

052418 Air Force Association Mitchell Institute for Aerospace Studies Seminar with  
General John Raymond, Commander of Air Force Space Command

MR. LARRY SPENCER: Can I have your attention, please? That worked really well. Can I have your attention? Thank you.

First of all, thank you all so much for being here on such a beautiful morning. We're really happy to have you all here with a great guest speaker today. I'm Larry Spencer, AFA's president. Welcome to our fourth breakfast series of this year.

I'm very pleased to introduce our guest speaker today. He is the commander of the Air Force Space Command. Throughout his career he's had 20 assignments to include four joint assignments and three overseas assignments.

As you all know, operations in space is crucial to our everyday lives. From early warned to GPS to weather, space is an integral component of our joint war fighting capability. During much of my career in the Air Force space was considered a sanctuary. That is no longer the case. And in fact, I'm sure it's one of the things that our guest speaker gets up and worries about every day.

General Raymond wakes up every day making sure that our space assets are ready to go if called upon. I can't imagine, and I'm sure you can't imagine, us as a country going to war without space. I don't even want to think about what that would look like.

General Raymond, who has been serving our nation with this daunting and sobering task, is the right guy for the job. I think we all should feel good about who our commander is at Space Command. He's ensuring our safety and security, and he's doing so every day. He's on the frontlines every day.

So please join me in welcoming General John Raymond.

(Applause).

GEN. JOHN RAYMOND: Good morning. First of all, let me just say it's absolutely great to be back in Washington. I mean that.

(Laughter).

The view is almost as pretty as Pike's Peak, looking out the back, but it really is a privilege to be here. I want to thank General Spencer for your leadership of AFA and for your long-time leadership of the United States Air Force. I really do appreciate the invitation to be here today.

It's a very exciting time to be in the space business and there's a lot going on that I look forward to sharing with you. I also want to thank AFA for all that you do to

support the world's greatest Air Force and the world's greatest Airmen. It's also great to see so many friends and colleagues that are here. Thanks for coming out this morning and listening to what I have to say.

It is clear that space is a war fighting domain just like air, land and sea. That's codified as such in the National Security Strategy. Most recently, we've heard the president say those exact words. Space is a war fighting domain just like air, land and sea.

This has significant and bold implications for us as a service. Disruptive change is on par with missile to airpower theory, Arnold's vision for the Air Force, LeMay's understanding and practice on the theory of airpower as a strategic arm. This type of change takes sustained leadership focus, which is exactly what we have at this time.

I'd like to read you a quote. How many people were at the Space Symposium? Okay, you're going to hear some of the same themes that you heard there. But let me read you a quote that our Chief of Staff General Goldfein said at the Space Symposium.

He said, and I quote, "It's time for us as a service, regardless of specialty badge, to embrace space superiority with the same passion and same sense of ownership that we apply to air superiority today." And he repeated it. It's exciting because we rarely as a service and as a nation, have national leadership so tightly aligned as we do right now.

In other speeches that I've given recently I've called it a strategic inflection point. If you were at the Space Symposium you heard many of the DOD speakers talk about our strategic alignment, the alignment of viewpoints on space, again from the White House all the way down. In my 34 year career in the Air Force, I've never seen such agreement on the importance of space. It is an absolutely critical and exciting time to be in the business.

I had to go back a little bit and look at history so I could find some things to compare this with. In keeping with the space theme, first you think of the space race. You think of the days of Mercury, Gemini and Apollo. There was unified vision and drive from the president on down that we must put a man on the moon and return him safely to Earth.

The second example in the Air Force was the early ICBM efforts under Bernie Schriever, from start to launch in just five years. We weren't just building one missile, we were building the entire ICBM fleet at that time. These are the types of things that can happen when we have alignment.

As I mentioned at the Space Symposium, I am convinced that historians are going to look back at this period of a couple of years as one of really significant importance for not just Air Force space but for the Air Force. Today, we see national alignment in both policy and action. First, our National Security Policy states the United States considers unfettered access to, and freedom to operate, in space to be a vital national interest.

It also goes on to declare that any harmful interference with, or an attack upon, critical components of our space architecture that directly affects vital U.S. interests will be met with a deliberate response at a time, place, domain and manner of our choosing. Our National Security Strategy and Defense Strategy are tightly coupled. The National Defense Strategy provides very clear direction to restore our competitive edge in an era or re-emerging long-term Great Power competition.

The guidance places a priority on resilience in space, space forces that can deploy, survive, operate, maneuver and regenerate. Now is the time for our nation to accelerate our efforts to gain and maintain space superiority, and that's exactly what we're doing and is reflective in the 2019 president's budget. This budget is tightly coupled with the National Defense Strategy.

At the Air Force level we've had a great leadership team who are engaged day-to-day on space. I first met Secretary Wilson almost a year ago to this day. The secretary of Defense swore her in on the steps of the Pentagon, and 24 hours later we were in front of the Senate Strategic Forces Subcommittee testifying on space -- 24 hours after taking the job. And I will tell you the strength of her leadership from day one has been evident and exists today. We're really lucky to have Secretary Wilson to be such a strong advocate and leader for our Air Force and for space.

The second half of our incredible leadership team is our Chief of Staff General Dave Goldfein. I view General Goldfein as an Airman's chief. He's a Big 10 chief. His views on multi-domain operations impact more than just space and more than our service. He has spoken many times on the future of warfare, and specifically the need to normalize and treat space like every other war fighting domain.

As I mentioned at the Space Symposium, and to put this in Airmen's terms, we have done a 9G turn towards space superiority and war fighting lethality. We've specifically focused on bringing our future faster and accelerating defendable space, while simultaneously moving ahead with multi-domain operations. So, let me give you a little overview on just what space superiority means to our nation and our Air Force.

At the national level, the fact that space is critical to our way of life should come as no surprise to anyone. It enables everything in our modern society. It's the foundation of our prosperity: Wall Street transactions, agriculture, even ATM withdrawals.

This crowd should fully understand how critical space is to our American way of war. However, our adversaries have also taken note of this asymmetric advantage and they seek to contest it. As the director of National Intelligence stated in his recent worldwide threat assessment, "We assess that if a future conflict were to occur involving Russia or China, either country would justify attacks against U.S. and allied satellites as necessary to offset any perceived U.S. military advantage derived from military, civil or commercial space systems."

Our focus is on deterring war, and that extends into space. The best way to do that is to be prepared to fight and win if deterrence were to fail, and that's exactly what we're doing. Those of us in this room who have attended professional military education, learned that air superiority should be the first joint war fighting objective. That's because it unlocks freedom of action for the surface domains, it protects our forces, and allows our force to project power very precisely.

Moving ahead in an era of Great Power competition, space and air superiority must be the first joint military objective. Before I open it up for questions, I'd like to give you a sense a little bit of what we're doing about this. The best way I know to organize those thoughts is to line them up with the Secretary of Defense's priorities.

Those priorities are to restore military readiness as we build a more lethal force. Second is to strengthen alliances and attract new partners, and I appreciate our partners that are here with us this morning, thank you. And to bring business reforms to the Department of Defense.

First, restoring readiness and building a more lethal force. I'll say right up front that the support we see up and down the chain has resulted in a significant investment that is aimed at increasing our lethality and restoring our readiness. In the FY '19 president's budget submittal, the Department of Defense added an additional 18 percent in space investment across the FYDP, which almost equates to \$7 billion across the FYDP.

Secondly, over the past year we've defined how we will integrate and fight together in space. It's called the concept of operations. This provides us the sheet music for how we plan to fight, and it was developed in lockstep with the National Reconnaissance Office. I can't think of a better partner than the National Reconnaissance Office, and I'll tell you Betty Sapp is my best friend.

Not only did we write an overarching CONOPS, we're doing a CONOPS on command and control, outlining unity of effort and unity of action for both the NRO and the Air Force. We follow that up with a concept of operations on space situational awareness and indications and warning, stating how we are taking an architecture originally designed for cataloging objects in the benign domain and transforming it to a war fighting function.

Along with the CONOPS we've made great progress in the command and control of space forces. On 1 December, as part of a larger U.S. Strategic Command reorganization, we activated the Joint Force Space Component Command. When I was a three-star at Vandenberg back in 2014 I commanded the Joint Functional Component Command, JFCC-Space. Some of you are thinking, they just added a letter, how big of a deal is that? It is a big deal. It elevates the operational level commander from a three-star to a four-star and dual hats me as the Air Force Space Command commander responsible for organize, train and equip with a joint function, responsible to General Hyten at the operational level of space.

This normalizes U.S. Strategic Command's structure with other combatant commands and has increased our ability to integrate space internal to U.S. Strategic Commander and external to Strategic Command, with the other geographic combatant commands around the world. We have made significant advances in our ability to command and control. In April of 2017 at the National Space Defense Center, we transitioned from experiments to operations, and together with the National Reconnaissance Office and our IC partners, the Center continues to mature and continues to be operationally relevant each and every day.

The secretary of the Air Force talks about the bold move to accelerate defensible space that we took in this budget, and she's right on target. In missile warning, we've recognized that the current SBIRS architecture is robust and affords us the opportunity to bridge to the future. With the support of DOD and U.S. Strategic Command, we have decided to forego SBIRS 7 and 8 and leap to the next generation of missile warning capability, which will not only provide us the world-class missile warning capability that our nation needs but will also be defensible.

The SecDef's second priority, again lining up on those three priorities, is to strengthen alliances and attract new partners, and we couldn't be more aligned in this area. As we fight in every other domain, we fight with coalitions and our partners and our allies. If a war were to extend into space it will be no different.

We continue to mature the Joint Space Operations Center at Vandenberg Air Force Base. This center has been the cornerstone of providing joint space effects to the joint fight globally for well over a decade. However, as I said, space should be a coalition effort. We've already integrated Great Britain, Australia and Canada into the operations center at Vandenberg, and later this summer we're going to transition the Joint Space Operations Center to a Combined Space Operations Center, which is going to take allied integration to a new level.

We've also partnered with our allies in acquisition, giving us unique access and ability to accelerate while increasing our partnerships. This year we're entering into a partnership with Norway on a communications payload on two of their satellites. This partnership provided us the opportunity to accelerate the launch of this capability by two years.

We're also currently engaged with Japan. We're working a hosted payload program with Japan to put an ISR payload on one of their Japanese satellites. I'm excited about that partnership going forward.

If you were at the Space Symposium you also heard the Chief and Secretary make some announcements concerning our allied partnerships. The secretary has pledged to increase the availability of our space training programs to both current but also new international partners. The chief, at next year's Space Symposium, is going to be hosting an international air chiefs conference focused on space, again to be held in conjunction

with next year's Space Symposium in Colorado Springs.

The third part was business reforms in the Department of Defense. We're making great progress towards that goal, that priority, as well. In space this is critical because we have to move faster and we have to harness the innovation and growth we see today in our space industry.

One recent change in how we do business is that I now have an Air Force Space Command vice commander stationed here at the Pentagon. Betty Sapp was my best friend. J.T. Thompson is my best friend.

He lives here in Washington. He comes to work everyday focused on space. He takes all the things that I'm talking about today that we're working on at Air Force Space Command, and helps us integrate that with the Air Staff in the Pentagon.

I couldn't be more happy to have him there. I will tell you my TDY travel to Washington has already gone down significantly. Although I started out saying it's great to be here, it really great to be home as well. So Lieutenant General Thompson, again, lives here, works in the Pentagon, and works for me as my Air Force Space Command vice.

Second, we're changing the way we do business, which often means making very hard decisions and tradeoffs. I already mentioned that we made the decision to forego SBIRS 7 and 8 in favor of accelerating to a more defensible architecture. That's not the only decision that we've made in the budget.

We've also made the decision to transfer from a follow-on space situational awareness program that we were building by ourselves in the United States Air Force, and we decided to enter into a partnership with the National Reconnaissance Office. They had a program that was going to better meet our mission needs. This all stems from the CONOPS work that we wrote with them. We now have a Joint Space Situational Awareness program that will increase our war fighting capability, get the needed capability into orbit several years early, and at a significant better value than what we could do if we went it alone.

If you look at last year's NDAA, it also directed that procurement of commercial SATCOM transition from DISA to Air Force Space Command by 1 December. We've got a planning team put together with DISA. We're on track to do that.

I'm excited for the advantage that this is going to provide the joint force. The authority to procure commercial SATCOM, when coupled with the authorities that I have as the Joint Force Space Component Commander, is going to be a powerful combination. It will enhance our capabilities to assure SATCOM for our joint war fighting team.

On the rapid acquisition front, we're also making great headway in reforming our acquisition processes for speed and innovation. Consistent, again, with last year's

NDAA, we're converting our Operationally Responsive Space Office to a Space Rapid Capabilities Office. So, the ORS office has already been renamed to be the Space RCO, but just renaming it is not all that satisfying. You have to do more, and we are.

We're building the Space RCO to be a mirror image of the Air Force RCO with leadership authorities and resources necessary to deliver. This will do great things for a key subset of capabilities that I will choose to put into that. This office will work directly for me. But that's not the only thing that we're doing.

I know those that were at the Space Symposium also heard about what we're calling SMC 2.0. Lieutenant General J.T. Thompson and the SMC leadership team are setting up a broad reform of the entire Space and Missile Systems Center organization, referred to as SMC 2.0. This will move our acquisition element from a single stove pipe approach for each system to a more rapid enterprise level approach.

We're also expanding the range of companies that we work with. When Secretary Wilson was here in March she discussed the Space Enterprise Consortium, an innovative approach to rapid prototyping that allows us to tap into non-traditional contractor teams. I'd like to give you an update on that today.

She mentioned when she was here that it was a \$100 million effort. It has been so useful to us that Dr. Roper recently increased that ceiling to \$500 million. At the time she was here, she talked about it being just over 100 members. That is up to 153 now and is truly a rapid acquisition effort.

The first award was made in April of this year, and since then they've awarded money to build almost a dozen different prototypes. They've got several more solicitations out for award as we speak. They're averaging about three months from solicitation to award. So, you see, the Air Force knows what it takes to gain and maintain space superiority as part of a multi-domain force.

Just look at the shift in the budget. We're accelerating defendable space, a key part of what it takes to get there. We're sharpening our multi-domain toolkit. It takes dedication, resources and ingenuity, but we've been down this path before. We have built a foundation of lethality in the air upon which our joint force can stand, and we are doing the exact same thing in space.

I also want to end with saying there should be no doubt in anybody's mind that we have the world's best space capabilities and the world's best space programs second to none. I'm really proud of the airmen that come to work every day in my Air Force hat, and the Airmen, Sailors, Soldiers and Marines in my joint hat that come to work every day to ensure that our nation and our joint force have the space capabilities that they need.

Thank you for having me here today and I look forward to taking your questions.

(Applause).

MR. SPENCER: For questions, if you would identify who you are and who you're affiliated with, and please only one question at a time.

MR. ROCKY THURSTON (ph): I'm Rocky Thurston with AT&T. Thank you for your service, sir. Thanks for coming here. Thanks, General Spencer, for hosting this.

I recently met with General O'Shaughnessy and we talked about --

GEN. RAYMOND: My new neighbor, as of about two or three hours from now.

MR. THURSTON: Yes, sir. We talked about a whole of nation approach and we talked about the use of commercial assets to go fight. Can you share some thoughts, your thoughts, on that concept, both the concepts, whole of nation and commercial usage, those types of things?

GEN. RAYMOND: We want to be great partners with the commercial industry, and we are. Historically, what has been commercially viable in space is commercial SATCOM. But as launch costs have gone down, as technology has gotten smaller, I see the full range of missions being now commercially viable, and we're looking to partner across the board.

We partner in launch pretty significantly. We're looking to partner with hosted payloads and commercial constellations. There's a huge opportunity here and I think the partnership we enjoy with commercial industry is one of our greatest advantages.

MR. : We've heard a lot about the tight integration with others like the NRO and IC. I was wondering if you could say a few words about any new touch points or enhanced relationship with the COCOMS and also organizations like Air Combat Command, and multi-domain effects? What's kind of new here in the next couple of years with regards to those relationships?

GEN. RAYMOND: I think if you look at space being inherently global, we have to have a vast array of partnerships. You mentioned General O'Shaughnessy. Up until a couple of hours from now when he takes command of NORTHCOM, he had been the commander of Pacific Air Forces. We have General Wolters, the Commander of U.S. Air Forces in Europe. We have strong partnerships with those.

I think when I talked earlier about the restructure of command and control within U.S. Strategic Command, just like General O'Shaughnessy with the service component to PACOM and the theater JFAC for PACOM, and just like in Europe General Wolters is the service component to EUCOM and the air component to EUCOM, you now see a similar thing in space where I'm the service component to U.S. Strategic Command and the joint component, if you will, to the Joint Force Space Component. So that alignment has allowed us to integrate more effectively with both -- I'm just using PACAF and

USAFE as examples -- it allows us to integrate more effectively; but also to have very strong partnerships with Air Combat Command as well. In fact, here over the next couple of months we're going to have a staff talk between Air Combat Command and Air Force Space Command to look at where we can even work more closely together than what we already are.

MR. JAMES PFEFFER (ph) : General Raymond, thank you for your service. Thank you for coming here today. I'm Jim Pfeffer from Lockheed Martin. Is part of your responsibilities you take care of cyber within the U.S. Air Force?

GEN. RAYMOND: I do.

MR. PFEFFER: What do you see for the future of Air Force cyber as you look down the road six months, a year, maybe two years from now?

GEN. RAYMOND: This gets back to the question on commercial partnerships. One of the things that I'm really pushing on is to leverage commercial industry more in cyber than what we do today. Today we have thousands of airmen that come to work every day to keep a network up and running, basically unclassified network.

What I am really working hard to do is to allow us to leverage and capitalize on commercial industry, and then refocus our airmen on those things that are militarily important in cyber, and not just running a network. We have an initiative that we're working called Enterprise IT, (a network as a service ?), and I think you're going to see our leveraging of commercial industry heightened in the years ahead.

MR. TERRELL WIN (ph): Hi, general. Thank you for your service, too. Terrell Win, Corpus Consulting. My question is a little bit more technical. You mentioned space and air superiority, but space and air superiority is very reliant on access, use and maneuver within the electromagnetic spectrum. It's our belief that you have to gain and maintain EMS, electromagnetic spectrum superiority before you can have any hopes of gaining space or air superiority. With that said, what is your command doing to ensure that it can gain and maintain EMS superiority so that we can gain and maintain space and air superiority? And is it in line with the department's electromagnetic spectrum operations, electromagnetic battle management, and electromagnetic spectrum operations, initiatives and concepts?

GEN. RAYMOND: The way I'd answer that is first of all I agree that the electromagnetic spectrum is very important. Our chief and our secretary also feel the same way. In fact, this year the Air Force has stood up what we call an ECCT that is going to focus on that electromagnetic spectrum. We are fully engaged with that work going on in the Pentagon to pull all that together. It's going to be a significant focus area for our service this year and into the future.

MR. STEVE HIRSCH: Thanks, Steve Hirsch from Air Force Magazine. Could you give us, if you can, anything in the way of a timeline on the conversion of the JSPOC

to the CSpOC? Stepping back a bit, could you look at that conversion and the international measures that the secretary mentioned in Colorado Springs? Are these sort of isolated internationalization efforts or is it part of a bigger push that we might see more of in the future?

GEN. RAYMOND: The timeline for a conversion from the Joint Space Operations Center to the Combined Space Operations Center is later this summer, so it's near-term. As I said up front, if you view space as a war fighting domain, just like air, land and sea, the way we operate in war fighting domains is we operate with our partners and with our allies. We're going to do the exact same thing in space.

You just asked a question on Combined Space Operations Center. We're increasing our partnerships and training, and I would say it's part of a broader effort that we're going to continue to work and nurture those partnerships going forward. I'll tell you, to be frank, in a benign domain in years past we didn't really need partnerships. As long as you can launch a satellite and get it into orbit, and operate it safely, that's all that mattered. That's not the case today, and we have strong partners and we're continuing to nurture those partnerships going forward. It's going to be very important for our country and for the countries that we partner with.

MR. KEITH COVEL (ph): Thank you for your important service, sir.

GEN. RAYMOND: Thank you.

MR. COVEL: Keith Covell with Kretos Archeologic (ph). You mentioned foregoing SBIRS 7 and 8 and looking forward to the next generation of missile warning systems. General Greaves has sent money over to SPKLA-DA (ph) for some initial prototyping projects on that. Can you give us kind of what your vision is for the future relative to who will operate and what does that future architecture look like?

GEN. RAYMOND: I'm sorry, can you go back. I missed a key part of that question in the middle.

MR. COVEL: The missile tracking systems that are going to be next generation that are going to be funded by the foregoing of SBIRS 7 and 8 and future funding. What do those next generation systems look like? Will it be operated by your command, sir?

GEN. RAYMOND: We are going down a path that will be operated by Air Force Space Command for a next generation missile warning satellite. That will be developed and acquired out of Space and Missile Systems Center in California, and will be operated by Air Force Space Command airmen just like we do today with our SBIRS satellites.

MR. JOHN HARPER: Thank you, general, John Harper with National Defense Magazine. You mentioned the Space Enterprise Consortium and how that has really grown in recent months. Do you see that as a continuing trend where there will be even more funding and more members joining that organization?

GEN. RAYMOND: I think what you'll see is the trend of wanting to be innovative, wanting to go fast, and wanting to look at nontraditional partners. That's what that reflects. We'll see how that goes. We've already seen an increase from, as I mentioned, \$100 million up to \$500 million. We'll see how that goes and progresses, and I'd encourage you to engage with the Space and Missile Systems Center for more details as we go along.

MR. SPENCER: We have time for one more.

MR. MARC SELINGER: Hi, general, Marc Selinger with Defense Daily. You mentioned a \$400 million increase in the ceiling for the Space Enterprise Consortium. Can you say where that money came from and did that require a reprogramming?

GEN. RAYMOND: I'll get you an answer. I'll get you an answer. I don't want to guess wrong, but I'll get you an answer.

Any other last questions, since I couldn't answer that one?

(Laughter).

Again, thank you General Spencer. Thank you for your leadership. Thanks for the invitation.

GEN. SPENCER: We've got one in back, a young woman.

GEN. RAYMOND: Yes, ma'am.

MS. JEN DIMASCIO: Hi, Jen DiMascio from Aviation Week. I just wanted to follow-up on that prior question about what the architecture would look like for next-generation SBIRS?

GEN. RAYMOND: That is currently in development right now. I'm not going to get into the specifics of what the architecture will look like. What I will tell you is that it will continue to provide the best missile warning capabilities in the world, but at the same time it will be defensible, and I'm not going to get into the specifics of how that will be more defensible.

Alright, thank you, sir.

MR. SPENCER: Thank you for being here.

(Applause).

I'd like to present you the AFA coin.

GEN. RAYMOND: That's a big coin.

(Laughter).

MR. SPENCER: Don't drop the coin.

GEN. RAYMOND: Don't drop that.

MR. SPENCER: Thanks on behalf of all of us here at the Air Force Association. Thank you so much for being here. This is the coveted AFA coin, also known as a manhole cover.

(Laughter).

GEN. RAYMOND: Thanks.

(Applause).

MR. SPENCER: We actually had a little stand down there to put it on, on the floor. Thank you. Thank you, again, General Raymond for being here. We know how busy you are, so thank you so much for flying across the country to speak to us this morning.

I also want to thank all of our attendees for being here and helping to educate, advocate and support for a dominant Air Force. I also want to sincerely thank our sponsors who sponsor this breakfast, otherwise we wouldn't be here.

Our next breakfast speaker will be Dr. Will Roper, the Assistant Secretary of the Air Force for Acquisition, and it will be at the Capitol Hill Club in D.C. Thank you so much, again, for being here. Please drive safe and have a great Air Force day.

(Applause).