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P R O C E E D I N G S

MR. O'HANLON: Good morning, everyone, and welcome to Brookings. Thank you for, as Tom just said, braving the cold and the early February winter weather -- or whatever season it is out there.

I'm joined today by Rebecca Grant and Tom Ehrhard, two of my good friends and two of the nation's very best air power analysts, very experienced across many issues; both have worked for the Air Force, but more generally on joint force planning. Tom is really one of the great architects of the Third Offset, the concept that began to change American defense policy in the last half dozen years towards a greater focus on restoring especially conventional deterrents of great powers and served in the Air Force. Prior to that period of time also worked for Jim Miller at the Office of the Undersecretary of Defense for Policy in the Obama years and has a very distinguished career and has written about UAVs in his dissertation at SAIS, also is a new grandfather, and also is a very competitive cyclist. And all that continues simultaneously in his life. He will be the main respondent to Rebecca Grant, who is another unbelievable person. I can go on about her sports exploits as well, including a great love for former race horses that she spends a great deal of time with. I think she went to Wellesley College if I'm not mistaken, which is not in her bio, but my wife went there too, so I always start with that. She got her Ph.D. from the London School of Economics when she was about 14 years old. I think her bio says 25, but that's sort of a rounding up just to make it look less obnoxious for the rest of us who struggled many years to finish our dissertations, and has worked, as I said, for the Air Force, but also created IRIS, the Independent Research Institute for Airpower Studies and has worked on all sorts of technology systems, really understands not only the culture and organization of the air Force, but the technology as well. And that's true for both of them.

So we're really going to be treated to a rich discussion that, again, contemplates the full Joint Force and the full national security requirements of the United States, but with a focus on Air Force modernization, strategy, and budget. As you know, we

are in budget season. We haven't yet seen the details. That will start to happen next week with a lot of the testimonies happening I think mostly in March this year. So what a great prelude to that discussion to sort of set the foundation and anchor us in some good conceptual thinking.

So what we're going to do now is I think I'm just going to take my microphone off and sit in the front row so I can watch Rebecca's presentation, which will last 15 or 20 minutes and will give us some good data and some good information to begin with. Tom will then respond. We'll have a little bit of a conversation up here about the Air Force and about more generally how things are going, although, ma'am, you just took my chair, so I'm going to ask you -- and then we will look to your questions and comments for the second half of the proceedings.

So without further ado, please join me in welcoming Rebecca and Tom to Brookings and let's have at it. (Applause)

MS. GRANT: Thanks, Mike, for the introduction and, most of all, for giving us an opportunity this morning to talk about the Air Force and about airpower.

If you look back over history, the air component has long shaped the choices that we make at the campaign level in military operations. Eisenhower and Marshall in World War II planned the Normandy invasion to take place after about two plus years of effort to gain air superiority over that battle space in Europe. They did that to ensure that the air component could help control ground maneuver as Rommel counterattacked the landing forces with panzer divisions.

And since that time the U.S. and allies have relied on the Air Force and the air component in joint operations for conflicts large and small, hot wars, cold wars. And we come to a point here in 2020 where the Air Force is, as Tom will tell you, just as pivotal as ever.

I'm going to talk today first about the challenge as I see it for the Air Force, and it's pretty simple. The Air Force has commitments to ongoing operations that are

absolutely crucial to national security, international security, and to policy options. As the Air Force carries those out there's also a requirement to modernize, not only what we call the conventional forces, but our nuclear forces, space to test new technologies like hypersonics, and to build out new forms of command and control. This is really, really a tough problem and my presentation, my slides, will go through some of the key aspects of that.

But I want to start with this group behind us. This is an F-15E squadron. The picture was taken in December of 2019 at a deployed location. I like this picture partly because the pictures of airmen really never change, you know. Clearly this was a mustache period or, in one case, just a really long braid. But this is a group that symbolizes the commitment that the Air Force and airpower more broadly has made to operations in the Middle East over these many years. I think it's pretty fair to say that this group may well have been involved in some of the operations that took place in late December and early January as well. They remind us that it's the technology, but it's also the airmen that carry this out.

As I've said, these are the challenges facing the Department of the Air Force. I'm going to start now looking across ongoing operations to try to convey to you what a tough modernization challenge it is to have to carry out these operations, improve them, have the Joint Force depending on them in many ways, and yet still plan for the modernization to meet great power challenges.

This chart shows you some statistics about air operations across Syria and Iraq. The first ones may be a little bit hard to read from the back, but what it shows you is coalition -- that's not just Air Force, but joint partners and allies -- coalition air ops across Syria and Iraq in OIR, Operation Inherent Resolve. Orange are strike sorties and blue are ISR or Intelligence, Surveillance, and Reconnaissance sorties.

A couple of takeaways from that chart -- one, an intense level of effort carried out over this period on behalf of the defeat ISIS task. And secondly, it's not just strike. That ISR piece sets its own pace, strike goes up and goes down and ISR is almost

independent in a way of that. And that is because of the need to use the full resources of the air component to gain this level of battlefield intelligence, if you will.

Down at the bottom, the dark blue bars, show you the intensity of this operation, particularly as the defeat ISIS coalition moved to ending the physical ISIS caliphate in those operations. Simply, the number of coalition weapons released, as shown with those blue bars, tells you that this was an immense operation. Think of the amount of force structure required form the Air Force, and of course from our joint and coalition partners. It was this blanket of airpower, if you will, that enabled the operational concepts carried out on the ground in these defeat ISIS operations.

At the top, you see one of the new entrants to that operation, the F-35, used in some bomb-dropping missions by the Marines, also by the Air Force, but also used in an incredibly important intelligence and surveillance role of its own and in its ability to assess threats in the battle space and make possible operations that might not have been able to be carried out at an acceptable level of risk if we did not have this stealth platform and its older brother, the F-22 in that theater.

Let's move quickly over to Afghanistan where we've seen through the year 2019 and continuing on through the fall a surge in operations. The top chart uses the same metrics that I showed you for Syria and Iraq. The bottom chart, again, looks at weapons released. And the takeaway from the bottom chart is the acceleration and activity under the Trump-Mattis strategy that came out in the second half of 2017.

This was a deliberate effort to use the type of tactics that had been successful in Syria and Iraq to allow U.S. forces to work more closely with partner ground forces and to back that up with reconnaissance and also with air strikes. You see that surge continuing and we've seen through the second half of 2019 some of the most active months in that air war than we had seen in a matter of five or six years.

So what this tells you that, again, America's strategic choices really depended on what the U.S. Air Force and partners could supply to that theater right away.

We are hopeful, of course, for peace talks at some point that have made a fair amount of progress quietly, and yet NATO's plan in Afghanistan is to continue a build-up in training of the Afghan Air Force and other forces at least through 2024. So that hinge of airpower will remain very much in place.

Going back again just to review that chart in blue, what we saw with the use of air in helping to defeat the ISIS caliphate was that most of our operational campaign level options depended on what that air component could supply. Without that level of air superiority, the ability to strike rapidly, the ability, now that we see it, even at a lower sortie number, to continue to go after weapons caches, to help enable the Iraqi air force and other partners to seek out and begin to strike those resurgent ISIS targets. This is really dependent on airpower. And although it's gone very well, this is the capability that the U.S. Air Force as a department has to continually have available against any other surge in activity that a combatant commander may require in that theater or in others.

So I hope this makes the point about how busy the Air Force is and why the force structure, much of which dates from the 1980s, is still so essential in this global fight.

That's an airman on the left. This is the security force's airman. I wanted to put this in here as a reminder of how important our network of bases is across the regions. This picture was taken in Kuwait where he’s off at a range or weapons training.

We've assumed for a long time that air bases are pretty safe. We saw some events certainly with the attack against Al Asad in which Iran absolutely intended to kill or to cause damage. It was force protection in many different forms that prevented that from happening. What this slide is intended to show you is that, again, as activity surges there are specific requirements that the Department of the Air Force has to be able to fulfill. Those include being able to supply the assets that can take on higher end air defenses, like the refreshed Russian air defenses that went into Iran and also went into Syria. And, again, most of the tailored strike options in this theater depend now on having F-35s and F-22s present to help assess and control that threat environment, both against potential enemy

aircraft and enemy surface to air missiles, and lots of other things.

But other priorities are important. And in the force structure modernization, which Tom will talk about as well, the key priorities of course are China and Russia. I know you're familiar with the National Defense Strategy and many of you follow these issues closely. I won't go through them in great detail, but just to make a couple of quick points about China and about Russia.

We might in a way say that China wants to play an away game. There's no question but that China's military rise is the number one pacing threat for U.S. military forces and, of course, for the United States Air Force. We saw something that really caught my eye last summer, and you might not know about it. That was a joint flight by Russian and Chinese bombers that came down the Western Pacific into Japanese air space, into South Korea air space. What was so remarkable about that? We know that Japan, for instance, deals with near daily incursions by Russian and Chinese fighters. We see that Russians have flown bombers everywhere from the Arctic Circle to Venezuela. China began a few years ago to fly its H-6 bombers around the Pacific. And commanders will tell you that the first time those H-6s got near Guam, it was a phone call to the Secretary of Defense and the Pentagon. At this point the site of those Chinese bombers in that air space is so routine that it barely makes the report list for the day.

Why was the joint flight important? I think it symbolizes that there is a potential now, from a force structure perspective, to consider not only China's impact in that theater, but the possibility of joint Russian and Chinese relationships, whether that is in long-range bomber flights, nuclear command post exercises, or a host of other possibilities. So we see China as the pacing threat and, of course, key within that is the development of advanced technologies that China is stealing from us and partners in many cases and pursuing and fielding.

So the U.S. Air Force has to keep its eye focused on building and fielding a force structure that will give us as many choices in the Pacific as we see with our operations

in the Middle East region where our air superiority, ISR, and strike are so dominant. That's what we want in the Pacific and it's a very, very tall order.

In contract, of course, Russia sort of now wants to play us at home as well. One of the many new elements in Russia's strategic build-up is an emphasis on purported ability to challenge and attach the U.S. homeland. I think Vladimir Putin has famously denied that a little video he released showed a potential Russian attack on Florida. He said if you thought that looked like Florida, that was your problem. He denied it up one side and down the other. But there's no question that Putin is at least threatening and marshalling something that we haven't seen for a very, very long time, and that is the potential air and missile threat against the U.S. homeland.

So I put this slide here because this again is a factor for all the services and very much for the Department of the Air Force to consider. There was a time in the 1950s and 1960s when the U.S. Air Force had a huge continental air defense force against just this type of threat. We let that go for good reason, yet now it's time to reconsider basics such as how good is our radar picture across the U.S., are we prepared to think about force options for countering adversary cruise missile threats to our homeland. These are the kind of questions the Air Force has to face in looking at its planning and budgeting.

Then, of course, as you know, it's important to continue to deter Russia alongside our NATO partners. That task of deterrence is greatly enabled by one of the really superb assets that we share, and that is the bond among international airmen. Last December Air Force Chief of Staff General David Goldfein hosted 18 Pacific Air Chiefs, including, for instance, representatives from France and Britain and others who have an interest in the pacific theater. Think about air chiefs from 18 different nations. That's a tremendous bond. We, of course, see that similar bond among NATO's airmen. And that interoperability gives us a great strategic depth and yet, for the U.S. Air Force, it's important to try to maintain and build-up the force structure to keep that going. We're doing that at what has become a very, very much smaller footprint while NATO has expanded in

membership, which is terrific. We've seen a much smaller U.S. Air Force presence in that theater, really less than half of what we might have had there 20 or 30 years ago.

I'll leave China and Russia because I know that Tom will have some great comments about what it takes to prepare and get the Air Force thinking about fighting that scenario when we're dealing with a force whose members have spent so much of its time overseas and in the Middle East in the sandbox as they call it.

From a programmatic standpoint, what we see is an Air Force that's really, really stretched. The Chief of Staff is fond of saying that he runs out of forces to send after the first three or four phone calls. Absolute top of the U.S. Air Force's priority list is nuclear deterrence. This entails modernization of nuclear command and control, which is underway within the Department of Defense, and also modernization of the two Air Force components of the triad, the missile force, which Tom will talk about I think as well, and, of course, the bomber force.

This is a recently released picture of the B-21. You know, and I looked at this and I looked at this -- and I see Bill Sweetman out there -- and I thought, you know what just strikes me a little odd about this, which has got to be heavy photoshopped, is don't they normally park them in the shelter facing out? You know, if I take my truck into the garage I like to back it in so you can push it out. But what I think this shows, or is intended to show in this image that was released I think just last week, is that there is a very robust B-21 radar program building a new stealth bomber. And if you look at that shape, that is a stealthy shape. And that tells us that stealth technology is still very, very central to the Air Force's ability to develop a penetrating bomber force. What do I mean by that? A bomber force that in a nuclear deterrence mission or in conventional missions can penetrate to take on whatever target underneath whatever air defense that is necessary to strike. Yes, there are many options for standoff, there are many ways to work the triad's target set, but there is no question that they remain essential targets on the nuclear and the conventional side that must be struck by a penetrating bomber. That's why the B-21 is high on the list of priorities.

The other priorities are systems that you know well, bringing the F-35 up to a higher production rate in order to be able to retire older force structure elements. The Air Force got so stretched with its fighters that it decided to explore buying an extended refreshed version of the F-15, called the F-15X. To me not a great program, but a mark of desperation in terms of modernizing the Air Force fighter force, something that Congress is taking a close look at, having funded initial money for that acquisition. But it will really become a major choice for the Air Force every budget year going forward between F-35s and F-15Xs.

Also, hypersonic weapons. We hope that the next few years we'll see some progress in this area, but I've got to tell you something -- this is an exotic technology. It reminds me a little bit of what it took to create the space launch and all that. And if you remember those old grainy clips and Wernher von Braun, there were a lot of test pad failures. So I hope to see a really robust hypersonic testing program, but we should all be prepared for a fast failure or two as this comes to fruition.

We're at a point now where we don't have the luxury of slowing down and looking at everything. It's really essential to bring not only hypersonics but other types of systems out in to the test and experiment world. And as a result, we're going to have to tolerate a failure or two on this faster track to success.

Finally, I want to talk about what we could spend all day on, which is JADC2 -- or is it -- I believe it is now being called Global JADC2; the acronym is explained there. This replaces the concept really coined by the Army and then by the Air Force, which is multi domain ops. And there's a little picture up in the left hand corner of everything connected to everything, which symbolizes the desire to connect sensors and shooters with efficient and secure routing of data. Those two words are both highly significant.

F-35 again and a Paladin. They are there together because an experiment was recently conducted wherein the F-35 transmitted targeting information in a secure manner to a paladin, which then took out a target on the range. That for the Army and the

Air Force and the Joint Force symbolizes what we want JADC2 to achieve, which is a linked mesh where multiple sensor and shooters can put targeting information into a web or a grid and have those targets prosecuted on a prioritized manner, and in some cases autonomously, by any shooter in that grid. Why? So that we can keep ahead of a burgeoning great power target set, such as we may see in the Pacific or against Russia. A lot of work to be done here and you'll hear the Air Force talking about its experimentation on ramps.

So far I'm a little disappointed that we haven't seen more detail from the Air Force officially as to exactly what types of programs and what types of capabilities they will invest in in JADC2. We hear discussion of the Air Force trading current force structure in order to fund the build-out of this digital backbone. It's the right idea. The experimentation is absolutely the right course, but we're hoping to see more clarity from the Air Force on what JADC2 is and what it will produce near-term and medium-term.

Finally, I have to talk very quickly about the event of 2019, which was the creation of the U.S. Space Force, stood up from Air Force Space Command as the sixth service with General Raymond, the commander now sitting in among the Joint Chiefs of Staff. For those of you who follow the congressional piece, there is approximately a year during which a number of steps will unfold as this force takes on everything from its own budget lines to choosing a headquarters and bringing officers and enlisted into that force. But as of today we have that sixth branch, it's here to stay, it's not going away at the end of the Trump administration, whether that is this year or in four years, and the reason is that space truly is a warfighting domain. The Air Force chief of staff has said he expects the first blow of the war to take place in space.

Now, a couple of caveats, right now this does not include Army and Navy space assets. There is a plan to migrate that across. It also focuses on Air Force capabilities and not what I like to call spy satellite space, which is another set of reconnaissance capabilities that are not currently enfolded into U.S. space command. It's

also the long-term of Congress to get space acquisition right and use innovative steps in that space portfolio to improve defense acquisition overall, another tall order -- worth doing, but a tall order.

But I want to leave you with this thought as we look about Department of the Air Force priorities. The Department of the Air Force still maintains -- the secretary of the Air Force is the secretary over the Space Force. The budgets are together at the moment. Tom will talk about prospects for splitting those apart. But overall, it's the threat. If you want to read more about it, look at the wonderful NASIC paper that came out actually over a year ago discussing some of the many, many threats that are real and present today.

It also comes down to the fact that we have a $19 trillion economy, heavily dependent on space, and that China and other adversaries have the ability to threaten and attack forces on orbit, whether that's with robotic arms, chemical sprayers, lasers from the ground in China, or many, many other ways to go about this. We have to think about defending our Space Forces and that becomes another top priority within the Department of the Air Force.

So it's a tough call, ongoing ops, force structure, nuclear deterrence, facing China's away games, playing Russia anywhere that they want to play, from Europe to the Atlantic Coast, and looking at that crucial digital backbone build-out, all the while setting up and property funding a U.S. Space Force.

Those are the Department of the Air Force's priorities in February 2020.

Tom?

MR. EHRHARD: Great. Thank you. Really good.

MR. O'HANLON: I'm sorry, I'm going to ask one clarifying question. You essentially said it at the end, but the Space Force is part of the Department of the Air Force?

MS. GRANT: That's correct. The Space Force is under the Department of the Air Force and now goes to the way that the United States Marine Corps, a separate service, but nested within the Department of the Navy. So we have just the three

Departments, Army, Navy, and Air Force. Air Force covers now the Air Force, the United States Air Force and the United States Space Force.

MR. O'HANLON: And do you have a guess about how big this Space Force's budget will be within -- are we even going to be able to see it within the Department of the Air Force overall budget when we get budget documents next week?

MS. GRANT: And that's the great question, and we literally don't know. Will it come across with Air Force budget lines, will it come across with new Space budget lines for Congress to look at. And so much of this budget has been buried in what they call the "black world", that to break out this piece is really going to be interesting to see whether that is broken out and we really see how much blue Air Force money had been going into space this whole time.

MR. O'HANLON: Fantastic. Tom, over to you.

MR. EHRHARD: If I could just add to that. If you want to use that analogy, you know, some have said well the Marine Corps is part of the Department of the Navy too, but what the Air Force suffers from is that it would be like if there was a Marine Corps and then there was a super double dog secret Marine Corps that was also getting about $36 billion annually in the Navy budget that the Department of the Navy had no say over. That would be the equivalent.

MR. O'HANLON: There isn't an equivalent to -- so even though there is a Space Force, it's not the entire United States Space Force. So, once again, you have sort of an odd budgetary and modernization challenge just understanding how all this stuff fits together, right?

MR. EHRHARD: Right.

MR. O'HANLON: Excellent. And please -- sorry, look forward to your further thoughts, please.

MR. EHRHARD: All right. Well, this is fantastic and I think what you've got now, I hope, is a really solid sort of underpinning for where the Air Force sees itself and

where it's going.

I want to highlight a few things about what Rebecca has said and then talk about some of the modernization challenges and questions going forward for the Air Force, because I think my main theme is going to be that modernization -- and Rebecca alluded to this, but I want to emphasize that modernization is something that happens up here in airmen, and it's the leadership that they exert within their organization that is part of what is needed when it comes to modernization. Not only is it force structure, not only is it iron, not only is it jets, and all of that, it's what's going on up here. And the Air Force clearly, like the rest of the Department of Defense, has a major adaptation, a major sort of reawakening that it has to undertake, and that's going to be a major aspect of what the Air Force leadership is going to have to pull as they go forward. And I think there are some questions about that that I want to talk about.

First of all, I think the key here is trying to understand about what is the true nature of the challenge that the Air Force faces. There is only one U.S. military service who is pivotal to dealing with both major power adversaries, China and Russia. There's only one service that's pivotal to both, and that the United States Air Force. It's primarily Navy and Air Force in the Pacific, it's primarily -- not wholly -- it's primarily the Air Force and the Army in Europe dealing with Russia.

Now, when I say that, that's not Tom Ehrhard saying that, what you need to understand is that my comments today are going to be based on the fact that I rather obsessively read what the Chinese and the Russians say about us constantly. It makes me a little bit of a unicorn in this town because a studied ignorance of our adversary has become normalized dysfunction within the U.S. defense community. This is something that I wrote about recently in an essay published just at the end of the year, which you sort of, I hope, will go out and read because reading that will do a better job than I can do today. But the title of it is "Treating the Pathologies of Victory: Hardening the Nation for Strategic Competition". And in that essay I talk about the four pathologies that sort of gradually

seeped into and infected the defense establishment after winning the Cold War, a stunning victory. But victory has its own problems and part of these problems that I'm trying to outline kind of in many ways have unique Air Force elements to them.

I'll just list the four, you can read the essay. But the four pathologies were triumphalism in the wake of winning the Cold War -- and I would add, what I talk about in the essay is I talk about the procurement holiday. This was an extended stay for the Air Force. It started in the post-Cold War era and it never stopped and it was relentless and it has a huge effect on what the Air Force can do in terms of modernization of its aircraft and its sort of capital equipment. But it also had an effect on the airmen and airwomen, the people, the airmen who fly and fight. And part of this is when you're the one service that's pivotal to both adversaries, you'd better really know both adversaries. This is not T-ball, this is big league major power competition for which the majority of our Force is not prepared. And so the Air Force leadership has to pull this kind of focus on both China and Russia and what they aim to do with their militaries and instill it in airmen so they understand what they have to go after. Otherwise, we're just playing some sort of incremental bureaucratic game that we're going to lose.

So I think a big part of Air Force modernization has to be sort of a reorientation, a refocus on the adversary, on understanding what they fear, understanding what will deter them, and understanding how to create a more stable major power competition in the days that go forward. And I think in many ways the Air Force has a lot of catching up to do.

And I'll talk a little bit about it, but just some of these pathologies. I do write about some of them with the Air Force, about the Air Force in my essay and, you know, just one of them has to, for instance, with basing. Basing is something that falls off the line when you talk about modernization, but our adversaries complain that we're surrounding them. It's just one of the themes that's similar with Russia and China, that they're surrounded by America. Well, I hate to break this to you, but if you look at it in empirical terms, we're not

surrounding anybody, because the number of bases we operate from has shrunk dramatically since the end of the Cold War to the point that we're targeting that. I'm a targeteer from way back, both nuclear and conventional heavy duty targeting time. I know how targeteers think. I'm telling you that we're an easy target and we've got to start thinking about how to be a much tougher target going forward.

Number one, that would be from a dispersal and hardening point of view, and number two, from a cognitive point of view -- I'll go back to that again -- we have to -- the Air Force needs to focus on becoming a much more difficult intelligence target. Over the past 20 years you just do what you do out in the open with everybody and we've been sort of exercising our Air Force all over the world and Russia and China were watching the entire time with great focus. I call it the asymmetry of focus in the strategic competition that we have. They're very, very, very focused on us and we're not focused. We're focused on everything in the world, which means we're focused on nothing very important.

And I will repeat -- so I talked to you about the fact that the Air Force is the one service that's pivotal to both, well, let me make my second categorical point, it is the one service that both Russia -- it's that both Russian and Chinese militaries fear the most. Now, this goes way, way back to China's formative history and Russia's experience all the way back to World War II. Russian generals reported back to Stalin when they saw the devastation that the allied air campaign had wreaked on the eastern parts of Germany when they went through, and Stalin mandated some extremely secret, highly funded programs, one of them being a massive air defense program -- massive. So the massive air defense program was more heavily funded that the nuclear or nuclear delivery system programs and were secretly managed by his intelligence chief. Because he was paranoid. He told them one bomber getting through and the Communist Party could be ended.

Well, those kind of historical lessons have only been reinforced over the many, many years that have occurred since World War II and both countries really, really are affected by what American air power can do, and that's air power writ large. But what

they really fear is systemic air power. Systemic air power combines air lift with ISR, with tanking, with air superiority, with overhead command and control, with strike. It's not just strike. These are things they can't do, they aspire to do it. So we watch them try to gain these competencies because they're looking up to the United States Air Force, a systemic air power force, and they watch how they operate jointly with the rest of the Force, and it is one of the major neuralgias, especially with China, that they have about jointness. Anything that accentuates jointness is something that the Chinese -- it just really pains them because they see how far they have to go when it comes to doing joint operations.

So this gets to Chief Goldfein and his JADC2, the global -- gotta put that word in there -- C2, and I would say is a major feather in his cap in adopting and taking on board what the National Defense Strategy said. The Air Force has been the most aggressive of all the services in supporting that effort, I believe, bureaucratically, at least within the Pentagon. But here's where he puts skin in the game, what the Chief did was put money behind C2. C2 is not sexy, it's not that awesome B-21 bomber picture that you had up there. That B-21 bomber that you saw up there depends on C2.

Now, why was that a gutsy move on his part? Because (a) it isn't sexy to blue, but you know what it is to red? It's the thing that they say they're going to attack first. They're more fearful of airpower, but their defense focus is on attacking allied and blue C2. So what the chief did was responded to that like a responsible professional military person would do and got his institution to back it with money. And thankfully the senior leadership of the Department said, all right, you got it, you got the C2 lead and he's proceeding forward with that. Now, we don't know how it's going to come out. All I'm saying to you is it's evidence of the cognitive adaptation that the service needs from its senior leaders to pull the Air Force into a place where it can become a more effective competitor.

A couple of things -- I mentioned bases, I mentioned C2, I want to talk a little bit about bombers. The bomber picture is not rosy. I think the Air Force will try to put a good spin on it, but the bombers, and especially penetrating bombers, are perhaps the most

awe inspiring aspect of systemic airpower that the United States brings to bear against Russia and China. And I think one of the iron laws of D.C. -- and I'm going to end with this -- one the iron laws of D.C. is you never ever, ever sell down the river an existing system. You never give up on it. You let somebody make you do it. You never give up on an operational system. But iron law squared is you never ever, ever sell a system that's a nuclear system down the river. And the B-21, the threat here is that the B-21 is going to sell the B-2 and other bomber systems -- they're going to have to sacrifice the B-2 in order to get the things they want -- the bird in the bush. And I can't tell you how opposed I would be to something like that. I think the Air Force, one of its uniquenesses within the U.S. defense community in terms of airpower is its bomber force. The bomber force is attritted massively and is no longer of dealing with the target sets -- I'm just talking about in purely operation terms -- the target sets that they would have to deal with, given the basing structure that we have now -- remember, this atrophy basing structure makes it much more difficult to get up tight to an adversary who's got a lot of firepower that can hold you at risk, necessitating and putting more pressure on bombers and tanking to be able to do that kind of a thing at the numbers that you need.

So there is a lot of campaign work that needs to be done in this area, but I would just say in the near-term, don't sacrifice the bombers you have for the bombers you're going to get at some time in the future. And don't sacrifice their capacity to penetrate for something that lies well out into the future as well.

So, again, modernization is more than hardware, it's more than jets, it happens up here. It's perhaps the most important part of the modernization. And I think the challenge for Air Force leadership is going to be to use the Chief's sort of C2 initiative to kind of capitalize on a broader better understanding of both of its adversaries and how it can become a more stabilizing and awesome Force in dealing with the major power competition we're faced with from Russia and China.

MR. O'HANLON: Excellent. I have a clarifying question or two just on some

of the specifics and then I'm going to sort of frame a big broad question that I'll ask you each to react to before we go to the audience.

On the clarifying question, and you mentioned as well Rebecca, about the kinds of numbers of a bomber force that many people think would be appropriate given the potential simultaneity to some of the threats we see. And General Goldfein here last winter, about this time of year when I asked him what is the actual scenario set against which you plan force structure -- and he was trying to justify a 25 percent growth in the Air Force force structure, which, you know, from 312 to 386 squadrons, which I doubt is viable with our budget plans -- but anyway, he laid out he wants to be able to protect the homeland, to sustain a nuclear deterrent force, including the tanker and bomber capability -- that would be the second -- to defeat either Russia or China in a conventional war, not both, but one at a time, to deter North Korea while we're still doing all those other things, and then finally, to maintain momentum on the war on terror. So that was the fivefold mission set that he laid out.

So a lot of people think that implies a requirement for at least a couple of hundred, maybe more bombers. Today we have in the entire -- even if you just count actual airplanes -- we have 21 B-2s, we have a little more than 100 B-52s --

MR. EHRHARD: Twenty.

MR. O'HANLON: But many of the -- 20 -- yeah, thank you.

MR. EHRHARD: One makes a big difference when you only have that many.

MR. O'HANLON: One makes a difference -- 5 percent. We have more than 100 B-52s, but we don't actually combat code all of those. And we have close to 100 B-1s, but again, we don't combat code all of those. So how many are actually operational today between those three bomber fleets? Is it in the range of 125 combined? Is it something like that?

MR. EHRHARD: Well, again, when you ask how many are operational at

any given time, what matters most to an adversary and to the Chief, and to the regional combatant commander is how many they can employ at any given time, given that --

MR. O'HANLON: Mission capable rate.

MR. EHRHARD: Yeah, their mission capable rate. And so that gets to a whole set of issues about the age of this Force. I mean the B-52 is virtually a caricature at this point. It's age is a caricature. I mean it's so old -- it's older than me.

MR. O'HANLON: Wow.

MR. EHRHARD: Yeah, I know, pretty old -- grandpa. And yet it still represents an intercontinental strike capability. So age gets to the problem of keeping them mission capable. So the logistics -- the Air Force's procurement holiday has been made worse by the fact that they've had to spend so much on operations and maintenance over these last 15-20 years just to keep the jets flying and to keep some kind of useful operational, you know, Force.

So these are all the squeezes -- this is the squeezing that the Chief and the Secretary feel when they put together any given budget. And I would just say that, you know, I would like to have greater mission capability than we have today. And it gets down to targeting. I mean you have to think about what kind of targeting is required to do any given set of actions in both theaters, and that's highly classified, but it is critical to understanding what we have to be able to do to enable the joint force and to deter and to stabilize and all of that. The bomber is critical to that.

MR. O'HANLON: I mean we actually physically own more than 200 bombers, but we only try to even keep 60 or 70 B-52s and 60 or 70 B-1s in combat coding. And then out of that, as you say, there is mission capable -- maybe 70 percent are flying out of the ones we're trying to keep. So we sort of ratchet down twice. Even though we have more than 200 bombers in the overall inventory, we're actually only able to put a little more than 100 in the air at a given time. Is that about right?

MS. GRANT: Well, and you know, you cut that a bunch of different ways. If

you look at who's in the mod line, who's in the school house, who's in the shelter getting inspected for cracks. And I'm talking about the B-1s.

But I think it's important to look at another aspect of that. And I've been very fortunate and I got to fly as a passenger in a B-52 and in a B-2, which is unbelievable, right?

MR. O'HANLON: That is good.

MS. GRANT: But let me just talk about the B-2 for a moment, the B-2 which conducted its most recent combat strikes back in January of 2017, basically a pair of B-2s, and they released over 100 weapons against targets in Libya. So, yes, these are old aircraft that have some old bits to them still, but they also have really been very assiduously modernized, both in their command and control links, their targeting links, and then of course with their tremendous evolution we've seen weaponry.

So while the number is there and your point is spot on, it's not a big number, we need more, but their capability is unbelievable. And the JADC2 piece is meant to enhance that with the flow of information, as it will do for other platforms that are partly into that network. So no question about we need more. And it's been stunning to me to see kind of the turn within the Air Force's thinking from well, bombers, you know, we've got the B-21 coming, we're going to kind of hold the line, to now really looking at a requirement to keep and care for everything that we have to get more B-21s, get them faster when -- that's not like next year kind of thing. Hasn't done its first flight yet -- but to get them faster when it's possible. Because, yes, we don't have quite the number we want, but the impact of that bomber force today is far beyond what it would have been even five years ago.

MR. EHRHARD: Yeah. Yeah, they're (inaudible)

MR. O'HANLON: So here's my big last question before we get your thoughts and go to the audience.

And I'm going to weave in a little bit of intra Air Force politics as well as sort of ultimately a question about if we have to cut something with the Air Force, what should it be. Because I begin from the simple observation that last year's Trump Administration's

future years defense plan anticipated real defense budget reductions in the years to come. I mean not deep, but about 1 percent. So the planned nominal increase in the overall Defense Department budget was going to be less the expected rate of inflation. So real cuts after this but Trump build-up. And at the same time that the Air Force and Navy both are on record aspiring to 25 percent growth in force structure, and a time when all the services have ambitious modernization goals and the nuclear force modernization agenda is, you know, pretty demanding as well.

So I want to get to the question of what if anything should we cut, but I want to first ask you to address the overall way in which the Air Force makes its decisions today. I was just reading the classic "How Much is Enough" by Enthoven and Smith, and of course they talk about how in the 1950s the Air Force was dominated by the bomber community and Curtis LeMay. And then Vietnam happened and the fighter community sort of took over and sort of is still in charge today.

And I wanted to ask you to comment on that, is that a problem, is that going to change ever, should it change, is it changing? And what about UAVs? We haven't talked a whole about them, but unmanned aerial systems or vehicles, are they getting enough priority within broader Air Force thinking?

So to the extent you want to weave in intra service politics, but also just ultimately wind up explaining to all of us which priorities are less important. We've talked about the command and control with the bomber force, space assets, but I'd like to know if there's anything that is less important.

And the last piece I want to weave in, at a time when we're all aware that forward bases are increasingly vulnerable to enemy attack, should the Air Force be buying some Marine Corps F-35s so that it can take off from, you know, smaller fractions of a surviving runway or even roads or other places that, you know, in Okinawa or some other place are more survivable than the big long strips? So that's one more piece I'd like to ask you to weave in.

But, you know, if you could sort of talk about relative priorities and lower priorities within the Air Force budget, each of you, maybe starting with Rebecca.

MS. GRANT: This is great. So let's start with this sociology question if that's okay, the leadership question. We want to talk about bases, potential cuts, about F-35s.

I'd like to point out that right now we have two space officers on the Joint chiefs of staff, the vice chairman and General Raymond with U.S. Space force, who officially becomes a member a bit down the road, but is sitting with that group right now. We've got two U.S. space four-stars there.

The question about leadership, you know, it -- and why are they there? Because they are the ones who can help understand about space warfighting. So the selection of the leadership comes from who are the individuals, the men and women who -- pointing to the closest fighter pilot to the stage -- who understand how to get out there and put together the brief, to put together the com plan, get the airplanes to take off, get all the pieces together and go attack the targets and come back. You want the people who have that experience, you want the ones who know how to run the tanker airlift control center and move -- you know, two more planes please to evacuate out of China and I need them there right now. You want the individuals who have that. That's going to be a mix of people. And we've seen a little bit of a progression there, but there will still be those bomber pilots. We've seen a number of F-22 pilots coming up within the Air Force ranks. So we're going to see that. So the Air Force has to have all that specialties, but they've got to have that warfighting sense there.

Tom may have another comment on sociology then we'll go to your other points.

MR. EHRHARD: Well, I think, Mike, you get to a very important analytical point for all of national defense, and that is these organizations have their own internal dynamics, cultural dynamics, advocacy dynamics. And sometimes they have negative

strategic and operational ramifications that we should all be aware of, we should all be watching for that.

Let me give you one example. In the U.S. Air Force the aerial refueling or tanker community was large, so on the face of it you'd think well, they'd be really powerful. There are a lot of them, there are a lot of those pilots. They had almost no influence in the Air Force for a whole set of cultural reasons U could go into. That's why it took forever to get from KC-135 to where we are now and actually just starting to get to the point where we can recapitalize. I mean we're talking about a Force that was plussed up back in the late '50s and early '60s, was a plus up given to the Air Force to build a tanker force that could do intercontinental nuclear strike because of the rise of the Soviet ability to hold forward bases at risk.

So when you look at that -- I mean that's a very important part of the explanation about why it took so long o get aerial refuelers. And what happens strategically there with refueling was that they had this one sort of singular purpose all the way through the Cold War. They just sat there and waited to help the F-52 get all the way over there. That's what they did. But as soon as the Cold War ended they became the backbone of U.S. expeditionary combat power. They just did empirically. That's what happened. Everything from Desert Storm on up became just like wholly dependent on our ability to take those old tankers and get the Joint Force to where it needed to go. Not just refueling airplanes, but getting the Joint Force there and back.

So strategically it was revitalized in that sense, but internally the constituency was still weak and it was very, very difficult for the whole institution to sort of get around it and finally push that across the line because every military service depends on the people who operated those systems to be the ardent advocates within the system to make that thing to push it across the line.

So what we have now is, when I talked about bombers, you have a bomber community that has been let's say not only marginalized, but in many ways self-marginalized

after the end of the Cold War. Their constituent power -- there's constituent advocacy push, their aggressiveness within the Air Force has dramatically reduced. And so it was very difficult to find the -- I'll never forget going to a bomber meeting down at Air Combat Command it was constituted mainly of old F-111 pilots and WSOs, old F-4 navigators, and fighter guys. And I sort of raised my hand and said like where are bomber guys here? Well, they're a small community and they have these very important jobs that they're doing elsewhere. And this was the bomber, you know, advocacy group.

So it's hard to get -- it's an amazing to watch that in all the services. They all have unique dynamics like that. So I would just -- sorry for all the stories, but those impact what then the Air Force eventually does, because of those internal dynamics. What I'm asking for is a service that incrementally puts red at the table more in all of their communities, that thinks more about the adversary, uses that adversarial -- or what the adversary is doing as part of their justification for advocating systems within their service.

I want to answer your last question. The answer is no, not in a million years should the Air Force ever buy an F-35B. So I could go into the reasons why, but it's --

MR. O'HANLON: Well, that's also a good segue to -- is there anything else that's a lower priority, besides the things that only I have actually put on the table, the F-35B for the Air Force? But is there anything that's a lower priority, so that if in fact the defense budget plateaus or even slightly declines in the years ahead and the Air Force doesn't get greater budget share than it does now out of the overall Pentagon budget, is there anything that you would look to first? You know, you may do it under duress and you may not want to say you're advocating this, but I would still --

MR. EHRHARD: (Inaudible)?

MR. O'HANLON: Right, exactly. So maybe one example from either of you, if you have one, and then we'll go to the audience.

MS. GRANT: We can toss them back and forth like tennis. I'll take MQ-9s, some MQ-9s. And it's hard because I go and talk about what the demand signal is, but

some of the MQ-9s -- we maintain a lot of MQ-9 orbits and we know that's a vulnerable system against persistent air defenses. So I would say MQ-9s.

MR. O'HANLON: Unmanned aerial vehicles?

MS. GRANT: Unmanned aerial vehicles, the grown-up of the Reaper.

MR. EHRHARD: The Reaper.

MS. GRANT: Which is very, very combat renowned and very useful and it's always difficult. I would also put out something that the Air Force has wanted to do for a long time, and it's very tough politically, and it's the A-10.

MR. EHRHARD: Yeah. Yeah, I'd go with both of those too. And I'm the UAV guy allegedly. And so what I have always advocated for is that the Air Force operate -- well, that the Air Force operate a more high end capable unmanned aerial vehicle force. I'll just put it at that.

Multitiered -- I'm on the record for advocating that with the "An Air Force Strategy For the Long Haul" that I wrote and published back in 2009. And I believe those are the kinds of unmanned assets that the Air Force needs to be, you know, switching over to whereas other services have other unmanned vehicle requirements that don't necessarily require that level of sophistication. But, yeah, I think both of those are clear.

I mean, you know, close air support gets very emotional and it both gets emotional from the point of view of constituencies where there are A-10 bases and it gets emotion when it comes to close air support. But anybody who's followed the evolution in over the past 20 years understands that close air support ain't what it used to be. It's not Stuka dive-bombing, right in the teeth. It's just not.

MS. GRANT: Sometimes it is.

MR. EHRHARD: That didn't even work then. It stopped worked as soon as there were air defenses in World War II. So --

MS. GRANT: And the statistics show that multiple platforms are used on the shooter end.

MR. EHRHARD: Yeah. I mean it just isn't --

MS. GRANT: From everything to everything.

MR. EHRHARD: You know, with the evolution of weapons, with C2, you know, the ability to coordinate all of those things on the ground. And so, yeah, it's a much different environment. And the A-10 is very old. It's just very old. It's an awesome cast machine, it's, I believe, the greatest close air support machine ever built. It's just you've got to be able to fly it with some kind of mission capability. And, you know, that's been challenging, especially in light of all these other things that Rebecca talked about, which are operational requirements for the Air Force.

MS. GRANT: And that said about the A-10 in full recognition that there were times over Iraq when the A-10 was the only thing that had weapons left to expend and they would -- you know, 10 hour missions, pull them up from whatever corner of the air space they were in up to where they were needed, so truly valiant stuff. Anyway.

MR. EHRHARD: Yeah. Yeah, it's an unbelievable aircraft.

MS. GRANT: Those are the suggestions on the Air Force.

MR. O'HANLON: Great, thank you. So let's take two or three questions at a time, have a couple of rounds, if you guys can either take notes or work your memories and we'll make sure we get a few people into the conversation before we come back to you.

So we'll start over here and just work across row two for round one with those three hands I just saw.

MR. BARNETT: Thank you. Jackson Barnett with FedScoop.

China has said publicly that it intends to leapfrog U.S. technological advantage by developing artificial intelligence. How should the Air Force think about developing AI as it tries to progress and maintain technological advantage? And how does AI fit into modernizing its force structure?

MR. O'HANLON: Great. If you could just hand the microphone over here to Colin please.

MR. CLARK: Colin Clark, Breaking Defense.

Tom, you said that the mind is where modernization happens. Has the Air Force, when we look at the F-15 decision, the continuing willingness to let the KC-46 sort of dribble along with the problems it's had, the inability to kill the A-10. I know Congress played a small role in that. But you take all of these things together, has the Air Force been tough enough mentally to make these hard choices and can they make them? Or are they incapable of making those hard choices?

MR. O'HANLON: And one more please and then we'll come back to Rebecca and Tom.

MR. NICHOLSON: George Nicholson of the Global SOF Foundation.

A question on you talked about priorities. Combat rescue. I did the worldwide missionary analysis for personnel recovery years ago. Since 1972 air rescue has not done a single combat rescue. During Desert Storm there were three rescues. One was done by Tommy Trask under AFSOC, the other one was done by Dell Dailey with the 160th Special Operations Regiment, and one was done by the Navy. Fast forward to allied force, there were three rescues. Two were done by SOF, one was done by the Marines. Fast forward to Odyssey Dawn and Libya, air rescue couldn't do a single thing and again it was a Marine trap that did it. When we first went into Syria the only service that had the capability of having the Force on alert was the Marines. They had two airborne MV-22s with tankers supporting it.

We're pushing forward to get 112 new CSAR rescue aircraft, 200 mile combat radius. Who's going to pick up that F-35 that goes down 1,500 miles deep? Who's going to pick up that F-22 that goes down that deep? It just seems that people are putting their heads in the sand on that one.

MR. O'HANLON: All right. So we've got three pretty specific questions. Why don't we start with you, Rebecca, and answer one or two if you could and then Tom.

MS. GRANT: Yeah, I want to talk about George and also AI. And I'm sure

Tom will want to talk -- I'll leave Colin's tough questions for Tom.

You know, one thing the air commander wants is to be able to tell the air crews that we'll come get you, okay. I mean I think that's pretty central. It was central to General Moseley's decisions on when he initiated combat operations in Iraq. It's really central to that. And it's a tough one. General Goldfein famously is someone who got picked up, right. A SAM exploded too near the F-16 and all the little parts went in the engine -- engine failure. He was picked up pretty quickly.

QUESTIONER: By SOF.

MS. GRANT: By SOF, exactly.

MR. EHRHARD: He cares about it a little bit.

MS. GRANT: But what we know, and you're so right to point out, is it is not the problem from the Vietnam war movies when we had, you know, so many -- anybody here today -- we have someone here today who was down in Vietnam and picked up. Tremendous ability. It's not the same. It is a much, much more difficult problem to work. I want to see the Air Force still working that, but yes, you know, who's going to pick up that -- you know, maybe it's a B-22 SOF (inaudible). So I think that's really a question, but it's not something I want to see the Air Force give up or lose. I think it's still really important. Think about the number of allied airmen, how extensively our allied airmen were prepared to go down in France. My father-in-law was shot down in France actually. So it's something that is really, really sacred to the airmen's bond and to the trust.

AI. You know, China wants to leapfrog and get AI so they can put together all the picture and pick up the stealth aircraft and then so they can target everything. And also so they can make money off if it and, you know, scare everyone to death and win the war without fighting and all that good Sun Tzu stuff, as you so correctly point out. And the keys -- there are so many and it's something we have got to watch very carefully -- 5G is critical, not only in its own right but because it is a door to AI, okay. It's something that we need to understand how we want to develop it. Airmen will tell you they already have a lot of

that -- F-22, F-35. There is already AI there. And we want to keep that as a U.S. advantage, we want to keep that lead, and we need to do as a society, whole of government whatever it takes to zealously guard that great intellectual property and keep that and not allow that leapfrogging to take place.

Tom, I'm sure you'll want to comment.

MR. EHRHARD: Yeah. On AI, you know, it's a little hyped right now, but I would just say that, again, China's focus is on attacking western C2. That's their number one focus. They're also extraordinarily neuralgic about time compression. That is to say they believe they don't have enough time to make decisions. And this time compression drives them more to automation.

I just want everybody in the audience to think about the fact that AI and time compression is a huge stability issue. That is to say it creates dynamics between adversaries where it's the equivalent of World War I train schedules being kicked off. Once you kick it off, the other side's got to do it or else you're -- so automated C2 has interesting and mostly negative stability ramifications. What I think each nation is going to do is find different ways for them to employ that. For the United States, and I think Bob Work, my old boss, former deputy secretary, is spot on about as he goes around town is that we need to be a lot better at thinking about what AI can do first, what problems are we trying to solve with that. It's not just some thing that's crazy out there, it's -- there are a lot of things we could do in an automated fashion that would relieve the human to be able to do what they do best. And so I think we're behind on some of those very simple things that we could be doing. And I think we'd actually get a head of the game and I think actually there's going to be a lot embedded in what the Chief is going after with JADC2, with global JADC2, where I think we get at some of those things that you can do it in an automated fashion.

So it's all about the balance there. And I'm not a -- you know, this is not the apocalypse as far as I'm concerned when it comes to AI, but it is a thing that we need to make sure we win in the way that we implement it.

Just your point, Colin, about -- I call it mind modernization. Part of modernization -- or part of any institution in the Department of Defense is the way that they advocate for their systems. Not only did I talk about the internal sort of -- you know, the intramural social elements, but what do they do outside and how do they advocate with all the external agencies. How do they, you know, attempt to get those marginal gains?

What you see is when you look at budgets over about the past -- let's see now -- 40 years or so, when DOD budgets went up -- it started in the '80s. When the overall budget increased the Air Force lost budget share. When DOD budgets fell the Air Force lost budget share. That's a problem. That's an indicator of a problem. Budget share is not the objective in D.C., contrary to what some budget people will tell you. It is not the objective. The objective is all the things that we understand strategically that these services have to do. It's an indicator of your ability to get the things that you -- to give yourself the space to do the things you understand that you need to do to be able to support U.S. national security.

So I'd say there's a problematic history that the Air Force has to deal with and understand and figure out. And part of it is just simply, you know, just being tougher. And taking a cue from sister services who really know how to do this well and just being -- they have to be better at it. It's just part of advocacy, it's part of understanding your -- being an institution. You have to value yourself as an institution. And I would just say you have to understand your role within -- the way red looks at you. The way the adversary looks at you to me is the greatest advocacy tool you can leverage. And almost nobody does it.

I have a little red-blue meter in my mind that goes off when I'm in the Pentagon. It's my little -- is the conversation at all about China and Russia or it all about U.S? U.S., U.S., U.S., U.S., U.S. all -- and it's -- here's what happens -- blue, blue, blue, blue, blue, blue, blue, blue, blue. Tom says red, red, red, red. Yeah, that's a really good point Tom, blue, blue, blue, blue, blue, blue, blue, blue, blue, blue, blue, blue, blue, blue, blue. It just goes right -- it's like reflexive, it's like homeostatic. It goes back to that. We

have to change that equation. And if the Air Force incrementally changes that equation better than the other services, I believe there will be value in that for them. And there's plenty for them to do, there's plenty of open mission space. And, as Rebecca talked about, it's definitely there.

So that would be my answer to you. I think it's just part of leadership. You know, the Air Force -- I think the chief has done a fantastic job of putting skin in the game on C2, which is a critical deal. I think that's a big signal and we'll see what they do with it.

MR. O'HANLON: Great. We have time I think for one more round. We'll start here with the gentleman in the front and then work back a little bit. We might do three or four in this round, so.

MR. EHRHARD: Yeah.

QUESTIONER: So a little bit of a prelude. It's a budget question. Mike, you brought up a couple of things. But the bomber force is a little bit smaller than what we think it is. The Air Force is carrying 61 B-1s on its book right now. You can say the other 39 are available, but they won't be available for a year. They're someplace else, they're cannibalized or something else. And if you add them all up on the active duty, there's 139. Only half or less than half are available at any time, which means you're talking about less than one sortie out of each jet, seventy going to China on any given day. That number is really small.

Fighter guy, big fan of the movement towards bombers, but going back into history of bombers, we were going to purchase 244 B-1a. The Carter Administration cancelled the program after the first flight of the B-1. So not even where we are on the B-21 and they cancelled it. And when the Reagan Administration came back they only bought 100. We were going to by 132 B-2s, we bought 21. And all of those are on funding cycles, all of those are on Administrations, and we're looking right now at the height of spending for a while. It's actually going to start going down this year in a net term.

So procurement wise, the Air Force budget is actually going down by $.1

billion per the budget submission that was last year. Your thoughts are communications is great and R&D is great. Where are we on procurement? It doesn't look like we're moving in any direction and it looks like we're going downhill. So bomber-wise, how are we going to recover if we give up any force structure this year?

MR. O'HANLON: Thank you. And well go -- I think about the fourth or fifth row, the woman the red shirt, the fifth row please.

QUESTIONER: Good morning. As mentioned earlier, the Air Force includes air lift and that tanker air lift control center. Do you have more information with regard to the tankers and the air lift? Because both of those are involved in so many missions. And in a briefing like this, they just don't get the emphasis. I mean I know they're not as sexy as the fighters, but they're a significant part of the Air Force.

And my second part is what about the workforce, the people? Are you getting the number of people that you need to work on the equipment and to develop the Air Force like it should be?

MR. O'HANLON: Thank you. And let's do one more at least. I'm sorry that we're not going to get to everybody, but the gentleman right in front here in the fourth row.

QUESTIONER: My question will be would you think using (inaudible) warfare in like the highly developed technology state like China and Russia is too risky for the U.S.?

In 2011 Iran captured a Sentinel. And, as we all know, China and Russia are more able in the command and control technologies, so if they can capture a Sentinel they can also capture the Global Hawk and also even the X-47. So would you think using (inaudible) warfare in China and Russia is too risky?

MR. O'HANLON: And we'll see if I can sneak one last one here I think right across the row, here in the fourth row.

QUESTIONER: Good morning, I'm Colonel Perovic (phonetic), Defense Ministry of Serbia.

Just a short question referring to Rebecca's remarks about the allies in Europe and your airpower superiority in the Middle East and how these recent developments with Turkey fits in with this context.

Thank you.

MR. O'HANLON: Great. So we've got the allies, we've got the overall procurement budget, we've got the lift fleet, and then finally the UAV fleet and counterintelligence, which ever fraction you'd like.

MS. GRANT: I'm going to start and I'm going to answer your question about the allies and also about Turkey and then I'd like to talk about the tankers and people and then --

MR. O'HANLON: Good.

MS. GRANT: I'm going to leave you the other ones.

MR. EHRHARD: Oh, god, I got the other ones.

MS. GRANT: I'm glad you brought up the question. You know, as I said, to me the bond among airmen is really crucial and something that' really important about NATO. It's something that's very, very special there.

We have seen that Turkey and the Turkish Air Force has long been a very key NATO ally. We know that Turkish Air Force officials have held high command responsibilities within NATO. I, like so many others, was sad to see the procurement of the Russian air defense system. I'm sad to see Turkey not currently in the F-35 program, as we have heard that Turkey was producing its part of that program very, very efficiently and very well.

We know that the State Department overall wants to look at a broader set of relations between the U.S. and Turkey, and I am hopeful down the road that we will see something better than where we are at today because to me Turkey is an absolutely critical NATO ally. You only have to look at the map to see that. Eisenhower himself personally advocated or Turkey to be in NATO and this is no time to be getting rid of our airmen

partners within that alliance. So that makes my feelings on that subject pretty clear.

You know, I look also, just to remind the strike that was carried out in 2018 by NATO partners Britain, France, and the U.S. against Syrian chemical weapons targets, some of which were in downtown Damascus, right underneath that very modernized Russian air defense system. Done very, very well.

The question about people, I note that the Air Force is the one service that consistently makes its recruiting targets, which is tremendous.

Another statistic for you, Air Force and particularly enlisted members have great access to college education. Typically the Air Force graduates more airmen with college degrees than all the other services combined. So I think the Air Force -- and it does this because the Air Force needs to hold onto good people to train them for maintenance and many, many other tasks. Need to hold onto them. So people is just absolutely huge. And I know the Air Force does a lot to try to work that ops tempo for the airmen, to keep that going. Because, you know, if we don't have the airmen, this is just a bunch of carcasses sitting on the flightline really.

And I think that very much goes also to what we see with the viability of the tanker and the air lift fleet. Where are we on KC-46? I think we're all a little horrified that that hasn't come along better. But I wanted to note that the Air Force has been very, very stern and clear in in some cases not accepting a KC-46 delivery. And I think that they are aware they need to be on a path to fix that.

QUESTIONER: There is a replacement (inaudible).

MR. O'HANLON: Tom?

MR. EHRHARD: Just a quick note on the people part of it, if you think of the Air Force, the other three services are generally recruiting services. That's what they do, they turn them over. The Air Force is a retention service. They have to bring people in and retain them over a long period of time. And so they have a different sort of cultural and sort of, you know, way of dealing with that. That goes all the way back to recruitment. That's

why they keep getting good recruits, and it's really an amazing -- you know, when we talk about recruitment we -- officer corps is generally the same across the services, right, because they're all college graduates and they're all, you know -- they for the most part self-select. But when it comes to the enlisted ranks, it is not a birthright that they keep making their recruiting objectives and the senior leaders know that. And so they work really, really hard at getting those superior people in.

MS. GRANT: Tom, before you go on, can I throw in one more reclama?

MR. EHRHARD: Yeah.

MS. GRANT: And that is to JV. I don't want to see the Air Force retire a single bomber at the moment.

MR. EHRHARD: That's right.

MS. GRANT: Not one.

MR. EHRHARD: Yeah, yeah. And so maybe we should close on this.

For the young man who talked about we should be worried because of the Sentinel issue, or whatever it might be, and really what you're doing is calling into question the ability to penetrate. It is my fervent wish that the leadership, military and civilian, that there are people in that leadership who think the same way. I really hope they think that same way, that is they're going to be able to defend against those assets when the time comes. If they think that way, that's -- as far as I'm concerned -- a good thing. I hope they do think that way.

MR. O'HANLON: Thank you all for being here. Please join me in appreciating and thanking Rebecca and Tom. (Applause)

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I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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