

**General David Goldfein  
USAF Chief of Staff**

**Defense Writers Group**

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**DWG:** Good morning everybody. Thank you for coming in. And good morning most of all to our guest who really needs no introduction, but I'll introduce him anyway. General David Goldfein, Chief of Staff of the United States Air Force. Sir, we thank you for making the time in your busy schedule to come and sit down with us.

Sir, I wanted to begin by asking you about something that I know is of interest to the group in this room in particular, and that's the public affairs and commanders Operational Security Reset that's going on right now. Number one, where are you on that process of retraining public affairs and commanders on how to distribute information? And number two, when that process is done, how will the Air Force's communication with the public be different from how it was previously?

**General Goldfein:** It's always a balancing act. I was thinking about it this morning. I was a major in Aviano and working with General Mike Ryan when he was the commander there. We were setting up the campaign to go into Bosnia. And one of the individuals I got to know was the Vice Commander, Colonel Patton. He was flying in a C-130, and he was the first guy to go on the ground in Bosnia. He had a reporter with him, and cameras in the back of the T-130 and they were talking to him, and the reporter asked him, I think [inaudible] [flip] out there. He said, so what are you thinking about? What keeps you up at night? What's on your mind right now? I'll never forget his answer. He looked at her and said saying something stupid to you right now. [Laughter].

I say that because it's always a balancing act. Right? The

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balance we try to achieve is we have an obligation to speak to the American people and tell them what's going on. We have an obligation to speak to you. We take that obligation seriously. So hopefully what you'll report back to me is that over time there will be no difference because that obligation has not changed. What's changed over time is that we've returned to this era of great power competition. When I joined the Air Force in 1983 after coming from the Air Force Academy, we hadn't fought a war since Vietnam. We were still at the end part of the Cold War, the Wall had not come down yet. And so I remember as a young officer getting a fairly significant amount of training on operational security. That was the world we were in. There were things that we talked about, things that we didn't talk about. And so I felt fairly well trained as a fairly young officer on that. You know, we're coming out of 17 years of conflict where we really haven't been in the great power competition game, so therefore we've been a little looser on the things we talk about. Then we as an Air Force had about, I don't know, three or four incidents in a row where we just skirted the edge until we just got to the point where the Secretary and I were uncomfortable with the kind of operational details we were talking about. Not inappropriate for the kind of world that we were living in when violent extremism was the primary threat; but inappropriate when we're in a great power competition, when we have folks out there who can actually affect us. We need to pay attention to what was say, what we write, what we do.

So the real question, the Secretary and I stepped back and said how well have we trained the force? And how cut is that muscle? Or has that muscle atrophied a little bit? And our assessment was, you know what, we probably need to get to the gym a little bit and refocus that muscle a little bit on operational security, and making sure that we arm our force to be able to have the tools they need. And the same tools that I felt like I had as a young officer in a different era.

So that's really what's going on.

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Right now we've gone through, done some fairly significant training with not only our public affairs but also our commanders. My intent, as we come out of this, is that we'll have a meeting in two or three months from now and I'll ask you, and you'll tell me it's about the same as it used to be. We're out there, we're talking about what we're doing, we're telling our story, but we're doing it, the force is a little bit better equipped.

**DWG:** I know nobody in this room will be shy about providing their feedback.

**General Goldfein:** And I really look forward to getting that feedback from you.

**DWG:** We appreciate that.

We'll begin with John Tirpak and then Jeff.

**DWG:** Thanks, General, for coming to the lion's den. We have this saying, we won't feed the lions. [Laughter].

I wanted to talk about funding priorities. You mentioned we're in a great power competition again, and for the past half a dozen years we've heard if we have to fight China it's going to be an air, space and cyber fight. So I want to know why the Air Force isn't number one in the budget priority. Is that DoD? Is that Congress not understanding what the pass-through account is and that you don't actually get that money? What do you think it is?

**General Goldfein:** I don't know if I'd characterize it as number one, number two, number three. I think it's more of do we have a balanced approach across the department on investments we need to make to support the National Defense Strategy.

One of the things that was really helpful for us is as Secretary Mattis was developing the National Defense Strategy, he did that in traditional Secretary Mattis fashion which was very inclusive

with the services. We had folks that were in there helping think through the National Defense Strategy. We were getting periodic reports. I'll tell you as a Joint Chief, had periodic reports in the tank throughout the writing of that document. So when it came out, version, I don't remember what number of version we were on, there were no surprises.

So what that allowed us to do is during the writing of this strategy, Secretary Wilson and I were able at the same time, we were building the '19 budget submission. And we were able to go in and look at our various actions that we were taking to look for alignment and areas not in alignment and how do we adjust accordingly.

So there's a couple of big moves we're making in this particular budget. Three I would highlight to you. That show direct alignment with exactly what this National Defense Strategy says. The first thing I'll tell you is that there are some pretty bold moves in space. It's the largest increase in the space budget since 2003. You can see that we are focused very heavily on transitioning to space as a warfighting domain. Cancellation of SBIRS 7 and 8, and restructuring that to get into a more defensible architecture is just a small subset of a lot of what we're doing. I'd be happy to go into more detail in some Q&A here. So space is one area that I believe we have exact alignment.

The second one, which I know is slightly controversial, but we're taking a new path on some areas of multi-domain command and control. A networked approach to the future of multi-domain operations. We're looking at it through the lens right now of Joint Stars and the path ahead on Joint Stars, but it's bigger than Joint Stars. It's about multi-domain operations and where we as service chiefs think we need to head in the service. And I as the Air Force Chief, where we need to go.

The third one is the amount of investment that you're seeing us make in restoring readiness to the force, and for the Air Force that begins with ensuring that we are sized right with the

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number of people we need, and you'll see us set the throttle at a very steady -- we're going to go for 4700 additional airmen this year, plus a commensurate number of Guard, Reserve and civilian, and you'll see us set the throttle at about 3300 per year throughout the FYDP. And that allows us to really get out of some of the shortages we have in manpower to do the missions.

I'm happy to tell you that we started this about 4,000 maintainers short. We've been able to get that down to about short right now, and we're continuing to advance.

So I don't look at it really as who's number one, who's number two, who's number three. It's are we getting at those things that are most critical to restore readiness and show that we're ready for the near peer fight.

**DWG:** But if those are the priorities, why don't you take a turn as number one? Especially as so many Air Force programs have been really neglected for such a long time. The strategic account, the fighter account, et cetera.

**General Goldfein:** All of those requires investment. But I'll tell you, one of the things we're looking at is not just how do we ensure that the investments that we're making are also looking at new ways of doing business? Not just perpetuating the platforms of old, but looking at technology that's coming at us at an even faster rate. Looking at where industry is going.

I'll tell you where I see industry going in space, it provides all kinds of opportunities for us as we go forward. So for me, it's a matter of how do we ensure that the dollars we're spending are getting the most return on investment to be able to do what the National Defense Strategy tells us needs to be our focus?

**General Goldfein:** Jeff, then Laura.

**DWG:** Thank you, General.

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Can you talk about where the service is in considering adopting the Army camouflage, the OCP as its own camouflage?

**General Goldfein:** What I'm doing right now with the Chief Master Sergeant of the Air Force, the two of us really have been looking at all of our uniforms. It's our battlefield uniforms, it's the whole gamut. We're looking at how many areas do we have two, three different uniforms, you know, pieces and parts that we're sustaining? And do we now have an opportunity to fix [inaudible] going forward?

So I'm not ready today to make any announcements on any decisions that we're making relative to the OCP. I will tell you that we have a significant number of airmen who wear the OCP not only for daily duty but also downrange when they're performing duty, especially at Central Command. But there's a couple of areas that we're focused on when it comes to the uniform. Number one for me is functionality. To ensure that it can actually accomplish the mission that it's intended to perform. And the second, we're taking a really hard look at women's uniforms. Because our uniforms have not traditionally been sized for women, and that's beyond just the uniform itself. It's also the gear that we have. We have women performing in every combat mission and we owe it to them to have gear that fits, that's suited for a woman's frame. That she can be in for hours on end. If you're in an F-15E flying nine, ten-hour missions, the gear that we ask that pilot to wear ought to fight. It ought to be functional for the mission that we're asking them to do.

So we're not at a decision point yet, but I'll assure you that once we have made a decision we'll make sure that we bring you in.

**DWG:** My final question. You said that you're taking a look at women's uniforms, for example the F-15 pilots. What is it these uniforms, where are they deficient now? What are you looking at?

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**General Goldfein:** For instance, vests. We all fly with combat vests, as an example. Right? The vests have equipment that is worn. I'll tell you, having flown a lot of combat, the vests, you really have to get that arranged right in terms of where you put equipment. Radios, flares, communications gear, survival equipment. Where that's placed on your vest. You've got to be able to move inside that cockpit. You've got to be able to turn. You've got to be able to look around. And I want to make sure that the weight-bearing side of that best is suited for both men and women.

Right now I will tell you that women are wearing pretty much men's vests. And so we can do better than that. So we're taking a complete look. I've got one command, General Holmes, Air Combat Command, is leading the effort to look at all the gear. And it's beyond flying gear. Again, women are performing in every combat mission, so this is also the gear to wear on the ground. So we're looking at that across the board.

**DWG:** Laura, then Patrick.

**DWG:** Hi, sir.

I want to ask about some news that broke last night, actually. Apparently Boeing [inaudible]. And there was some back and forth about how much the impact this is actually going to have on Boeing, but I'm wondering, [inaudible] is both on Boeing's commercial line, and I'm wondering if you've gotten an update on how much this is going to impact all of the Boeing, what Boeing builds for the Air Force.

**General Goldfein:** Nothing yet. I didn't get the information much later than you did. And so now what we're doing is doing an analysis to see okay, what does this really mean to us, so it's really too early to tell.

**DWG:** Okay. If I can ask a different question then.

SAF PA, this sort of goes back to the operational security

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question, SAF PA has been saying for the last couple of months that, when we're asking about next gen fighter, SAF PA has been saying it's going to be a family of systems, there may not be a next gen fighter. But then [AFRL] goes and puts out a video where there's very clearly an FX. So I'm hoping you can clear up some of that confusion for us.

**General Goldfein:** Here's what I can tell you. We are looking at a family of systems, because you've got to go back to the mission. Air superiority, freedom from attack, freedom to maneuver, an ability to hold targets at risk. Remember that no country on the planet can put a block of wood over their country. The best they can put is a block of Swiss cheese, as a visual. And it has holes. And our job is to understand and exploit those holes and continue to hold targets at risk. And we're the options guys. My job is to provide options for the Commander-in-Chief so that the targets that are of interest can be held at risk.

So how we do that in the future is going to require more than just a single platform. And I would offer, it's not only in the future. It's to a large extent how we do it today. Right? I get in these discussions on occasion, you know, how's the F-35 versus this, J-20 or you name it, right? I get in those conversations and they're really actually old-school questions. They're actually dialogues that we should have had in the F-117 days when I was flying the F-117. And I was going to go up against, you know me, mano v mano. Me versus someone else. But anyone out there adversary wise ever see an F-35? They're never going to see the F-35 by itself. It's always going to be operated with a family of systems, and that family is going to be far more than just the United States Air Force. It's going to be operating and connected to an Aegis cruiser. It's going to be operating with low earth orbiting and geosynchronous orbiting satellites. It's going to be operating with unmanned platforms. It's going to be possibly operating with a brigade combat team.

So it's the how we connect that family in the future that's



going to allow us to be able to continually hold targets at risk. So that's why you see us not talking about any one particular platform, because we're really moving beyond a platform to platform discussion. It's going to be a platform to a family discussion. And I think you're going to see us go in that direction in far more than just the air superiority business. You're going to see us going there in command and control. You're going to see us going there in personnel recovery. You're going to see us going there in pretty much most of the mission sets we do.

**DWG:** But that video seems to confirm that there will be some kind of next gen air superiority fighter. Is that true?

**General Goldfein:** I'll have to go back and take a look at the video and see what they're putting out. Will there be platforms that will be part of the family of systems? Absolutely, yes. Will that be one platform? Unlikely.

**DWG:** Patrick and then Dmitry.

**General Goldfein:** A question on network [inaudible] multi-domain operations. [Inaudible] a lot in the past, the need for a next generation [inaudible]. By the end of the year the Defense Department [may be] issuing a single or not too many more than one big-time [inaudible]. Would you think [inaudible] do you want to create the integration that you just described? What are your key needs and what are your key [worries]?

**General Goldfein:** We just yesterday spent an entire day with the Marine Corps doing Air Force/Marine Corps warfighting [talks]. Some weeks ago we did the same thing with the Navy. We're scheduled to do the same thing with the Army. These warfighter talks are something that we actually. Have not done for several years, and we're now bringing them back. It has a lot to do with the current service chiefs, the Joint Chiefs, and the fact that we all grew up together, have fought together.

Yesterday, for instance, most of our discussion was on how do we

network and connect our systems between the Air Force and the United States Marine Corps? When we were talking with the Navy, most of the discussion that day was how do we network and connect our systems so we can talk between the United States Navy? Because there's a recognition that not only are we going to be, the combined arms of the future is going to be more interdependent between all the services going forward.

There's also a recognition that we've got to be resilient when it comes to protecting our networks. So as we look to the future and look at how we're going to not only connect systems and connect computers at the tactical edge, because most of the things we're talking about connecting are stand-alone computers. And they're advancing and expanding at the rate of Moore's Law. And so the real opportunity we have is how do we connect these in ways that allow us to share data at the speed of light so that we can make decisions faster that allow us to produce multiple dilemmas for the adversary that they can't keep up with? So that resiliency in multiple pathways, alternative solutions. So that if a portion of the network gets taken away, our answer is noted. I've got alternative means that I can actually continue to be able to operate all the way down to the point where I'm continuing to operate off of mission-type orders until I can get parts of the network back. So that's resiliency being a key part of it.

Because we're all producing the systems that are stand-alone computers that have the computing capacity, I call that the tactical edge. It provides opportunities for us now to think about how do we link those and how do we use these technologies that we talk about? Artificial intelligence, automation, human machine teaming. How do we use those to speed decision-making so that we can actually create effects faster than an adversary could ever manage? And I think that as we move forward in that regard, with the services talking about doing some networking in the future, it's going to become in many ways deterrence in the 21<sup>st</sup> century, because adversaries will have to think twice about taking on that kind of a network, and it also provides I think a significant asymmetric advantage.

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**DWG:** Related to that, [inaudible] resiliency. Do you have any reservations about the idea of a single provider giving [inaudible] the entire military and [inaudible] a particular company in Silicon Valley or possibly Seattle? [Inaudible] capability that you [inaudible]?

**General Goldfein:** One of the things that we've done, I think that we've made some advancements on, is looking at what is the best industry -- as opposed to the department developing a common standard, what's the best industry standard? And if we were to use that as our baseline, and we've done some experimental work now where we've taken the best industry standard and said all right, if we were to use that and then connect various sensors and computing technology to that baseline, and then use a combination of artificial intelligence and automation, how could we in fact speed decision-making to the point where we are actually having humans doing what only humans need to do today, for instance, in the business of intelligence, surveillance, reconnaissance. We have a lot of soldiers, sailors, airmen, marines -- I'll speak to airmen -- who are staring at screens, trying to determine what's of interest. So what we're looking at is how do I turn that more and more into an automated process so that I can have the people part of the kill chain or the solution set, actually looking at targets or items that are already determined of interest?

So we actually have been experimenting at this now for a couple of years. We're seeing some pretty significant progress. I don't want to go into any more operational details than that, but that idea of a common standard that allows us to then bring information in very quickly, and then through automation really decipher what we're looking at I think is going to produce progress for us.

**DWG:** Dmitry, then Otto.

**DWG:** Good morning, sir.

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It seems the battlespace in Syria is getting more and more crowded. Has anything changed in how the U.S. and Russian armed forces, air forces, communicate over there? Has it evolved in any way over the last year, for instance?

**General Goldfein:** Nothing's really changed in the way we're communicating. I will say that because we've been communicating for a while, the communication has become more mature. Some of it's become more mature because we've been able to establish some relationships between those that are, and I'll talk about it in more of I would say the tactical level, day-to-day operations, which would be that there is a cell within the Air Operation Center that works for General Harrigian that has a direct line capability with their Russian counterparts. And they talk every day, a couple of times a day as required.

So when there's potential for a conflict or when there's a potential for neither side has any interest in a miscalculation, it's in our best interest to ensure that we don't have folks that are in the wrong place, or that we have surprises out there that our folks are going to have to deal with.

So the communication has actually gotten a bit more mature and it continues to mature over time. And so we've had instances even recently where that line's been very useful to ensure that both sides know what the other side is doing.

**DWG:** May I also ask if [inaudible] strategic bomber deployments. Since things seemingly move in the right direction between the U.S. and North Korea now, at least at the moment, has anything changed in your thinking about flying strategic bombers periodically to that part of the world? Are you going to stop it for a while? Or are you still going to be the same thing?

**General Goldfein:** From an operational sense, as the guy who organizes, trains, equips and presents ready forces to the combatant commander, how those forces are used are really the purview at the operational level of the combatant commander,

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Admiral Harris, and then policy and strategic level it's at the Secretary of State level, Secretary of Defense and of course the President.

What we do militarily is in direct support of the pressure campaign. And so ensuring that I've got a continuous bomber presence forward, that has not changed. Ensuring that I've got reachback capability for bombers as required by the combatant commander or the Secretary of State or the Secretary of Defense and the President has not changed. What we focus on is to ensure that we have got the readiness required to be able to meet the combatant commander's requirements. So really for us at the service level, there has not been any change at all.

**DWG:** Otto, then Yasmin.

General, you mentioned earlier the services are going to be fighting together in the future, a multi-domain battle question. Particularly the naval campaign. Air Force has a pretty good history of fighting a naval campaign, going back to Billy Mitchell, I guess, but in World War II you did a lot of surface attacks against the Japanese in the Pacific. In 1945 the Air Force dropped, B-29s dropped thousands of sea mines off of Japan. I'm told during the Cold War the B-52s were considered a major carrier for their sea mines, and currently B-1Bs are testing the LRASM anti-ship missile. The question is, in a future battle against a peer competitor, what would be the Air Force's role in a naval campaign?

**General Goldfein:** I'll just tell you that Admiral Richardson and I talk about this a lot, as have our predecessors. As a matter of fact, he and I spent an entire day at Maxwell, together, along with Secretary of Navy, Secretary of Air Force, and I had all of my senior general officers there, and we did a wargame or tabletop exercise looking at how our forces work together to be able to execute campaigns in support of the National Defense Strategy.

Air power, naval power, you laid it out. We've been working

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together throughout our history. I'll tell you that as the air component commander in Central Command some years ago, I flew out and met most of the carriers when they came in before and then would cruise through the Straits of Hormuz with them to ensure that there was no air between us in terms of how we were going to operate together in that campaign.

So when you take a look at space, and look at the space requirements for supporting Admiral Harris' campaign, they're rather robust and significant, and we have studied that campaign and looked at those actions that we would have to take in space in support of a terrestrial fight. And ensure that we have those thought through. When you take a look at what we're doing in communications. The Navy is going to have specific requirements for secure communications, and some of that is provided by forces that I bring to bear.

When you take a look at tankers, I have the tanker fleet that we're going to all rely on to be able to have the legs we need to be able to operate. When you take a look at mobility, I've got the air mobility fleet of C-17s, C-130s, that we're all going to rely on for ensuring that we have the logistics set right.

You look at personnel recovery, fighting your way into a defended area.

I could go across all the mission sets that we as an Air Force perform and you can apply those mission sets to a naval campaign, to a land campaign, but the way we are looking at it as Joint Chiefs, is this is going to be about the business of combined arms. And we're so interdependent now as services, that each combatant commander is really looking at all the services in all the domains to look at how he optimizes those for a campaign. So my job is to make sure he has the options to execute.

**DWG:** Does the Air Force still practice sea mining? It's been a long time since we've had to do that, but I wonder is that

something they ever get around to practicing.

**General Goldfein:** I don't want to talk about any operational details or missions that we are or are not doing. I'll just tell you that in the business of countering the enemy, there's not many missions that we're not actively practicing or participating in or looking at from a modernization standpoint to ensure that we can continue to prosecute not only that mission, but all the missions that Admiral Harrison may be asking us to perform.

**DWG:** Yasmin, then Sandra.

**DWG:** Do you anticipate that the Air Force will have enough [inaudible] spend the additional money that's provided [inaudible]? And if not, do you, does this mean that you guys will have to request reprogramming authority, [inaudible]? And if so, which programs?

**General Goldfein:** Right now, as you might imagine, day by day we're looking at [inaudible] at the point where the budget's signed, you know, what is our execution strategy? So right now I'll tell you we're actually in pretty good shape, because we've been looking at this the entire time. It wasn't a surprise. We knew we were going to get a continuing resolution to about this point. We've had time to study it and look at execution. We have a full team of folks who are doing that, not the least of which is our operations and maintenance accounts, to make sure that we're continuing to fly to ensure that we're training and doing those things that we need to increase our readiness.

Whether there will be some reprogramming or not, part of the process is we look towards the end of the year and determine whether in fact we find areas that we need to reprogram, and there's a process for us to do that with Congress as we go forward. But right now we're in pretty good shape.

**DWG:** Sandra, then Rebecca.

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**DWG:** Thank you.

[Inaudible] the Vice Commander of Space Command, [inaudible] the Pentagon. How is this office going to [inaudible]? Can you talk a little bit about that?

**General Goldfein:** I can. First of all, we're pretty excited. General Thompson is a fantastic officer with a real deep background. I'm actually looking forward and I'm going to be able to able to officiate at his promotion coming up next week. He is the Vice Commander of Air Force Space Command, and so his responsibilities will be to first and foremost represent General Raymond in all those activities and actions that General Raymond performs in his role as not only the Air Force Space Command, a major command commander; but also in his Joint responsibilities as the Joint Functional Component Commander for Space, as the lead warfighter for General Hyten.

At last count I think he had 31, 32 trips to Washington, DC since January. And I really [inaudible] focus as well on running his command. He has [inaudible] time to do that. So having his Vice Commander forward to be able to take on a lot of that responsibility is going to be really helpful. But he will be performing in the role of the MAJCOM forward. So we'll find that we're going to make sure that he's fully integrated across all of the functions and activities that we have. But on the Air Staff level, the different functions, whether it's personnel, operations, planning, programming, all of those areas are going to have embedded space professionals to ensure that we do the classic air staff work. You know, programming, making sure we have the funding poised towards space activities and space procurement, space modernization. That will happen within a panel that will be under the A8 on the Air Staff.

When you take a look at force development and managing the force and managing the talent of our space professionals, that is traditionally within the A1 and that will remain within the A1.

General Thompson I believe will be the individual who will help



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General Raymond with advancing Air Force Space Command issues here within DC. It's going to be really helpful having him.

**DWG:** So [inaudible] organization with the way [inaudible] the Air Force has [inaudible] All? How [inaudible] in general?

**General Goldfein:** We originally thought through the All, there's a model to follow with the A-10 that we did in the nuclear enterprise. So having a single [NC] on the Air Staff. Obviously, we've got [language] that told us not to do that. So now what we're doing, and the Secretary and I are really working this together, looking at where do we take the talent that we have and make sure that each of those divisions within the Air Staff are properly manned with the right talent to do the jobs that we need to do. And then how do we have the Air Force Space Command element forward with the Vice Commander to again allow General Raymond to perform his functions in Colorado Springs that he performs, and now General Thompson to go take on a lot of the lift for him here in Washington, DC.

**DWG:** Rebecca, then Pat Host.

**DWG:** Thanks for doing this.

Were you on Secretary Mattis' panel looking at transgender policy? Has the Air Force had any issues since the change in policy? [Inaudible] contributed to [inaudible]? And do you think the recommendations that would ban most transgender troops are consistent with, as you wrote in your July memo, treating all [inaudible] with respect?

**General Goldfein:** I was not on the panel. To answer your first question.

And right now, because Secretary Mattis has made his recommendations, and right now because it's in the litigation process, I don't think I ought to go any farther than that.

**DWG:** Can you say, was there somebody from the Air Force on the

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panel? I'm sure you're aware there are rumors flying around as to who actually wrote this? I think it would help dispel rumors to be able to point to a specific person that was on the panel.

**General Goldfein:** Each of the services have folks who were present. I think the Under Secretary and the Vice Chiefs for each of the services were involved in the dialogue going forward. Of course Secretary Mattis' recommendation at the end that he made going forward. He did have a panel of experts, I think is what they called it, that advised him. But at the end of the day it was his recommendation to the President and right now, again, it's in litigation. So we have to let that process play out.

**DWG:** Pat, then Tony.

**DWG:** Sir, the Air Force has been very public slamming Boeing for its performance on the KC-46 program. I'm wondering what the Air Force could be doing better to help Boeing perform better on this program?

**General Goldfein:** Under Secretary Matt Donovan went out to Boeing and visited I believe last week. We'll get the exact date for you. But he sat down with the Boeing leadership, talking about the future and okay, how do we ensure that we have a tanker that when it's delivered can perform the functions as associated with the requirements that we've laid out. As the Chief, my role is primarily as the chief requirements officer to make sure that those requirements are well thought out, that they stay steady and that we procure against the requirements.

It's not surprising in some ways that as we go through developmental tests, that's why we do developmental tests, to find issues and make sure that we fix them before they arrive. Secretary Mattis, Secretary Wilson and I have all been I think very firm on the fact that we're not going to accept delivery until the aircraft can perform to the level that we need it to perform.

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Right now there's a couple of issues I know they've developed that they recently found in the developmental testing phase. That was the purpose of the Under-Secretary's visit, was to go out there and sit down with them face to face and say okay, what is our plan? What is your plan going forward, to ensure that this airplane can be delivered?

**DWG:** May I add, is there a strategy behind your public displeasure over their performance? What outcome do you want out of this?

**General Goldfein:** I don't think there's any particular, this is an ongoing dialogue that we have with industry on all of our procurement programs. It's not unusual for an industry partner to be more optimistic and for a service customer to be more pessimistic. It's that kind of tension that quite frankly, I mean you don't want me as the Chief to ever be really satisfied. I owe it to the American people to take to heart that every dollar we spend is a dollar someone else out there earned, and we have an obligation to spend it well.

**DWG:** Tony, then Jim.

**DWG:** F-35, the [O&S] costs, what are the major targets you're going to be focusing on to reduce, try to reduce it by 38 percent over the next decade? [Inaudible] planes.

**General Goldfein:** The dialogue we've been having with the industry partner is Lockheed, we want to make sure that we get these sustainment costs. Our initial target is to get them down to the equivalent or very close to what we're currently spending to sustain 4<sup>th</sup> generation fighters, which is the F-16 and the F-18. Again, in my role as the largest customer, I've also got to think about, again, yesterday with the Marine Corps warfighter talks, you know, as I've got General Neller sitting right next to me, we spent a fair amount of time talking about the F-35 and where we're going with this, and what the sustainment costs are, and what those costs are relative to our two services and how we're going to manage that.

I've also got the international air chiefs that I feel I represent as the largest customer. So when I'm out there talking to folks and traveling, I'm talking to them about sustainment costs. We're all very concerned about sustainment costs.

I'll give you, here's part that I'm optimistic about. Secretary Mattis brought in a credible team of folks between Ellen Lord, between Pat Shanahan, and folks who have been out in industry through most of their careers and know how this business works at a level, at the industry side, and are now helping us wire brush down the costs of not only procurement but also sustainment. It gives me a level of optimism in this program going forward that we're going to be able to get to a pretty good target.

**DWG:** What about pressuring Lockheed to reduce its contractor support costs, its personnel costs, and repairable parts problems you're having.

**General Goldfein:** All part of the negotiation. And I'll tell you that Ms. Lord is fully engaged on those issues. She and I have talked about it extensively. So we are working all those issues to ensure that we drive those sustainment target, that sustainment cost down, and our target, Tony, is that we're not going to stop until we can get those costs down to, again, within reason, close to what a 4<sup>th</sup> generation fighter costs to sustain.

Remember, not only for the U.S. Air Force, the Navy and the Marine Corps, but also our international partners, they're replacing 4<sup>th</sup> generation with 5<sup>th</sup> generation. So they're used to spending about that amount of money on sustainment costs and so that's our target.

**DWG:** Thanks.

**DWG:** What's close? Four percent, ten percent, --

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**General Goldfein:** I don't have a number right now, John. I would just tell you that right now I'd like to see it at --

**DWG:** At the F-16 kind of a level?

**General Goldfein:** Yes, that's what I'd like to see.

**DWG:** It would be helpful to get figures if you could.

**General Goldfein:** We'll work it.

**DWG:** Jim, then Colin.

**DWG:** Thanks for doing this. This has been a plethora of stories. It's probably the first time I've used the term plethora in a long time. There have been a plethora of stories here about pilots voting with their feet, and maintainers can't get parts and complaining about the lack of parts. And about airmen certainly in AFSC, who are just deployed all the time.

You travel around the force. What do the airmen tell you? And what do you take away from what they tell you?

**General Goldfein:** First, they tell me, and what I see is, if you ask me how's morale in the Air Force, I'll tell you that morale and readiness are inextricably linked. I find that where readiness is highest, morale is highest. So you walk the line today in Bagram, you walk the line today in Kunsan, you walk the line where we have invested both the people, the parts, all the things that are required to either continue engaging in an active campaign, in Bagram, or supporting the pressure campaign in Kunsan. You're going to find that morale is fairly high.

But there's a cost to be able to get to that level of readiness and the cost is back mostly in CONUS at bases that are actually the force providers. So when you walk those bases and you see lower levels of readiness, lower levels of manpower, high levels of operational tempo, as they not only prepare for a continual

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rotation to the Middle East, because that footprint hasn't come down, right? But also ensure that we have continued bomber presence, to ensure that we have what's required to support the pressure campaign, and they're doing that with less people, less parts on the shelves, less flying hours available. You'll find that morale there is not high.

**DWG:** So it's more than just a factor of having more money? Or even more personnel than you've got in the budget?

**General Goldfein:** We over time, take a look at just since the last ten years. Right? The demand signal on the Air Force to support the campaign against violent extremism was in four key areas -- space, cyber, ISR, nuclear enterprise. We put a significant number of resources into the business of getting exquisite ISR -- intelligence, surveillance, reconnaissance -- while budgets are coming down, to be able to have that demand signal and that shift, you had to find, we had to find some place to be able to balance the books, and where we balanced the books was in two key areas generally -- conventional air power and people.

And as people left the Air Force, the number of missions that we were required to perform didn't go down with them. So now, that's why I say where we have invested, where we've been able to invest both the people, the experience, the parts, the supplies, all those things that you need to have a high level of readiness, morale tends to be pretty high.

**DWG:** So what are we doing about it?

**General Goldfein:** In this budget, when you look at aviation readiness for an air component, it really comes down to some fairly key elements that you've got to invest in simultaneously. The first is people. You've got to have trained and ready people. And it's more than just those who strap on the aircraft. It's the maintainers, it's the air traffic controllers, it's the fuelers, it's the avionics technicians. It's all those folks who have their fingerprints on an airplane

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before it takes off, so you've got to have the right number of people with the right level of skills. So that's why you see us investing in 4700 this year; 3300 a year for the next several years. Set the throttle and continue to fill in those squadrons that we need to be able to accomplish the mission.

The second element you need is you need to have a healthy number of weapon systems that you can generate, employ and sustain at combat rates. So this is depots, this is parts, this is the supply chain, this is the right level of, the skills that you need to be able to do that kind of deep phase maintenance that you need. It's the flying hour program. It's all those things that sustain a healthy weapon system.

Then you have to have a training environment, an operational training environment to allow you to train to the higher end. We're doing a lot of work right now in looking at if China and Russia, the 2+3 is our pacing threat that we have got to train against, what exactly does that mean to answer the question, ready for what? And what infrastructure do you need simulators, ranges, threat emitters, a cyber training area, space training area. How do you have this operational training infrastructure so that it actually allows you to train to that high level of readiness?

And the last thing you need is you've got to have the time required to be able to invest in that kind of training.

So if you take a look at the first three of those, you'll see elements in our budget that are actually attacking all three of those. What's helpful about this particular budget is we really are going to be able to make some advancements that we haven't been able to make in the past. So I'm pretty excited about at least in the very near future what we're going to do in the 1920 timeframe going forward.

**DWG:** Colin, and then Mark Salinger.

**DWG:** Sir, there been, I guess you'd best describe it as chatter

among a lot of the JSF partners about the Air Force's approach to maintenance on the F-35. Basically using the traditional sort of depot approach. And they'd like to see something much more flexible and more global. I know this gets into JPO versus you guys, but given the nature of the kinds of conflicts you're looking at, doesn't it make sense to have a lot more repair and sort of [medium] level work far forward?

**General Goldfein:** It does. A couple of areas that we're looking at. First of all, as we get into additive manufacturing, it's broader than the F-35, but let's just use the F-35 as an example. What does that mean in terms of part supply as we look forward to our ability to print parts going forward, and how do I do that forward at the edge?

We've had the luxury over the last 17 years of deploying to a rather mature infrastructure where organizations are in place to be able to do some of the [rebuilt] phase maintenance forward, for instance in the Middle East. So we have a rather mature infrastructure.

As we take a look at a China campaign, a Russia campaign, we are looking at how do we ensure that we've got a more flexible ability to be able to do that maintenance, what you require forward, and that maintenance which we require back, and how far back does that have to occur?

How do we look at augmented capacity to be able to allow more than a traditional number of folks to service airplanes? For instance yesterday, the Air Force/Marine Corps warfighting talks. You know, how do we adapt to the point where those U.S. and international partners who are operating F-35s can service each other's airplanes? Once you start looking at some of those kinds of common standards, then it starts opening up opportunities for us to be able to be far more agile in these kinds of campaigns. So we are looking at different ways of doing business. Not only on F-35, but on other platforms as well, getting more agile.



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**DWG:** Are you going to take on the depot caucus? [Laughter].

**DWG:** Mark, and then Valery.

**DWG:** General, I was wondering if you could give us an update on the [inaudible] procurement. I heard that the second phase would start in May with two aircraft. [Inaudible]?

**General Goldfein:** We decided not to do a down-range demo because we thought, we actually think we can get everything we need to do it in the second phase of this here, and Holloman turns out to be a perfect place because you have a test group there, you have the airspace there. It worked out really well the first time. The second phase now we're getting into a little bit more detail. Okay, what is the specific sustainability model you need? How many maintainers are you going to need? What kind of maintenance is this going to require? What are all the sustainability issues associated with the next phase of this?

A big part of my dialogue as I travel is to talk to our international partners. Our strategy, of course, long term is how do we drive violence down to a point where local governments can actually manage it? So that being the long-term strategy, what I hear from my international partners very often is, my international air chiefs, I'm not going to buy the F-35. I can't afford F-16s. And I know violent extremism is coming to a theater near me, so what can I do?

One of the big ideas here is how much we can make this truly coalition at the core. How do we get into a weapon system, a platform, a combination of really four things -- the platform, sensor, weapon, network option? For me, the one I'm actually most focused on is actually the network piece. How do I get to a point where internationally we can have a sharable network that if someone joins us in a [light] attack, that they have got the information. They have all the information I have to be able to counter violent extremism in their countries. How much of what we do forward can actually be through a different model

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internationally? Do we want to look at, there's a model we used, for instance, at Shephard Air Force Base when I was in IT, growing up there, flying T-38s? I would walk out to an airplane and I would look at the forms and it would have a flag on it. The flag would indicate which country actually owned that T-38 that I was flying that day. There was an international consortium that all came together that still makes up the Euro-NATO Joint Jet Pilot Training Program at Shephard. That's actually a pretty good model there.

So how do we build this [light] attack experiment and look at it and get international partners in there with us? So I'm talking a lot about it. When you take a look at the money we've laid in right now, we've laid in money to begin procuring potentially in '20, depending on the outcome of the experiment. And if we can move that left, if we determine that's the way we want to move forward, we'll certainly be looking to possibly do that.

**DWG:** So is May still the starting point for that experiment?

**General Goldfein:** I think so. Let me double check. It sounds right, though. I want to make sure we get you the right answer.

**DWG:** Valery and then Courtney.

**DWG:** I actually also wanted to ask about the F-35 [inaudible]. If the [O&S] costs don't go down and the Air Force is either forced to make a drastic cut and not buy some [inaudible], how big of a problem is that for the Air Force? What does that mean for the combat aircraft going forward?

**General Goldfein:** Right now in the program it's really too early to talk about it. We're going to be buying these aircraft for a number of years, so it's way too early to be talking about any curtailment of any procurement or any buy, because anything that we might be talking about is really well out into the future. And I don't want, because it's just not true that there's any intent on our part to go one aircraft below the current program of record, because that is what we require today

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to be able to actually accomplish the strategy as it's currently written.

Are O&S sustainment costs a major concern right now?

Absolutely. Do I appreciate what Ms. Lord and others are doing to work to help us to drive down those costs? Absolutely. Do I also appreciate the work that she and others and Secretary Shanahan are doing to drive down procurement costs per aircraft? Absolutely. Because I've got to continually do a business case analysis, at what point is it actually more cost effective for me to buy more aircraft faster because they're cheaper, and then I can use the money if I have to retrofit them to upgrades, as opposed to do I need to keep buying at a slower rate because the cost is so high that I can't afford to retrofit. That's the business case analysis.

So if we can drive down procurement costs, that will be very helpful. And then sustainment costs have got to go down. Again, my target as Chief of Staff of the Air Force is equivalent sustainment costs to the 4<sup>th</sup> generation.

**DWG:** You say it's too early to talk about [inaudible] procurement, but obviously those discussions are happening. Have you guys also started discussing what alternate options would be? Could you guys accelerate [PCA]? Could you keep some of your 4<sup>th</sup> gen fighters around longer or upgrade them in different ways?

**General Goldfein:** We're always having discussions, but I will tell you right now, I'm committed to the program of record.

**DWG:** We'll finish up with the speed round. Two quick questions on the left here -- Courtney?

**DWG:** On the National Defense Strategy, Under Secretary Donovan has said that the Air Force as it builds its FY20 budget will be going line by line and perhaps can [inaudible] strategy. Can you give us any sense of what that decision space looks like

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right now?

And I think there was a review that was going to completed the middle of this month. Is there anything you can tell us from [inaudible], what areas might not align with the strategy?

**General Goldfein:** No particular detail on that because as the National Defense Strategy was rolled out, the Deputy Secretary now has been leading a charge, and the Joint Chiefs and service Secretaries are all involved with now looking in a very detailed manner, okay, how do we implement that and how do we look at those things that we're not only procuring from a modernization standpoint, but just as important, how are we restoring the readiness of the force to be able to achieve what the strategy tell us to be able to do in terms of focusing back on peer competition?

So there's no details that I have right now in terms of any particular programs that we're looking at. It's more of an overall holistic look that he's driving. We had a really, we had about a two-hour session with the Secretary of Defense going through the implementation plan, [inaudible] National Defense Strategy, and I can tell you that he's looking into the details, as you would expect him to.

**DWG:** Katrina, final question.

**DWG:** Thank you.

Could you say a little bit about how excited you are about the prospect of directed energy and why? And how you actually see it working in a potential combat scenario.

**General Goldfein:** There are several game-changing technologies that we're investing in very heavily. Hypersonics, directed energy, quantum computing, artificial intelligence. There are several of those that you'll see in this budget we're putting some investment in.

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Also a pretty significant shift for us into the overall business of science and technology in general. I mean you would expect an Air Force to be leaning very heavily forward in the business of S&T.

Directed energy provides all kinds of different options. At the very least, I'll just give you one example, and that would be right now, today. If I take out a target, you pretty much know it was me. Directed energy actually allows other alternatives to be able to affect targets in different ways and do it through where it's a little bit harder to attribute.

So when you take a look at the business of silent sabotage, and the options we give you, there's actually some pretty exciting technologies.

It also, I'll tell you, allows us to take a different look at the supply chain. There's a fairly significant logistic chain associated with kinetic weapons. Right? From building those munitions, turning them into precision-guided munitions, all of the storage required, the movements, the supply. That's a pretty significant supply chain.

There's a different kind of supply chain for directed energy, and so it actually may give us some really interesting options I think going forward, so we are pretty excited about it.

**DWG:** General Goldfein, I wish we had more time, but we did manage to cram two hours into 60 minutes, so I appreciate that. This was great. Thank you for coming in, and we'd love to have you back.

**General Goldfein:** Thank you all. Thank you all for what you do every day. Again, I will look forward to some feedback in a couple of months from you all on just how we're doing.

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