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Lt. Gen. David A. Deptula, USAF (Ret.):

Well, good afternoon ladies and gentlemen. I'm Dave Deptula, Dean of the Mitchell Institute for Aerospace Studies, and welcome to our panel on the next generation bomber force. One of the fundamental credos of the Air Force is to be able to strike any target anywhere, anytime. No other mission speaks to this as much as long range penetrating strike. However, this is also one of the most challenging missions to accomplish in highly contested operational environments, particularly during a peer conflict. That's why it takes stealth bombers equipped with advanced sensors and the right mix of munitions to hold our adversaries most important assets at risk. Northrop Grumman is continuing to develop and test the next generation penetrating bomber, the B-21, as the premier capability in our nation's future long range strike family of systems. Today, we're going to discuss the B-21 and the need to rapidly acquire the appropriate sized B-21 force, that's sized to meet and defeat peer aggression, as well as meeting the national defense strategy's other operational requirements.

With that, let me introduce our panelist. I'd like to extend a warm welcome to Major General Jason Armagost, Rapid Capability Office acting director, Melissa Johnson, President of Northrop Grumman Aeronautic Systems, Tom Jones, and Mitchell Institute's own, retired Colonel Mark Gunzinger. General Armagost is a director of strategic plans, programs, and requirements for Global Strike Command. He's responsible for funding and requirements for modernizing the Air Force's nuclear deterrent forces, including both the Sentinel ICBM, the B-21, and other systems, with a budget of over 13.5 billion. He's logged over 2,900 flight hours, including time in all three bomber types in the current inventory.

As the RCOs deputy director, Melissa Johnson helps lead the Air Force's high speed acquisition efforts. The RCO was given responsibility for the B-21 program to take advantage of the RCOs efficient and streamlined process. Before joining the RCO, Ms. Johnson served in a variety of roles on active duty from aerodynamic propulsion analyst to material leader for several highly classified programs.

And Tom Jones is the Northrop Grumman corporate vice president and president of Northrop Grumman Aeronautic Systems, with almost 30 years experience in the aerospace and defense industries. Northrop's Aeronautic systems sector is the prime contractor for the B-21 project. So far, the B-21 has progressed well into EMD with six aircraft and various stages of test and final assembly, making it one of the Air Force's premier acquisition success stories. And you all heard Assistant Secretary Hunter release the news today that it will be unveiled the first week in December.

Colonel retired Mark Gunzinger is director of future concepts and capability assessments at the Mitchell Institute. And Gunzinger got over 3000 hours in the B-52. He served almost 20 years on the air staff, National Security Council staff, and in OSD as deputy assistant secretary of defense.

Thank you all, ladies and gentlemen, for joining us. And what I'd like to do is offer each of our distinguished panelists the opportunity to make a few opening comments. We're going to start with General Armagost. Over to you, Arma.

Maj. Gen. Jason R. Armagost:

All right, thanks, General Deptula. I do want to start with thanks actually, because you've kind of been an icon as I've come up through my time in the Air Force. It's a pleasure to share the stage with you, but I also want to thank Gunzo and what you both are doing with the thought leadership through the Mitchell Institute. It has been a great help to me about how we think about the things we're going to try and tackle together, and how the environment is changing and how we adapt to that changing environment. I know I'm going to steal thunder here, but getting to go first, I got to do that. Being part of this team, between industry, acquisition, and the requirements owner war fighter, is really powerful. I

think when RCO was stood up, it really set the stage for some really powerful transparently requirements driven interactions that don't just sustain themselves. They sustain themselves through relationships.

I would argue that the success that we've seen as we march towards getting the B-21 out there is a result of that. And then I would offer, for my initial comments, when I first got in the A58 job last August, almost immediately I got assigned to be an ops lead for one of the secretaries operational imperatives between B-21 Family of Systems. And all that did was really energized this relationship, not to say that it wasn't before, but it really did energize it. And it has helped me, as a match com plans guy in support of General Cotton, to really think differently about the gaps and seams. And it's actually helped us to work on that transition piece for our legacy bombers and our weapons portfolio to really make the near turn different, burn down risk and kind of change the environment really quickly. That's what I would offer for my intro.

Lt. Gen. David A. Deptula, USAF (Ret.):

Very good. Ms. Johnson?

Melissa A. Johnson:

Hi, good morning or good afternoon General Deptula. Thank you so much for the generous invitation to participate with my ESTEEM colleagues here and I'm just really proud to represent the men and women of the B-21 program office and I know some of them are sitting in here today and all the DAF RCO and I think I'm, you'll probably hear some themes. I think General Armagost kind of hit on that, but if I could look back before we talk specifically about B-21, I think there's really an important linkage to make between the DAF RCO and why the B-21 and for me as I go back 19 and a half years really as a plan holder in the organization, it really boils down to three things and it's really our core values. It's talent, trust and teamwork. When we look at the talent that comes into the organization and it's really a highly skilled multifunctional workforce, if you heard some of the other panels, especially Mr. Hunter and General Richardson today, they talked a little bit about the workforce.

We over the past 19 and a half years have had a very highly skilled, not just program managers and engineers, but it really is embedding the operational community with the program office and that is really a key component to being able to get the right weapon system out the door. The second thing is the trust. You have to have the trust not only from within the organization and with your partners, but it's the trust not only from the leadership meaning all the way up to the secretary of the Air Force, but really congressional support. That trust and transparency that we have with them has really enabled the stability of funding for this program through the course of its inception. Then the third thing is really the teamwork. And I want to unpack that just for a second, a little bit more than Armo did and that teamwork really manifests itself in a couple of different areas.

First and foremost, it's our acquisition teammates. The B-21 program office, it's in the RCO, but we could not do this without our Air Force Life Cycle Management Center teammates up at Wright Pat. In fact, I'd say the majority of the team is at Wright Patterson Air Force Base. We have a smaller contingent here in the DC area. And what LCMC offers is really a large scale of workforce to recruit from every area of the acquisition system. That's from program managers, financial managers, engineers, contracting, and really you cannot underestimate the need for really great functional support in that contracting and financial management. The second one that doesn't get talked about a lot but really needs to be emphasized is our partnership with the Sustainment Center. We all get really fixated on developing whatever weapon system and being able to deliver that. But if you don't bake in the sustainment and

the depot planning and how you can have not only sustained operations but also a life cycle affordability, everything else on the front end will start to devolve.

Building that really strong foundation with the sustainment center is really bearing a lot of fruit for the long term for global strike.

The third piece in is our operational support and that relationship with the war fighter that is really key and quite frankly is a core value of the RCO from the very beginning days to the point where global strike personnel actually live within the program office, which is really great. Our program director, Colonel Spalding has a counterpart at the 06 level and they go everywhere together. In fact, if it's to the point where they're almost probably finishing each other's sentences and that is how tightly knit global strike and the organization really are and we value that relationship. And then finally, and just as important, it's that trust and teamwork with industry. The model that the RCO uses and has used over the past almost 20 years is really making that a partnership.

It is not just a throwing contract actions over the wall between an industry partner and a program office. We know that we each have our roles and we know that there are certain limitations of how closely it can work, but quite frankly, our teams spend so much time at the industry plant that sometimes it is hard to tell who is government and who is industry. Again, everybody is synchronized and it is the constant transparency and communications, which if you don't have that trust built between the teams, it really gets tough to mitigate risk. And we know in a complex weapon system like this, there's going to be risk, there's going to be challenges. And that teamwork with Northrop Grumman, Tom specifically and his team, really is enabled all of us to be able to get those challenges head on and be able to keep this on cost and schedule with the right capability to be able to deliver to global strike.

I'm just very thankful to be a part of this team. We are going to do, we have that great teamship and then quite frankly, again, it's the congressional support that we get and all of those things coupled together again, bring back that talent trust in teamwork, which is going to give us the best bomber that we can get.

Lt. Gen. David A. Deptula, USAF (Ret.):

That's a great segue to our industry partner. Tom?

Thomas H. Jones:

Okay, thank you very much. General Deptula. I'd like to thank the Mitchell Institute and AFA for allowing me to participate in this panel. Great honor to be on stage with my teammates here and very proud on this special day to be able to represent the B-21 industry team. The last several years have been a challenge for all of us with the pandemic and other things, stressing normal working conditions, supply chain, things like that. And this team that we have of really 400 key suppliers over 40 states across the United States, the Northrop Grumman workforce, our partners, the work they've done to keep this program progressing along on budget, on schedule is phenomenal. Again, very proud to represent that team today.

There's been a lot of positive talk about this program. General Deptula even made some nice comments at the beginning, but to Mojo's point, this is a aircraft development program. It has not gone without its various problems like any program would. What is different, and I can say that as was pointed out in the bios as someone with over 30 years of experience in industry now is the way the industry government team has approached those problems has been very unique and again, a great thing to be a part of. Very excited to have a chance to crack the door open and talk a little bit about some of the things we've done to keep this program rolling along as it should. One final point I wanted to make last year there was a

rendering release of the B-21, which generated a lot of interest, although probably to a casual observer that is not into windscreen design.

They probably looked at and said that looks like the B2. And obviously flying wings are a great place to start airplane designs to operate in a highly contested environment. What I think the real key and the magic once we get past survivability, which we actually will not talk about, but it is the brains and the architecture inside B-21, the open architecture system which is going to take this very capable aircraft to make sure it stays on the cutting edge of technology for decades by being able to be modernized very quickly and easily. And that hopefully is also something we can talk a little bit about today. Those are my comments. Again, thank you very much. Looking forward to being on the panel.

Lt. Gen. David A. Deptula, USAF (Ret.):

You bet. Gonzo.

Col. Mark Gunzinger (Ret.):

Yeah, so I'm really honored to be sitting on the stage with three individuals who are working every day to make the B-21 a reality for our Air Force and for our country. That's pretty cool. Thank you very much.

I've been an advocate of a new penetrating bomber since the 1990s. I was in every study you can imagine in Department of Defense that took a look at what we really need in the way of long rain strike capabilities. The bottom up review of 1993, I'm dating myself, the 1997 deep attack weapons mix study all the way up to the tiger team effort that culminated with the decision to proceed with the LRSB, now the B-21. And here's some of the key insights from all those studies. Only penetrating bombers can deny an adversary like China or Russia or others sanctuary deep in their interiors.

Only a combination of stealth, wide ban all aspects stealth, will give us the kind of survivability we need to operate in highly contested environments that are going to exist throughout a conflict with China. The range the B-21 and other bombers bring to the fight will allow us to respond within hours of a Chinese invasion of Taiwan or venture in a South China Sea to go on the offensive and be to strike their high value targets and show them that we are determined and we are not going to allow this aggression stand. Only bombers can bring the payload capacity that's needed to strike thousands of targets and hundreds of hours in those kinds of invasion scenarios, including an invasion of Taiwan. A second insight is the size of the force. The size of the bomber force is way too small today, come to a panel this afternoon, we're going to talk about that a little bit.

We need a penetrating bomber force of at least 200 aircraft. We have to have the capacity to continue to go on the offensive and strike Chinese targets, Russian targets, to halt their fade a comply, plea aggression, deny, and then defeat that aggression. And finally, we still hear occasionally where it's, well why don't we just rely more on standoff weapons and avoid the cost of a penetrating bar. Study after study is shown that that is not a more cost effective way of delivering large numbers of bombs on aim points. In a conflict with China we might have to strike 80 to a hundred thousand aim points in the cost of those standoff weapons alone, make it prohibitive. That's why we need a penetrating bomber that could use lower cost weapons at scale to defeat our adversaries. With that General Deptula, back to you.

Lt. Gen. David A. Deptula, USAF (Ret.):

Okay, well thank you all for those insightful opening remarks. What I'd like to do is dig into this subject in a little bit more detail.

Armo first question for you, as a director of strategic plans, programs and requirements for a global strike command, what's the demand signal that's coming from the COCOMs for future penetrating strike force and how about that future force size given our national defense strategy and all the requirements that it entails?

Maj. Gen. Jason R. Armagost:

I think I've seen a patch from every MAJCOM here at AFA and it won't be a surprise to any of you from within your own perspectives, but the demand across the COCOMs, whether they're regional or global, is ubiquitous and unending. And to Gonzo's point beyond the capacity we currently have. Actually does kind of touch back to my point about the operation imperatives and how we're thinking differently about this because the B-21 is not operationally fielded yet. So we've had to figure out how we're going to do this in transition and with legacy platforms and how can we burn down risk for the B-21, but simultaneously increase our capacity and our ability to get into that denied airspace and turn it into a contested airspace so that we can compete and deter actually.

And a lot of really interesting thinking, again it's coming out of that. We're quite often now doing on bomber taskforce, we're going COCOM to COCOM right on the same mission. And the integration that happens along the way with our partners and allies is not just a signal, it's a real thing to show that we are not limited by lines on a map and it gets us, again, thinking differently about the capacity problem and the timing and tempo problem for how we would do this at scale.

Lt. Gen. David A. Deptula, USAF (Ret.):

Very good. Well here's a bit of a follow on for both Tom and Gonzo. B21's envisioned as a dual capable conventional as well as nuclear mission long-range bomber that's aimed to replace the B2. How does the B-21 stack up to the global operational demands that Armo just laid out?

Col. Mark Gunzinger (Ret.):

Yeah, you want to go first?

Okay, B-21 is America's China Deterrence bomber, no question about it. The combination of payload, range, survivability will allow us to respond to a short notice scenario where China invades Taiwan or pick another scenario to begin to thwart their campaign plan to defeat their campaign. You mentioned dual capability. There's something else going on here and that is China is building up its nuclear warhead inventory.

Now Admiral Charles Richard said that frankly we're in a China is in a strategic breakout with regard to their nuclear weapons. General Cotton made the point during his confirmation hearing that frankly China is quite obvious that they're not building a minimal nuclear deterrent. They have a triad as does Russia. We need to rethink our nuclear posture. Do we have the right posture today now that we're facing two peers or maybe near peers? Peers in the future when it comes to nuclear weapons, how are we going to deter both of them? We might have to grow our nuclear forces. What's the most cost effective way of doing that? Build more Columbia class submarines, which are horrendously expensive? Dig more holes in the ground for ICBM, and I love the GBS, I'm not saying that, but B-21's would allow us to hedge against risk in the future, grow our nuclear deterrents if necessary. Plus they're dual capable. We get the benefit of their conventional capabilities as well.

Lt. Gen. David A. Deptula, USAF (Ret.):

Okay, this question is for Ms. Johnson to start and then each of you...

Thomas H. Jones:

I was going to have some thoughts on that if that's all right.

Lt. Gen. David A. Deptula, USAF (Ret.):

Didn't mean to cut you off Tom.

Thomas H. Jones:

Fair enough. First of all, Global Strike Command was very clear on the requirements there. Looking for this platform in that transition that you mentioned general and working together with Global Strike Command and RCO, I think we made the platform that answers those questions. Gonzo, you're far better at talking about nuclear force structure than I am. I'm just a nerd engineer. I'll focus in a little bit more on some of the aspects we've attempted to address as we've developed a B-21 that we think is going to give the capability that Global Strike Command is asked for us focusing mainly on maintainability, survivability and data.

From a maintainability standpoint, it's been very important to us right from the inception of this program to design a system, a weapon system that is capable as of operating as a daily flyer. We've had a real focus on maintenance from the start.

We actually today and for over a year now I believe have had members of global strike command maintainers with us in our facilities working side by side in the labs. We also have something we've talked about in the past called a highly immersive virtual environment, which you can basically go into a virtual reality space, work on maintaining the system, understand what things in the design need to change before you ever started. I'll use the phrase bending metal, although we don't bend too much metal on the program and are able to address those maintainability types of aspects there. I think that's a big step. Now I said I wasn't going to talk about survivability and I said I'm going to talk about survivability. Well obviously a great platform for operating in a highly contested environment, but specifically what I want to talk about is we took lessons learned from the B2 and other programs about the difficulty once again in maintaining stealth types of platforms.

Actually went out and looked at the major drivers on the B2 and right from the start had designed that, addressed those to make sure that we could once again live up to that ambition of being the daily flyer. Finally, went to talk a little bit about data yesterday we made an announcement at a media event that earlier on this summer we entered into an agreement with the government where we're actually sharing program data in a common data environment. Which I think for a program of this scope and at this phase of the program, at least from our experience, it's kind of unprecedented to have that type of shared access between our government partners and ourselves. And what that does is once again enables us to spot risk, to address risk, to burn them down, make sure we've got the right approach to verifying requirements and get this system operational as soon as we can.

We also talked about the fact that we were able to move the B-21 ground support system up to the cloud, which again we think is another great movement for the digital enterprise and for digital transformation. Because what that's going to do is drastically reduced footprint at main operating bases and other deployment locations as well as driving down costs. Lots of different things we've taken, not just looking at it from a pure technical performance, but how can we make sure that for the men and women of Global Strike Command, we're providing a platform that's going to give them the operational utility that they need

Maj. Gen. Jason R. Armagost:

And I will...

Lt. Gen. David A. Deptula, USAF (Ret.):

Hope in there.

Maj. Gen. Jason R. Armagost:

Back to Gonzo's point about breakout in China, as Admiral Richard clearly spoke about with triads and you have two adversaries with real capabilities now. There is not a lot of history. History points us to some interesting studies on deterrents, but not a lot of the thinking right now has gotten us very far down the field on multi-polar deterrents having to deter two adversaries at the same time.

But one of the things that you'll find is a common discussion point that we have to be able to do to be able to do multipolar deterrence is to be able to integrate that conventional and nuclear force activity such that there is no escalation for free. There is no escalate to win, there is no escalate to deescalate. And by having that baked in conventional nuclear integration, we literally are kind of taking that off the table. We have to do that so that we can further through the thought leadership of those in the room, but also the think tanks and our policy makers, how we get to that multi-polar deterrence future knowing right now we've got to be able to do things in a very predictable way in denied spaces.

Lt. Gen. David A. Deptula, USAF (Ret.):

And that's a panel subject all on its own and hopefully the folks recrafting the National Defense Strategy are taking that into consideration.

As I already previewed earlier, Ms. Johnson, this one's for you to start, but I'd like everyone to chime in. Speed by which I mean the rapidly maturing and fielding of a B-21 force is obviously critical. The B-20's going to soon reach its rollout as we heard this morning and first flight milestones. What's the RCO doing to ensure the program continues to remain on track and on time? And should we be discussing today the need to increase the acquisition rate of B-21's?

Melissa A. Johnson:

Okay, yeah. There's a lot to unpack right there. Let's kind of go back a little bit of, in my opening remarks I talked about a couple of the philosophy. How do you go fast? A lot of the going fast is really getting that initial decision to go. Well we've got that. We got on contract, we have a very stable requirement, and we have consistent funding. And those three things, it's not magic, I mean it's pretty simple recipe, but making sure that that can stay stable through the years does get more challenging as the years go on. And I think that the team overall, and it is only because of the partnership that we are able to be successful at that. I think that's a key thing and that's for any program, but I think B-21's a great exemplar of that.

The second thing internally within the RCO, we've coined a term but it's really been done over the past 19 and a half years and we coined the term active management. And really what that means is my team along with Tom's team, along with Armo's team are so close knit together. Again, it's all kind of coming together as this partnership, but we are not just waiting for Tom's team to send us information and then we are not just spending some time back in our own little enclave and then sending information back over to Tom or direction back over to Northrop. It is a daily interaction and that actively managing and really getting ahead of where are those risks going to start to manifest and how do we come up with the plans, not only just identify that a risk could manifest, but what is the plans to mitigate that and really get at that early.

And there's a couple of things that the program really did in the very early days and I mentioned the sustainment piece kind of really laying in the foundation for how do we depot maintenance and sustain us for the long term. But even on the development piece, there's some really key things we did with the company and one of them is how do we go and building the tooling and the processes so that you're actually building the production asset. A lot of programs will build a lot of test assets or a couple of test assets first, you'll test it out, you'll see what goes right and what goes wrong and then you'll make adjustments in the tooling to go build your production. That takes a lot of extra resources and time. And so we've been able to shrink down that time by starting right from the get go and it's really been enabled by the digital engineering tools that the Northrop team has embedded into that process from day one.

And so when you kind of start building these things up upon each other, you really start to consolidate and get the most efficiency you can, knowing that there's still systems engineering that has to go on. You mean we cannot break the laws of physics and there's still going to be challenges, but you want to get yourself to the point where that team has enough information that we have stable requirements and that we have the tool sets between the production processes, the engineering digital, the digital engineering that you are enabled to go and solve any technical challenge that we could come upon. And so that allows us to stay on schedule and really kind of look for areas to scale to go faster.

Now if I kind of go a step further and start talking a little bit about how do we go faster in the future, can we increase that scale or increase that rate? When we look at the provisions that we've put into the program, I think we can always look at that, but you want to kind of get this on a solid foundation and once production aircraft start coming off the line, the team's going to learn some things.

But because again, the foundation that we built, we can roll back those lessons learned into the system very quickly and through the open mission systems being able to modify things, if there is a requirement's change, if there's a new threat that comes along, if there's modernization that we can continue to be able to move at a very rapid pace, compared to the way that we have done things years ago.

Lt. Gen. David A. Deptula, USAF (Ret.):

Nice job. Gonzo.

Col. Mark Gunzinger (Ret.):

Yeah, really quickly we've heard endo-paycom and the DNI talk about China might be ready to make a move on Taiwan 2027-2030 timeframe that's going to occur at the same time we're at a Nader in the size of our bomber force. If we allow the bomber ramp B-21 acquisition ramp to be reduced because that's where the money is. We've all seen that happen program after program because once the acquisition begins, then that becomes a very lucrative target, just slides some money out and put it towards other capability, that is going to hurt our ability to deter or respond to a Chinese aggression. I call the B-21, the China deterrence bomb is not going to deter if it's not on the ramp. We need to maximize our acquisition ramp and continue to flow the dollars toward that program and not allow the green eye shade folks to just cut a little bit here and there for other programs.

Lt. Gen. David A. Deptula, USAF (Ret.):

Armo and Tom, care to comment?

Thomas H. Jones:

I think Ms. Johnson did an excellent job covering most of the points I was going to hit. I just foot stomp one or two things here. The collaboration and the active contract management I think is a key feature and one of those things when I said it's something unlike anything I've seen in my time in the industry that is only going to improve with this digital environment that we're bringing on the ability to share digital data back and forth. I think that's a very important element.

And at the other point that I think is really important is that building a first article that is production representative, and frankly I think that is a best practice we need to look at trying to perpetuate as we go and build other aircraft. There is a lot of time that can be lost in putting together prototypes that are at the end of the day, not very representative of the final thing that you need to build. And barring super sophisticated design, usually most of the problems you run into these programs are the basic manufacturability and the processes that you have to go into production. I think that is a great path that the RCO has enabled us to take on this program and again, the best practice we should really consider on future aircraft programs.

Lt. Gen. David A. Deptula, USAF (Ret.):

Very good. Here's one on transitioning the force. Air Force currently plans to have the B-21 replace the B2, but as we all know, the Air Force is in desperate need from long range strike capacity given accelerating advanced threats during the transition period from the B2 to the B-21. What are some of the risks that you see in the long range strike mission area and do you have any recommendations on minimizing this risk by retrain retaining B2's longer or building more B-21's sooner?

Maj. Gen. Jason R. Armagost:

I'll take that one. As a match come a forced provider, we have to constantly assess what the future, what's changing under our feet and how we address that. But I will say this, one of the things that allows us to understand that environment in ways maybe that we might not have in the past is our connectedness, not just to this team here, but across MAJCOMs. AMC, we have, there are dependencies from every MAJCOM into other MAJCOMs that if you don't pay attention to them can bite you very hard. That transition piece as we get to B-21 is really driving us into understanding what are the expectations that PACAF has for us as far as tempo and number of targets like Gonzo points out.

But there are dependencies backwards through AMC and we've built some interesting relationships and partnerships there. As you look at how the conduct of a China fight would go down, there's an insight force piece of that where SOC is very interested in connecting and understanding their environment in new ways, which is beneficial to us. That system connectedness really is important to understand that and characterize it and move forward together so that we don't build ourselves handmade wooden shoes that don't talk to other handmade wooden shoes.

Thomas H. Jones:

If I could add something on there also just as the prime on the B2 as well, obviously the decision of what happens with B2 is global strike command decision and we're going to support that. That said, we are continuing to work on modernization of that platform. Recently, I think you probably saw the integration and test of a Jazzem ER. We've also brought in a radar assisted targeting system that is going to provide improved targeting and probably one of the things I'm most excited about, we talked about the open architecture to B-21, but we've been able to do a open mission system architecture that's decoupling a lot of the mission systems avionics from the flight control, which means we have a platform that can be easily upgraded without affecting flight worthiness. If that desire is there to extend, we have a platform we think we can scale forward.

Col. Mark Gunzinger (Ret.):

If you're in a hole, don't dig it deeper. I'm a advocate of maintaining B2 in a force at least until the B-21 reaches IOC. Not doing for one swaps as soon as an operational B-21 hits the ramp. We already have a bomber force as too small, we already have a penetrating bomber force that really is a silver bullet force. We need to build up that capacity, especially in the late 2030s again to deter China, be prepared to respond, instead of making a resource driven decision to retire B2's as B-21's. Come on, let's keep them in the force until 2030s, reduce that risk and then gracely retire them.

Lt. Gen. David A. Deptula, USAF (Ret.):

Okay, we're coming in the final stretch here, so please I'd like to give you each an opportunity to answer this last one. And this is about advanced weapons. Our leaders, Air Force leaders and all of us recognize we need advanced weapons for our advanced aircraft and we've also heard people talk about the need for affordable mass. Could each of you give us your quick thoughts in terms of what kinds of weapons that would help maximize war fighting potential to B-21?

Maj. Gen. Jason R. Armagost:

The only thing I would add to that question actually is we need the right advanced weapons mix. Because a lot of times if you get to the, what'd you call them, a green eye shade folks, right? I won't say that, but I think that's what you call them. They might tell you, "Hey, you need x thousand of this." Right? That answers your question. I will tell you categorically it does not answer your question. You need the right advanced weapons mix and preferably that's a joint problem. We can capitalize on money that is being spent in the Department of Defense, not just in the Air Force. And there are capabilities that where you have to compress time very quickly to make an effect very quickly. And then there are times you need mass and tempo and if you sequence and build that portfolio properly, then it opens up new possibilities to do things that may not require as many weapons and is a cost efficient answer to that question.

Melissa A. Johnson:

Yeah, I think to tag on a little bit to what Armo and even before what Tom was talking about with open mission systems, I think on the acquisition side, we are really kind of the enabler to whatever that requirement turns out to be and having as much flexibility and giving the MAJCOM, giving global strike as many options as they can, but that open mission systems. And really again, it's all about how you build that foundation. If you don't build that in up front, you know can always do it later. We've shown that through many programs, but it takes a lot longer and becomes much more cost prohibitive.

I think what we've done, and then obviously the operational imperatives are really driving some of this right now. We're already looking at what type of advanced capabilities. Even a year ago we laid out a modernization plan that Chief Brown signed off on. That was a combined effort between us in global strike and really kind of been able to again, lay that foundation for when that time comes and the resources are there, we are ready to take action right away instead of, to Gonzo's point. You don't have to study it for the next five to seven years. Again, that's really where a lot of time gets expended. If we've done all that work up front, then it's just an execution issue.

Lt. Gen. David A. Deptula, USAF (Ret.):

Okay, go ahead Tom, real quick.

Thomas H. Jones:

Yeah. Couldn't have said it better. We're here to implement requirements and I think Ms. Johnson hit the nail on the head.

Lt. Gen. David A. Deptula, USAF (Ret.):

Okay. I'll just say, do we have sufficient weapons in the inventory to deal with a hundred thousand aim point campaign? That's a good final parting thought to think about. We've come to the end of our panel, really appreciate all our panelists for being here today, and we thank all of you and for what you do to defend our nation. For all you in the audience, thanks for being here. The next discussion here in Potomac C, you'll be Cyber Technology. And with that, have a great aerospace power kind of day.

Nice job.