combat, instead of simply collapsing). **US must also monitor social-media because that is often the first warning-signal of adversary preparation-for-attack.**

i. **US will field hypersonic missiles, (armed only with conventional warheads). But Russia & China are designing their hypersonic missiles for nuclear warheads, in addition to conventional warheads.** [“Hypersonic and nuclear, don’t go together very well...”]

j. Putin's proposed 'escalate to win' strategy re our allies in Europe and Asia indicates a readiness to use nuclear weapons in conjunction with conventional conflict, making it imperative the US strengthen extended deterrence.

k. **It is also important that the US get its intellectual house in order as called for the 2018 national security commission including developing a world class graduate program in nuclear deterrence and nuclear modernization, including the role of arms control, for civilian and military candidates.**

## CR & Budget News

### Here's How a Three-Month CR—or Longer—Would Affect the Air Force

By Rachel S. Cohen, AFA Magazine

As Congress looks to delay passage of a new federal funding package until after the November elections, the Air Force is warning that even a three-month gap would harm national defense.

"[Continuing resolutions] immediately disrupt major exercises and training events, affect readiness and maintenance, curtail hiring and recruitment actions, and adversely impact contracting negotiations," Air Force spokesman Capt. Jacob N. Bailey said in a Sept. 24 email. A stopgap spending bill would also slow the service's adoption of technology it wants to compete with other advanced militaries like those of Russia and China.

A stopgap funding measure rolled out by House Democrats on Monday would allow the Navy to begin purchasing a planned new fleet of ballistic missile submarines and extend a major pandemic relief program for federal contractors. A deal with the Senate now has greenlighted the funding bill to get to the President's desk prior to the end of the fiscal year.

[Link is here: [https://www.defensenews.com/congress/2020/09/21/funding-patch-would-avert-shutdown-through-dec-11-fund-navys-columbia-program/?utm\\_medium=social](https://www.defensenews.com/congress/2020/09/21/funding-patch-would-avert-shutdown-through-dec-11-fund-navys-columbia-program/?utm_medium=social).]

The original continuing resolution allowed the Navy to begin detailed design and construction work on [two Columbia-class ballistic missile submarines](#), but left out White House requests for Space Force and [nuclear weapons programs](#). The new bipartisan measure includes important defense measures, **including greenlighting the first two Columbia-class ballistic missile subs which had been previously approved as well as new extended reimbursements for federal defense contractors who grant paid leave to employees that can't access federal worksites during the pandemic.**

**Flexibility for new subs:** The funding measure includes a provision that would permit the Navy to procure two new Columbia-class subs simultaneously. It also would permit the Navy to incrementally fund the boats, allowing the service to pay in stages rather than fully funding them at the time they're procured.

The Trump administration called for the exemption for the Columbia-class, which is the Navy's top shipbuilding priority. Navy brass have warned there's little margin for the schedule to deliver the boats, which will replace Ohio-class subs.

**Leave for contractors:** The stopgap also would extend a program that reimburses federal contractors for sick or paid leave offered to employees who can't access the federal facilities where they need to work and can't telework. The provision would last through the new Dec. 11 government funding deadline.

The program, aimed at helping keep federal contractors on payrolls through the pandemic, was created by Section 3610 of the CARES Act stimulus bill in March and is set to expire on Sept. 30.

Though the provision is government-wide, defense contractors in particular have called for it to be extended. Numerous defense contractors also urged lawmakers to allocate more money for reimbursements paid by the Pentagon to avoid sapping other programs, but the CR doesn't include more funding.

**What may not make it:** Lawmakers did not originally include a provision, requested by the administration, that would transition funding for the new Space Force into separate accounts for the Air Force.

**The House did not originally grant an exemption to free up funding for development of the W93, a new submarine-launched warhead.**

Democrats originally removed billions of dollars in trade relief for farmers requested by the White House, but also billions of dollars in pandemic-related food assistance for families. Both were put back in the final bill agreed to Tuesday evening September 22, 2020.

The final CR tees up work in the lame duck session—although some analysts think the real work will begin only in the next Congress because they assume changes in the makeup of Congress will delay full consideration of the appropriations business until after the February budget submission by the White House..

Politico wrote “Even if the stopgap lasts until December, lawmakers could still punt the government funding deadline into early next year if there’s little appetite for bipartisan negotiations on a massive appropriations package in the weeks after the election.”

Also dropped was a request that would extend the Census Bureau’s Dec. 31 deadline to turn over apportionment data used to divvy up House seats to the president — potentially punting the final handling of census data to Democratic nominee Joe Biden if he’s elected this November. Democrats had also failed to secure \$3.6 billion in election security grants.

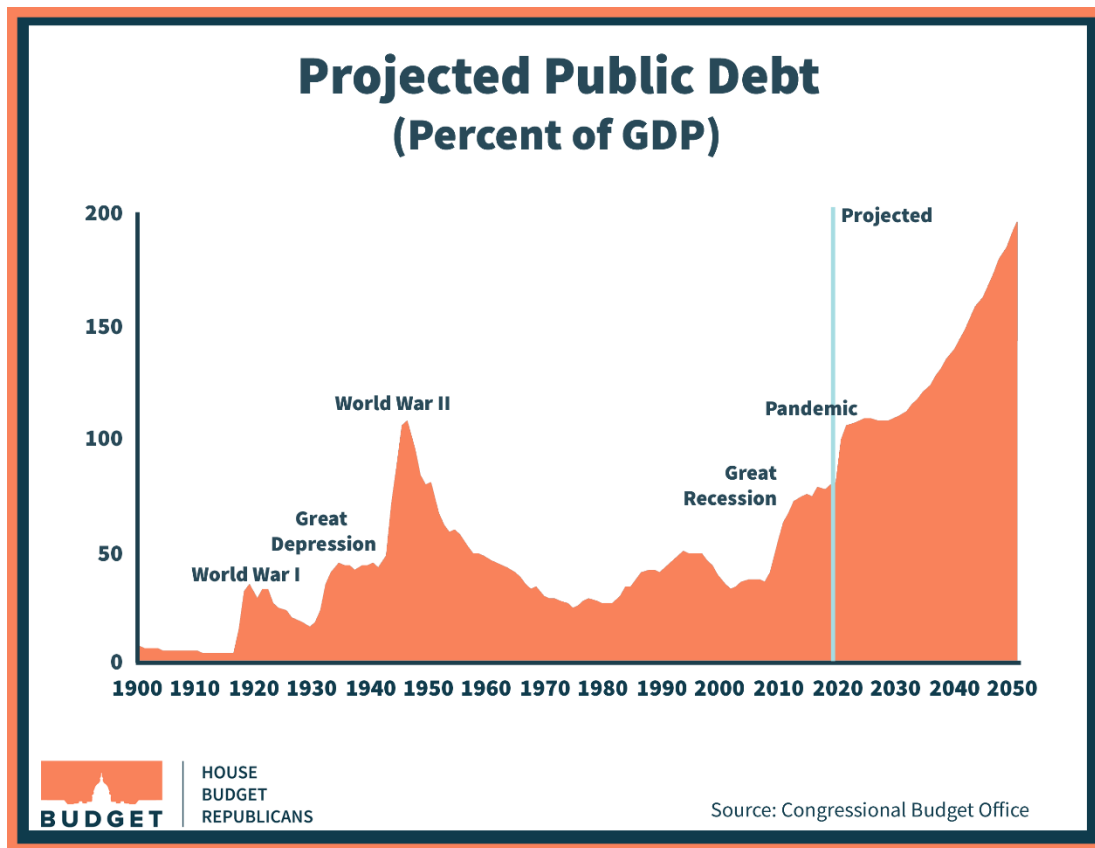
## **BUDGET DIGEST: CBO 2020 Long-Term Budget Outlook**

[VIEW ONLINE](#)

[CBO REPORT](#)

September 21, 2020

Today, the Congressional Budget Office (CBO) released *the 2020 Long-Term Budget Outlook*, commonly referred to as the extended baseline, which includes budget projections for the next 30 years. The extended baseline confirms that the nation faces a looming fiscal crisis due to incessant annual deficits and record-high debt levels.



What are the extended baseline's key conclusions?

- **Debt:** The long-term outlook shows the public debt more than doubling from 79 percent of gross domestic product (GDP) in 2019 to 195 percent of GDP by 2050. This is significantly higher than any previous debt burden in American history. Mandatory spending (including interest payments on the debt) is the sole driver of this growing debt burden. As a percentage of GDP, discretionary spending is projected to decline and revenues to grow. Both of these changes significantly improve the budget outlook, but not by nearly enough to offset unsustainable mandatory spending.

- **Mandatory Spending:** Mandatory spending increases from 12.9 percent of GDP in 2019 to 17.5 percent of GDP in 2050.
- **Discretionary Spending: Discretionary spending declines from 6.3 percent of GDP in 2019 to 5.6 percent of GDP by 2050.**
- **Net Interest:** Net interest spending more than quadruples as a percentage of GDP over the next 30 years, increasing from 1.8 percent of GDP in 2019 to 8.1 percent of GDP in 2050. By 2043, CBO projects spending for interest payments on the national debt will exceed all discretionary spending.
- **Revenues:** Revenues increase from 16.3 percent of GDP in 2019 to 18.6 percent of GDP by 2050.

**How should policymakers address the unsustainable long-term fiscal outlook?** The first step is for the Budget Committee to write—and Congress to pass—a budget resolution that outlines a long-term, fiscally sustainable path. A budget resolution is the only legislative vehicle that deals with the government’s finances in a comprehensive manner and that can provide a clear vision of how to fix the federal government’s fiscal challenges.

### **Russian Top Negotiator re New START Extension**

[https://www.mid.ru/en/foreign\\_policy/news/-/asset\\_publisher/cKNonkJE02Bw/content/id/4348327](https://www.mid.ru/en/foreign_policy/news/-/asset_publisher/cKNonkJE02Bw/content/id/4348327)

22 September 2020 11:02

#### **Deputy Foreign Minister Sergey Ryabkov’s interview with the newspaper Kommersant, published on September 22, 2020**

**Question:** US Special Presidential Envoy for Arms Control Marshall Billingslea has said that they offered Russia a good deal and if Russia accepts it, Washington would agree to extend the New Strategic Arms Reduction Treaty (New START), which will expire in February 2021. Is there anything positive for Russia in the US offer?

**Sergey Ryabkov:** It would certainly be a good deal for the United States itself. Ambassador Billingslea is right in this sense. As for Russia, there are no grounds for making any deal in the format proposed by our Washington colleagues. We believe that the three points advanced by the United States as preconditions for extending the New START are too far-reaching and do not include any positive elements. The offer made by the Americans does not look like a good deal.

For our part, we more than once described a balanced and mutually acceptable framework for future agreements in this sphere during our contacts with the American negotiators. Aware of the difficulties on the path forward in light of how widely different our approaches are, we proposed extending the New START as it was originally signed.

We do not want any unilateral advantages, but we will not make any unilateral concessions either. A deal may be possible if the United States is ready to coordinate a new document on the basis of the balance of interests, parity and without expecting Russia to make unilateral concessions. But this will take time. We can have time to do this if the treaty is extended.

**Question:** The United States claims that the sides must coordinate the parameters of a future treaty already now by adopting a framework agreement, which must include the three provisions of concern to them, as you said. First of all, they want the agreement to cover all types of warheads, including tactical, with a system of inspections that will automatically register all warheads going from and to the plants. At the same time, it is not ready to withdraw its tactical weapons from Europe, as Russia demanded. Is this acceptable to Moscow?

**Sergey Ryabkov:** These are different questions and it would be conceptually wrong to mix the widely different aspects of this multifaceted situation.

As for the practice of the sides' permanent on-site inspections at the plants you have mentioned, it has long been abandoned and there are no grounds at all for renewing it. We understand that the Americans would like to resume that old practice by repackaging old methods in a different way in the new documents. We held in-depth discussions on this matter during meetings with Marshall Billingslea, and our experts groups discussed it as well. The Americans know very well that there is nothing interesting for us in this proposal.

As for the US idea of controlling all types of warheads, our logic when it comes to this differs seriously, if not dramatically, from the American. We believe that delivery vehicles are at least as important as warheads for the purpose of arms control. Here is a simple example. Just imagine a cannon with five cannonballs (this is a metaphor from the days gone by). Would it be the same if the cannon had ten instead of five cannonballs? The difference is important, of course, but not as important as if we said that we had two cannons and five cannonballs. Two cannons can fire simultaneously. This is exaggerated logic, but I am using it to show that the delivery vehicles and launchers are equally, if not more important than the warheads.

The Americans, who have focused entirely on warheads, are keeping a window of opportunity open for themselves so as to be able to increase their delivery capability. Consequently, there is no parity in this sense, and we therefore do not see this proposal as attractive.

Moreover, the United States has refused to withdraw its non-strategic weapons, that is, free-fall or gravity bombs, from Europe. It is not ready to liquidate their storage infrastructure, so as to be able to quickly redeploy these weapons in Europe if Washington hypothetically agrees to pull them out. The Americans refuse to discuss all aspects of our position on the need to remove this factor, which has direct influence on our security.

Therefore, there are no reasons why we should take part in discussions on non-strategic warheads. The ideology of arms control as it was practiced by our countries during the past decades radically differs from the current US proposals. At the same time, the Americans have not provided any arguments that can convince us to change our approach.

**Question:** The second US demand is to strengthen the verification and transparency regime. Marshall Billingslea has more than once said that the New START has serious verification flaws. He said that the treaty gives Russia advantages in this sphere, whereas the United States is not satisfied with the amount of information it receives.

**Sergey Ryabkov:** The verification regime of the New START has been adjusted precisely to the goals of the treaty. The regime is quite sufficient for ensuring reliable certainty of the developments. The treaty ensures high-level predictability, and there are no reasons to change anything in this sphere. It is just impossible to imagine any additional measures in this sphere that would be in keeping with our security interests. Therefore, the statements made by Marshall Billingslea amount to a request which, he believes, must be granted because this meets US security interests. We are ready to negotiate. But this is a very complicated matter and very many aspects of it must be clarified.

In any case, there can be no returning to the practice of the late 1990s and early 2000s. The current treaty meets the requirements and the spirit of the time. Now that relations between our countries are very tense and lack mutual trust, I believe that the intrusive verification measures proposed by the American side are unacceptable.

**Question:** Third, the United States insists that China must join the treaty that will replace the New START and that this arrangement must be formalized in a framework agreement with Russia. I have read what you told news agencies, that what Marshall Billingslea said was a deliberate distortion of Russia's position. Ambassador Billingslea said that Russia and the United States agree that a future nuclear arms treaty must include China. Does this mean that Moscow is against separately mentioning China unless the agreement includes a provision on involving Britain and France, which have nuclear weapons as well, in the arms control process?

**Sergey Ryabkov:** Beijing's "obligation" to join the talks is an issue on which we and the Americans have completely different positions. We believe that China should take a decision on this matter separately as a sovereign state. We are aware of every detail of China's position, which has not changed for a long time. We can understand it and believe that it is a logical position. China is not ready to join trilateral talks with the United States and Russia. We respect its position, but if China shows interest in this format at any time in the future, we will not object, of course. But there cannot be any obligation in this respect. We will just accept any decision China makes as a given. As for the format of the future talks in general, we have clearly indicated that Britain and France as the closest allies of the United States should join them.

**Question:** Considering all these differences, I can presume that there are minimal chances of adopting such a framework agreement before the November election in the United States. However, your American colleague has warned that the price of admission would go up after the election, which means that Washington will lay down additional conditions for extending the treaty.

**Sergey Ryabkov:** This reminds me of a scene from *The Twelve Chairs* [by Ilf and Petrov – Ed.], where the main characters sold tickets to see the Drop when there was no charge. Exactly the same situation. You can set any price, but it is not a fact that those who stand or not stand at the entrance will be ready to pay it.

**Question:** It seems there has been progress with regard to Russia's concerns about the conversion of US strategic systems (Moscow had previously said it might not be about any real reductions in ballistic missile launchers for Trident II submarines and B-52H heavy bombers, but rather about

re-equipment, and that can be easily reverted to the original configuration). Have any solutions been found?

**Sergey Ryabkov:** I was actually surprised this topic has been covered by the American side. We are in the midst of a discussion on this point, and the matter has not been completely cleared. Yes, there is some progress. But, unfortunately, it is not yet clear when the bilateral consultative commission on New START can meet. COVID-19 is putting limitations on our plans. We are working to appoint a date.

As for the problems with the potential conversion of the ballistic missile launchers for Trident II submarines, I can confirm that there is some progress. Yet, taking into account the entire combination of factors, I would prefer not to discuss the details now. There are some remaining questions about the conversion of American heavy bombers – something we have talked about and continue to talk about when we point out that it was illegal for Washington to artificially exempt a significant part of its strategic delivery vehicles from accounts. I don't know whether we will find a way to reach an agreement in the time that remains, but we are making significant efforts to this end.

**Question:** How do you assess the US statement about being ready to begin the reverse conversion of its strategic systems the next day after the expiration of the New START Treaty, if the parties fail to agree on its extension?

**Sergey Ryabkov:** This confirms what we are saying: the methods the Americans use in the implementation of the treaty provide them with a significant reversal potential. We have always pointed this out; it is our major concern. A similar situation developed with the now defunct Intermediate-Range Nuclear Forces Treaty (INF Treaty). We have repeatedly pointed out that the MK-41 installations can be used to launch cruise missiles (*not just interceptor missiles*), but the United States did not react to this. And 15 days after the INF Treaty expired, they carried out just such a launch, materially confirming that we had been absolutely right.

**Question:** According to Marshall Billingslea, the United States is in any case reluctant to extend New START for five more years. What is the minimum renewal period acceptable for Russia?

**Sergey Ryabkov:** We would prefer a five-year extension of course. But if the US is not ready for this – which we regret – a shorter period is possible. But, reasonably shorter. If the New START extension period the United States would be willing to agree is shorter than it would take to agree on anything serious with them for the future, this would be a bad solution. Yet, something is better than nothing.

But again, we are not going to pay their asking price even for a five-year extension, let alone for a shorter period.

We are not determined to prolong the treaty at any cost. We are interested in trying to reach a different agreement on a reciprocal basis, but so far, there is no such readiness on the American side. So by and large, there is no difference when we fail to reach an agreement – right now or a short period after the current New START Treaty's expiration.

**Question:** Joe Biden promised to extend New START for five years if he wins the election. So hypothetically, would it be possible to turn it around in the two weeks after the inauguration of the new US president, scheduled for January 20, before February 5?

**Sergey Ryabkov:** We are holding consultations and will continue working on it with full awareness of responsibility for what is happening and the need to focus the political will right now. We are not playing solitaire and trying to guess which cards they will have on their hands in a given situation. We can see that many important events converge at some point in time, such as the inauguration of the President of the United States. It is largely immaterial who that president will be and none of our concern. We will work with the person sworn in on Capitol Hill on January 20 and try to find solutions with them. Accordingly, we are not wasting our time but keep focusing our efforts to finally reach our colleagues in Washington and encourage them to look for solutions rather than impose one-sided approaches on us.

### **More Escalate to Win Stuff**

In August 2020, President Putin stated that the Union State Treaty with Belarus obliges the parties to “to help each other protect their sovereignty, external borders and “stability. This is exactly what it **says.**”

[https://www.realcleardefense.com/articles/2020/09/19/will\\_russia\\_further\\_lower\\_its\\_nuclear\\_weapons\\_use\\_threshold\\_577995.html?mc\\_cid=aa4fa1a2cf&mc\\_eid=fc7f82b837](https://www.realcleardefense.com/articles/2020/09/19/will_russia_further_lower_its_nuclear_weapons_use_threshold_577995.html?mc_cid=aa4fa1a2cf&mc_eid=fc7f82b837)

### **NATO Supports US Policy Effort**

Sept. 18 (UPI) -- A virtual conference of NATO defense chiefs Friday noted the military bloc's progress in new concepts and stressed a deterrence approach toward Russia.

<https://nam11.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.upi.com%2FDefense-News%2F2020%2F09%2F18%2FNATO-concludes-defense-chiefs-conference-with-praise-for-military-plans%2F9711600450468%2F&data=02%7C01%7CPHuessy%40afa.org%7Cab2c990643d8485dde1608d85e1eb5da%7Cf859a9b6f0be470bab687d418ac3866c%7C0%7C0%7C637362833280896356&sdata=bE1XX67RGheQKtJbVFxfzNYLD8jww2M5wk%2FL9KAzU1M%3D&reserved=0>

## **Two steps President Trump could take now to secure missile defense improvements**

By: Trey Obering and Rebecca Heinrichs



**This picture released by the official website of the Iranian Defense Ministry on Thursday, Aug. 20, 2020, is said to show the launching of the "Martyr Hajj Qassem" missile in an undisclosed location in Iran. (Iranian Defense Ministry via AP)**

In his acceptance speech for the Republican presidential nomination, President Donald Trump said that in a second term, “We will win the race to 5G, and build the world’s best cyber and missile defense.”

On the last issue — [missile defense](#) — there are actions President Trump can and should take now, with only a few weeks left until election day, to make necessary improvements.

First, reverse the Pentagon’s decision to give more authority over the Missile Defense Agency to the office of cost assessment and program evaluation (CAPE) while [creating more bureaucratic oversight](#). These moves will create more obstacles to thwart the President’s agenda and will drastically slow MDA’s ability to develop and field missile defense capabilities to meet rapidly emerging threats.

We understand fully the intent to reduce risk in acquisitions, but the purpose of the MDA is to conduct research and development and deliver new and ever-evolving effective defensive systems for the protection of the American people. We must prioritize speed over risk-aversion.

Secondly, the President can announce that the United States is [moving forward](#) with site preparation for at least one additional homeland interceptor site. The Trump Administration’s 2019 Missile Defense Review stated that such a site would protect against future Iranian threats; since the Pentagon released this policy document Iran has only improved its missile program.



Missile Defense Agency has paused its effort to design a defensive hypersonic glide-phase interceptor. The agency's director explains why.

By: Jen Judson

Especially concerning was the successful satellite launch conducted by the Islamic Revolutionary Guard Corps (IRGC) in April of this year. Vice Chairman of the Joint Chiefs of Staff Gen. John Hyten said the launch vehicle had traveled, “a very long way, which means it has the ability once again to threaten their neighbors, their allies, and we want to make sure they can never threaten the United States.”

These developments put more pressure on the United States to make moves in the near term to bolster full coverage of the U.S. homeland.

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Environmental Impact Studies have already been concluded and military installations in New York, Ohio, and Michigan have been chosen as potential hosts for a third homeland missile defense site. Any of those sites would offer a “shoot-look-shoot” capability when considering the geometry of a potential missile attack from Iran. It might also make sense to pick two sites, perhaps putting a few interceptors in Ohio and in Michigan.

If President Trump does decide to move forward with site preparation for an additional homeland interceptor site or sites, he would not need to decide immediately about the kind of interceptor to emplace, whether Next Generation Interceptors (NGIs) or Ground-Based Interceptors.

Site preparation can take several years to complete and should not take away investments from [development of the NGI](#), which promises to add significant capability to homeland defense. Either interceptor could be emplaced at the new site. If NGI matures and is ready for deployment by the Pentagon’s stated goal of 2027, then the additional location could be home to a few of the interceptors.

The threat from Iranian missiles are not the only ones putting pressure on the homeland defense systems.



#### [America’s missile defense cannot afford a decade-long gap](#)

A former Pentagon official says it is America's reliance on offensive prowess that often causes it to gloss over defense assets needed to protect national interests.

By: Steven P. Bucci

The Trump administration has used a combination of economic pressure, military threats, and talks to pressure North Korea into ending its missile program, but North Korea has not made the decision to forgo its nuclear missile program. Although Kim Jong-un has responded by holding off on further long-range missile tests, he has resumed shorter-range tests, and there is reason to believe Kim has not slowed down his efforts to improve his longer-range missile program.

Moreover, North Korea remains a serious missile and illicit arms proliferator and a senior U.S. official recently expressed concern about cooperation between North Korea and Iran on long-range missile development. It would be a mistake to slow down homeland missile defense because the North Korean leader has promised to disarm while showing no real signs of doing so.

The Pentagon is wrapping up its budget submission for the next fiscal year, and whoever wins in November will determine the budget’s final form. Regardless, the United States must carefully

ensure that even as we push ahead to evolve the system, we cannot neglect the defense of the American people against the threats that are here today.

If the United States is going to have an effective, cutting edge missile defense architecture to balance near and evolving threats and to adapt as the threats dictate, the MDA must remain agile, and it must have the funding to improve and sustain current programs while investing in advanced technologies to stay ahead of the evolving threat.

*Lt. General Henry A. “Trey” Obering (ret) was the Director of the Missile Defense Agency from 2004-2008. Rebecca Heinrichs is a senior fellow at the Hudson Institute in Washington, D.C.*

### **Admiral Charles Richard of STRATCOM: Maintain Readiness to Test, Although No Need at This Time to do so.”**

The top military officer in charge of the U.S. nuclear arsenal said Thursday there is “no condition” right now where he would recommend conducting an explosive nuclear test, though that could change in the future.

“At this time, there is no condition — nothing has changed, right — there is no condition where I would recommend the need for nuclear testing,” Adm. Charles Richard, commander of U.S. Strategic Command, told the Senate Armed Services Committee at a hearing.

“But I would say though that it is important for the nation to maintain an ability to do a nuclear test should an issue arise in the future, and I’ve been formally documented in making that recommendation,” he added.

Link: <https://thehill.com/policy/defense/516897-top-general-no-condition-where-us-should-conduct-nuclear-test-at-this-time>

### **Does NFU Make Any Sense?**

Essay by Frank Miller

Link:

[https://www.realcleardefense.com/articles/2020/09/19/sole\\_purpose\\_a\\_policy\\_without\\_a\\_purpose\\_577999.html](https://www.realcleardefense.com/articles/2020/09/19/sole_purpose_a_policy_without_a_purpose_577999.html)

### **Sole Purpose: A Policy Without a Purpose**

By [Franklin C. Miller](#)  
September 19, 2020  
The National Interest

Ambassador Steve Pifer, a former colleague in government and now a research fellow at Stanford’s Center for International Security and Cooperation, has just written an article (The National Interest Online, September 15, 2020) supporting the idea of dropping the longstanding

U.S. deterrence policy that we might, under grave circumstances, actually use nuclear weapons first<sup>1</sup>. Instead, Pifer and others support a policy of No First Use of Nuclear Weapons (known colloquially as “NFU”) styled as “Sole Purpose”.<sup>2</sup> Pifer writes that adopting “Sole Purpose” is necessary because the existing 60 year-old U.S. and NATO policy are no longer credible to either our friends or our potential enemies and that U.S. pledge not to use nuclear weapons first in extremis will reduce global tensions, particularly with Russia and China. But Pifer's argument ignores recent engagements with U.S. allies and also commits the most fundamental mistake of deterrence: he substitutes his own notion of what makes a threat credible to Putin and Xi Jinping for their judgment, thereby falling into the classic and oft-warned- about the trap of "mirror imaging."

To set the stage, it is important to understand how the current policy evolved. A U.S. threat to use nuclear weapons to defend NATO Europe in the event of a Soviet conventional attack was designed to raise the cost of aggression to unacceptable levels: the Soviet leadership could not be certain that such an attack would not set off a nuclear holocaust. The very idea of another conventional war being fought on their devastated territories was unthinkable to America's European allies in the 1950s; indeed, the thought of a new conventional war being fought on NATO territory today is similarly unthinkable to allied populations. If the goal, therefore, is to prevent conventional attack, the idea of a conventional only deterrent to Russian conventional aggression fails the test of history and logic. Conventional deterrence of a determined aggressor has generally failed throughout history. The late British Prime Minister Margaret Thatcher, speaking of the many memorials in Europe to the dead of World War 1, called them “monuments to the failure of conventional deterrence."

Moreover, Pifer misunderstands the very nature of the current “First Use” threat when he writes that it: “might have contributed to the deterrence of a conventional conflict, but such escalation would have entailed enormous risks: once the nuclear threshold was crossed, where would matters stop? Many analysts question the ability to control escalation once nuclear weapons enter into use”. The whole point of the threat of nuclear escalation is that no one knows where it would end, and potential enemy leaders, in deciding whether or not to attack, must question whether what they seek to gain through aggression is worth the potential destruction of their homelands. Pifer compounds this by postulating two scenarios in which conventional aggression has already occurred (by Russia in one case, by China in the other) and then asking whether a U.S. nuclear response is credible – to which he answers "no." There are two mistakes here: first, he allows that deterrence has failed in the first place, and second, he substitutes his own judgment of what is credible for that of Presidents-for-life Putin or Xi Jinping. In so doing, he is guilty of “mirror imaging” and of ignoring the fact that Moscow and Beijing view nuclear weapons and nuclear use quite differently than Western leaders do.

Finally, Pifer suggests that if the U.S. were to adopt an NFU/Sole Purpose policy, this would "defuse the current situation in which both Washington and Moscow believe that the other seeks to lower the nuclear threshold" and also "open the path to a new security dialogue with Beijing".<sup>3</sup>

But these assertions do not stand scrutiny. As I have testified previously<sup>4</sup> abandoning our current policy will reduce allied confidence in the U.S. pledge to defend them, potentially

undercut U.S. nonproliferation objectives, and will have no effect on policies or perceptions in either Moscow or Beijing. Let's examine each in turn.

Pifer asserts that U.S. allies no longer find the current policy credible. The last time the question of moving to NFU was examined occurred in the summer of 2016; allied protests against changing the longstanding policy were vociferous. As reported in Fred Kaplan's "The Bomb" (a work with which Pifer is familiar since he quoted from it in his article), the Japanese and South Korean foreign ministers weighed in strongly against moving to no first use.<sup>5</sup> Equally, although not reported by Kaplan, London and Paris protested at very senior levels against changing existing policy, as did NATO Headquarters. At the NSC considering the proposed policy change, the Secretaries of State, Defense, and Energy argued successfully against walking away from the longstanding policy. Given this, and, more pointedly, the tumultuous relationship between Washington and its NATO allies over the past four years, a move to NFU/Sole Purpose would be seen as additional evidence that the United States was stepping away from its pledge to defend the Alliance.

Suppose allies come to believe the United States nuclear deterrent no longer protects them against conventional attack. In that case, it is not inconceivable one or more who already possess the nuclear material and technical expertise to build their own national deterrents might do so. Proposals have surfaced in the bodies politic in both Japan and Germany to pursue an independent deterrent over the past decade as fears grew that the U.S. nuclear umbrella "had holes".<sup>6</sup> Developments along these lines would represent a huge setback both for U.S. nonproliferation policy and for the Nonproliferation Treaty. Furthermore, Beijing's reaction to a potential Japanese nuclear weapons program would be a cause of great concern for peace and stability, as would Moscow's reaction to a potential German program.

The notion that either Moscow or Beijing or both would be reassured by a U.S. move to an NFU/Sole Purpose policy is risible. Given their strong conspiratorial outlook, neither leadership would believe that an announced policy shift would be translated into operational policy. Some context here is important. From 1977 until its demise, the Soviet Union had a declaratory policy that it would never be the first nation post-1945 to use a nuclear weapon. As the Warsaw Pact crumbled and Germany reunited in late 1990, West German forces obtained the Pact's war plans (which were written by the Soviet General Staff); the plans contained clear nuclear first use options. And while China's current declaratory policy is "no first use" policy, analysts and U.S. Government officials have discerned multiple ambiguities which suggest there are, in fact, circumstances in which Beijing would use nuclear weapons first.<sup>7</sup>

Lastly, the suggestion that a U.S. shift to NFU/Sole Purpose will lead to Moscow and Beijing's adoption of similar policies (operational as opposed to solely declaratory) suggests a strong degree of cultural arrogance. The nuclear policies of Russia and China (and, to the degree one exists, of North Korea) are formulated based on their respective leadership's view of the threats they face and the opportunities they seek to exploit. They will never seek to emulate American policy. To think that this is true is to over-value our own importance regarding setting global standards and denigrate these governments' ability to determine their policies based on their own goals and objectives (however much we might disagree with those goals and objectives).

Pifer closes his piece by noting, accurately, that there has been a "taboo" against using nuclear weapons operationally since 1945. But that is only a part of the story. The important taboo is that no major power has committed aggression against another major power. That historical aberration is a direct result of the danger of escalation to nuclear war. That is the reason for the current policy. Changing that policy to "NFU/Sole Purpose" has no positive national security value for the United States and our allies and carries within it serious risks to alliance cohesion, nonproliferation, and unsubstantiated assumptions about potential enemy nuclear weapons policy.

Sadly, with a "Sole Purpose" clause having been included in the Democratic Party platform, there is a risk this will become a partisan political issue. That would be extremely unfortunate. The current policy has been endorsed equally by Democratic and Republican Administrations for over seven decades. The over-riding need to prevent aggression against ourselves or our allies is too important to become an "R vs. D" question.

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*Franklin C. Miller served for over decades as a senior policy official in the Department of Defense and on the National Security Council Staff.*

### **The Road to a War Within NATO**

**Lt Gen Thomas "Tom" Trask, USAF (ret.),** JINSA Eastern Mediterranean Policy  
Project Member; JINSA Board of Advisors Member

**Jonathan Ruhe,** JINSA Director Foreign of Policy



Given everything that's happened this year, and now that we've filled the "double hurricane" box, perhaps it wouldn't be that surprising to see "armed conflict within NATO" as the winning square on our 2020 bingo card. This is precisely what could happen without overdue U.S. leadership in the increasingly volatile and strategically important Eastern Mediterranean.

Washington largely overlooked the area for decades after the end of the Cold War, both because it could afford to and because it had more pressing problems elsewhere. But two initially separate trends are coming together to drastically reshape the region with new opportunities and challenges for the United States.

The first is Turkey's transformation under President Recep Erdoğan. What used to be a secular and democratic Western partner guarding NATO's southeastern flank is now much more Islamist, nationalist and autocratic. A key feature of this new Turkey is its interventionism around the Eastern Mediterranean, featuring a very Turkish version of gunboat diplomacy.

The second is the discovery of sizable undersea energy reserves by Cyprus, Egypt, Israel, and potentially other regional actors in the future. Combined these constitute some of the largest offshore natural gas finds anywhere in the world over the past decade.

These two trends first came to a head late last year when Turkey intervened militarily in Libya's civil war. In exchange for saving it from defeat, Ankara secured from the Muslim Brotherhood-affiliated Tripoli government a maritime boundary agreement purporting to recognize vast Turkish offshore territorial claims in the Eastern Mediterranean.

Not accidentally, this agreement directly threatens everyone else in the neighborhood. Unlike its neighbors, which agree on applying the Law of the Sea, Ankara uniquely contends that islands cannot be part of an exclusive economic zone (EEZ). Thus, its agreement with Tripoli extends nearly to the shorelines of Cyprus and Greek islands like Crete and Rhodes, threatening efforts by those countries to explore for additional energy and—along with Israel—deliver it via pipeline to Europe.

Now tensions are heating up. To demonstrate its expansive new EEZ claim, Turkey sent energy exploration ships with naval escorts into Cypriot and, just last month, Greek waters. Along with Ankara's growing military and economic footprint in Libya, these provocations have almost triggered shootouts with naval vessels of Turkey's NATO allies France and Greece. In recent days and weeks Turkey, Russia, France, the UAE, Greece, and Cyprus have each bolstered the presence of their military in the region.

Brussels and Berlin have tried to defuse these tensions while expressing support for Greece and Cyprus, but further Turkish escalation appears likely. Even when speaking with one voice, the European Union lacks credibly strong disincentives to deter Ankara, especially now as economic deterioration inside Turkey—made worse by the coronavirus—increases Erdoğan's temptation to stoke nationalism and seek diversions abroad.

Thus far, the United States has largely allowed the situation to deteriorate by standing aside. As the Jewish Institute for National Security of America (JINSA) has laid out in several recent reports, Washington must reassert its former stabilizing role in the region to address these proliferating crises and protect U.S. interests.

A crucial step will be to appoint a U.S. Special Envoy for the Eastern Mediterranean.

He or she should work with the Eastern Mediterranean Gas Forum—Cyprus, Egypt, Greece, Israel, Italy, Jordan, and the Palestinian Authority—to create a clear counterweight to Turkey’s growing obstruction of regional energy development.

American diplomatic leadership also could help de-escalate tensions between Ankara and Athens, both of whom remain open to talks. And last month’s EEZ agreement between Greece and Egypt, reached in accord with international law, did not foreclose future negotiations between Turkey and Egypt.

A special envoy also must end a decade of “leading from behind” on Libya, where Turkey and Russia appear to be establishing permanent beachheads and coordinating to shape the country’s future, despite being on opposing sides of the conflict. Among other priorities, U.S. officials should focus on limiting Ankara’s influence over the Tripoli government. These limitations should include leveraging options to redeploy U.S. military assets out of Turkey, and perhaps consider basing them in Greece.

As a complement to stronger diplomacy, the United States also must bolster its military presence in the Eastern Mediterranean. Deeper defense ties with Athens would help counter both Turkey and Russia. This could be achieved through additional U.S. rotational deployments, increased foreign military financing for Greek purchases of U.S. weapons, and perhaps even permanent basing in Greece.

A recent decision by Washington to loosen the arms embargo on Cyprus should be viewed as a productive step toward eliminating Russia’s own presence on the strategically vital island in exchange for closer U.S. defense cooperation with Nicosia.

Amid nearly unprecedented tensions within the transatlantic alliance, these initial measures would go a long way toward promoting U.S. interests in stability and peaceful energy development.

### **Book Review from NIPP**

William J. Perry and Tom Z. Collina, *The Button: The New Nuclear Arms Race and Presidential Power from Truman to Trump* (Dallas, TX: BenBella Books, Inc., 2020), 335 pp.



IS-467.pdf

Reviewed by W. Michael Guillot  
Editor, *Strategic Studies Quarterly*, Maxwell AFB, AL

*The Button* deals with one of the most consequential issues of our time. Regrettably, what could have been a balanced, focused argument on nuclear deterrence and nuclear weapons ultimately devolves into the tired, anti-nuclear arguments of the past 30 years. The work suffers from several limitations, the first of which is a plethora of hyperbolic statements. Examples include: “We are all on the atomic Titanic.... The risk of accidental nuclear war is increasing... Very little in the way of controls... We’re playing Russian roulette with humanity... There is no way to prevent a determined President from starting a nuclear war...without any provocation...[and] The system is unconstitutional, dangerous, outdated, and unnecessary.”

Additionally, the book is not logically organized to make the argument against nuclear weapons; rather, it presents arguments in a haphazard way. It begins with a fantasy-based scenario that is sure to deter—that is, deter most serious nuclear scholars from reading any further. Afterward, the authors meander from hyperbole, to some nuclear history, to a host of problems with nuclear weapons, then more history, but without a clearly focused argument or adequate context. The work would have been more effective by stating its arguments up front, then answering the question posed in Chapter 9: “Why do we still have the Bomb?” Afterward, each problem or risk factor should have been addressed individually. Instead, the reader must wade through the disarray to reach the recommendations in Chapter 10.

The authors, former Defense Secretary William Perry and disarmament activist Tom Collina, argue that the United States should ultimately eliminate all nuclear weapons—but until then it should restrict authority for nuclear use, significantly reduce U.S. nuclear forces and change the U.S. nuclear posture. For example:

*End sole authority.* The authors argue that the president alone should not have the power to authorize nuclear use. They claim a president may be unstable or be required to make a “snap” decision. Instead, Congress should be involved in any decision for first use of nuclear weapons to slow down the process and offer more decision time—except for a retaliatory strike. The president would retain sole authority to act freely and quickly to a confirmed attack. The authors seem to believe the president alone, especially President Trump, without provocation, would make a

nuclear use decision without additional input. They conflate *sole authority* with *sole decision making*, ignoring the consultations that would naturally occur before authorizing nuclear use—including whether use is legal in context. Such consultations, for example, were the case with President Trump’s recent decision to deny a strike on Iran. In addition, the requirement for congressional approval could create ambiguity about who is Commander-in-Chief regarding nuclear use, which clearly would raise Constitutional issues of authority. For example, if Congress voted to use nuclear weapons without presidential approval, based on the passions of the people, who would decide? Would this ambiguity increase the risks our adversaries might misunderstand U.S. intentions and degrade deterrence? Such a situation could create a crisis within a crisis and invite preemption by an adversary and a lack of allied confidence in the United States. The authors correctly state that control of nuclear weapons is scary. This is why the United States has a sole authority policy and strict control protocols.

*No Launch on Warning (LOW).* Perry and Collina are absolutely terrified of accidental nuclear war based on false warning, particularly from cyber-attack, or “if the Stratcom Commander was having a bad day.” They recommend using nuclear weapons only in retaliation after a confirmed detonation (on the United States or allies). However, their argument discounts how a launch-on-warning (LOW) option complicates Russian assessments of war outcomes and enhances deterrence. The authors do not seem to realize LOW is a U.S. option, not an automatic response. Besides this point, a nuclear accident is not war and a nuclear war is no accident!

*No First Use (NFU).* The authors’ argument for NFU is undeveloped and underexamined. On one hand, NFU would appear to create a more stable deterrence environment because it offers a clear declaratory policy yet retains flexibility as a national security choice. However, such a policy is only as strong as the trust among adversaries—currently in short supply—and would be highly disturbing to U.S. allies, especially if the authors’ congressional approval recommendation for nuclear use is adopted. This could lead to greater proliferation. Perry and Collina also suggest limiting the first strike threat from submarines by restricting their deployment areas away from coasts. This is not logical thinking. Since submarines are supposed to be stealthy, opponents presumably would not know their location.

*Eliminate U.S. ICBMs.* The authors see ICBMs as simply a first strike weapon of immense danger and not worth the expense. They ignore the arguments that U.S. ICBMs are cost imposing to our adversaries and raise the stakes of an attack—thereby contributing to deterrence. Eliminating U.S. ICBMs could make Russian and Chinese targeting simpler and potentially much more effective. These missiles are the safest, least expensive leg of the triad and a worthy, affordable, deterrent to such existential threats.

*Make Deep U.S. Nuclear Reductions.* The authors would like the United States immediately to reduce its entire nuclear arsenal to 100 nuclear weapons and deploy only 10 nuclear submarines. They appear to place considerable trust in Russian good intentions and believe that somehow such drastic U.S. reductions would make the United States safer. How much is enough for reliable deterrence? This is a national security question, involving calculations of acceptable risk. However, Perry and Collina do not begin to wrestle with the potential risks of their

recommended reductions, including the likely degradation of deterrence and assurance of U.S. allies.

*Limit Ballistic Missile Defense (BMD).* The authors excoriate the United States for deploying BMD and blame BMD for most of our arms control problems and for Russian behavior. As with most such criticisms of U.S. BMD, the authors ignore the fact that Russia has for decades deployed nuclear-armed interceptors around Moscow in considerably greater numbers than the U.S. non-nuclear system will have, even with planned increases. The authors posit that BMD is ineffective, costly, and destabilizing. They also fear, "...if Trump believes he can intercept a missile attack he may...escalate...[and]...the more we spend the more we convince ourselves it will work." This is fear mongering. By testing BMD, we learn what works and what does not. This increased confidence in the system can potentially save many American lives and buy time to consider how best to respond to an attack. As for missile defense being destabilizing, the U.S. BMD system is tailored against the more limited rogue state missile threat and is not designed to defend against an attack from Russia or China. Clearly, the Russians are not overly concerned that their larger system is destabilizing. The authors emphasize the potential fallibility of deterrence—which should lead them to advocate for such BMD protection, but illogically, it does not. What should be the U.S. response if we successfully intercept a rogue state nuclear armed missile launched against the United States? What would be the options in the absence of U.S. BMD? The authors simply do not address such contemporary questions.

Throughout the book the authors deal in possibilities without any analysis of probabilities and the potential risks of their recommended changes. They focus on U.S. actions and culpability while seemingly downplaying or ignoring the actions and intentions of U.S. adversaries; nor do they suggest turning Russian nuclear weapons into ploughshares.

One wonders if this book reflects regret for unfinished work, missed opportunities, or perhaps the passion of a zealous anti-nuclear coauthor. It demonstrates that zealotry for or against nuclear weapons comes at the expense of actual analysis. Those who believe eliminating nuclear weapons is feasible, desirable, and acceptable may be disappointed by its lack of serious analysis. Those who do not already advocate the elimination of nuclear weapons will be wholly unconvinced. Nevertheless, one should read this book if only to see how one-sided the arguments of the anti-nuclear establishment are.

## NNSA NEWS

### **House Bill With Requested Funds for B61-12 Would 'Impair' Delivery of B61-12, Senior Pentagon Official Says**

A House-passed 2021 spending bill, which would provide the \$816 million the National Nuclear Security Administration (NNSA) requested for its B61-12 life-extension program, would "impair" the government's ability to deliver that refurbished nuclear bomb on time, a senior Pentagon official...

## Space Force and NASA Video Seminar September 22, 2020

General Raymond, head of USAF Space Force and NASA Administrator Jim Bridenstine, speak at the Huessy/Mitchell Institute Space Power to the Warfighter Seminar series—here is the link: <https://youtu.be/bIjfxCMfCkw>

### **DASD for Nuclear, Missile Defense Policy Delivers Remarks at Mitchell Institute Nuclear Deterrence Forum Series**

[Targeted News Service](#) [Washington, D.C] 05 Sep 2020.

- Translate [Full text](#)

The U.S. Department of Defense issued the text of the following transcript on Sept. 2:

Dr. Robert Soofer, Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy; Doug Birkey, Executive Director, Mitchell Institute

\* \* \*

DOUG BIRKEY: Good morning, ladies, and gentlemen. I'm Doug Birkey, executive director of the Mitchell Institute, and welcome to our Nuclear Deterrence Forum Series.

We are very fortunate to have Dr. Robert Soofer with us today. Dr. Soofer is a deputy assistant secretary of defense for nuclear and missile defense policy, supporting the undersecretary of defense for policy and the assistant secretary of defense for strategy, plans and capabilities. In this role he develops strategies, creates policies, and conducts oversight of national nuclear policy, treaty negotiations and missile defense policy. He is a key architect of both the most recent Nuclear Posture Review and the Missile Defense Review.

Previously, Dr. Soofer served as professional staff member on the Senate Armed Services Committee and was the staff lead for the Subcommittee on Strategic Forces.

So, sir, with that, welcome and thank you so much for taking the time to join us today. I'd like to start today's session by giving you an opportunity to make a few opening remarks on U.S. nuclear strategy, the future of arms control, and perhaps some of your other top priorities. So, sir, with that, over to you.

DEPUTY ASSISTANT SECRETARY OF DEFENSE ROBERT SOOFER: Doug, thank you so much for -- for inviting me. I appreciate it. I know that this -- this Mitchell Institute venue is an extension of -- of the -- the Breakfast Series that was started by Peter Huessy I -- I guess at least three decades ago --

MR. BIRKEY: Yeah.

DR. SOOFER: -- and I would just reiterate what a national treasure it is to be able to -- to -- to discuss these issues. I've -- I've seen some of the -- the excerpts of interviews you've had with Admiral Richard and Admiral Hill of the MDA and -- and you've been talking to the service representatives and other material developers. So, I think you and your -- your viewers understand the importance of nuclear modernization, so I don't want to -- to repeat that, although of course, it is important.

I wanted to perhaps spend some time talking more generally about nuclear policymaking and the relationship between deterrence, strategy and politics and help -- help your viewers understand why we have the debates that we have here in -- in Washington, D.C.

You know, you -- you could be forgiven for thinking that nuclear weapons policy is fraught with controversy, especially in the U.S. Congress. This is the impression you get when you read the newspapers. But the reality is different. For example, for fiscal year 2020, the year we're in now, Congress provided 98 percent and 100 percent of the funding requested for the nuclear enterprise for the Department of Defense and the Department of Energy, respectively. So, in fact, modernization is securely underway for each leg of the nuclear triad, as well as the Weapons Life Extension Programs and -- and the infrastructure projects that are being overseen by NNSA, so we're in a good position there.

But look, this isn't to suggest that our issues are free from controversy. Indeed, the recommendation of the 2018 NPR to modify a small number of W76 submarine-launched ballistic missile warheads to provide them with lower yields was a large point of contention with Congress and within the broader strategic community. The Democratic chairman of the HASC stated, quote, "The decision to deploy the 76-2 warhead remains a misguided and dangerous one. This deployment further increases the potential for miscalculation during a crisis. Validating the utility of so-called 'low-yield' nuclear weapons in 'winning' a nuclear war adds to the growing pressures of a nuclear arms race."

By contrast, the ranking Republican member of the HASC, Mac Thornberry, stated, quote, "This deployment enhances U.S. deterrence and tells Russia that any attempt to use nuclear weapons as part of an 'escalate to deescalate' approach will not be successful. This action is a needed, prudent step to strengthen the security of the U.S. and our allies."

So how is it that two senior members of the Armed Services Committee can come to very different conclusions about the 76-2? One believes it's a prudent measure; the other calls it misguided, and even dangerous. Can we explain this merely because one has an "R" and the other, a "D" after his name? Or are there fundamental disagreements about nuclear strategy and deterrence theory informing their views?

Look, it's not only politicians who disagree, nuclear experts across the spectrum of think tanks have opined dramatically different ways, no doubt contributing to the discourse on Capitol Hill.

My sense is that these debates over nuclear strategy, policy and force structure are influenced not only by one's theory of how nuclear deterrence works but also by various external factors not necessarily related to the matters of strategy or deterrence logic, what I term politics. Right?

So, a few moments on -- on -- on -- on policymaking. The conventional wisdom of our policymaking, including nuclear policy, suggests that decisions flow from the rational calculation of interests and objectives with a conscious calibration of means and ends. But for those of you who have spent any time in government know, this conventional wisdom is wrong or at least it's much more complicated.

In practice, U.S. nuclear policy is affected by institutional procedures, bureaucratic politics, the push and pull of domestic and international politics, individual priorities, interest groups, lobbyists, the media and even the press of time and events. In fact, there is no pure objective analysis of nuclear policies.

Decisions taken by an administration on what nuclear strategy to pursue, what kind and how many nuclear weapons to build and even when to use nuclear weapons are influenced by a host of factors.

For example, the debate over a nuclear no-first-use policy is influenced by alliance politics. Likewise, the need to reassure allies drives U.S. nuclear force structure requirements and even U.S. nuclear strategy itself. Budgets and domestic politics certainly inform nuclear force structure decisions as much as strategic requirements.

And so, my point is there is no pure nuclear policy driven only by rational strategic analysis.

Let's return to the two different reactions to the 76-2 that I mentioned earlier. I might suggest that Chairman Smith and Ranking Member Thornberry enjoy two very different perspectives on nuclear strategy and that these views are based on dissimilar assumptions about how nuclear deterrence works.

For the sake of this discussion, allow me to offer two basic schools of thought: simple and complex deterrence. These categories are illustrative and scholars in the field use different terminology to convey a spectrum of theoretical approaches for the terms.

Simple deterrence, sometimes referred to as minimum deterrence, reckons that deterrence is achieved by maintaining the plausibility of nuclear retaliation which can be achieved fairly easily with a limited number of nuclear weapons.

Deterrence, according to Robert Jervis, a scholar in this field, says it "comes from having enough to destroy the other's cities." This capability is an absolute not a relative one.

Bruce Blair, who unfortunately recently passed away, suggested that, quote, "Deterrence today would remain stable even if retaliation against only 10 cities were assured."

For this school of thought, nuclear strategy and a nuclear balance is less important to credible deterrence than maintaining the ability to retaliate against the adversary's society. Credibility of deterrence is based on creating the fear or chance at uncontrolled nuclear escalation.

In the words of Kenneth Waltz, another scholar in the field, quote "The deterrence effects of nuclear weapons derive not from any particular design for their employment in war but simply from their presence."

The other school of thought is complex deterrence. As the name would suggest this recognizes effective deterrence to be more complicated, requiring an understanding of the adversary, an appreciation for deterrence under varying circumstances and scenarios, and requiring more attention to the types of capabilities and flexibility needed to ensure deterrence credibility in support of broader U.S. strategy.

This school of thought pays close attention to the nuclear balance and places a premium upon assuring the survivability of nuclear forces that can threaten what the adversary holds dear. This approach to deterrence has been the basis of U.S. nuclear policy since the 1970s and probably even the 1960s.

As Secretary of Defense Schlesinger said in 1975, quote, "To be credible and hence effective over the range of possible contingencies, deterrence must rest on many options and on a spectrum of capabilities."

Now back to our two members of Congress. Chairman Smith likely falls into this -- into the simple deterrence category, whereas Ranking Member Thornberry is in the complex deterrence camp.

Chairman Smith likely believes the 76-2 is dangerous because, for him, nuclear deterrence and strategic stability are derived from mutual vulnerability and that for deterrence to be effective, one must make nuclear use as abhorrent as possible. In his view, a low-yield nuclear weapon is designed for nuclear warfighting rather than deterrence, which in turn makes nuclear war more likely.

At the very least, the W76-2 is gratuitous for deterrence. At the very worst, it lowers the threshold for nuclear use and makes nuclear war more likely.

Mr. Thornberry is likely in the complex deterrence camp. He believes deterrence threats to be credible must consider the views and capabilities of the adversary. And he sees a Russia that is expanding its tactical nuclear weapons capabilities, exercising to a doctrine for limited first use, and is upon occasion threatening our allies with nuclear strike.

For him, the low-yield SLBM warhead provides the president with additional nuclear options in a regional context that would deter Russia -- Russia's nuclear use in any scenario.

For Thornberry, the threat of U.S. nuclear employment on behalf of our allies is made more credible in the eyes of Russia and China when we build capabilities to implement those threats. As NATO Secretary General Stoltenberg put it, quote, "Deterrence starts with resolve. It's not enough to feel it, you have to show it."

The W76-2 raises the threshold for Russian nuclear use because Russian leaders see that we have taken practical steps to ensure that adversaries can derive no benefit from even limited nuclear use.

So, there you have it, two different views about the need for the W76-2 based on very different assumptions about how deterrence works.

Now, it's difficult to explain the disagreements over the 76-2 only on the basis of deterrence theory, if only because it may be too much of a coincidence that mostly Democratic members oppose, while Republican members support the weapon. So perhaps there is an element of politics involved, and one shouldn't discount the role played by interest groups and think tanks. And it is perhaps notable that, although the 76-2 was controversial, House Democrats supported the modernization of the nuclear triad writ large, programs that were started and endorsed by the Obama administration.

So now let's talk a little bit about nuclear strategy.

A problem with discussing nuclear strategy and policy is that these terms can be somewhat ambiguous and not everyone uses them the same way.

I'm not sure we have a par -- publicly articulated nuclear strategy per se, but then I'm not quite sure the Navy can articulate a maritime strategy or that the Air Force can explain its, quote, "aerospace strategy." Instead, we usually speak in terms of nuclear weapons roles, principles, employment guidance and declaratory policy.

So let's start with some key principles in declaratory policy as derived from the 2018 Nuclear Posture Review, which if you haven't figured out by now, hews closely to the complex theory of deterrence, as did the 2010 NPR for that matter.

So, first of all, the highest strategic priority for U.S. nuclear policy is to deter potential adversaries from nuclear attack of any scale. However, deterring nuclear attack is not the sole purpose of nuclear weapons. U.S. nuclear weapons support our broader U.S. national security objectives, such as deterring large-scale conventional aggression, biological and chemical attacks, and reassuring allies against these threats so that they don't seek to acquire nuclear arsenals of their own.

Second key principle, U.S. -- the U.S. would only consider the employment of nuclear weapons in extreme circumstances: to defend the vital interests of the United States, its allies, and partners. This is a very high bar that must be met before the president, who is the only one that can order the use of nuclear weapons, will contemplate the use of the 76-2 warhead or any nuclear warhead for that matter.

A third often overlooked principle of U.S. nuclear policy and strategy is that the United States will strive to end any conflict and restore deterrence at the lowest level of damage possible for the United States and its allies.

In other words, should the adversary employ nuclear weapons in a limited manner in a regional conflict, our objective will be to -- our objective will be to deter further nuclear use, while seeking to terminate the conflict on advantageous terms for the U.S. and its allies.

Now, we come to a key point that drives the discussion of nuclear strategy. And by nuclear strategy, I mean the employment of nuclear weapons in support of broader military and strategic objectives, which in turn support political objectives.

The objectives of our nuclear strategy are, first and foremost, to deter war both conventional and nuclear. And second, should nuclear deterrence fail to deter further nuclear use and hopefully bring the war to an end before the worst imaginable nuclear catastrophe unfolds.

To be clear, our nuclear strategy does not rely solely on massive and immediate attacks against the adversary, though we maintain this capability to deter adversaries from contemplating a first strike against the United States.

Instead, such attacks -- that is, massive attacks -- would represent the failure of our nuclear strategy. Rather, our nuclear strategy as articulated in the Nuclear Posture Review calls for tailored deterrence with flexible capabilities, including an appropriate mix of nuclear capabilities and limited graduated response options, something that every U.S. administration over the past six decades has valued.

We cannot know if the strategy will succeed, but it is preferable to a strategy that threatens all-out attack against Russian society, particularly in response to limited provocations.

A strategy of massive retaliation long has been deemed to be incredible in the eyes of our nuclear peers, given our own vulnerability to counterattack. The other disadvantage of a strategy based on large-scale nuclear retaliation is that should nuclear deterrence fail, it must fail totally and catastrophically, as it provides no opportunities to cease escalation well before the destruction of the attacker and defender's societies.

Now, critics of the strategy of limited use to restore deterrence will question whether initial use will stay limited. They foresee in the ensuing chaos that both sides will perceive a benefit in escalating to higher levels of violence in the hope of securing victory, or that neither side will be able to control nuclear use even if they wanted to. But indeed, uncontrollable escalation could occur. But this fact in itself, perhaps, adds to the deterrence effect at the outset.

But one can also imagine that nuclear adversaries will want to make an effort to avoid such a catastrophic exchange. And having broken the nuclear taboo for whatever reason, will now want to do whatever possible to prevent further escalation. Our nuclear strategy provides for this possibility. An alternative strategy of solely threatening large-scale attacks does not.

Now, it would appear that the Russians may think along these lines as well. In August, last month, a very important article was published by Major General Sterlin of the Russian General Staff. In this article, General Sterlin added some clarification to the Russian decree on nuclear deterrence, which was released in June.

In addressing the conditions for nuclear use, Sterlin noted that, quote, "The specific actions to be taken in response" -- and then he says in parenthesis, "(where, when, and how much) will be determined by Russia's military and political leadership depending on the situation."

So, their use of nuclear weapons will depend on the situation. This suggests that Russia may be interested in limiting escalation rather than resorting immediately to large-scale nuclear attacks.

So, in summary, U.S. nuclear strategy is one of resolve and restraint. Our limited use of nuclear weapons in response to a Russian or Chinese attack is intended to demonstrate resolve, convincing the adversary that it severely miscalculated when it contemplated the use of nuclear weapons.

This strategy also evinces restraint and sends a message to the adversary that it has much more to lose if it continues down the path of nuclear escalation.

The requirements for such a nuclear strategy place a premium on the survivability, flexibility and readiness of U.S. and allied nuclear capabilities. It requires a range of delivery systems and nuclear yields. Such a nuclear strategy is based on a complex view of what is needed to deter adversaries under diverse circumstance.

A simpler approach to deterrence, by contrast, would assume that merely the existence of a small number of nuclear weapons is sufficient to deter nuclear attacks, and therefore a wide range of capabilities are either not needed or even provided.

So, there's certainly more that can be said about nuclear policy strategy but let me stop there and reserve time for questions about this and about missile defense and about anything else your viewers might be interested in asking. Doug, over to you.

MR. BIRKEY: Sir, I really appreciate that rundown, the depth of your perspective and insight is most impressive. So, thank you.

Let's dig a little bit deeper into some of the points you mentioned. First, NORTHCOM and NORAD Commander General O'Shaughnessy recently testified that our adversaries have demonstrated the capability, capacity, and intent to hold the U.S. homeland at risk below the nuclear threshold.

How is the evolving missile threat, which adds hypersonic and cruise missiles to the ballistic missile threat, impacted your thinking about deterrence and missile defense of the homeland?

DR. SOOFER: Right, thanks. So, when we conducted both the Nuclear Posture Review and the Missile Defense Review, we -- we drew a distinction between nuclear attacks against the homeland and non-nuclear, right?

And if -- if Russia or China were to attack us with -- with a nuclear weapon, whether it's a hypersonic glide weapon, a cruise missile, a nuclear SLBM, an underwater nuclear torpedo,

nuclear deterrence would -- would pertain in this situation, we rely on our nuclear triad and the threat of retaliation.

If -- if the threat is -- is a conventional one, that changes the -- that changes the consideration, a bit. And that is that we have actually faced a threat from conventional Russian strikes in the past. Russia has had conventional sea-launched cruise missiles that could have been launched off the coast of the United States. They have air-launched cruise missiles that could attack the United States.

So being able to defend against these -- these threats has always been part of our calculation. But the NORTHCOM commander rightfully is -- been more concerned about this because these threats are actually expanding in number and type, and it's probably part of a Russian -- it would be part of a Russian and Chinese strategy to prevent us from reinforcing our allies, right?

We think about defending ports in -- in NATO, for instance. Well, we need to also defend the ports of embarkation here in the United States. So being able to protect these critical capabilities with missile defense against even conventional cruise missile strikes or conventional ballistic missile strikes is something that we need to pay increasing attention to.

But, again, if -- if the threat is nuclear-armed, go back to nuclear deterrence 101, right?

And so, in that sense I'm not sure a hypersonic missile armed with a nuclear weapon changes the -- the threat picture much more than what Russia can already do with ballistic missiles launched by ICBMs or submarine-launched ballistic missiles which also fly at hypersonic speeds.

MR. BIRKEY: In many ways it is that back-to-the-future-type scenario with some of these issues?

DR. SOOFER: Right.

MR. BIRKEY: So, both the HASC and the SASC fully funded nuclear modernization in their markups of the 2021 National Defense Authorization Act. And you know, as you mentioned, it seems to suggest there's a degree of bipartisan agreement on the need to modernize our nuclear enterprise.

And you touched on this before but if you could go into a little bit more, is this a fair assessment? And where do you really see this consensus going?

DR. SOOFER: Yeah, I -- I really do believe that the -- the genesis of this consensus can be traced back to first the 2009 Strategic Posture Commission report. This was chaired by -- by James Schlesinger and William Perry. And again they -- they drew the linkage between nuclear modernization and non-proliferation and arms control.

This -- this linkage here was reinforced I think during the debate over the New START Treaty in 2010, where again you -- you had a commitment to nuclear modernization as well as, you know, pursuing arms control -- effective arms control where possible. And I think -- I think that

fundamental consensus was carried through in Obama's 2010 Nuclear Posture Review, because, you know, in -- in that review they recommended the modernization essentially of each leg of the nuclear triad. And this was reinforced in the Resolution of Ratification and the letter from President Obama to the U.S. Senate prior to the advice and consent of the New START Treaty.

So there -- there is this -- this general consensus on modernizing each leg of the nuclear triad as well as our forward-deployed capability in the way of B61 bombs and the dual-capable aircraft.

There was -- there was a lot of discussion when the new Congress took over. Chairman Smith raised some very important questions: Do we need to have an ICBM leg? Should we conduct a new nuclear posture review?

Look, I think these are all legitimate questions to be raised. Every two years we have a new set of members that -- that enter the Congress; turnover in the Senate is less so. But it's always important to discuss these issues.

But at the end of the day Adam Smith asked these questions but the questions were answered, and what came out the other end was support by both Democrats and Republicans, authorizers and appropriators to fund each leg -- the modernization of each leg of the nuclear triad, right?

Where the controversy was on W76-2, and I explained that -- that reasonable people could disagree about -- about how it fits in with our nuclear strategy and depending on how you think about nuclear deterrence you'll have one view or another. There's some politics involved, of course. But those issues were -- were discussed and I'm glad they were discussed. But at the end of the day, the decision was taken by Congress to support the 76-2. And I would -- I would suggest that there are also members -- my predecessors who've had this position in the Obama administration, understand the value of that the -- understand the -- the strategic logic underpinning that.

So while we can differ on the margins, this consensus on the need to -- to -- to recapitalize our nuclear forces to address a growing Russian threat in the context of this great power competition, I don't think there's any disagreement whatsoever and I think the congressional marks bear that out.

Now, this year, the HASC and the SASC have marked up, they've provided full support again for all of these programs. The House Appropriations Committee took a \$2 billion reduction to the -- to the Department of Energy's request for these capabilities. It's -- it's a very large cut. It's going to have tremendous impact on our ability to -- to modernize the nuclear infrastructure but I hope that the Senate Appropriations Committee will fully fund the request and that in conference, we'll be able to explain to the -- the House appropriators again the logic behind this request, point out that these things were funded in the past. For instance, funding the production of plutonium pits, it's something that was supported by the -- the Obama administration, LRSO, modernizing, doing life extension programs on the warheads such as the 76, the 61, and the others.

These -- these things -- these -- most of what came out of the Trump Nuclear Posture Review was an extension of what was agreed to by the previous administration. Again, where the -- where the big change was on these supplemental capabilities, primarily the 76-2 and the nuclear sea launch cruise missile.

So we're going to have a debate over these and -- as we should -- but again at the end of the day I think -- I feel pretty comfortable that we're going to end up supporting the -- the essence of -- of the nuclear triad and the nuclear modernization program, at least as -- as long as China and Russia continue to grow their nuclear capabilities.

MR. BIRKEY: I appreciate that. You -- you know, obviously, sticking with the Hill theme here a little bit, continuing resolutions are -- are always harmful to the Department of Defense. Particularly when a lot of modernization is under way, it can be particularly difficult. And with things like GBSD in play and other programs, can you please talk to us about how C.R.s are impacting your -- your efforts to modernize the triad?

DR. SOOFER: Well, with -- with a C.R., you're going to have less money than -- than what is needed for the program and that invariably is going to slow down the program. There's no question about it. GBSD, I think the contract is going to be awarded before the end of this fiscal year.

So in terms of -- of a new start, we should be covered but -- but if there is a continuing resolution, there will be less money available in '21 than is needed for GBSD as well as the other programs and it's going to have an impact. There's -- there's no question about it.

But all programs in the Department of Defense will likely be impacted unless certain anomalies are -- are built into that continuing resolution.

MR. BIRKEY: So, looking a little bit broader here. Critics often point to Russia and China's nuclear modernization efforts as evidence that the United States' missile defense and nuclear modernization programs are spurring a renewed arms race. How would you respond to that criticism? And as a follow up, what are Russia and China's primary motivations regarding the vector of their nuclear programs?

DR. SOOFER: All right, well, let's -- let's maybe separate this out. I -- I hear it -- I -- I hear the argument, especially when I've -- when I've been on the Hill that our missile defense programs are prompting, you know, Russian and -- and -- and Chinese nuclear modernization but it's -- but if you -- if you go back and you view the forensics, you'll see that -- that the -- certainly the Russian programs were started well before we deployed these 44 ground-based interceptors to protect the -- the homeland.

The -- the other important thing is -- is the Russians -- and some -- some -- some Russians are probably concerned about our -- our nuclear -- I'm sorry, our missile defense capabilities but others, I think, are just using it for political purposes.

In the past, Russians have complained about our -- about our missile defense capabilities and they've threatened that -- that there won't be nuclear reductions if we deploy missile defenses. But look at what's happened in -- in history -- in 1983, Reagan announced the Strategic Defense Initiative, we -- we -- there was a prospect that we would deploy huge astrodome defenses, space-based defenses and the like but within a few years, we had not only the INF Treaty in 1987 but then we had the New START Treaty in 1991.

So, there was -- there was the potential for missile defenses but yet we had arms control. Then in 2002, we pulled out of the -- the ABM Treaty. One would've thought that if we pulled out of the ABM Treaty, this would lead to a huge arms race but in fact we ended up getting the Moscow Treaty, where we went from 6,000 under START to about 2,200 under the Moscow Treaty. So, we had both missile defense and arms control.

The Russians -- when -- when the Obama administration was negotiating New START, the Russians insisted that there had to be limits on missile defenses. There were no limits on missile defenses. We managed to -- to secure a New START agreement which reduced forces further down to 1,550.

So, I think the Russians perhaps protest too loudly about this and they may even be using this because they know could potentially drive a wedge between our allies and ourselves and even influence congressional debates over -- over nuclear modernization. So that's -- that's with respect to missile defense.

On -- on the nuclear side of the house, the -- the Russians like to boast that they are about 80 to 90 percent complete with their nuclear recapitalization -- their ICBMs, their submarine-launched ballistic missiles, and their bombers.

So clearly, they've been busy recapitalizing their forces and we have yet to get started. So, you can't argue that our nuclear programs led to their nuclear modernization. Their modernization has come first. We are now just on the cusp of beginning to move from the concept phase to the engineering phase to actually procuring these systems and it won't be until around 2030 that the -- the full brunt, the full weight of our nuclear modernization will be witnessed by -- by Russia and China.

And so, you can't argue that our nuclear programs are precipitating Russian nuclear programs. Russia, yeah, they've -- they've -- again, in addition to sort of recapitalizing their forces, they're still standing within the -- the New START limits. So, there is no arms race, per se, between Russia and the United States, with one important exception and that is Russia's non-strategic nuclear weapons, or we call these unconstrained nuclear weapons, unconstrained by New START. These are the tactical nuclear weapons, the short range systems, the torpedoes, the depth charges, the surface-to-air missiles, the sea-launch cruise missiles, the ground-launch cruise missiles, the air-launch cruise missiles that are all nuclear capable.

They have today probably more of these unconstrained weapons than they are allowed strategic warheads under New START. So, under New START, they're allowed 1,550 warheads. They have more of those available for deployment on -- on these theater or tactical range systems.

That's the problem -- that's the problem that we face and that -- that -- this is what kept us awake at night when we conducted the Nuclear Posture Review and which led us to the conclusion that, in addition to these capabilities, the Russian nuclear doctrine, the way they exercised to this, we had to do something to counter Russia's perceived perception that they could use these weapons to coerce us in a -- in a regional conflict, and this led to the recommendation for the 76-2 and to the nuclear sea-launched cruise missile.

So, I'll say that, again, when it comes to strategic forces, there is no arms race; there's only recapitalization on both sides. Russia is racing to grow its tactical nuclear weapons. We're just starting to tie our sneakers to get into this race, right? We've got the 76-2, but now we're going to be unveiling the -- the nuclear sea-launched cruise missile, which is our response to -- to Russia's tactical nuclear weapons. We don't need to match them weapon for weapon, but we do need to be able to -- to give the president and our regional combatant commanders another option to address these Russian capabilities. So that's our response there.

Now, the other interesting thing that you raise is China, right? In the past, China has always been a subset of our nuclear requirements for Russia. As China starts to grow its capabilities, whether they're intending to reach parity either qualitatively or quantitatively, they are starting to close the gap. They're closing the gap with both Russia and the United States. As they increase their nuclear capabilities, we will have to respond. If we respond, it's going to impact our relationship, our nuclear balance with Russia, and this is where you could actually see an arms race being precipitated by the growth of Chinese forces.

And so, we're telling China, we've been telling Russia, "Let's bring China into these arms control talks. Let's talk about why China needs to increase the size of its capabilities." Because at the end of the day, if they increase the size of its nuclear forces, Russia and the United States will have to respond, and they are not going to be any better off. Better to come to the table now and start talking about these things and see how that plays out.

MR. BIRKEY: Yeah, I really appreciate those insights. So, what's your view on the no-first-use policy, and what are the implications of such a choice? And what would be the impact upon our allies?

DR. SOOFER: Yeah. So, we have been -- we've been debating no first use since the 1950s, believe it or not. It's not a new concept. It's not a new concept. And at the end of the day, the problem with a no-first-use pledge is that it -- it -- it lowers the -- the risk to adversaries who are contemplating a conventional attack against our allies, right? They may think that they -- you know, if they attack us with conventional forces, overwhelming conventional forces, say, in the Korean Peninsula, that they could push us back as they did during the first Korean War, and that we absolutely will not use nuclear weapons. If that lessens the risk to them, they may -- this may encourage them to -- to launch a conventional attack.

We don't want to do that. We want to have a level of ambiguity such that they might think that we would use nuclear weapons. So that's why we -- we -- we cannot adopt a no-first-use pledge. But more specifically, our allies have told us this, both in -- in our Nuclear Posture Review and

in the previous Nuclear Posture Review, we consulted with our allies, and they told us, "Do not - do not say 'no first use.' Do not invoke a no-first-use policy."

Again, the purpose is to increase the level of risk that we would use nuclear weapons should an adversary attack us with conventional forces, or even biological weapons or chemical weapons. There has to be the threat of -- of -- of nuclear use.

But having said that, remember, I told you that our policy is that we would only use nuclear weapons in extreme circumstances. There's going to be a high bar for nuclear use, right?

Now, what is the benefit of a no-first-use policy? Are -- are -- are other countries going to believe us? I don't believe China when they say they have a no-first-use policy. Or maybe they believe that they have a no-first-use policy, but in extremis, if they have to use nuclear weapons, they will use nuclear weapons first. So I'm not sure what a no-first-use policy gets you other than maybe in the -- in -- in the -- in the halls of the disarmament community who would think that you've -- you've now made it less likely that anybody would use nuclear weapons because you've pledged not to use nuclear weapons. But I think that pledge is only as good as -- as -- as sort of the piece of paper that it's written on, and at the end of the day, the risks of -- of invoking a no-first-use policy in terms of the nervousness it's going to cause our allies is not worth any potential gains.

MR. BIRKEY: Certainly, the example of peace through strength. The Missile Defense Agency's fiscal '21 budget request paves the way for a new layered homeland ballistic missile defense system to protect against attacks from rogue states. Now, I understand that MDA is planning to conduct an intercept test with an SM-3 Block IIA against a representative ICBM target and is also evaluating the technical feasibility of employing THAAD as part of the architecture. Could you please describe what is driving the need for this approach? And how do you envision the homeland missile defense architecture evolving as you look to the future?

DR. SOOFER: Thanks, Doug. You know, one of the primary fundamental principles of missile defense is layered missile defense. You want to be able to intercept the missile in all its phases of flight -- boost phase, midcourse, and terminal. You want to sort of thin the herd to allow subsequent layers of defense to be more effective.

That's easier said than done, right, because boost-phase defense is difficult to accomplish because you have to be at the right place at the right time as the missile is -- is launched, and you don't have a lot of time. The midcourse phase gives you more time, but the adversary has the ability to deploy decoys and -- and penetration aids and the like, and the terminal phase has certain advantages because these -- these penetration aids and decoys are stripped away. But again, these things are coming in very fast, and you don't have a lot of time to react to it. But the principle is if you have a layered defense, a layered defense is better than just relying on one phase -- defense in one phase of flight.

And so, we have, for homeland defense, up until now relied primarily on one phase of flight, one layer of defense. That's the midcourse, right? Our ground-based -- our 44 ground-based interceptors intercept in the midcourse phase.

What we'd like to do is see if we can, sort of, squeeze some extra performance out of our SM-3 Block IIA missile, which is intended for regional defense to defend against medium- and intermediate-range systems and see if they can provide some -- some -- some additional protection, an additional layer, a lower layer of defense to complement the ground-based interceptor, right? And potentially, THAAD could do this, as well. But as you get to -- to these systems, the SM-3 Block IIA and THAAD, the defensive footprint starts to shrink. So, it's not -- it doesn't provide a -- as wide an area of protection as the GBI does, but it does complement it because you have different layers.

What's driving us to consider this more urgently now than in the past is the fact that the -- the -- the modernization of our ground-based interceptors has been delayed.

Originally, we were going to add an additional 20 ground-based interceptors in the middle of the next decade. But due to complications associated with the redesigned kill vehicle and the increase in the threat, the Department of Defense made a decision based on engineering and threat estimates to pursue a -- a next-generation interceptor, a more capable interceptor. In fact, this interceptor will be new from including -- include a new booster as well as a new warhead -- sorry, kill vehicle and it's truly going to be the next-generation system. And as a result of that, it's going to take a little more time. We're going to start introducing that system in 2028, right?

And so, the -- potentially there's a gap -- there's a risk, I should say, between 2025 when we had anticipated having the -- the additional 20 GBIs, and 2028.

So we don't know exactly what that gap is -- we don't know what the risk is because we know that North Korea is planning to increase the size of its ICBM capabilities, maybe even move to a submarine launched ballistic missile. But we don't know the extent of that.

So, in order to buy down some of that risk, we're going to look at whether or not the SM-3 IIA can perform this under-layer role. We'll conduct a test before the end of this calendar year, and if it works, then figure out some way to integrate it into our defense.

I'm not sure the -- the plans have been laid out, the concept of operation. But one could contemplate, because these are sea-based systems, the initial deployment would occur on ships, and the ships would have to be located in a particular position closer to the U.S. shore in order to provide that -- that layered defense.

Of course, this provides complications for the U.S. Navy that would want to have its -- its nuclear ships more forward-deployed to address conventional threats. And so, we'll have to work that out. But eventually, in addition to deploying the SM-3 IIA on ships, you could envision the system being deployed on -- on U.S. territory as well.

And again, we haven't thought completely through this. We need to figure out, first and foremost, whether or not this is going to work. And that's going to happen hopefully by the end of this year.

And if it does work, now, we have a capability to address the North Korean threat. I don't think this is going to pose a threat to -- to a large nuclear force such as Russia. Again, remember, Russia has, under New START, 1,550 warheads. We have 44 interceptors; we're going to add another 20 to get up to -- up to 64 ground-based interceptors.

And we'll have a number of SM-3 IIAs probably in -- I'm not sure what the total number is, but it's going to be in the low hundreds. And these are systems that are not just doing to be deployed for the United States but spread throughout the regions.

So, given the small numbers of GBIs and SM-3 IIAs in the underlay, this doesn't pose a threat to Russia. It will, however, help us deal with the North Korean threat, and that's why we're pursuing it.

MR. BIRKEY: I appreciate that.

There have been several rounds of talks between Russia and the United States to extend New START, but the two sides appear to be far apart on several key points. What are some of the issues that need to be addressed with an extension to New START, and how likely do you view progress in some of those areas?

DR. SOOFER: Thanks, Doug. I've had the privilege of joining Ambassador Billingslea, who's the special presidential envoy for arms control in -- on our talks with the Russians in Vienna. And I would characterize those talks as being very professional. We've sort of gotten beyond the talking points, we've had good exchange back and forth between the two sides.

And in addition to pursuing the arms control discussions per se, we're also delving into nuclear doctrine, nuclear policy, nuclear strategy, which of course influences your nuclear force structure, which could influence the way you think about arms control.

All very helpful, and I think we're making a lot of progress. In fact, I think this article by Major General Sterlin that I mentioned, which follows the Russian nuclear decree back in June, is potentially a response to -- to our discussions with the Russians. So, I think we're making progress in that sense.

MR. BIRKEY: I really appreciate that.

DR. SOOFER: But -- but let me -- let me talk more specifically about --

MR. BIRKEY: Yeah, yeah.

DR. SOOFER: -- New START extension because I think that there -- there is a -- a misperception, at least in some sectors of the press, that we're not -- that the Trump administration is not interested in an extension under any circumstances and we're just going through the motions.

Let me quote to you from our U.S. ambassador to Moscow, John Sullivan. He said, quote, "We are willing to contemplate the extension of the New START, but such an extension will only occur if we agree on a broader framework."

"Three things here: one, address concerns that we have with Russia's buildup of its unconstrained nuclear weapons, so-called nonstrategic nuclear weapons, which include short- and medium-range systems; second, strengthen the verification mechanism under the existing New START agreement; and three, enable China's future inclusion in nuclear arms control discussions and ultimately future arms control agreements."

So, there are some conditions that have been laid out for a possible New START extension. And whether and how Ambassador Billingslea will recommend to the president to pursue a New START extension will depend on how much progress we're making with Russia.

We have given them proposals during these meetings, and now we are waiting to see if Russia has the political will now to come talk to us about it.

MR. BIRKEY: Yeah, that's a really interesting perspective. Well, sir, thank you so much for taking time to share your insights with us today. On behalf of the Mitchell Institute, we wish you the very best in this era of ever-increasing challenges.

As a reminder to our listeners, our next Aerospace Nation event will be this coming Monday, September 8th, with Brigadier General Adrian Spain. General Spain is the director of Plans, Programs and Analyses, United States Air Forces in Europe, and the Air Forces-Africa.

Now, sir, we're going to open the session to questions from the audience, who have been listening to our conversation.

As a reminder to our listeners, you can participate in the Q&A by raising your hand on the menu device. When I call on you, before asking your questions, please unmute your mike and state your name and affiliation for our guest. You can also submit a question in writing using the Q&A function.

So, with that, let's see what's in Q&A here.

First one here from Joe Gould. Question on GBSD Minuteman III. "The Air Force planned to award the development contract for the GBSD program in August according to the F.Y. '21 budget request. So, first question, when will DOD announce the award and has COVID delayed it?"

"Two, if the Minuteman III won't be able to penetrate Russian and Chinese missile defenses, is there something they figured out about defeating a large number of ICBMs armed with penetration aids?"

DR. SOOFER: I believe that the award will be released before the end of the fiscal year, right? So, the fiscal year ends September 30th, so I don't think COVID has stopped that from happening, so that's the good news.

In terms of being able to penetrate Russian missile defenses and Chinese missile defenses, China -- and especially Russia, they -- again, and this sort of belies their criticism of the U.S. missile defenses. They have a -- a missile defense system of Moscow that consists now of about 68 nuclear-tipped interceptors. That's the extent of their homeland missile defense system.

They also have the S-400, they're building the S-500, which could have some capability against -- against, you know, short, medium-range systems. But -- and given the fact they only have 68 interceptors; this poses no threat whatsoever to U.S. retaliatory capabilities. So, for us, it's not a concern.

MR. BIRKEY: No, appreciate it.

We've got a question here from Rachel Cohen.

Q: Good morning. Thank you for doing this.

So, as the Air Force is drawing up its -- its new conventional and nuclear integration, sort of, strategy, I'm wondering if, you know, either you personally or you as -- as DOD believe that there should be new investment in maybe the Air Force's -- you know, its own version of a low-yield, sort of, tactical nuke or any other systems that aren't part of the nuclear modernization plan right now.

DR. SOOFER: Rachel, every morning after I have my cup of coffee, I give thanks that the Air Force is committed to GBSD, LRSO and providing the F-35 with a nuclear capability. But the Air Force is doing more than its fair share in this area. I don't think they need to do anything more.

Oh, and I forgot to mention the significant role in funding they provide for the nuclear command and control effort as well. And -- and, of course, the B-21.

MR. BIRKEY: Great.

We've got a question sent in by Tony Capaccio with Bloomberg.

The China report released yesterday implied that the PRC is modifying its no-first-use policy by putting some of its silo-based force on launch on warning. How significant is this apparent change? And realistically does the PRC pose a threat of using nuclear weapons against U.S. versus Russia?

DR. SOOFER: Well, again, I -- I don't -- I tend to ignore -- whether they have a no-first-use policy or not, I ignore. You've got to look at the forces, you've got to look at their strategy, you

look scenario for potential use in a regional conflict, and that's how we -- we evaluate the -- the Chinese nuclear threat and our -- the way we tailor our deterrence strategy against them.

The fact that they have a launch-on-warning approach bears some -- some consideration. We and the Russians have a launch-under-attack approach but, you know, we also target our ICBMs against an open ocean, right? It's not clear what the -- what the Chinese approach is.

Which is why, again, we need to get them to come back to the table and talk to us so we understand better their strategic doctrine and exactly what they mean by launch-under-attack or - or launch-on-warning.

It's an important consideration and we need to pay attention to it.

MR. BIRKEY: Good deal. I've got a question here from General Elder.

There's been interest expressed in having a multilateral nuclear arms control treaty with Russia, China, the U.K., and France. How might the U.S. go about reaching such an agreement?

DR. SOOFER: Right, well, that's our approach right now. We've made it -- the president's made it clear that there are -- there are three elements to this -- to this new framework for arms control.

One is we've got -- we've got to address all nuclear weapons, not just the ones that are limited under New START, by the strategic systems. But we've got to include the tactical nuclear weapons, what we call the unconstrained systems. They all have to be included.

Second is we have to have effective verification. There are ways that we can - there are things that we are purposing to the Russians to -- to help bolster some of the verification provisions under New START, but any -- any future agreement must also incorporate effective verification mechanisms.

And the third element of this new approach has been to -- to bring China into the discussions, right? China is growing its nuclear forces. China is -- is -- is -- and -- and -- and I think the reason they're growing their nuclear forces is because this is part of their approach to becoming a great power. They said quite openly that by 2049 they want to be top dog in the region, and if you're going to be a great power, nuclear weapons are a part of that. But they have to understand that if they build up their nuclear capabilities, this is going to impact Russian and U.S. nuclear forces. And at the end of the day they may be worse off by increasing the size of their nuclear forces if this precipitates a response or an increase by the U.S. and Russia.

And so the approach right now is -- is, let's talk to -- we're talking to Russia trying to reach some sort of an arrangement, some sort of a framework to include all nuclear warheads, improve our verification techniques, and then figure out how we would then bring China into these discussions and into an eventual agreement.

Now, it's possible that the Russians would want us to consider the -- the U.K. and the French forces in this as well, and I won't speak for our allies on this. But -- but that may -- you may

eventually see a much larger multilateral approach, as opposed to just the -- the three-way approach that we -- we think about it right now.

MR. BIRKEY: I appreciate that.

We've got a question here from Sun Hyung Kim from Radio Free Asia. He asks, "On IAEA's report released yesterday, it said there is no sign North Korea reprocessed spent fuel from its main react -- nuclear reactor and the plutonium in the past year, but it seems to have continued to enrich uranium. Is the U.S. government aware of the latest development in North Korea, and can you comment on the latest with the overall program?"

DR. SOOFER: I'm -- I'm only familiar with this in a very general sense, so I -- I would prefer not -- not to comment today on that.

MR. BIRKEY: Yeah, no problem. Got a question here from our very own Peter Huessy. He compliments your presentation. And when you look at the present nuclear consensus, do you see any possible fissures on that in the future and -- and any dangers there?

DR. SOOFER: Yeah. So, there's always dangers, right? And it's -- it -- it's -- it -- it's politics. It comes -- it comes down to politics. Again, I -- I think there's a solid consensus on the -- on the -- on the deterrence logic that underpins our nuclear strategy that requires a nuclear triad. That -- that -- that is clear. It is clear by -- it was made clear by President Obama, and it's been made clear by President Trump. And so that consensus should -- should hold.

Now, what's going to happens, though, is as we start moving from -- from the -- the conceptual stages and the engineering stages to actually bending metal and procuring submarines and -- and -- and ICBMs and -- and bombers, the budget is going to go up, right? The share of the DOD budget will go up. Right now, we spend -- we commit about three, three and a half percent of the DOD budget to the nuclear enterprise. At the peak of our modernization we're going to probably add another three and a half percent. That's still only about seven percent of the DOD budget. But this is going to put a lot of pressure on the services, no doubt -- the Navy, the Air Force, and we -- we -- we are going to have to figure out how -- how to deal with that. And these budget pressures create their own dynamics. This is the politics within the building, right?

Then there's the politics on Capitol Hill. As these numbers tend to go up, there's more opportunity for -- for those that take a simpler approach to deterrence, as opposed to complex, to argue, "Well, we can't afford this. We don't need the ICBM leg, you know, we're going to modernize -- let's -- let's take care of the -- the -- the submarine first, maybe do the bomber, and then push the -- the ground-based system out -- out to the side."

So that -- that's always going to be a pressure, and I don't foresee that occurring under a Trump administration over the next four years, but if there were to be a new administration, depending on who our -- who -- who -- who will -- who is appointed in a position of authority to make these decisions, you may have these -- these types of discussions.

But again, that core, that fundamental consensus to go forward with the triad and the -- and -- and the -- including the LRSO and the F-35, I think it's -- I think it's solid. I think it's there. Where the arguments are going to occur are probably on things like no first use, whether to -- to go forward with the nuclear sea-launched cruise missile. But at -- at the end of the day I say to my good friend Peter that thanks to -- to his efforts, to the Mitchell Institute, to helping to inform people about what's going on --

You -- you know, when I -- when I give my -- my little elevator speech to a member of Congress, it's, look, the reason that -- that we -- that we need to modernize the -- our nuclear policy is it's sensible, it's reasonable, and it's affordable. It's sensible because it's -- it's a response to the strategic environment. We -- we know that Russia is modernizing its capabilities. You just -- you've seen the report on China. They are -- they are growing their nuclear forces. So, this is just a sensible response to -- to the strategic environment.

It's reasonable because all we're doing, essentially, really, is just recapitalizing what we've had in the past. The only new capabilities are the -- the W76-2 warhead, which again, was just a modest modification of the existing 76 warhead, and the nuclear sea-launched cruise missile. So, it's actually a very reasonable response. We're -- we're not precipitating an arms race.

And finally, it is affordable. I just pointed out that at the height, this will be seven percent of the defense budget, so I think that's -- that's affordable, and that -- that's -- that's only over a certain number of years, and then we return back down to -- to our normal funding of about three to three and a half percent. So, it's sensible, it's reasonable, and it's affordable.

MR. BIRKEY: Yeah. We've got time for one more, and we'll -- we'll pick on Dan Leone with The Exchange Monitor. He's asking, "When was the last time DOE briefed DOD about the effect of COVID-19 response on the B61-12 and the W88 Alt 370 programs? Is DOD confident that these refurbishments will be done in time to meet the IOC for both weapons?"

DR. SOOFER: This -- this is something that the Nuclear Weapons Council tracks very carefully. Under Secretary Lord chairs the -- chairs the council, and her staff have paid particular attention to this. I regret to say that -- that I have not attended those meetings because -- because of my other duties, but I do know that they're tracking this very carefully, and I -- I don't believe that there have been any COVID-related implications to the life extension programs.

MR. BIRKEY: Well, sir, we've come to the end of this Nuclear Deterrence Forum session. We thank you very, very much for your time today, and we thank our audience for attending. And from all of us here at the Mitchell Institute, have a great Aerospace Day.

DR. SOOFER: Thank you, Doug. I appreciate it.

MR. BIRKEY: Sir, and thank you so much, and we look forward to seeing you again soon.

DR. SOOFER: All right. Bye-bye.

MR. BIRKEY: Take care.

## Putin Says New Russian Weapons Are Unique



Putin Says Russia  
Producing Unique \

### Conference News and Links

#### Task Force 21-Minot (TF-21)

Task Force 21-Minot (TF-21) is an activity of the Minot Chamber of Commerce that educates the local community, North Dakota officials, members of Congress and the public on national security issues, particularly ones that affect Minot Air Force Base, the U.S. Air Force, and our nuclear deterrent. This is the ninth Triad conference that TF-21 has hosted in association with Peter Huessy/Geo-Strategic Analysis since September 2012.

#### Agenda

**Tuesday, September 22, 2020**

#### Live Events

##### Time

##### Event

09:05-09:15

Introduction by [Peter Huessy](#) and [Mark Jantzer](#)

09:15-09:45 EDT

[Senator Kevin Cramer](#), (R-ND), Member of the Senate Armed Services Committee:

**Congressional Perspective on Strategic Nuclear Modernization, GBSD, B-21, and NC3**

09:50-11:00 EDT

(pre-recorded)

[General John Hyten](#), Vice Chairman of the Joint Chiefs of Staff **The Importance of Nuclear Modernization**

(Moderated by [Peter Huessy](#), [John MacMartin](#), [Mark Jantzer](#))

11:00-11:30 EDT

[Senator John Hoeven](#), (R-ND), Member of the Appropriations Committee: **A View from Appropriations**

11:30 EDT

Closing Remarks - by [Peter Huessy](#) and [John MacMartin](#)

## On Demand Events

### **The Strategic Environment: The Current Russian Challenge: New Start, and the Russia and China Nuclear Threat**

- [Tim Morrison](#), Senior National Security Fellow, Hudson Institute (Moderated by [Peter Huessy](#))
- Your browser does not support the video tag.

### **The Importance of Nuclear Modernization**

- [General John Hyten](#), Vice Chairman of the Joint Chiefs of Staff
- (Moderated by [Peter Huessy](#), [John MacMartin](#), [Mark Jantzer](#))
- [need video]

### **Russian Nuclear Forces: Is There a Strategy of Escalate to Win?**

- [Dr. Stephen J. Blank](#), Senior Fellow at Foreign Policy Research Institute's Eurasia Program
  - [Dr. Mark Schneider](#) is a Senior Analyst with the National Institute for Public Policy
- (Moderated by [Peter Huessy](#))

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### **Are Nuclear Weapons a Hegemonic Tool in Chinese Security Policy?**

- [Joseph Bosco](#), Fellow at the Institute for Core America Studies (ICAS) and the Institute for Taiwan-America Studies (ITAS)
- [Rick Fisher](#), Senior Fellow with the International Assessment and Strategy Center (Moderated by [Peter Huessy](#))

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### **Getting Nuclear Deterrence and Modernization Right**

- [Drew Walter](#), PTDO Deputy Assistant Secretary of Defense for Nuclear Matters (Moderated by [Mark Jantzer](#))

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### **Toward Theories of Victory, Red and Blue**

- [Dr. Brad Roberts](#), Director, Center for Global Security Research (Moderated by [Peter Huessy](#))
- Your browser does not support the video tag.

### **The Cost of Nuclear Modernization in Perspective**

- [Dr. Michaela Dodge](#), Research Scholar at the National Institute for Public Policy (Moderated by [John MacMartin](#))

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### **The Nature of Nuclear Deterrence**

- [Honorable Frank Miller](#), Principal, The Scowcroft Group (Moderated by [Mark Jantzer](#))

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### **Nuclear Deterrent Strategy, NC3 and Major Power Competition**

- [Maj Gen Bill Chambers](#), USAF, retired, Institute for Defense Analysis (Moderated by [John MacMartin](#))

## UPDATED NUCLEAR DEPLOYMENTS AND RUSSIAN CURRENT AND FUTURE OPTIONS



Russia New START  
2020 SNF options.ppt

It is important to note that while Russian ICBM/SLBM's potentially can carry large numbers of RV's, they would be lighter and lower yield--however, with their improved accuracy the 100-150 kt Bulava/Yars can inflict the same effects as a higher yield, less accurate WH--and the trend is to high accuracy and lower yields to reduce collateral damage and provide greater pol/mil utility. Also, the Yars was tested w/6 RV's although it currently carries only 4--but potentially could carry 7-10; the Yars-M carries 2-3 individually targeted WH (possibly MaRV's) and the Yars-S carries 3 larger yield WH. These charts illustrate Russian forces under New Start can breakout to nearly 4500 strategic nuclear weapons.

## **Russian SNF 2020 Force Structure Options**

This analysis was based on using the Bulletin of Atomic Scientist Russian Nuclear Forces 2020 (Kristensen & Korda) --I used their base line SNDV numbers, as well as their standard WH loading (2578) and their suggested WH off-loading which reduced total WH to 2094, but only 1574 w/o bomber WH to stay within New START limits. I then illustrated the number of WH Russia could have if they deployed the maximum number of WH (Bulava class 90 kg/150 kt WH) their IC/SLBM missile systems are capable of carrying (4428).

But beyond 2020 the US is facing continued Votinsk production of ~40 IC/SL/year; replacement of the SS-18 by 2024-27 with Sarmat (and maybe 120-200 missiles, not 46!); five more Borei SSBN by 2027; 50 more Tu-160 bombers, and a unknown number of PAK-DA stealth bombers; deployment of long range cruise/hypersonic missiles that give theater air/sea systems strategic capabilities and other odds and ends like the Poseidon nuclear torpedo and a nuclear powered CM.

## New START or no New START, the Russian Federation SNF modernization program has advanced qualitatively AND quantitatively while also increasing its breakout capability.

- While the US delayed its SNF modernization and focused on reductions, the Russians continued their modernization & force expansion beyond New START limitations requiring a significant RV download to stay within New START limits, which provided a large upload breakout capability. Instead of producing IC/SLBM's at a rate to match retirement of old systems, Russia has produced new IC/SLBM's far in excess of retirement rate requiring significant download to meet New START limitations.  
(FAS assumed SS-18 downloaded from 10 RV to 6 RV; SS-27 Mod 2 (Yars) from 4 to 3; and Bulava from 6 to 4 for a total of ~ 500 RV's downloaded to stay within New START limits.
- The Russians also added new and exotic strategic nuclear delivery systems, some of which circumvent New START (Poseidon nuclear powered 100 MT torpedo and Barsevstnik nuclear powered cruise missile)
- Russian choice of weapons also favor systems with reload capability.(Rapid reload ICBM silos and mobile ICBM launchers)
- The Russians have again emphasized "Gray Area" regional air/sea systems that can be exploited to strategic range. (Kinzal ALBM, sub launched nuclear LACM and loading long range CM on Tu-22M3)

**Table 1. Russian nuclear forces, 2020. Bulletin of the Atomic Scientists, 76:2, 102-117**

Type/name	Russian designation	Launchers	Year deployed	Warheads x yield (kilotons)	Total warheads
<b>Strategic offensive weapons</b>					
<b>ICBMs</b>					
SS-18 M6 Satan	RS-20V	46	1988	10 x 500/800 (MIRV)	460 <sup>a</sup>
SS-19 M3 Stiletto	RS-18 (UR-100NUTTH)	0	1980	6 x 400 (MIRV)	0 <sup>b</sup>
SS-19 M4	? (Avangard)	2	2019	1 x HGV	2
SS-25 Sickle	RS-12M (Topol)	36	1988	1 x 800	36
SS-27 Mod 1 (mobile)	RS-12M1 (Topol-M)	18	2006	1 x 800?	18
SS-27 Mod 1 (silo)	RS-12M2 (Topol-M)	60	1997	1 x 800	60
SS-27 Mod 2 (mobile)	RS-24 (Yars)	126	2010	4 x 100? (MIRV)	504 <sup>c</sup>
SS-27 Mod 2 (silo)	RS-24 (Yars)	14	2014	4 x 100? (MIRV)	56
SS-X-28 (mobile)	RS-26 (Yars-M)	-	-	4 x 100? (MIRV)	-
SS-X-29 (silo)	RS-28 (Sarmat)	-	(2020)	10 x 500? (MIRV)	-
<b>Subtotal</b>			<b>302</b>		<b>1136<sup>d</sup></b>
<b>SLBMs</b>					
SS-N-18 M1 Stingray	RSM-50	1/16	1978	3 x 50 (MIRV)	48 <sup>e</sup>
SS-N-23 M1	RSM-54 (Sineva)	6/96	2007	4 x 100 (MIRV) <sup>f</sup>	384 <sup>g</sup>
SS-N-32	RSM-56 (Bulava)	3/48	2014	6 x 100 (MIRV)	288 <sup>h</sup>
<b>Subtotal</b>			<b>10/160<sup>i</sup></b>		<b>720<sup>j</sup></b>
<b>Bombers/weapons</b>					
Bear-H	Tu-95 MS	21/30	1984	6-16 x AS-15A ALCMs	196
Bear-H Mod	Tu-95 MSM	18/20	2015	14 x AS-23B ALCMs	252
Blackjack	Tu-160	11/13	1987	12 x AS-15B ALCMs, or AS-23B, bombs	132
<b>Subtotal</b>			<b>50/68<sup>k</sup></b>		<b>580<sup>l</sup></b>
<b>Subtotal strategic offensive forces</b>			<b>530<sup>m</sup></b>		<b>~2,436<sup>n</sup></b>

Used as the baseline for the analysis—data as of early 2020, pub 9 Mar 2020

## Russian SNF 2020 Force Structure Options

		BAS Standard WH		BAS WH Down-loaded		Maximum WH	
System	SNDV	WH/SNDV	WH Total	WH/SNDV	WH Total	WH/SNDV	WH Total
ICBM: SS-18 M6	46	10	460	6	276	10	460
SS-25	36	1	36	1	36	1	36
SS-27 M1 Mobile	18	1	18	1	18	6	108
SS-27 M1 silo	60	1	60	1	60	6	360
SS-27 M2 mobile (Yars)	126	4	504	3	378	6	756
SS-27 M2 silo (Yars)	14	4	56	3	42	6	84
Sub-total	300		1134		810		1804
		BAS Standard WH		BAS WH Down-loaded		Maximum WH	
System	SNDV	WH/SNDV	WH Total	WH/SNDV	WH Total	WH/SNDV	WH Total
SLBM							
SS-N-23 M1 (Delta IV)	6/96	4	384	4	384	10	960
SS-N-32 (Borei/Bulava)	5/80	6	480	4	320	10	800
Sub-total	11/176		864		704		1760

Bulletin of the Atomic Scientists, 76:2, 102-117, To link to this article:  
<https://doi.org/10.1080/00963402.2020.1728985> Accessed August 2020

## Russian SNF 2020 Force Structure Options (cont)

		BAS Standard WH		BAS WH Down-loaded		Maximum WH	
System	SNDV	WH/SNDV	WH Total	WH/SNDV	WH Total	WH/SNDV	WH Total
Bombers							
Bear-H	30	6-16	196	6-16	196	16	480
Bear-H Mod	20	14	252	14	252	14	252
Blackjack	13	12	132	12	132	12	132
Sub-total	63		580		580		864
Grand total	539		2578		2094		4428

For comparison of FAS data to official US New START data

Category of Data (DoS New START Aggregate Numbers of SOF--1 Sept 2019)	USA	RF	FAS RF Data
Deployed ICBMs, Deployed SLBMs, and Deployed Heavy Bombers	668	513	530
Warheads on Deployed ICBMs, on Deployed SLBMs and Nuclear Warheads Counted for deployed Heavy Bombers	1376	1426	1574
Deployed and Non-deployed Launchers of ICBMs, Deployed and Non-deployed Launchers of SLBMs, and Deployed and Non-deployed Heavy bombers	800	757	770

NOTE: The Grand Total for the BAS WH Downloaded would only be 1574 (2094 – 520 = 1574) when bombers are counted as one to meet New START limits, and also there would be 1-2 SSBN in maintenance and not counted.

## Notes on Russian SNF 2020 Force Structure Options

- 1) SS-18 M6 will be replaced with RS-28 Sarmat on a one-for-one basis starting in 2021/2022. Sarmat will carry 15 medium (350 kt?) or 10 heavy (800 kt?) RV's, or could carry ~50 light RV's (90 kg/100 kt WH) (Sarmat has a 9,000 kg payload—1/2 PBV leaves 4,500 kg payload divided by 90 kg = 50 RV's) and likely will carry MaRV's as the reported CEP is 10 meters. If Russia produces the reported 20 regiments of Sarmat (6 or 9 Sarmat/Regiment = 120-200 missiles), that will be a major force expansion. Or if by 20 regiments they mean all ICBM regiments, it would require all Topol/Topol-M regiments to be retired.

The sarmat complex is scheduled to be completed in 2021 - Russian National Defense Management Center

24.12.2019 15:24:25

From 2020 to 2027, it is planned to rearm the "Sarmats" and put on combat duty 20 missile regiments. Moscow, December 24. INTERFAX – Russian President Vladimir Putin, during an inspection of an exhibition of advanced weapons and technology at the National Defense Control Center of the Russian Federation, reported that the tests of the new intercontinental ballistic missile "Sarmat" are scheduled to be completed in 2021. Putin was told that work was continuing on the development of the Sarmat missile system with a heavy-range intercontinental ballistic missile with improved performance. The possibility of Sarmat's suborbital flight to a range of 35,000 kilometers "will allow to cover the entire range of missile systems within the Globe," the center said. "The tests of the complex are planned to be completed in 2021," the president said. Putin was also told that "between 2020 and 2027, it is planned to rearm and put 20 missile regiments on alert." "That will allow in 2024 to achieve the full equipping of the group of ground strategic nuclear forces with modern nuclear and missile weapons," - reported to the president.

- 2) I did not include the SS-19 M3 as BAS did not count their WH (20 missiles X 6 WH = 120 WH) or the SS-19 M4 with Avangard as it did not add to the issue.
- 3) The SS-27 M1 has been tested with multiple WH and could be uploaded to 6+ RV's. NOTE: WH uploads will result in range penalty.
- 4) The SS-27 M2 (Yars) could be uploaded from 4 to 6+ WH—or up to 7-10 of the 90 kg/100 kt WH used by Bulava.

## Notes on Russian SNF 2020 Force Structure Options (con't)

- 5) Votinsk produces ~40 IC/SL each year—after Votinsk reaches the 400 IC/SL ordered by Putin by 2022 it will likely produce another 100-200 for Operational Test & Evaluation (OTE) missiles or produce an advanced variant to replace the existing IC/SL as they age out (~20-30 year missile operational life). Votinsk likely has produced ~ 320 IC/SL to date (Jul 2020) but only 140 IC and 64-80 SL's have been deployed, which means that ~ 100 missiles are in storage or they may be the covert mobile ICBM force Mark has mentioned based on Gen Karakeyev's numerous comments that he had "a force of 400 ICBM's"
- 6) I did not count the one SS-N-18 (Delta III) as it will likely retire this year
- 7) I added two Borei SSBN as one was commissioned 12 Jun 2020 and one was launched 16 July 2020 (launchers and missile are New START countable upon SSBN launch). It will take 1-2 years for sea trials before it is accepted. Five additional Borei SSBN are under construction and are expected to be commissioned by 2027. That will add an additional 480-800 WH. Russia will then have 10 Borei SSBN and 6 Delta IV SSBN.
- 8) Bear and Blackjack bombers are being modernized and will stay in service until at least 2040. Putin has ordered another 50 Blackjack bombers to be built (IOC~2021?), as well as an unknown number of PAK-DA stealth bombers (IOC ~ 2027?)
- 9) The modernized 60 Tu-22M3 bombers remain in service and can carry long range CM (Kh-101/102) or the Kinzal ALBM. 30 Tu-22M3 will be further modernized to the Tu-22M3M standard.

# Potential Russian New START Breakout/Evasion Options

- Production of ICBM's in excess of deployed missiles for OT&E can also be rapidly deployed, greatly increasing SNF force structure. New START does not limit the number of non-deployed ICBMs and SLBMs, but it does monitor them and provide for continuous information on their locations and on-site inspections to confirm that they are not added to the deployed force. Non-deployed missiles must be located at specified facilities away from deployment sites and labeled with "unique identifiers" to reduce concerns about hidden missile stocks. US has 265 MM III and 234 Trident D5 in storage—Russian numbers/locations are not published. As Russia can produce 1000-3000 nuclear WH/year, WH are not a limiting factor—but the US does not have WH for their stored missiles.
- Russian nuclear modernization includes potential options to reload ballistic missiles and augment Heavy Bombers and has continued to emphasize deployment of cold-launch and mobile systems that are the most suitable for evasion/breakout options.

Potential breakout/evasion options are:

- 1) Rapid silo reload— Russian ICBM's have historically had reload capabilities and Russia has a history of exercising reloading. US Has no equipment, policy or capabilities
- 2) Reload mobile missile launchers (Or have a covert mobile missile force?)—US has no mobile ICBM's.
- 3) Air-launch IC/IR/MRBM's—US has no extra WH beyond current provisions for uploading existing IC/SLBM's.
- 4) Russia has modernized the Tu-22M3, and can arm it with with Kinzal (other?) ALBM's (evasion) or Kh-102 long-range nuclear cruise missile (breakout)

## Evasion Option 2: Reload Mobile Missile Launchers

- Mobile missile launchers can be reloaded and fired—e.g. SS-25/27/Yars mobile launchers that have been fired and reloaded. In Afghanistan, some of the Scud launchers have been fired 100's of times.
- Russia has transporter-loaders—but no public information on their capabilities to reload ICBM's in the field. Each regiment has a maintenance facility which may be able to off-load/reload but these will be destroyed in an attack.
- KB Motor has developed a new system to transport ICBM's from production/storage facilities to ICBM bases. It is based on the K78504 tractor and 15T528 transporter-loader trailer.



# Evasion Option 1: Rapid ICBM Silo Reload Option

- Both Sarmat and Yars are cold launched.
- Russian ICBM's have historically had reload capabilities and Russia has a history of exercising reloading. Soviet 1980 5 day exercise of reloading 25-40 SS-18 silo's alarmed US
  - Proved Soviet ICBM force rapid reload procedures and physical and logistical capabilities. Russian modern transporter/loaders can improve on past performance
  - "Reload of cold launch would only take a matter of hours" (US targeted potential reload silos).
- ICBM's can also launch from gantries from pre-surveyed sites—e.g. US erected and launched a MM ICBM from a transporter trailer on a concrete pad—was both a test and a message
- US has no rapid silo reload option. US requires ~2 weeks to re-furbish an ICBM silo and have it ready to fire (Vandenberg Test Site)



## Evasion option 3: Air Launch of IC/SLBM's is Feasible, Cost-Effective and Not Prohibited Under New START



The IL-76 has a cargo hold width of 3.45 meters, and the IC/SL missiles have a ~2 meter diameter, so only one could be carried. However on an operational scenario 10 IL-76's could launch 100 missiles (400-600+ WH) over a 10 hour period, assuming a one hour turn-around which should be achievable. (Russia has over 100 IL-76). This may actually be a cost-effective basing option. IL-76's could be tasked as required as they should not require any modifications. All that would be needed would be to have a "plug-in" operator weapon console (C3 pallet w/ALE/ALSE). Missiles could be stored in tunnels/bunkers. There are 270 airports in Russia, and the IL-76 has a unpaved runway capability—that provides a lot of survivable basing/operational options - highly cost effective – no dedicated launchers and greatly reduced manpower requirements.

- 24 Oct 1974 a US C-5 Galaxy successfully launched a MMIII ICBM (86,000 lb) @ 30-35,000 ft
- Russia had a AN-120 air launch concept
- 2007 AirLaunch LLC conducted 3 successful drop tests of a ICBM class booster (72,000 lb, 66 ft long, 7 ft dia.) from a C-17 as part of a DARPA/USAF Small Launch Vehicle program. Nine contractors conducted design feasibility studies and developed hardware. Purpose was to put small satellites (1000 lb) into LEO (1000 lb into LEO ~ = 2000 lb at intercontinental range) within 24 hrs for \$5M
- 8 May 2013 using a Extended Long Range Air Launched Target (E-LRAT, MRBM class) dropped from a C-17 as a target vehicle for a BMD test. MDA now commonly air-drops MR/IR targets for testing.

For air-launch IC/SLBM need:

- 1) Carriage extraction system (CES)—provides the capability for transport, aircraft loading, pre-launch testing and deployment (extraction and descent)
- 2) Command, Control and Communications (C3) Pallet which provides mission situational awareness and communications support
- 3) Air Launch Equipment and Air Launch Support Equipment for operation and support
- 4) Common Test Set and Mechanical Ground Support Equipment for ground operations

A cargo aircraft (with no modifications) could carry and launch 1 IC/SLBM—Russia may have ~200-400 IC/SL in storage for OT&E, as well as extra RV's. Could use to reinforce initial strikes, and/or sustain a campaign.

**Evasion Option 4: Air-Launched Ballistic Missiles are not Covered by New START and Enable the Tu-22M3 Backfire bomber to become a Strategic Attack Asset – And they can be Re-Fueled In-Flight**

- Tu-22M3 IOC was 1977, and 268 built until 1993.
- Current Tu-22M3 Backfire-C fleet strength is 60 and 30 will be upgraded to Tu-22M3M (Additional may be in storage).
- Average age ~ 30—Tu-22M3M could stay in service until ~ 2040?
- W/O re-fueling, Backfire bombers armed with Kinzal hypersonic missile (4) can cover the US—re-fueling probes reportedly stored at bases.
- Russia can rapidly develop other MR/IRBM ALBM missile options to arm Backfires, providing greater stand-off and eliminating re-fueling requirement

- Backfires w/ALCM could be declared as heavy bombers and counted as one launcher/WH or employed as a breakout capability
- Can carry 4 Kh-101/102 (2500 km + range?)  
-- 4 CM X 60 Backfires = 240 WH



**Appropriations Committee News: Rep. Debbie Wasserman Schultz ramped up her bid for House Appropriations chair on Tuesday with a plan to bring back earmarks, boost transparency and scrutinize the intelligence community's budget requests.**

It's the latest move by the Florida Democrat to gain an edge over her two more senior opponents, Reps. [Marcy Kaptur](#) (D-Ohio) and [Rosa DeLauro](#) (D-Conn.). The proposal also follows an endorsement from Reps. [Alcee Hastings](#) (D-Fla.) and [Emanuel Cleaver](#) (D-Mo.) — two senior members of the Congressional Black Caucus, which typically honors the seniority system when it comes to leadership elections.

**What would the plan do?** Wasserman Schultz wants to bring back earmarks that would allow members to secure cash for some pet projects at home, while instituting new transparency requirements to contend with past abuse that made them politically taboo.

That could include banning earmarks from flowing to for-profit entities, establishing an online, searchable database for earmarked spending, and directing federal watchdogs to investigate earmarks for waste, fraud, and abuse.

Wasserman Schultz also wants to reinstate a panel to scrutinize the so-called black budget for classified intelligence activities and covert operations, arguing that the Trump administration's disregard of congressional spending power has rendered it necessary.

She wants to hold appropriations training workshops for members, in addition to forming an advisory panel of different factions within the Democratic Caucus that could provide a range of perspectives on annual spending bills.

**Key context:** Wasserman Schultz has already proposed creating an advisory panel to prioritize equity, justice, and diversity throughout the appropriations process.

Her proposal to bring back a revamped system of earmarks also isn't new — House Democrats considered the idea early this year, then decided to deal with it at a later date.

All three candidates are campaigning more in the public eye after more than a year of behind-the-scenes networking, releasing Dear Colleague letters of support to the rest of the caucus. DeLauro has also released a reform plan that includes boosting transparency and targeting more funds at underserved communities, while educating new members about how the process works and holding retreats for appropriators to hear from experts on a variety of issues.

Wasserman Schultz, the chair of the Military Construction subcommittee, has been unexpectedly aggressive in her bid against Energy-Water Chair Kaptur — the most senior person on the committee — and Labor-HHS-Education Chair DeLauro, a key ally of House Speaker Nancy Pelosi.

## TRIAD SYMPOSIUM LINKS AND DETAILS SEPTEMBER 22, 2020

LINK HERE:

<https://taskforce21.com/Taskforce 21 | Minot Chamber>

**Taskforce 21 | Minot Chamber**

### Task Force 21

WELCOME TO THE TASK FORCE 21

VIRTUAL SYMPOSIUM



# Task Force 21-Minot (TF-21)

Task Force 21-Minot (TF-21) is an activity of the Minot Chamber of Commerce that educates the local community, North Dakota officials, members of Congress and the public on national security issues, particularly ones that affect Minot Air Force Base, the U.S. Air Force, and our nuclear deterrent. This is the ninth Triad conference that TF-21 has hosted in association with Peter Huessy/Geo-Strategic Analysis since September 2012.

## Agenda

**Tuesday, September 22, 2020**

*Live Events*

**Time**

**Event**

09:05-09:15

Introduction by [Peter Huessy](#) and [Mark Jantzer](#)

09:15-09:45 EDT

[Senator Kevin Cramer](#), (R-ND), Member of the Senate Armed Services Committee:  
**Congressional Perspective on Strategic Nuclear Modernization, GBSD, B-21, and NC3**

09:50-11:00 EDT

(pre-recorded)

[General John Hyten](#), Vice Chairman of the Joint Chiefs of Staff **The Importance of Nuclear Modernization**

(Moderated by [Peter Huessy](#), [John MacMartin](#), [Mark Jantzer](#))

11:00-11:30 EDT

[Senator John Hoeven](#), (R-ND), Member of the Appropriations Committee: **A View from Appropriations**

11:30 EDT

Closing Remarks - by [Peter Huessy](#) and [John MacMartin](#)

### *On Demand Events*

#### **The Strategic Environment: The Current Russian Challenge: New Start, and the Russia and China Nuclear Threat**

- Tim Morrison, Senior National Security Fellow, Hudson Institute (Moderated by Peter Huessy)

#### **The Importance of Nuclear Modernization**

- General John Hyten, Vice Chairman of the Joint Chiefs of Staff  
(Moderated by Peter Huessy, John MacMartin, Mark Jantzer)

#### **Russian Nuclear Forces: Is There a Strategy of Escalate to Win?**

- Dr. Stephen J. Blank, Senior Fellow at Foreign Policy Research Institute's Eurasia Program

- Dr. Mark Schneider is a Senior Analyst with the National Institute for Public Policy  
(Moderated by Peter Huessy)

#### **Are Nuclear Weapons a Hegemonic Tool in Chinese Security Policy?**

- Joseph Bosco, Fellow at the Institute for Corea-America Studies (ICAS) and the Institute for Taiwan-America Studies (ITAS)

- Rick Fisher, Senior Fellow with the International Assessment and Strategy Center  
(Moderated by Peter Huessy)

#### **Getting Nuclear Deterrence and Modernization Right**

- Drew Walter, PTDO Deputy Assistant Secretary of Defense for Nuclear Matters  
(Moderated by Mark Jantzer)

#### **Toward Theories of Victory, Red and Blue**

- Dr. Brad Roberts, Director, Center for Global Security Research (Moderated by Peter Huessy)

#### **The Cost of Nuclear Modernization in Perspective**

- Dr. Michaela Dodge, Research Scholar at the National Institute for Public Policy  
(Moderated by John MacMartin)

#### **The Nature of Nuclear Deterrence**

- Honorable Frank Miller, Principal, The Scowcroft Group (Moderated by Mark Jantzer)

#### **Nuclear Deterrent Strategy, NC3 and Major Power Competition**

- Maj Gen Bill Chambers, USAF, retired, Institute for Defense Analysis (Moderated by

John MacMartin)

## Speaker Bios

*Dr. Stephen J. Blank*



Dr. Stephen J. Blank is Senior Fellow at Foreign Policy Research Institute's (FPRI's) Eurasia Program. He has published over 900 articles and monographs on Soviet/Russian, U.S., Asian, and European military and foreign policies, testified frequently before Congress on Russia, China, and Central Asia, consulted for the Central Intelligence Agency, major think tanks and foundations, chaired major international conferences in the U.S. and in Florence; Prague; and London, and has been a commentator on foreign affairs in the media in the U.S. and abroad. He has also advised major corporations on investing in Russia. He has published or edited 15 books.

*Joseph Bosco*



Joseph Bosco served as China Country Desk Officer in the Office of the Secretary of Defense (2005-2006) and Director of Asia-Pacific Disaster Relief and Humanitarian Affairs (2008-2010).

He is presently a Fellow at the Institute for Corea-America Studies (ICAS) and the Institute for Taiwan-America Studies (ITAS). He was formerly a nonresident Senior Associate at the Center for Strategic and International Studies and a nonresident Senior Fellow in the Asia-Pacific program at the Atlantic Council and part of its international observer delegation during Taiwan's historic 2000 presidential election.

He earned his A.B. cum laude at Harvard College and his L.L.B. at Harvard Law School, where his third-year paper on U.S. policy in Vietnam was selected as an honors paper. He obtained his L.L.M. in International and National Security Law at Georgetown Law Center, where his honors paper focused on the international law implications of the 1995-1996 missile crises across the Taiwan Strait.

*Major General William A. Chambers, USAF (retired)*



Major General William A. Chambers, USAF (retired) served in uniform for 35 years, culminating in duty as the Assistant Chief of Staff for Strategic Deterrence and Nuclear Integration, Headquarters U. S. Air Force, Washington D.C. In that role, he directed the policy, planning, advocacy, and assessment for Air Force nuclear weapon systems.

Since retirement from active duty in 2013, he has been employed by the Institute for Defense Analyses (IDA), a Federally-funded Research and Development Center, which provides studies for the Department of Defense on a full range of national security issues. At IDA, he leads research teams focused on nuclear weapons policy and strategy as well as strategic force structure modernization and Nuclear Enterprise infrastructure; his team recently provided analysis that fulfilled a statutory requirement to examine the issue of presidential decision-making regarding nuclear weapons. He also led analysis efforts that informed the 2018 Nuclear Posture Review and its ongoing implementation.

General Chambers was a master navigator and weapon systems officer; his operational experience included tours in Strategic Air Command flying the KC-135A and FB-111A. He served as a nuclear policy planner on the Joint Staff and as deputy executive assistant to the Chairman of the Joint Chiefs of Staff. He commanded the 11th Wing at Bolling Air Force Base, Washington, DC. He has also served in a variety of leadership roles in the Pentagon and in overseas commands. General Chambers served as Deputy Commanding General, Combined Forces Command-Afghanistan in Kabul during 2006-2007. From 2008-2010 he served as Director of Air and Space Operations and then as Vice Commander, U.S. Air Forces in Europe.

*U.S. Senator Kevin Cramer*



Senator Kevin Cramer was elected to the United States Senate on November 6, 2018 after serving three terms as North Dakota's At-Large Member of the United States House of Representatives. He is the first Republican to hold this Senate seat in his lifetime. He serves on the Armed Services, Environment and Public Works, Veterans Affairs, Banking, Housing and Urban Affairs and Budget Committees.

Cramer has had a distinguished career in public service. In 2003, then-Governor John Hoeven appointed Cramer to the Public Service Commission, and in 2004 he was elected to the position. As a North Dakota Public Service Commissioner, Cramer helped oversee the most dynamic economy in the nation. He worked to ensure North Dakotans enjoy some of the lowest utility rates in the United States, enhancing their competitive position in the global marketplace. An energy policy expert, Cramer understands America's energy security is integral to national and economic security.

Cramer has a Bachelor of Arts degree from Concordia College in Moorhead, Minnesota, a Master's degree in Management from the University of Mary in Bismarck, North Dakota, and was conferred the degree of Doctor of Leadership, honoris causa, by the University of Mary on May 4, 2013.

*Dr. Michaela Dodge*



Dr. Michaela Dodge is a Research Scholar at the National Institute for Public Policy. Prior to joining the National Institute, Dr. Dodge worked at The Heritage Foundation from 2010-2019. She left Heritage to serve as Senator Jon Kyl's Senior Defense Policy Advisor between October to December 2018. Her last position at Heritage was a Research Fellow for Missile Defense and Nuclear Deterrence.

Dr. Dodge's work focuses on U.S. nuclear weapons and missile defense policy, nuclear forces modernization, deterrence and assurance, and arms control. Additionally, she was a Publius Fellow at the Claremont Institute in 2011 and participated in the Center for Strategic and International Studies PONI Nuclear Scholars Initiative Program.

Dr. Dodge received a Ph.D. from George Mason University in 2019. She earned her Master of Science in Defense and Strategic Studies degree from Missouri State University in 2011. At Missouri State, Dr. Dodge was awarded the Ulrike Schumacher Memorial Scholarship for two years. She received a bachelor's degree in international relations and defense and strategic studies from Masaryk University, Czech Republic.

*Mr. Richard D. Fisher, Jr.*



Mr. Richard D. Fisher, Jr. is a Senior Fellow with the International Assessment and Strategy Center. In 2016 he joined the Advisory Board of the Global Taiwan Institute.

He has previously worked with the Center for Security Policy, Jamestown Foundation China Brief, U.S. House of Representatives Republican Policy Committee, and The Heritage Foundation. He is the author of *China's Military Modernization, Building for Regional and Global Reach* (Praeger, 2008, Stanford University Press, 2010, Taiwan Ministry of National Defense translation 2012) Since 1996 he has covered scores of international arms exhibits and his articles have been published in the *Jane's Intelligence Review*, *Jane's Defence Weekly*, *Aviation Week and Space Technology*, *Armed Forces Journal*, *Far Eastern Economic Review*, *Asian Wall Street Journal*, *Defense News*, *The Epoch Times* and the *Washington Times*. He has studied at Georgetown University and received a B.A. (Honors) in 1981 from Eisenhower College.

*U.S. Senator John Hoeven*



Senator John Hoeven was sworn in as North Dakota's 22nd U.S. Senator in 2011, following ten years of service as the state's governor. He is a member of the United States Senate Committee on Appropriations which is tasked with writing the legislation that allocates federal funds to the numerous government agencies, departments, and organizations on an annual basis. In the national security area, his appropriations subcommittee assignments include

*Peter Huessy*



Peter Huessy is Director of Strategic Deterrent Studies at the Mitchell Institute for Aerospace Studies and President and CEO of Geo-Strategic Analysis. Mr. Huessy teaches nuclear deterrent and missile defense policy at the U.S. Naval Academy as part of his work on a wide range of national security and defense issues, including nuclear deterrence, missile defense, terrorism and counterterrorism, proliferation, energy, and immigration. He created a nuclear deterrent and missile defense seminar series in 1983 and since then has hosted 1,500 of these seminars on key defense and national security issues for the Mitchell Institute, and previously for the National Defense Industrial Association and the National Defense University Foundation. He created the Triad series of conferences in 2011.

*Gen. John E. Hyten, USAF*



Gen. John E. Hyten, USAF, serves as the 11th Vice Chairman of the Joint Chiefs of Staff. In this capacity, he is the nation's second highest-ranking military officer and a member of the Joint Chiefs of Staff.

Gen. Hyten attended Harvard University on an Air Force Reserve Officer Training Corps scholarship, graduated in 1981 with a bachelor's degree in engineering and applied

sciences, and was commissioned a second lieutenant. The general's career began in engineering and acquisition before transitioning to space operations.

He has commanded at the squadron, group, wing, and major command levels. In 2006, he deployed to Southwest Asia as Director of Space Forces for operations Enduring Freedom and Iraqi Freedom. He commanded Air Force Space Command, and prior to his current assignment, was the Commander of U.S. Strategic Command, one of 11 Combatant Commands under the Department of Defense.

*Mark J. Jantzer*



Mark J. Jantzer is a resident of Minot, North Dakota, and the long-time Chair of Task Force 21, Minot's base retention and future military missions organization. As a Chief of Staff of the Air Force and Air Force Global Strike Command Civic Leader, Jantzer advises the commanders, and advocates and educates on issues affecting airmen. Appointed by the Governor to Task Force Military Issues North Dakota, Jantzer works to make North Dakota a desirable location for the military. Jantzer is a founding board member of the Strategic Deterrent Coalition, a nonprofit organization that seeks to insure a robust strategic deterrent. Elected to the Minot City Council in 2008, Jantzer has served continuously and is currently Council President. In business for over 40 years, Jantzer is General Manager of The Computer Store, Inc., in Minot.

*L. John MacMartin*



L. John MacMartin has been the President of the Minot Area Chamber of Commerce since August 1990, and the interim President/CEO of the Minot Area Development Corporation since November 2019. Prior to Minot he served as the Vice President of the Billings Area Chamber of Commerce, Billings, Montana. He has completed a six-year course of study known as the Institute for Organizational Management conducted by the US Chamber of Commerce. He completed the Leadership Development Program and the Center for Creative Leadership program through the American Chamber of Commerce Executives (ACCE). He also participated in a program focused on Transformational Leadership in Chambers offered jointly by ACCE and the Aspen Institute. He is a past board member of the American Chamber of Commerce Executives, served on the American Chamber of Commerce Certification Commission as a member and past chair, is a past-president of the Mid America Chamber of Commerce Executives and is a member of the ND Chamber of Commerce Executives and a past-president of that group.

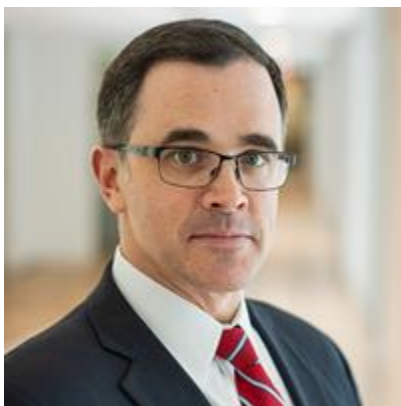
John received an Associate of Arts degree in Liberal Arts from Bismarck Junior College in 1972, then earned his Bachelor of Science degree in Public Administration from the University of North Dakota in 1974. In 2000, he received a Professional Accreditation as a Certified Chamber Executive (CCE). He obtained a Master of Science degree in Management from Minot State University in 2002. John has had the opportunity to attend the National Security Forum, a part of Air War College, at Maxwell Air Force Base. In addition, he was a member of the 70th Joint Civilian Orientation Conference (JCOC) which visited European Command locations in the fall of 2005.

*The Honorable Franklin C. Miller*



The Honorable Franklin C. Miller is Principal, The Scowcroft Group. He is an internationally recognized expert on nonproliferation, defense, nuclear energy and policy issues, and export control. He served for thirty-one years in the U.S. government, including twenty-two years in the Department of Defense—serving under seven Secretaries in a series of progressively senior positions—and four years as a Special Assistant to President George W. Bush and as Senior Director for Defense Policy and Arms Control on the National Security Council staff.

*Tim Morrison*



Tim Morrison is a senior fellow at Hudson Institute, specializing in Asia-Pacific security, missile defense, nuclear deterrent modernization, and arms control. Most recently, Mr. Morrison was deputy assistant to the president for national security in the Trump administration. He served as senior director on the National Security Council for European affairs, where he was responsible for coordinating U.S. government policy for 52 countries and three multilateral organizations. Prior to that post, he was senior director for counterproliferation and biodefense, where he coordinated policy on arms control, North Korean and Iranian weapons of mass destruction programs, export controls and technology transfers, and implementation of the Trump administration's Conventional Arms Transfer policy.

For 17 years, Mr. Morrison worked in a variety of roles on Capitol Hill. From 2011 through July 2018, he served on the House Armed Services Committee staff, initially as staff director of the Subcommittee on Strategic Forces and ultimately as policy director of the Committee. From 2007 until 2011, Mr. Morrison was the national security advisor to U.S. Senator Jon Kyl (AZ), the Senate Republican Whip.

Mr. Morrison has a B.A. in political science and history from the University of Minnesota. He also has a J.D. from the George Washington University Law School. He is an intelligence officer in the United States Navy Reserve, serving since 2011.

*Dr. Brad Roberts*



Dr. Brad Roberts is director of Lawrence Livermore National Laboratory's Center for Global Security Research. Previously he served as Deputy Assistant Secretary of Defense for Nuclear and Missile Defense Policy (2009-2013). In this role, he served as Policy Director of the Obama administration's Nuclear Posture Review and Ballistic Missile Defense Review and had lead responsibility for their implementation. From 1995 to 2009, Dr. Roberts was a member of the research staff at the Institute for Defense Analyses in Alexandria, Virginia, and an Adjunct Professor at George Washington University. His book, *The Case for U.S. Nuclear Weapons in the 21st Century* (Stanford University Press) was recently recognized by the American Library Association as one of the outstanding academic titles of 2016. A member of the Council on Foreign Relations, Roberts has a bachelor's degree in international relations from Stanford University, a MA. from the London School of Economics and Political Science, and a PhD in international relations from Erasmus University.

*Dr. Mark Schneider*



Dr. Mark Schneider is a Senior Analyst with the National Institute for Public Policy. He specializes in missile defense policy, nuclear weapons, deterrence, strategic forces, arms control, and arms control verification and compliance issues. Dr. Schneider served in a number of senior positions within the Office of Secretary of Defense for Policy including Principal Director for Forces Policy, Principal Director for Strategic Defense, Space and Verification Policy, Director for Strategic Arms Control Policy and Representative of the Secretary of Defense to the Nuclear Arms Control Implementation Commissions. He also served in the senior Foreign Service as a Member of the State Department Policy Planning Staff, the Professional Staff of the Senate Select Committee on Intelligence, the Department of Energy, the Energy Research and Development Administration and the Atomic Energy Commission. Dr. Schneider served as a member of the DoD Compliance Review Group. He chaired several working groups of the START and INF Treaty Implementation Commissions (JCIC and SVC) in Geneva, negotiating many implementation agreements with the successor states of the former Soviet Union. He most recently served as Acting Chairman of the U.S.-Russia Working Group on Missile Defense.

*Mr. Drew Walter*



Mr. Drew Walter is currently performing the duties of (PTDO) Deputy Assistant Secretary of Defense for Nuclear Matters. Nuclear Matters is the Department of Defense (DoD) focal point for a wide range of issues related to the U.S. nuclear weapons stockpile, nuclear counterterrorism, and nuclear counterproliferation.

Before being assigned as PTDO DASD(NM), Mr. Walter served as Senior Advisor to the Deputy Under Secretary of Defense for Acquisition and Sustainment. In this role, Mr. Walter supported the Deputy Under Secretary's efforts to integrate efforts across the Department related to nuclear deterrent modernization and sustainment

Prior to joining DoD, Mr. Walter served as a professional staff member with the Committee on Armed Services in the U.S. House of Representatives.

Mr. Walter began his career at Sandia National Laboratories, where he was a Senior Member of the Technical Staff. His responsibilities at Sandia included conducting physical security assessments for U.S. nuclear weapons, developing, and analyzing new security technologies and novel security assessment methodologies, and conducting special studies for laboratory executives. Mr. Walter holds bachelor's and Master of Science degrees in Mechanical Engineering, both from the Rochester Institute of Technology.