

043019 Air Force Association Mitchell Institute for Aerospace Studies, National Defense Industrial Association, and Reserve Officers Association Capitol Hill Forum with Rebeccah Heinrichs, Senior Fellow at the Hudson Institute; and James Miller, President of Adaptive Strategies, on “Opportunities for Nuclear and Missile Defense Strategies: Two Perspectives”

(For additional information on AFA/NDIA/ROA seminars contact Peter Huessy at [phuessy@afa.org](mailto:phuessy@afa.org)).

**MR. PETER HUESSY:** Good morning, everybody. On behalf of the Mitchell Institute for Aerospace Studies, I want to thank you for being here for this in the next of our series of seminars on Nuclear Deterrence and missile defense.

Just a note, from the 3<sup>rd</sup> of May Jamie Morin has moved to June 6<sup>th</sup>. We're going to have General Crider, who is going to be speaking here as part of our Space breakfast on Friday, so please make a note of that in your calendar. We have today two good friends and two real extraordinary analysts on missile defense and nuclear issues.

Rebeccah Heinrichs is with the Hudson Institute. Jim Miller used to be a senior member of the Office of the Secretary of Defense, formerly with the Center for a New American Security, also the House Armed Services Committee and now president of his own firm, Adaptive Strategies.

Without any further introduction, I would like to have -- Jim will come here and speak first, and then Rebeccah, and then they'll take Q&A. Would you give a warm welcome to Secretary Jim Miller?

(Applause).

**SEC. JAMES MILLER:** Thank you, Peter. On the Uber I was taking on the way over here, I realized that I've been coming to these breakfasts for not half of my career, but half of my life. It is kind of remarkable to think that I started out at age 15.

(Laughter).

Well, at least it was a multiple of 15. At any event, it has been a tremendous service to me, first when I was on the House Armed Services Committee in the late '80s and early '90s. I got to know Peter and always found these breakfasts helpful, often for the speakers and always for the people who came to them and the conversations that happened. So, I really appreciate your leadership on this.

I thought I'd hit on five interrelated issues. I'll take about 15 minutes. Those issues are: strategic modernization, missile defense, nuclear and missile defense policy, arms control and nonproliferation. I'll talk about both what the U.S. should do and what I think actually will happen. Oddly, those don't always match up exactly, though in my

opinion they should.

On strategic modernization first, my judgment is that for two of the three legs of the triad there is a wide recognition that they are essential to United States national security, and I think that they are politically secure. With the Ohio and Columbia-class SSBNs, we have high confidence in undersea survivability for the next decade or two, at least, with the very capable D5 missile and associated warheads.

I'd put in a plug here for the SSBN Security Program, which has been in existence since Johnny Foster was DDR&E, and which for a relatively small amount of money explores what our potential adversaries may be doing in the ASW area, which could put our boomers at-risk. For an investment that has ranged from \$60 to \$100 million per year, it has produced really good insights that have improved the survivability of our SSBNs. And also some interesting insights that have plugged into our ASW. So it's a small program, very important in the way to protect that essential undersea deterrent.

The B-21 program, in my judgment, is highly likely to also proceed as long as Northrop Grumman can deliver roughly on-cost and roughly on-schedule, and in the ballpark of the capabilities as well. Almost all programs, historically, have had moments early on in which there are bounces. I don't expect that to be different in this case with the B-21. But as long as it stays on path, on cost schedule and capabilities, plus or minus, it deserves to be supported. It is fundamentally important for our non-nuclear posture, and the cost of having an additional nuclear capability associated with that is relatively small and important to our security.

My view on the Long Range Stand Off system, (LRSO), is that it is fundamentally important in the relative near-term, in the next decade and a half or so, to keep the B-52s in the game for nuclear deterrence, and beyond that because we expect to see not just today's Russian and Chinese air defenses, but significantly improved air defenses from S-400 to S-500 from Russia, and on up. We need that capability to ensure the bomber leg of the triad is capable, even with the stealthy aircraft.

I disagree with those who would argue that LRSO is destabilizing. Both sides have had air-launched cruise missiles for decades. Both the U.S. and Russia have had them. It's far from being destabilizing. Predominantly, it has been viewed as an element of stability because they're generally unsuitable for a first-strike.

On the ICBM front, I am a bit of an outlier both from the nuclear triad family to which I otherwise belong, and from some of my Democratic colleagues as well. On that front I see the most important role of ICBMs in a world where we have highly effective, highly secure boomers -- the most important role of ICBMs is to hedge against a problem with those boomers, whether it's through ASW, whether it's through technical challenges and so on. The bombers serve as the front line of the hedge. The ICBMs are important also. And although an anti-submarine warfare breakthrough is highly unlikely in the coming decade-plus, two decades even, it's possible; and we're talking about something that is fundamental to the security of the nation for many decades to come, indefinitely.

So that hedge role is fundamentally important, and from my perspective I would prefer to see an audible called on the ICBM leg, and that audible would say, keep the Minutemen IIIs in place a little longer than you would otherwise. In order to do that, you've got to drive down the force a bit from 400. And you're going to engage in something that the Air Force won't like, which is a bit of scavenging to keep it alive even for a few more years.

Keep the newer systems in and scavenge as needed, and in the meantime develop a light ICBM, lighter than the Minuteman III, closer to what -- Peter won't be surprised by this -- it's something that I worked for decades ago on Capitol Hill, the small ICBM. Go forward with the deployment of a few hundred of those in silos. The cost will be somewhat less than a Minuteman III replacement both because of the smaller missile and because of the smaller numbers.

Spend that money on a mobile hedge. If we ever have a problem with our boomers, we are going to want a mobile ICBM available. It's unlikely that that will happen in the next 10 to 20 years, so we have time, but that should be part of our hedge, in my judgment.

Shifting to extended deterrence, I'm one of the few Democrats I know -- hopefully there are others in this room -- who support both a new nuclear sea-launched cruise missile and the W-76 low yield warhead. I had written, with my good friend and former colleague Sandy Winnefeld, former Vice Chairman Adm. Sandy Winnefeld, in support of a new nuclear sea-launched cruise missile, about a year before it came out in the Nuclear Posture Review, and I was pleased to see it. I was also pleased to see this administration go forward with low yield nuclear warhead.

I take this administration at its word in the Nuclear Posture Review, in public statements, that this is intended not to lower the threshold for nuclear use, but to raise it. I've seen Russia move forward with its family of tactical nuclear weapons. If you remember that extended deterrence and assurance are all about perceptions, there's a broad perception in each of the communities, in Russia, in the United States and among our allies, that the balance has shifted and we need to offset that. So, I think it's a wise move and relatively cheap in the near-term.

The nuclear SLCM will take longer. I hope to see more Navy support for it than we've seen to date, and that we've seen for the old TLAM-N, the nuclear Tomahawk, because it is incredibly valuable for extended deterrence, as I noted, and also it's an additional hedge. And this shows you how concerned I am about the long-term future of nuclear deterrence. TLAM-N or another nuclear SLCM would result in us having five or six times more submarines at sea with a nuclear capability, meaning that any submarine warfare breakthrough would have to be far greater than otherwise. So, it bolsters the survivability of the sea-based leg as well.

Finally, on the nuclear front, I very much hope that Congress will give strong

support to modernization for nuclear command and control and communications, NC3. The administration has work to do. The Defense Department has work to do in articulating what the architecture will be, at least the initial architecture. It's going to need to be a bit different from what we've had in the past because of, in particular, the advances in counter-space by Russia and China, and in cyber capabilities by Russia and China. It's going to need to be more diverse, more distributed and more adaptable, and we need to do that in a way that doesn't open up new vulnerabilities.

John Hyten, the current STRATCOM commander, General John Hyten, is working on this challenge and has dug into this. As we were talking about earlier, I hope that he'll stay engaged as he moves to vice chairman. We should see this as fundamental to strategic stability, not as an avenue towards nuclear war fighting.

I'm going to hit the next four topics more rapidly than I did the first. On missile defense, I believe that much of the Missile Defense Review, which came out relatively recently, makes good sense. We need to grow and we need to improve the Ground Based Missile Defense System, given the reality of North Korean missile and nuclear capabilities.

And we need to look at what an SM-3 IIA could do for national defense. It won't have the legs of a Ground Based Interceptor, but it will have some capability to help with a North Korean or Iranian threat to the United States. It is unlikely to have either the numbers or qualitative capability to deal with the Russian or Chinese threat. I don't expect it, therefore, to upset strategic stability. We need to look at that.

Two areas where the Missile Defense Review was either silent or ambiguous and leaning towards off-base. The first is on spaced-based interceptors or space-based directed energy systems. If the United States goes forward with the deployment of these systems, it will create a degree of instability in outer space that we literally have not seen not just in our lifetimes, but ever.

There's zero possibility that Russia and China will accept U.S. dominance of outer space to those types of systems. It's not just that we'll have a space race, there will be very strong incentives for pre-emption. My recommendation would be for the United States to declare a moratorium on the deployment of dedicated missile defense or ASAT capabilities in outer space, whether kinetic energy or directed energy. Ask Russia and China to do the same, and look to respond if they don't do the same.

Second, and in the opposite direction, I would have liked to see this administration turn the dial up on high altitude kinetic energy intercept. It's a capability that is relatively ripe. It's a capability that would be helpful for North Korea and for theater missile defenses as well. Although the F-35 was given the nod for kinetic energy intercept, the dial hasn't been turned up and we ought to be looking to even higher altitude platforms for that.

Directed energy, the solid-state laser, is getting close to where it's available.

There's no question that kinetic energy is there. And again, this is an opportunity to have a big impact, particularly on North Korean, or if necessary in the future, Iranian capabilities, without upsetting strategic stability because you just are not going to be able to fly aircraft deep into Russia or into China to do this type of intercept.

Topic three, missile defense and nuclear policy. First I am reluctant to critique any commander in chief, but my first two points of four are about statements that the president has made. I believe his irresponsible talk about nuclear, quote, "fire and fury," and similar statements has led to both Democratic and some Republican concerns about the reality that the president has sole authority to direct the employment of nuclear weapons or to direct the stop of employment of nuclear weapons. It makes sense that Congress has looked into this issue. It makes sense that they continue to do so. My personal judgment is that there is no desirable legislative approach, there's no good legislative answer.

Second, to the credit of the authors of the Missile Defense Review and Nuclear Posture Review, both stated that neither the U.S. nuclear capabilities nor our missile defense capabilities are intended to negate Chinese or Russian nuclear deterrents. We accept strategic stability based on mutual vulnerability. That's good.

Unfortunately, President Trump rolled out the Missile Defense Review by asserting that it promotes the ability to intercept any missile, anytime, anywhere. Of course, that's not possible. It's not possible today, it won't be possible in a decade or two decades or three decades. In a sense, it's a lovely vision but we need to live in the world of reality here.

Having a president who has sole authority for the employment of nuclear weapons saying the types of things that this president has said about nuclear weapons use and about the unreality of missile defense for the foreseeable future, is just not helpful. I don't think there's an obvious legislative solution, as I said. I think having the president have sole authority for employment is fundamental to our security. It would help if this president and future presidents took that very serious and solemn obligation to heart as they spoke publicly.

Third, one of the few areas in the Nuclear Posture Review where I would disagree on the policy side is the clear extension of nuclear deterrence to deal with cyber threats. I am very concerned about cyber threats to our critical infrastructure, to the critical infrastructure of our allies, and indeed to our military. If you don't believe me, look at the Defense Science Board report I co-chaired on it, which I would characterize as hair on fire, it's only limited hair on fire because I have limited hair, but it is of extreme concern.

However, as long as we make the investments necessary to make key long-range strike systems, conventional long-range strike systems, cyber resilient, we will be able to pack one hell of a punch through a conventional response to a cyber-attack. That's the direction that we should take. It's far more credible and our adversaries should

understand that that is something that the United States is prepared to do if a significant cyber-attack is undertaken.

Relatedly, there's an ongoing debate today -- my fourth point on policy -- on no first use of nuclear weapons. This is a question that the Obama administration looked at very closely in its Nuclear Posture Review and frankly came very close to moving forward with that as a policy. It was closely debated and a close call.

The reason the Obama administration did not go forward with that, and the reason I would not go forward with it today, is that at least a couple if not several of the nuclear powers today also have significant capability for biological weapons. North Korea has a biological weapons program, and I will just say that there are reports that Russia continues to pursue the potential for biological weapons as well. Biological weapons could kill easily millions of Americans. In the event that that happened nuclear weapons would be on the table for the president of the United States, and why not make it clear that that's the case in advance so it serves a deterrence role?

So, that's where I come on the policy issues. On the arms control topic -- four of the five I'll cover -- President Trump said recently that the United States should pursue arms control. Good. We should pursue it with Russia and China. Okay. And should do it to reduce the costs associated with our strategic arsenal.

The only problem with that latter point is that historically, including most recently with the New START Treaty, arms control has been associated with increases, not decreases, in strategic spending. I'll come back to that point in a moment. Put differently, the ratification of the New START Treaty and some Republicans agreement to move forward on that, helped get Democratic support for our broad strategic modernization program. I supported both, so that was not a problem from my perspective at all.

President Trump's suggestion to bring in China, as well, makes good sense long-term. There is a timing problem, however. The timing problem is that if you bring in China, which has a much smaller strategic arsenal than the U.S. and Russia, you will complicate the negotiations substantially. If you want to bring in tactical nuclear weapons, which we should want to do over time as well, you also extend the negotiating timeline.

So, if you want to not have New START Treaty extended, a good way to do it is to focus on trying to get a trilateral agreement between Russia, China and the United States. So, notwithstanding President Trump's positive talk about arms control, this administration right now is looking anti-arms control: by dropping the JCPOA with Iran, which I'll come back to; withdrawing from the INF, which at the end of the day I believe was an appropriate step, although I would have preferred that we had engaged our allies more effectively on it; and by failing to move forward on New START Treaty renewal.

So, on the substance of arms control, recommendation one is first renew the New

START Treaty. On the politics of arms control, Republicans held Democrats over a barrel in 2009-2010, saying if you want the New START Treaty ratified you need to pony up for strategic modernization. I see signs that Democrats are attempting to run the same play on the other side, if you will, today.

The challenge that they're going to have is that Democrats needed the 67 votes in the Senate to get New START Treaty ratification. You also need 67 in the Senate and a super-majority in the House to overcome a veto threat. I don't think that that play in reverse is going to work, so I hope that Democrats will go forward with the strategic modernization program that they see fit for the nation, not as a bargaining chip.

Finally, on non-proliferation, the fifth of the five topics. My view is that this administration frankly has made a hash of the two most important non-proliferation issues that we face as a country, and that's Iran and North Korea. It's move on the so-called JCPOA, the Iran nuclear deal, to date has worked out because the Europeans and the Iranians have kept the deal intact. The combination of that with additional sanctions is a plus for the moment.

That will not remain true forever, and I would hope and encourage this administration to put forward a proposal that is at least a plausible deal for the Iranians. The one I would have in mind would be to say, we can go back to the JCPOA but with two little differences. One is that the limitations that are put in place stay indefinitely.

That means Iran will never have the right to create fissile material. Iran will never have the right to have a nuclear weapons program, and there will be verification of that. And the duration of that agreement will be indefinite. I think putting that on the table very substantively, in exchange for bringing sanctions back down and making it a treaty, as this administration appears to be pursuing with North Korea, makes a lot of sense.

On North Korea, this president's negotiating style has opened a window that didn't exist before, and I give credit to him and to the team. To make progress on North Korea what they need now, in my judgment, to do is to give Steve Biegun, our lead negotiator, who is a talented and knowledgeable person, a very highly skilled negotiator, give him time, working with the secretary of State and others, to build a package that allows agreement with North Korea. The third summit should not occur until that is ready to go. And if North Korea doesn't step up in that regard, then we need to turn the dial back up and push China, in particular, but also other countries to put the screws on North Korea even harder.

My judgment is that North Korea will not give up its nuclear arsenal, certainly not anytime soon. So, the initial steps of an agreement will need to be about a freeze, not just on testing but on other nuclear-related work, on missile testing as well, with on-site verification. Having reversible steps by North Korea met by reversible relaxation of sanctions is a way to go forward and to make some progress. At the end of the day -- and this will be my final point on non-proliferation and I'll conclude -- at the end of the day it is unlikely that this administration or any administration will get the North Koreans to

give up their nuclear weapons entirely.

It could happen. It should be pursued. It's unlikely. A good agreement that freezes their nuclear weapons program, that freezes their testing of nukes and missile defense, in exchange for some reduction in sanctions, would be in the U.S. interest.

That would ensure, or at least make much more likely, that our ground-based missile defense mid-course defense system, plus SM-3, plus boost phase, will be able to negate any North Korean nuclear missile threats to the United States and to our allies. We should pursue full denuclearization. That should be the goal. But if we do it in steps and give North Korea a little bit of breathing room economically in exchange for that, we have the opportunity to reduce risks to ourselves and to our allies and partners.

Let me be clear. The deterrence of North Korea and Iran is not only missile defenses, our nuclear arsenal is and must remain on the table for them as well.

I'll stop there and turn it to Rebeccah and look forward to hearing from her.

(Applause).

MS. REBECCAHEINRICHES: Good morning. I like to go second so that I have an opportunity to add some things as I go. There was so much, so I don't know if I'm going to have enough time. But I thought that was a very good with very useful insights on a wide range of issues that this particular group is concerned about. It was very well done.

It's a privilege for me to be here again. Peter -- I don't know where Peter went -- Peter is right in front of me. Peter, thank you for the invitation again to speak. It's always a privilege. It's a particular privilege for me to speak with Jim, who I think is one of the most, if not -- well, definitely one of the most influential voices on these issues. So, it's a great privilege.

As I was preparing my remarks, I went back and re-read the 2017 article that he co-authored, which kind of tells you -- I mean, I read these articles all the time, but that one sticks out in my mind as just a critically important piece because of the timing, coming out right before the Nuclear Posture Review. I can tell you from where I sit, sort of on the other side of the spectrum on these issues, it was incredibly important to give the Nuclear Posture Review folks who wrote the report and then rolled out to explain it, very, very crucial for them to explain what we were doing on this. So, I was just very grateful for that article, May 2017, it's called "Bring Back the Nuclear Tomahawks." Very crucial.

I thought it would be good for this audience to hear, because we do talk about these issues so much. You're always turning out White Papers and trying to get people to write op-eds on subjects. Sometimes I think we can be tempted to think that it's not doing any good. This is the currency in this town. You need to be able to write persuasive arguments and back it up with facts, so that was hugely important.

It was just today or early this morning it came across my inbox, the Arms Control Association just put out a White Paper explaining where we can find cost saving in nuclear modernization. One of the things they say is to go down to a dyad, and they explain by cutting the ICBM leg of the triad, and it talks about how much money they think that we would save in doing that. I bring that up just to say this is going to be a constant -- we have to constantly be looking for new ways to make these arguments and defend all three legs of the triad.

I disagree with Jim on the ICBM leg. I've been persuaded that we have just kicked the can down the road too much, that we need GBSD and that Minuteman is simply just run out of time. That's really all I'll say about that, because we can just go back and forth on technical points. But I think that we have run out of time on that particular leg of the triad.

But it's crucial to continue to make these arguments, and so look at that Arms Control Association White Paper, because it will make its way to the Hill, and these are the arguments that we will hear. I do want to agree -- I always look for opportunities to agree -- with Jim. I do think that in politic terms nuclear modernization is in a pretty good space, especially on the first two legs.

On the third leg of the triad, I think even where there was a lot of energy to try to cut that or to delay funding, the hearings we just had on the Hill were very effective in sort of pushing the idea back. One, the cost savings wouldn't be that weighty or significant, but also just the importance of the usefulness and the unique contributions of the land-based leg of the triad. So I'm not as concerned now, after hearing that, and it seems to have blunted the inertia on that particular front.

What I hope to do today is talk a little bit about on the nuclear modernization piece and on the missile defense piece. Something new that I noticed that came across in the security documents of this administration, the National Security Strategy, the National Defense Strategy, the Nuclear Posture Review and then the MDR -- which I found the most disappointing of all of the documents, and I'll explain why I thought that was the case -- but they really sort of nicely get to the crux of the matter of what this administration is trying to do. And that is to refocus in a very serious way the nation's attention on great power competition with Russia and China. But it really would be a benefit in explaining what it is that we mean by that, great power competition with Russia and China.

That is that both of those countries -- and though Jim spent some time talking about what we're doing, and in particular with what Russia is doing -- I think China is the bigger, more existential threat that I think we're really trying to catch up to because of the missile gap that exists. As the United States has been focused on counterinsurgency warfare, the Russians and the Chinese, but in particular the Chinese, have been looking for opportunities to cut away at the U.S. military strategic advantage. They've done that in a really clever way, by looking at what the United States has and then rather than

wasting their time reinventing the wheel, they've been looking at opportunities, looking at advanced capabilities, to leapfrog and really invest in the particular systems that can defeat the United States. In the case of the Chinese, this has really been in investments in their missile forces.

You probably heard that Xi Jinping, whenever he did a total revamp of their military, he moved their missile force, their rocket force, up to the same level as the other services. Just like there's an air force and a navy, they've got a rocket force that they look at on par with the other services. That really is what they're pivoting their entire strategy to, to push the United States out of the Indo-Pacific.

That is why I thought that the MDR was disappointing, because I think we've gotten to a point now politically where there is more bipartisan consensus on the value of missile defense, on the technical capabilities of missile defense. If we really are going to compete with these two adversaries, we have to invest more in missile defense and make it better integrated into our strategy. Especially as somebody who is heavy on deterrence, I would like to prevent wars. So, I think we need to spend a lot of energy and time figuring out how to deter conflict. And then, of course, if deterrence fails making sure that we're ready to win that conflict on terms most favorable to the United States.

But missile defense and the Missile Defense Review, I think, was good in mentioning the Chinese and the Russian threats in the context of the missile defense discussion, and it deserves great credit for that. It was good in that it laid out that missile defense does contribute to deterrence and that missile defense does empower diplomacy. I thought those were important points, and it had a lot of good rhetoric on some programs that we're going to need to do that.

Where I thought that it was weak is it did lack some detail on what programs in the near-term we're going to need to actually bolster our missile defense in a serious way, especially in the Indo-Pacific. I will contrast it unfavorably to the Obama administration's BMDR which laid out the EPAA pretty specifically. If we're going to now replace what the Bush administration had planned in the region and we're worried about the rogue state threat and the regional threat from the Middle East, this is what we're going to do specifically in the European theater to provide a defense against that particular missile threat set.

I would have liked to have seen in the MDR some very specific ideas, an architecture in the Indo-Pacific, of what missile defense would look like. I really thought that was absent and we would have benefited by that, to just know in greater granularity what direction we wanted to go. It did mention that the United States needs to have a space-based sensor layer and that we need to integrate space to complement the current architecture.

I wholeheartedly agree with that. I know this audience repeatedly hears from General Hyten, Mike Griffin, Undersecretary Rood, across the board -- General Greaves has said that we need to have a space sensor layer for two important reasons. One, we

can't see hypersonic

We just can't see them, especially in their closing velocity when they're doing all these interesting, for lack of a better word, maneuvers. When they're closing in we just don't have enough time to know where they're going to hit or what their targets even are. So, we need to have birth-to-death tracking and you have to be in space to have that birth-to-death tracking of those missiles that are flying at hypersonic speeds and low to the Earth. They don't have that nice high ballistic trajectory that is predictable. And so we have to have space sensor tracking for that.

Another reason you need to have it is the adversaries know where our sensors are on the ground and at-sea, and you'd better believe that those are going to be the first things that they're going to want to poke out. They're going to want to poke out our eyes, and so they need to have some kind of level of protection in the near-term. I'm not suggesting that we replace our ground-based and sea-based sensors with a space-based sensor layer that's there to complement it, but we certainly need to provide some protection of them and you need to have a complementing layer, and we need it yesterday.

The other piece on the space sensor layer is, I think because we're so focused on hypersonics right now that we don't talk about this enough, but you also need a ballistic sensor in space to track the ballistic threat. I've been told we're going to need two different kinds of sensors for those two different threats, but that would be the best place to invest our money in the near-term to give the entire missile defense architecture the biggest boost, in the near-term, to make it qualitatively better, to increase the reliability and the capability of that system. And then, of course, with that as soon as you can see it -- you know, General Hyten will often say you can't hit what you can't see, so you have to see it. Of course, the flip side of that is, if you can see it you've got to be able to hit it. So, now you've got to have interceptors that are fast enough and in the right place to actually get at that threat, especially when you're talking about hypersonic in the regional context.

That brings me to another point. There wasn't a great spot to put this in my talk, so I'll just kind of put it in here. We really have gotten to a place in this dynamic threat environment when the ideas -- we can sit around and talk wonky talk about the difference between theater and strategic weapons, but if you look at just how complex, how complicated the threats are to the United States from especially Russia and China, but North Korea too, you have missiles that we would traditionally think of as tactical in nature that can have strategic effects. And so this idea of tactical and strategic is blurred, is increasingly blurred, which I think makes it very difficult to think about how we then come up from a policy standpoint and a strategy standpoint to handle some of these threats.

Just to flesh that out a little bit more, the Chinese are looking to hold at-risk that which the United States values the most in the Indo-Pacific. What are those? What do we dispatch to Guam fairly regularly? What is in Japan?

When you start thinking about what the United States has in that region to provide deterrence, and especially when you're talking about the air leg, talking about bombers, that to me whenever I think about that, that is the component of our nuclear deterrent that is inherently de-escalatory. So when you think about the possibility of losing elements of that particular leg in a possible first strike, which if you look at Chinese military strategy and some things that they're writing, it has got some strategists concerned that they might think -- you never want to tempt the adversary. So much of this is psychological, so even though this might be a miscalculation on their part, it doesn't mean they're not going to do it. They might doubt that the United States would respond in a way -- as we look for proportionality in an initial strike -- that we might respond if they can take out a strategic target that the United States has available, if we don't have something readily available that can respond in a timely manner proportionally, if that makes sense.

And so then you immediately, if you take out that component of the triad that are inherently de-escalatory, the options that you have left over immediately take us to a different degree of warfare that we would all like to avoid. So what I think this administration is trying to get at, both in its Nuclear Posture Review and in its Missile Defense Review, is giving the United States more rungs on the escalation ladder. I do believe ,I am very much convinced that this administration is trying to raise the threshold. It is not lowering the threshold.

You'll hear constantly that by adding these supplemental capabilities both in missile defense and even as we talk about them rhetorically -- even if we're not funding them programmatically, and in the Nuclear Posture Review which I thought was very, very sound and we are providing the funding for those -- that we are increasing the likelihood of nuclear conflict. I see it completely differently. If we sort of stayed the course with what we were doing over the years, you can see that that hasn't had the effect of dissuading the Russians and the Chinese from investing in capabilities that actually would increase the likelihood of nuclear conflict.

So, we have to do something different. That is kind of what I always say to my arms control friends when they say, but can't we invest in conventional weapons and can't we do these other things that can provide us with the same military effect? I always then quote Jim and his article. There's this great line in there about how conventional weapons are just not what resonates. I'm paraphrasing, but conventional weapons don't speak to the Russians the way nuclear weapons do.

So, when we're looking at what we need to do to try to change the dynamic and confuse or complicate the calculus of the adversary, it matters so much less about what we think they should be doing and what they are actually doing, and what actually influences and persuades them, which is what I think this administration has done well.

I actually have a little bit different perspective on the way President Trump characterized the Missile Defense Review. I actually was encouraged by his roll-out of the MDR. I thought that the Missile Defense Review was okay, but it was vague enough

that lots of people could sort of read into it what they want and didn't have a lot of specifics. Whenever the Department of Defense doesn't include specifics it's because they didn't want to make the decision and put it in writing, is sort of my own view on that. They kind of left it ambiguous to see what they might do or what they could maybe get the money for.

And then you had President Trump that came out during the roll-out at the Pentagon with all of the senior leaders in the White House, showing that this was his report and that he cared a lot about this issue and wanted to do something different on missile defense, something qualitatively different, which I thought the Missile Defense Review should do, to keep it in line with the previous other security documents. What is missile defense going to look like in an era of great power competition? And so, President Trump did emphasize the space component, to his credit, and also said that the United States sort of took away the idea that we should be mutually vulnerable to maintain strategic stability with the Russians and the Chinese.

Although he didn't say it in so many words, that's sort of the point that he was getting at, which I think is right. It goes back to that point that I made previously, which is this idea of strategic and tactical. Those lines are very blurred.

Perhaps one of the best examples is the fact that we are now looking at the SM-3 2A to provide strategic defense, homeland defense. That missile interceptor was born to be a regional defender, and now it's got longer legs. Now we're kind of looking at it to provide an under-layer of protection of that which we value the most, strategic targets and assets, in particular parts of the country that need additional protection on the U.S. homeland.

So, these ideas of tactical and strategic are increasingly blurred, which is why I think it's becoming untenable for the United States to try to keep this -- well, let's try to stay mutually vulnerable in the homeland with the Chinese and the Russians. I actually think that the MDR didn't say that we ought to do that. If you read the MDR carefully, it didn't hold it up as sort of the goal. It actually just said it's kind of what we are doing by default.

So nothing that President Trump said in the roll-out contradicted anything in the MDR, it just kind of clarified that this administration doesn't think that it's destabilizing for the United States to have a greater defense against Chinese and Russian missiles, if we can technically get there. We just aren't, because of just the default, by nature of what we have currently deployed. So President Trump kind of fleshed that out a little bit, which I thought was good.

When I wrote about it at the time I said we're just going to have to see what the budget says to know which direction the administration is actually going to go. That's where it kind of fell flat in my view, and kind of went back to stay the course. To me, it looks more like a more muscular Obama administration missile defense architecture, is how I would describe what the U.S. is doing now, which is not qualitatively different and

is still designed to handle the more rogue state missile threats.

I think there's a couple of reasons for that. One of the reasons I keep hearing about is it's because we're behind on the missile gap, especially with China. Any time you talk to somebody who does strategic security or deals with our nuclear deterrent, they will always say -- or if you put the question to them about the Chinese hypersonic threat and what we're going to do to provide some defense against it -- they will say, inevitably, we have concluded that offense is the best defense, right?

No, offense is not the best defense. Offense is the best offense. Defense is the best defense. The reason they think that's an important point to push back on is because - - and I understand why they're saying it because we don't want to put -- let's just take GMD, for instance. We don't want to put a cost-imposition strategy on ourselves. People sort of used to imply that, and now they're just kind of saying it. So they don't want to spend a whole lot of money on defense because it's more expensive than offense. And since we're behind and we're kind of rushing at this point, our money is better well spent to try to change the calculation, try to offset the dynamic and regain the strategic advantage by investing so much in offensive capabilities.

The reason I think that's the wrong way to think about it is, and I'll make just a couple of points and wrap it up so we can do some conversation. One, our critical assets are so vulnerable that they are creating a temptation for the adversary to go ahead and strike, I'll just say it. What's a more diplomatic way to say that? So we're in a really bad spot.

For the amount that we are rushing to try to make up, especially the offensive capabilities in the region, I think we need to have the same degree of urgency and intentionality and investing in defenses to provide some defense. I take Jim's point that it's never going to be possible for the United States to intercept every missile everywhere on the planet. I think that that's an overstatement. Somebody like me who is a huge space-based interceptor person, I think that's the direction the country is going anyway, it's just a matter of when we're going to get there.

It is going to give us the best vantage point for boost-phase capability. It's going to give us the best point to have another additional attempt at the mid-course phase. So I think we will get there eventually, it's just a matter of when.

I'm also in favor of the high altitude kill capability. If we can get the technology there first, that's great. Again, I think it's untenable to say we're going to go there but that we're not going to do space. I think it's probably going to be a stepping stone to get to space. So I just think that sort of push back is just untenable.

I think that's the direction that we're going, because of what our adversaries are doing, not because of what the United States just wants to do and spend our money on. I think that's just necessarily where the adversaries are going and so we're going to have to utilize that domain better. That includes space-based kill capability as well.

I'll close out by saying that what I would like to see now -- the budget came out and there was no money in the Missile Defense Agency budget for a space-based sensor layer. It is now General Greaves top unfunded priority. It was, I think, an incredibly awkward hearing when he was repeatedly asked in the Senate why that wasn't there, when the members of Congress were repeatedly told that that was the most important thing to have.

What do you do? In my view, you had all these Pentagon leadership that oversold this and hammered it. It's bad for us -- I would even say this too, it is bad for us for our adversaries to look at us say that we needed this thing, and then we didn't have the will to actually put it in the budget.

I don't want to overstate how bad I think that is, but I just think it was really bad. You heard it now for two years, and for two years this administration didn't put it in their budget request. I've got a good idea about who and why that is, but I would just say that that I'm kind of tired of hearing everybody say it's somebody else's fault.

It's really going to be up to Congress to put the money back in there. I'm encouraged by the bipartisan support for that particular element. Senator Heinrich and Senator Fischer both said I'm surprised that that wasn't in there. Now I'm worried that they're going to look for bill payers within the Missile Defense Agency budget when there's no money for bill paying out of that budget. So that is going to be something that we have to watch for. That was a major error on the part of this administration's budget request, I think.

Let me just do this real quick. The contributions to missile defense that are unique to offense, I'll just say this because it's kind of my hobby horse really.

One, defense can prevent a decapitation attack. We have to have some degree of defense against our strategic assets that are deployed abroad. We just do. People will talk about how we need to have greater defense. Like I said, it doesn't have to be 100 percent. It has to be sufficient so that, the Chinese in particular, don't think they have an easy shot, or the Russians don't have an easy shot.

I think it is to the administration's great credit that we recognize the threat from China, and especially we pulled out of the INF Treaty because the Russians were violating it, but something like 90 percent of the Chinese missile force would violate the INF Treaty had it been a party to that treaty. So you look at the range of the kinds of missile that they're developing, and they're doing it the most cost effectively because they didn't have those constraints, and that's the GLCM, the ground-launched cruise missiles. So we have to provide a defense, and only defense can do that. That's not something that our offensive forces can do.

And then defense contributes to deterrence by complicating the enemy's calculations. That is especially true if the defenses are robust enough. It doesn't have to

be 100 percent, but it has to be credible in the minds of the adversary that the United States can deny them the ability to succeed in their military objective. That is deterrence by denial.

We have deterrence by punishment with our offensive retaliation, but you have to have deterrence by denial and you have to have both of them sufficient and credible enough in the minds of the adversary for them to have that effect. And then the other thing I would say is defense is de-escalatory. If you can blunt their initial attack, not only do you preserve some of your options for a response, but you also just decreased the damage done. So it has the effect of taking the temperature down, more-so than if you just had no defense there at all.

These are just things that I would hope we are weighing appropriately in our strategy as we put this budget together. I am hopeful that -- again, I know this administration would welcome more funding for space-based sensors. I'm sorry to see that they didn't put it in their budget to advocate for it, but I am hopeful that there will be bipartisan support for that.

I'll just leave it there, and we can chat.

(Applause).

MR. : Thanks so much for being here and for your comments. I appreciate it very much. With regard to the INF range of systems, as we walk back from the INF Treaty, you talked about the Chinese having these forces, and other nations having these forces. Is the investment necessary as Russia starts making investments in this area more openly -- is there investments necessary for the U.S. to have INF ground-based forces?

MR. MILLER: I'm not catering to the audience here, which is the Navy. But I do think the better move for us is a combination of going towards sea-launched systems, both conventional and nuclear. The challenge that we have is the relatively limited number of SSNs, and with the SSGNs going out later before 2030.

I would like to see the Navy investing much more in large UUVs, unmanned undersea vehicles, that could be -- I'll use the word tethered, but it's not literally -- but that could be tethered and through communications, to SSNs and so serve as large magazines. That would be a big investment.

I think that the room for ground-based deployments that are in our interest in both Europe and the Asia-Pacific are very limited. Now that the INF Treaty is going away we can look at that. We can see if there's an opportunity. If any of our allies and partners which to go in that direction we can certainly look into it.

But we own the undersea today. I'm confident we'll own it for the next couple of decades. And with a smart set of investments, we can use that and sustain that advantage over time, and that's the direction I would go.

MS. HEINRICHES: I disagree a little bit on that, actually a lot. I think that because the missile gap is so bad, the fastest way to do it would be, with the exception of the basing problem I think is the hardest problem just in terms of where we're going to put those. But for the same reason the Chinese have been developing them, are the same reasons that we would want to have them. They are the most cost-effective way to do it, to have them based as ground-launched systems.

But I would say too, it's not a foregone conclusion that we're not going to have allies that are going to want to base them. So I find it a little bit interesting, not Jim, but some of my other arms control folks when I argue about this with them, and they say we're never going to have a place to put these. Why would you say never? Aren't we all pro ally and don't we need to cooperate with allies and kind of push this and see if we can? And so I think that there are options that are not beyond the possible, or are possible, for the United States to do, and I think we'd better get at that.

One question that I get from Hill staff is that, because the administration is doing research and development on missiles that would have violated the INF Treaty -- of course we didn't deploy them, that would be a violation, but doing research and development. Originally it started off we started doing this in order to try to get the Russians to comply with the treaty, to add that additional pressure.. I mean, it didn't happen, so that kind of fell apart.

The say, but what are the military requirements for these? There are no military requirements for that region. There are no official military requirements, because I learn that the DOD doesn't devise military requirements for systems that would be illegal. And so we've kind of put ourselves in a little bit of a conundrum here, that if we are tied to a treaty that -- you know, we can look at it and say it would be nice if we had that kind of missile, but there are no official military requirements until they are treaty compliant.

So, it's sort of one of these chicken and the egg things, you've got to get out of the treaty before you can develop military requirements. I'm pretty confident that the military can look at that, look at the region, and just strictly look at it and sort of forget about what strategists might say about strategic security, the strategic balance, and just sort of look at just the military, the operations, and what a conflict would look like. I'm pretty sure we can come up with some military requirements for missiles that would do that.

MR. : Would we consider dual-use systems? Our adversaries seem to always have dual-use systems. When will we step across that border to add dual-use systems?

MR. MILLER: The time to look for SSNs is now, and has been there. For ground-based systems, let me say that there are some relatively low cost near-term things. Extending the range of the ATACMS can be done. Looking for places to deploy that makes good sense, particularly in Europe. It's harder to do, given the expected range, in the Asia-Pacific, but I'm open to it.

I would very strongly support a research and development program that looks at that mobile option for us for theater missiles. I think, and this is a place where we may have a difference, I think in a war fight with Russia and China that is conventional, over time, we're going to win, even though they have a local advantage because of shorter lines of communications and so on, and that they understand that. We need to be able to protect our lines of communication, including in cyber space and outer space, and need to be able to reinforce the forward forces.

Obviously we've moved, with the so-called European Defense Initiative, to put more forces in place, and I support doing that further. To the extent that we keep them separate, setting aside the systems that are highly invulnerable, or the systems like the bombers that are not any threat to conduct a first strike, I think it's to our advantage to clarify that there's a significant gap between conventional and nuclear. If we won a conventional fight and they go nuclear, then we will be prepared to respond. I think the advantage that we pursue is on conventional systems.

MS. HEINRICHES: Yeah, I mean I already said kind of -- I would just say this, just sort of as a general principal. This goes back to the point I made about the strategic and tactical systems, the difference in our own minds about them being such a difference. To the adversary, they just don't. They sort of see it as a continuum.

I think that the Russian would agree that the United States would win in a conventional conflict, which is why they've developed the strategy of "escalate to de-escalate" with a low yield nuclear weapon, which is why the United States then is looking for supplemental capabilities to our nuclear deterrent, to disabuse them of the notion that it would be to their advantage to use a nuclear weapon, however low the yield is, in a conventional conflict. They don't see it the way we do, which is that nuclear weapons are their own separate thing and we don't want to think about them in terms of war fighting. And it's just simply not how the Russians, and increasingly the Chinese, are thinking about those capabilities.

MS. : I have a quick question regarding the relationship between North Korea and Iran. Recently North Korea sent a delegation to Iran and the Iranian prime minister plans to visit Pyongyang in the very near future. I know we know that they have kind of a (history ?) with the missile and nuclear programs. How do you see this recent action? Should we worry about it or should we just take it as just another Kim Jong-un strategy?

MS. HEINRICHES: I would just say that they have long cooperated. The relationship is a long one and ongoing. If you look at just the public reports that come out, it says that. They all say that, that we are concerned that some of what North Korea is doing is going to end up in the hands of the Iranians, and vice versa.

I would just underscore the importance, just from a nonproliferation standpoint, why it's so important that we don't get to the point that simply because the North Korean nuclear problem is such a hard nut to crack, that we do not get to the point where we sort

of throw up our hands and say, I guess that was just a hard nut to crack. I guess we just have to get to the point where we accept North Korea as a nuclear program. We've just sort of moved now towards looking for opportunities to have greater eyes on what they're doing or that we try to control the situation.

Because one, it's going to communicate to countries like Iran that if you just persist long enough violating these sanctions and violating these norms that the United States is going to give up and you're going to have a nuclear capability. But also, because of the very real capabilities that North Korea has, they can share with other bad actors. And so it presents a major problem, which is why -- and I just briefly want to say Jim made the great point that -- I mean, I understand people's apprehension with some of President Trump's rhetoric.

But then I think he rightly praised the Trump administration's ability to create this diplomatic space. I think they go hand-in-hand. I think a lot of the way the president speaks -- I mean, I get as uncomfortable as everybody else when I'm looking at my Twitter feed and the words nuclear are in it at all, or fire and fury. I'm like, oh no, I'm not on Twitter.

But I will say, though, that the reason that we all feel uncomfortable with it is because we believe President Trump. There's some credibility that's there in a way that in the past when American presidents sort of had threatened all options are on the table, there wasn't the credibility there. And so you know that it's being felt in Pyongyang, which is part of why I think it got -- and there are other reasons. They successfully had the ICBM test that gave them confidence that they could have that as leverage going into negotiations. But for a variety of things, the administration does deserve, and the president deserves credit, for creating this diplomatic space.

Anyway, so I would just say that on that point I'm hopeful that as long as -- and I disagree with Jim that we should give sanctions relief until we actually see them moving towards denuclearization. We've tried this before and it hasn't worked. So if we can just keep the pressure on, I'm fine with time at this point. If we just keep the pressure on and keep talking happening, even though they're not testing they're still building out their missile capability and their nuclear capability. But we can kind of choke them off to a large degree with the sanctions we have in place and it's sending a message to other bad actors like Iran that the pain is going to be real if you continue to go down this path.

MR. MILLER: I would just add two quick points. One is that relationship has historically, as Rebeccah noted, been there, and it's something that we should be concerned about. Indeed, we should be concerned about North Korea's proliferation threat, as well as its inherent threat, as well as Iran's. And two, the Proliferation Security Initiative is something that at some points in time has been more rhetoric than action. Having not just U.S. action, but allied action, including specifically in the Asia-Pacific with South Korea and Japan, and in the Middle East with our partners there, is fundamentally important. The United States needs to work with our allies and partners to ensure that they are literally onboard with taking preventive and pre-emptive action to

stop any efforts to proliferate.

MR. HUESSY: With that, I want to thank Rebeccah and Jim. Also, on these two subjects, Uzi Rubin will address the North Korean-Iranian cooperative work at his breakfast here this summer. Ilan Berman, the Vice President of the American Foreign Policy Council, I haven't scheduled him yet, but he will talk about the Iranian-North Korean nuclear cooperative work and the aspects of proliferation there.

On behalf of the Mitchell Institute, Jim, thank you so much. And again, Rebeccah, thank you.

(Applause).