

THE NOMINATION OF LIEUTENANT GENERAL
BRADLEY C. SALTZMAN, USSF TO BE GENERAL
AND CHIEF OF SPACE OPERATIONS

HEARING

BEFORE THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

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This hearing is printed to include all available information
requested or required to be inserted for the record.

**THE NOMINATION OF LIEUTENANT GENERAL
BRADLEY C. SALTZMAN, USSF TO BE
GENERAL AND CHIEF OF SPACE
OPERATIONS**

TUESDAY, SEPTEMBER 13, 2022

UNITED STATES SENATE,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The Committee met, pursuant to notice, at 9:31 a.m. in room SD-G50, Dirksen Senate Office Building, Senator Jack Reed (Chairman of the Committee) presiding.

Committee Members present: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Peters, Rosen, Kelly, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Cramer, Scott, Blackburn, Hawley, and Tuberville.

OPENING STATEMENT OF SENATOR JACK REED

Chairman REED. Good morning.

The Committee meets today to consider the nomination of Lieutenant General B. Chance Saltzman for promotion to general and to be the next Chief of Space Operations.

General Saltzman, welcome. I thank you for your decades of service and willingness to serve in this very important position.

I would like to welcome your wife, Jennifer, your son, John, and your daughter, Sarah, and while not present today let me also acknowledge your parents, Randy and Belinda Saltzman, who are watching from home, I am sure, and I know they are very proud of your nomination.

Recognizing the increasing importance of the space domain and the growing threats to our critical space assets by China and Russia, Congress established the Space Force in the fiscal year 2020 National Defense Authorization Act.

The first Chief of Space Operations, General Raymond, then the commander of the U.S. Air Force Space Command, was legislatively transferred in 2020 to be the chief. So you are the first to be nominated and have a hearing for this position.

Given that the Space Force is only two years old, it is still becoming institutionalized within the Department of Defense and there are many challenges in that process.

First, the Space Force must develop its ability to train and equip guardians. Space is a remote domain, one that is now contested. Your guardians will have to have the ability to integrate digital

and other advanced technologies to accomplish their mission, all underpinned by a strong STEM background.

My understanding is the Space Force is standing up a Space Training and Readiness Command, or STARCOM. I will want to know your views, if confirmed, at how STARCOM will train future guardians as a warfighting force in the space domain.

Second, you will have to foster a service culture that can succeed in the dramatically evolving space environment often called “New Space.” We are witnessing an enormous surge in the space industry with some satellite constellations that numbered one or two dozen satellites a few years ago now having thousands in low earth orbit, all interconnected to provide high-speed internet anywhere on the globe.

Rockets that were once disposable are now reusable, lowering the cost of launch to a fraction of what it used to be. The Space Force of today and tomorrow must adapt to this rapid change in pace of innovation and utilize it to protect and defend our assets in space and on the ground.

The Space Force, its organization, and its guardians need to reflect this changing environment.

Third, in response to the growing adversarial threat in space, Congress not only created the Space Force as a warfighting entity, it also reorganized the way we acquire space systems, the way we formulate space policy, and the way we fight in space with a new combatant command.

If confirmed, you will lead the Space Force in this new national defense enterprise. I want to know what you foresee as major issues you expect to face and how you will ensure the Space Force can respond to them.

Most importantly, an integral part of the military service is its new culture and its unity of mission. When the Space Force was established, most guardians necessarily transferred from other services and, thus, had to adapt to a new culture.

I was pleased to learn in our meeting last week that successful recruiting efforts have ensued that soon one-third of the Space Force will never have served in another service.

General, I am interested in how you intend to create a unique culture with the blend of transfers and new recruits.

Thank you again for your willingness to serve our nation. I look forward to your testimony.

Let me now recognize Ranking Member Inhofe.

STATEMENT OF SENATOR JAMES M. INHOFE

Senator INHOFE. Thank you, Mr. Chairman, and I would also like to extend a welcome to the general and I appreciate the time you spent with me giving me an idea of what you have in your mind, and also the fact that you have your family here today it is very meaningful to us. We appreciate that very much because you are not going to see a lot of them in the days to come.

Our National Defense Strategy is not shy about the scope and scale of the threat from China and the speed of the advances. There is no better example of that than space.

In a decade, the United States has gone from the unquestioned leader in space to merely one of two peers in a competition. Most people do not realize that.

There is a lot China and Russia are doing in space we cannot talk about today but even what we can talk about in public is very concerning.

For years, we have kept noting that everything our military does relies on space but we never really acted like it. Worse yet, space is no longer simply an enabler for other functions.

So we have a different environment altogether today and you are only the second one to take on this awesome responsibility, and we appreciate very much the effort that you are making and the background that you bring.

Thank you, Mr. Chairman.

Chairman REED. Thank you, Senator Inhofe.

General Saltzman, you are recognized for your opening statement.

Could you please bring the microphone as close as possible and—thank you.

Lieutenant General SALTZMAN. Can you hear me okay?

Chairman REED. Yes, sir.

STATEMENT OF LIEUTENANT GENERAL BRADLEY C. SALTZMAN, USSF TO BE GENERAL AND CHIEF OF SPACE OPERATIONS

Lieutenant General SALTZMAN. Thank you, Chairman Reed, Ranking Member Inhofe, distinguished Members of this Committee. I am honored and deeply humbled by the opportunity to be with you this morning.

I would like to begin by introducing my family. With me today are the most important people in my life.

First, my wife, Jennifer. I am very proud to announce that just yesterday we celebrated our 30th wedding anniversary. Jennifer has been steadfastly by my side for this entire military journey through 15 moves, nearly 200 overnight ICBM alerts, countless late nights and trips away from home, and most recently a year separated while I deployed to the Middle East.

She has taken on all these challenges and conquered them with a smile on her face and warmth in her heart. But her most amazing accomplishment has been raising our two children into the fine young adults you see here.

Our son, John, is a director of social media content for a sports marketing firm and our daughter, Sarah, recently completed a master's degree in public administration with a perfect 4.0 GPA.

Jennifer and I could not be prouder of these two. They have followed Mom and Dad all over the country and been successful at every turn. They meet challenges head on and have always shown maturity beyond their years, optimism, and a contagious wit.

My home and family are my bedrock and they are, clearly, at the center of any career success that I have enjoyed. I owe all of that to these three, and I will be forever grateful for the love and support they have shown and the sacrifices they have made.

I would also like to take this opportunity to offer a special thanks to General Jay and Mollie Raymond. The Saltzman and Raymond

families go back many years and we have benefited greatly from their mentorship and friendship.

They are concluding 38 years of distinguished service to our nation but these last three years have been critical to the historic establishment of the Space Force. Their passion, dedication, and vision have set the Space Force on a solid foundation.

If I have the good fortune to be confirmed, Jennifer and I will work hard to build on their successes and continue to push the Space Force to new heights.

I would also like to express my appreciation to this Committee for your relentless support and advocacy for our Space Force, its guardians, and their families.

For the last two years, I have had the privilege of serving with these guardians and I can attest that they are the finest men and women that America has to offer. If confirmed, it will be the honor of my life to lead them as the second Chief of Space Operations for the United States Space Force.

Not quite three years ago Congress established the Space Force to provide freedom of operation for the United States in, from, and to space, to conduct space operations, and to protect the interests of the United States in space.

In the few short years since the Space Force was established, the number of satellites on orbit has doubled and the global space economy is approaching half a trillion dollars.

Space is truly a critical domain for U.S. interests so we must be clear eyed in our understanding that our strategic competitors have invested heavily in fielding systems capable of disrupting, degrading, and even destroying our space capabilities.

If confirmed, I will work to ensure that Space Force is ready to protect these vital interests from these threats.

It is truly an honor to be nominated to serve as the Space Force's next Chief of Space Operations. I am excited about the opportunities ahead for the Space Force.

If confirmed, I look forward to working with this Committee, other members of Congress, to continue to ensure the Space Force fulfills its mission as part of America's Joint Force.

I look forward to your questions. Thank you.

[The prepared statement of Lieutenant General B. Chance Saltzman follows:]

PREPARED STATEMENT BY LIEUTENANT GENERAL B. CHANCE SALTZMAN

Chairman Reed, Ranking Member Inhofe, distinguished Members of this Committee, I am honored and deeply humbled by the opportunity to be with you this morning. Let me start by expressing my appreciation to this Committee for your relentless support and advocacy for our Space Force and its guardians and families. For the last two years, I have had the privilege of serving with these guardians and I can attest that they are the finest men and women that America has to offer. If confirmed, it will be the honor of my life to lead them as the 2nd Chief of Space Operations for the United States Space Force. I would like to thank President Biden, Secretary Austin, Secretary Kendall and Chairman Milley for this amazing opportunity.

I would also like to offer a special thanks to General Jay and Mollie Raymond. The Saltzman and Raymond families go back many years and we have benefitted greatly from their mentorship and friendship. They are concluding 38 years of distinguished service to our nation, but these last 3 years have been critical to the historic establishment of the Space Force. Their passion, dedication and vision have set the Space Force on a solid foundation. If I have the good fortune to be confirmed,

Jennifer and I will work hard to build on their successes and continue to push the Space Force to new heights.

I am extremely proud to introduce the most important people in my life ... my family. First, my wife, Jennifer. Yesterday, we celebrated our thirtieth wedding anniversary. She has been steadfastly by my side for this entire military journey through 15 moves, nearly 200 overnight ICBM alerts, countless late nights and trips away from home and most recently a year separated while I deployed to the Middle East. She has taken on all those challenges and conquered them with a smile on her face and warmth in her heart. But her most amazing accomplishment was raising our two children into the fine young adults you see here. Our son, John, a director of social media content for a sports marketing firm in Chicago, and our daughter, Sarah, who recently completed a Master's Degree in Public Administration and is moving to Washington DC to begin her career. Jennifer and I could not be prouder of these two ... they have followed mom and dad all over the country and been successful at every turn. They meet challenges head on and have always shown maturity beyond their years, optimism and contagious wit. My home and family are my bedrock and they are clearly at the center of any career success that I've enjoyed ... I owe all of that to these three and I will be forever grateful for the love and support they have shown and the sacrifices they have made.

Not quite three years ago, Congress established the United States Space Force to provide freedom of operation for the United States in, from, and to space; to conduct space operations; and to protect the interests of the United States in space. In my 3 decades of service, I have seen U.S. space capabilities expand from a few dozen exquisite satellites to nearly 3000 satellites today underpinning our military capability and driving the global economy. In the few short years since the Space Force was established, the number of satellites on orbit has doubled and the global space economy is approaching half a trillion dollars. Space is truly a critical domain for U.S. interests, so we must all be clear-eyed in our understanding that our strategic competitors have invested heavily in fielding systems capable of disrupting, degrading and even destroying our space capabilities. If confirmed, I will work to ensure the Space Force provides the needed support to our combatant commands to deter threats to our space capabilities and interests, and to promote responsible behaviors in space.

To ensure the Space Force can accomplish this important mission, we need to be successful across three broad fronts. First, we will continue to mature as an independent service. We must continue to develop the Space Force into a world class organization capable of integrating effectively into the Department of Defense, which will take considerable effort to put the right processes with the right people in the right places. Second, we will leverage key partnerships. We need to build and enhance our relationships with allies and partners in order to benefit from the expanding commercial space sector, High-Tech industries and the expertise, advanced technologies and capabilities they possess. Finally, we must innovate new ways to accomplish our complex missions. We will not succeed if we assume our old habits will be effective in the emerging security environment. We must be innovative in everything we do from recruiting and retaining our talented guardians, to acquiring space capabilities and training for the contested space domain. I am convinced we have the right people asking the right questions and doing the right things to get this done.

It is truly an honor to be nominated to serve as the Space Force's next Chief of Space Operations. I am excited about the opportunities ahead for the Space Force. The inspired work that General Raymond started has set us on a path. It is a path towards advanced capabilities, modern, resilient architectures, and innovative approaches to meet our service missions. The heart and soul of this vision are our amazing guardians and I am committed to making sure they have the resources, training and equipment they need to be successful. If confirmed, I look forward to working with this Committee and Congress to continue to enable the United States Space Force as the guardians of progress, innovation, and security in the space domain. Once again, thank you for this opportunity. I look forward to your questions.

Chairman REED. Thank you very much, General Saltzman.

Before I begin the questioning, there are a series of standard questions for nominees and you can respond.

Have you adhered to applicable laws and regulations governing conflicts of interest?

Lieutenant General SALTZMAN. Yes.

Chairman REED. Have you assumed any duties or taken any actions that would appear to presume the outcome of the confirmation process?

Lieutenant General SALTZMAN. No.

Chairman REED. Exercising our legislative and oversight responsibilities makes it important that this Committee, its subcommittees, and other appropriate committees of Congress receive testimony, briefings, reports, records, and other information from the executive branch on a timely basis.

Do you agree, if confirmed, to appear and testify before this Committee when requested?

Lieutenant General SALTZMAN. Yes.

Chairman REED. Do you agree, when asked before this Committee, to give your personal views even if your views differ from the administration?

Lieutenant General SALTZMAN. Yes.

Chairman REED. Do you agree to provide records, documents, and electronic communications in a timely manner when requested by this Committee, its subcommittees, or other appropriate committees of Congress and to consult with the requester regarding the basis for any good faith delay or denial in providing such records?

Lieutenant General SALTZMAN. Yes.

Chairman REED. Will you ensure that your staff complies with deadlines established by this Committee for the production of reports, records, and other information, including timely responding to hearing questions for the record?

Lieutenant General SALTZMAN. Yes.

Chairman REED. Will you cooperate in providing witnesses and briefers in response to congressional requests?

Lieutenant General SALTZMAN. Yes.

Chairman REED. Will those witnesses and briefers be protected from reprisal for their testimony or briefings?

Lieutenant General SALTZMAN. Yes.

Chairman REED. Thank you very much, General.

General, in my comments I talked about the Force Design that the Space Force must lead. The intent in Congress is to centralize that Force Design in the Space Force, and the Senate version of the 2022 National Defense Authorization Act deemed the Chief of Space Operations to be the Force Design architect for space of the armed services are no different in many ways of how the Chief of Naval Operations is the designer of the fleet of ships for our Navy.

The conference bill required the Secretary of Defense to designate the Chief of Special Operations as the Force Design architect and the August 17th letter sent to the Committee by the Secretary does, indeed, designate the chief as the Force Design architect except for all of the other authorities of space residing in the armed forces in the Office of the Secretary of Defense, which are rather extensive.

Do you think this is a workable designation and follows the intent of Congress?

Lieutenant General SALTZMAN. Yes, sir, I do.

I have had extensive discussions with the Secretary of the Air Force and General Raymond, the current Chief of Space Operations, and it is my understanding that the exemptions that you

mentioned really are not about authorities associated with the Force Design architect and that the authorities and responsibilities that the Secretary of Defense gave to General Raymond as the Chief of Space Operations is sufficient to accomplish the intent of Congress.

If confirmed, I would continue to execute those same authorities and responsibilities so that I could take seriously those priorities for Force Design to make the Space Force as capable as possible.

Chairman REED. Thank you.

General Saltzman, if confirmed, your job will be to present training and equip forces to U.S. Space Command primarily but also you will have the duty to support other combatant commands such as EUCOM, et cetera.

Is there any significant distinction in your mind between your responsibilities between those two or the different commands you will support?

Lieutenant General SALTZMAN. No, Senator. The responsibilities of the Chief of Space Operations are to make sure there are ready forces that have the flexibility, the agility, the training, and experience necessary to support all combatant commanders.

Of note, of course, is that U.S. Space Command has primary responsibilities for that space area of responsibilities as well as some key missions providing capabilities for the Joint Force.

While over 90 percent of the Space Force capabilities are presented to U.S. Space Command, there are critical other capabilities—regional capabilities—that are also presented to the other combatant commands to fulfill their missions as well.

Chairman REED. Thank you.

General Saltzman, the administration has sent a legislative proposal to create, essentially, full and part time Space Force military personnel in lieu of our separate Reserve and Guard elements as in other services and this, I think, originates because the Space Force is relatively small and the Reserve and Guard elements would be smaller still. Do you support this proposal?

Lieutenant General SALTZMAN. Senator, the most important aspect of this is that there are critical capabilities and expertise that currently reside in the Air Force Reserves as well as the Air National Guard.

The primary responsibility, of course, is to make sure that we have complete access to that experience, that expertise, and those capabilities.

So from a readiness perspective, I can tell you as the Chief of Operations currently that is high on my list to make sure that we have unfettered access to those capabilities.

We are also looking at flexible and innovative ways to make sure that we have viable and flexible career paths for our guardians. It is important that we retain this talent for an extended period of time to get the most out of them, and having the ability to seamlessly and have a permeable way to move between full time and part time capacity inside the Space Force, we think, is a tremendous benefit to the guardians and, ultimately, to the force to maintain that readiness.

So, if confirmed as CSO I would, certainly, welcome the opportunity to continue to work with Members of this Committee and

other stakeholders to make sure that we get the right organizational structure to take advantage of these capabilities.

Chairman REED. Thank you.

Again, one of the great challenges you have facing you is creating a culture in the Space Force as a warfighting force, one that is highly technical and one that innovates constantly. We find sometimes culture is more determinative of outcomes than a lot of other factors.

So that is something, I think, you will be working on and we hope to work together with you. Thank you very much.

Now, let me recognize the Ranking Member, Senator Inhofe.

Senator INHOFE. Okay.

General Saltzman, let me get the two required questions out of the way so no one else will have to do it. The two are what worries you the most and what do you intend to do about it, and secondly, what will be the first challenge that you go after?

Two questions.

Lieutenant General SALTZMAN. Yes, sir. Thank you.

The most immediate threat, in my opinion, is the pace with which our strategic challengers, first and foremost, the Chinese, are aggressively pursuing capabilities that can disrupt, degrade, and ultimately even destroy our satellite capabilities and disrupt our ground infrastructure.

They have watched how we perform Joint Force operations. They know how critical the U.S.—how critical the U.S. space capabilities are to the Joint Force.

They have learned from that and they recognize that it is an asymmetric advantage of theirs to go after our space capabilities and deny them to the Joint Force, and they have invested heavily and demonstrated capabilities that can deny us this.

So it is one of my earliest priorities to make sure that we are on track to build and field effective capabilities and then train the guardians to operate in a contested domain so that we can counter this activity by our strategic competitors.

Senator INHOFE. Good. Thank you, General Saltzman.

Thank you, Mr. Chairman.

Chairman REED. Thank you very much, Senator Inhofe.

Senator Shaheen, please?

Senator SHAHEEN. Thank you.

Congratulations, General Saltzman, on your nomination.

Now, I hope that for your 30th anniversary you are doing something other than just bringing your wife to this hearing.

[Laughter.]

Senator SHAHEEN. You know, the pearls are the gift for the 30th anniversary so I hope Jennifer has got that on her list.

Lieutenant General SALTZMAN. You are getting me in trouble, ma'am. I appreciate that.

Senator SHAHEEN. Seriously, I appreciated the opportunity to meet with you last week and I especially appreciated the conversation that we had about the risk that is involved with our space capabilities.

I wonder if you could speak to how important it is to have the SBIR and STTR programs with our small businesses who are able to assume more of that risk and what would—what your assess-

ment is if those programs are discontinued because we do not get them reauthorized this year.

Lieutenant General SALTZMAN. Thank you, Senator.

The size of the Space Force, the criticality of the missions, means we are going to have to innovate. We are going to have to do things differently in order to deliver the kinds of capabilities that the nation needs to protect its Space Force, to protect the space capabilities, and then protect the Joint Force from our adversaries.

It is my opinion that when you are trying to innovate, when you are trying to be creative, the best way to do that is to open up the aperture of ideas, and I think small businesses have a tremendous role that they can play in helping provide some of those innovative creative capabilities that we can then leverage to build a full spectrum response to what our adversaries are trying to do.

I firmly believe we ought to lower the thresholds to make it easier for small businesses to offer their capabilities for us to take into.

Senator SHAHEEN. So I assume you would agree with me that if we do not get those programs reauthorized it is going to be a real loss in terms of the innovation that our small businesses are providing to the space program and also to our military?

Lieutenant General SALTZMAN. If confirmed, I am, certainly, committed to any authority's responsibilities that help pull the maximum number of innovators in to solve my problems as possible.

Senator SHAHEEN. Thank you.

Can you also talk about the risk issue in terms of our procurement process?

I think General Hyten talked about the bureaucratic hurdles that impede our ability to procure the capabilities we need and as we are looking at our adversaries, particularly China, they do not have to deal with that.

So what do you see in terms of policy changes that we should do that would help us address the procurement issues that we have got?

Lieutenant General SALTZMAN. Well, we have a very deliberate process to make sure that we are wisely using our taxpayer dollars. You bring up an excellent point that the urgency—the sense of urgency that our adversaries have imposed on us require us to move quickly to develop these capabilities.

I am, certainly, committed to making sure that we streamline our processes. Congress has helped with the establishment of a Force Design architect in the CSO—the Chief of Space Operations.

I think streamlining the requirements, being clear exactly what we need, innovating to pull in as many ideas as possible to solve those problems, will streamline our efforts and deliver operational capability faster.

The cultural piece of this, sometimes we get focused on the fact that we need to purposely build capability to provide space capabilities for the nation.

Out at Space Systems Command they have adopted a mantra about exploiting what we have, buying what we can, and only building what we must, and I think having that open thought process for how best to bring capabilities to bear will actually streamline the process and make us do a better job.

Senator SHAHEEN. Thank you. I appreciate that.

During our meeting, you also talked about and you did—as you did in your opening statement the importance of the people in our Space Force and that they will make a difference in our success or failure.

One of the things that I understand Space Force may be rethinking is some of the requirements that disqualify 70 percent of young Americans from military service.

Can you speak to what we ought to be thinking about as we are thinking about how do we get more of those Americans into service?

Lieutenant General SALTZMAN. We may be a small force, ma'am, but we require highly-skilled technical experts to be brought in to do these important critical missions for the Space Force.

We also have an advantage by being small that we can consider on a case by case basis precisely the right people, the right kinds of people with the right skill sets, the right diversity of thought, into the Space Force to optimize our capabilities.

By being able to consider this on a case by case basis, I think we do not have to put blanket restrictions on types of people, on types of qualifications, that bring you into the Space Force.

So we have a tremendous opportunity, I think, because of the numbers that we need to bring in to be more individualistic, and if confirmed as CSO I would want to expand that and actually broaden this out to as many people as possible.

Senator SHAHEEN. Well, thanks very much. I look forward to that—continuing that discussion.

Thank you, Mr. Chairman.

Chairman REED. Thank you, Senator Shaheen.

Senator Cotton, please?

Senator COTTON. General Saltzman, welcome, and congratulations on your nomination.

I want to explore a little bit your thoughts on the relationship between the Space Force and the National Reconnaissance Office. You are well suited for that not only in the Space Force but having served at the NRO.

I have heard it said by some that once any asset goes into space it becomes strategic intelligence and, therefore, should fall underneath the NRO, although that point of view would seem to conflict with the mission of Space Force.

So could you explain how the Space Force should relate to the NRO and how that should look and function?

Lieutenant General SALTZMAN. Yes, sir.

I learned to fly satellites in the NRO. I was an NRO ground station commander so I speak from a personal basis from an insider, if you will, that that mission that the NRO does—the missions that the NRO does are critical, critical to the United States.

But they do—there are differences in the missions that they support, the requirements that they support, and the customers that they support, and although there are differences the collaboration between the two organizations is essential for both's success.

As I mentioned earlier, Space Systems Command thinking through how do we exploit what we have, how do we buy what we

can and build only what we must is that mantra that underpins some of the collaboration.

We will need to look as we examine where our missions start to overlap whether it is intelligence, surveillance, and reconnaissance or some of the other protect and defend missions.

Wherever we overlap we need to evaluate what current capabilities exist, what we need to—what we can buy commercially and what we need to build specifically to fill the gaps, and then not walk all over each other, to not be overly redundant, because we cannot afford to be.

I think through this collaboration, and the NRO relationship right now is solid and we do have good solid collaborations. The current analysis of alternatives proves that out.

I think we are on a good pace. I think we just need to keep it up.

Senator COTTON. Are there any changes to the law that need to happen to ensure that Space Force can do that?

Lieutenant General SALTZMAN. I am not tracking any changes that need to occur now, sir. As I get into the position, if confirmed, I would welcome the opportunity to come back and evaluate any changes or make any requests that need to be modified.

Senator COTTON. You have said this morning, as have others, that space is a warfighting domain. Most people, I think, understand that our troops on the ground or on the seas or in the air use our space assets to help fight war in their domains.

But you also mean that space itself could be a warfighting domain, correct?

Lieutenant General SALTZMAN. I do.

Senator COTTON. Okay. So the timeless principles of war that have stood the test of time, from Alexander to Washington to Napoleon to Grant, would apply in space just like they apply here on Earth, right?

Lieutenant General SALTZMAN. I agree.

Senator COTTON. One of those principles is the priority of the offensive. Can you talk to us a little bit about what offensive operations in space would look like?

Lieutenant General SALTZMAN. When I think about space superiority, which is kind of the phrase we use to mean that we are going to contest that domain to make sure that we have access to the capabilities, part of that also means that we are going to protect the Joint Force from an adversary's ability to use space to target them.

I think the best way to achieve this is through deterrence; prevent a war from extending into space denying us those capabilities. But the best way to deter is to have a resilient capability and to have offensive and defensive capabilities that creates a credible force. That is where you really get your true deterrence.

Senator COTTON. All right. Thank you, General.

Chairman REED. Thank you, Senator Cotton.

Senator Gillibrand, please?

Senator GILLIBRAND. Thank you, Mr. Chairman.

Congratulations and congratulations to your family.

The Federal Government has struggled to recruit cyber and digital service professionals both in the civilian and military service. This challenge is also seen in other high-tech fields as well.

To address this challenge, I have worked with Senator Rounds and Senator Sasse on proposing the creation of a Cyber and Digital Services Academy to recruit and train the next generation of cyber professionals into the government service.

Given the highly technical nature of Space Force's work, should Congress consider integrating Space Force cadets into the Cyber Academy and using a potential Cyber Digital Services and Space Academy as the service academy commissioning source for Space Force officers and civilians?

Lieutenant General SALTZMAN. Senator, there is no way the Space Force can be successful without capable cyber professionals. We simply rely too much on our ground networks, on the RF links that connect our satellites to our ground nodes.

The distribution of data that is required to really meet our goals all relies on highly capable, highly technical cyber professionals.

So in the pursuit of finding them and training them and continue to provide advanced training for them, I would be open to any institutions or capabilities that can add to our portfolio to make sure that our cyber operators are trained and continue to be at the leading edge of technology.

If confirmed as CSO, this would be one of my priorities.

Senator GILLIBRAND. What do you think some of the recruiting challenges—what do you think they will be for Space Force and have you been able to recruit and retain the technical workforce that you need and where are some of your current shortfalls?

Lieutenant General SALTZMAN. Yes, ma'am.

We currently are not seeing the recruiting shortfalls that some of the other services are facing. Primarily, that is because we do not require as many in the Space Force. We have that good fortune of being smaller so that our recruiting numbers are lower.

But that small workforce is highly skilled, highly technical, and so we have to reach out and find just the right people, train them to do our specific and sometimes military-unique missions inside the domain, which then means it is important for us to retain them over the course of their career so that we can continue to benefit on their gathered experience.

That is going to be, I think, more difficult as they see opportunities in the private sector to use the skills that we provide them.

So, in my mind, this is about culture. This is about giving them challenging work, respecting their inputs, and making it a place they just want to show up to work every day to protect the nation. That is what I am committed to if confirmed as CSO is getting that culture right.

Senator GILLIBRAND. I listened very carefully to your response to the chairman's question about the National Guard. In your written response to advance policy questions you wrote that you are most concerned with maintaining the readiness of the space units in the Air National Guard.

I have heard some concerns that the training pipeline for these Air National Guard units will be cut off, given the transition of the active duty space missions to the Space Force.

How will you ensure that these Air National Guard units are able to fully execute these missions?

Lieutenant General SALTZMAN. As I mentioned, those capabilities are critical to the success of the Space Force. The way I see it, they can be organized in several different ways. I think there is three options that are being considered.

The key is that there are pros and cons and advantages and opportunities in each of these that are slightly different, and so what is important is that we take the time to evaluate all of those second and third order effects to make sure we optimize the capabilities, optimize their long-term viability, the training, the recruiting, the retention, of that expertise.

If confirmed as the Chief of Space Operations what I would like to do is work with the Committee, work with the other stakeholders, to really evaluate all of those nuances to make sure we optimize the organizational structure.

Senator GILLIBRAND. But, basically, you want to use the space units that are part of the Air National Guard as your feeder?

Lieutenant General SALTZMAN. I think those capabilities are important to the success of the Space Force.

Senator GILLIBRAND. Understood.

I saw that the Space Force's direct commissioning program began this spring with the Cyber Constructive Service Credit Board in order to acquire cyber professionals.

Can you speak to what specific operational billets are needed that this initiative to commission cyber professionals can help fill and how has the process gone so far?

Lieutenant General SALTZMAN. What we are recognizing is that to get the mid-grade officers—the 15-year technicians—it takes 15 years to grow them if we start from scratch at the accessions point.

If we are able to take advantage of the expertise they gain in the private sector and pull them over, we want to give them credit so they can lead our organizations and not start at the bottom of the organization, and so we are seeing a lot of positive interest in that and the pilot program is going successful so far.

Senator GILLIBRAND. Thank you. Thank you for your testimony and thank you for your service. I do hope you get to meet all the former heads of Space Force, including Steve Carell.

[Laughter.]

Chairman REED. Thank you very much, Senator Gillibrand.

Senator Tuberville, please?

Senator TUBERVILLE. Thank you, Mr. Chairman.

Congratulations, General, to you and your family. Just a couple of questions here.

Do you believe our national security launches should remain on U.S. soil?

Lieutenant General SALTZMAN. Sir, assured access to space is a national imperative. I am open to making sure that we can put any kind of payload, any type of payload, into any of the orbits that are required.

This will take establishing a number of launch providers, a number of launch locations, to maintain the kind of agility and flexibility we need to ensure that that mission continues.

So I am open to exploring all options to make that the most flexible capability possible.

Senator TUBERVILLE. If confirmed, what would you do to protect the DOD and U.S. contractors from intellectual property theft, which is a huge problem, as we know?

Lieutenant General SALTZMAN. Yes, Senator.

If confirmed—again, I think about this in terms of cyber defense because a lot of times that is how they are gaining access to our capabilities and, as I mentioned, we cannot do anything without our cyber networks, without our cyber professionals defending those networks.

So what I would commit to is looking at the tools they need, the training they need, the experience they need to make sure that they are the most capable force in defending our intellectual property and our networks from the actions of our adversaries.

Senator TUBERVILLE. What would you say our percentage of cybersecurity is in the Space Force—percentage of your people? How much would that be? Ten, 15, 20 percent?

Lieutenant General SALTZMAN. Senator, I do not think I have a specific number. We only have five officer categories and an equal number of enlisted categories.

So all of our operators, all of our personnel, are really focused on operations. One of those subsets is cyber. But I am happy to take that for the record and get back with you on a specific number.

Senator TUBERVILLE. Thank you.

We have previously been told that Space Force is not looking at any new launch requirements for Phase 3 the National Security Space Launch program. Given Chinese developments just this week, do you believe that we should explore in establishing new requirements?

Lieutenant General SALTZMAN. Senator, it is my understanding that we are still developing the Phase 3 of the National Security Space Launch strategy.

We are still trying to figure out the best way to bend the requirements, to take advantage of both the high-end established launch service providers but also find room for these emerging smaller launch service providers, and I think that mix creates the kind of flexibility we need and it is about getting the requirements set just right.

If confirmed, I would be committed to looking and working with stakeholders to make sure we get that balance just right.

Senator TUBERVILLE. Thank you.

You know our supply chain remains a challenge, especially for our national security space ecosystem.

How will the Space Force address these new requirements in future systems? Could you give me your thoughts on that?

Lieutenant General SALTZMAN. Senator, what we are learning is we have to account for the supply chains—the veracity, the robustness, of the supply chains as we go through our acquisition process.

You cannot wait till after you decide what you are going to buy and then figure out if the supply chain works, and I think our Space Systems Command and the other providers in the acquisition system have done a good job of characterizing that, and once you characterize it effectively then you can make sure you are defending it, making it as robust as possible, making it flexible so it

is not sensitive to problems in the supply chain, that we have other areas to go, and, if confirmed, I would continue to promote that.

Senator TUBERVILLE. Thank you, General. Good luck. It is going to be a tough job.

But thanks for being here today, you and your family. It is it. This is quite an honor—obviously, the second head coach, basically, of Space Force. So thank you very much.

Mr. Chairman, this is National Peanut Day so that is the reason I put all these peanuts in front of everybody from Alabama. So thank you, sir.

Chairman REED. Thank you very much, Senator Tuberville, and thank you for the peanuts.

Senator HIRONO, please?

Senator HIRONO. Thank you, Mr. Chairman, and thank you for the peanuts. We need to—energy.

General, welcome to you and your family.

To ensure the fitness of nominees for appointment to senior positions within any of the departments I ask the following two initial questions of all nominees in any of the Committees that I sit on so I will ask you these initial questions.

Since you became a legal adult have you ever made unwanted requests for sexual favors or committed any verbal or physical harassment or assault of a sexual nature?

Lieutenant General SALTZMAN. No.

Senator HIRONO. Have you ever faced discipline or entered into a settlement related to this kind of conduct?

Lieutenant General SALTZMAN. No.

Senator HIRONO. General, over the past several years the regional SATCOM Support Center Pacific has experienced a significant amount of mission growth as the armed forces have become more reliant on satellite communications.

Unfortunately, regional SATCOM Support Center Pacific has not seen corresponding manpower increases to handle this additional work. With Army satellite operations set to be consolidated under Space Force in the near future, will you consider increases to the Space Force's manpower levels to ensure every unit is able to keep pace with its mission requirements?

Lieutenant General SALTZMAN. Senator, I think one of the most important things that the Space Force has done since its inception is consolidating military SATCOM—military satellite communications—under a single service.

It gives us a lot of authorities, responsibilities, and opportunities to do just what you are saying and that is increase the readiness of those units so that they can provide these critical capabilities.

So we are redesigning currently how we assess and force present for readiness all of our units. First and foremost amongst those are these new units that are coming across from other services.

The short answer is if confirmed as the CSO I would take the readiness of these units very seriously and the manpower elements of readiness is a key concern.

Senator HIRONO. That sounds like a yes.

You have been asked a number of questions from both the chairman and Senator Gillibrand about the role of the National Guard in Space Force, and I recently met with members of the Hawaii Air

National Guard to discuss their concerns about the potential transition of space missions away from the Air National Guard to the Space Force.

These men and women have committed to the space mission on Kauai and have dedicated their time and training to building their expertise in space electronic warfare.

However, remaining assigned to the Air Force while carrying out Space Force missions has resulted in budget gaps and training delays.

It is my understanding that the Space Force and Air Force are evaluating three potential actions to resolve this issue, including the establishment of a Space National Guard.

I think that we, in Congress, is expecting or was expecting a report on how Space Force was going to be constituted due in March and we do not have that report yet.

So until the decision is made as to how the Space Force is going to be constituted, how will you ensure that such National Guard units which, by the way, exist in a number of states—that would be, excuse me, California, Colorado, Florida, Hawaii, Ohio, Guam, and Alaska—how would you ensure that such National Guard units are adequately resourced and have access to the requisite training required to carry out their space missions?

Lieutenant General SALTZMAN. Yes, Senator. I think you have characterized that just right.

I know that this is also a concern for U.S. Space Command and as one of the key force providers to U.S. Space Command we were involved in those discussions where the Air Force and the Air Guard through the Air Reserve also provide those capabilities.

So readiness, again, is my primary concern, having access to that expertise, and as a part of the Department of the Air Force, if confirmed as CSO, I would be in those deliberations to make sure that those forces are as ready as possible to meet the combatant commanders' requirements.

Senator HIRONO. If confirmed, would you agree that the National Guard should be consulted in any decision or cost estimate related to a creation of a Space National Guard?

Some of the concern is that creating a Space National Guard is too expensive and, really, setting up an entire other way to constitute the Space Force could be much, much more expensive because you already have these units in a number of the states that I mentioned.

So I would like your commitment that you will be consulting with the National Guard in going forward.

Lieutenant General SALTZMAN. Senator, if confirmed as the Chief of Space Operations, I commit to collaborating with the National Guard on a host of issues, this being one.

Senator HIRONO. Thank you. Thank you, Mr. Chairman.

Chairman REED. Thank you very much, Senator Hirono.

Senator Rounds, please?

Senator ROUNDS. Thank you, Mr. Chairman.

Good morning, General Saltzman, and thank you to you and your family for your years of service.

Lieutenant General SALTZMAN. Thank you.

Senator ROUNDS. I most certainly appreciated the comments that you have made so far today and I want to approach this from a little bit different angle.

Recognizing that we are in an unclassified environment, can you provide your assessment on Russia and China's space capabilities as compared to ours?

Lieutenant General SALTZMAN. Yes, Senator.

We are still the greatest spacefaring nation on the planet. The Space Force's capabilities, what we can provide to the Joint Force, are extremely capable and I still put us at the head of the table.

Unfortunately, our adversaries are investing heavily to close that gap and supersede us. I am worried about the pace with which they are making those changes, China first amongst them, but Russia also committed to investing heavily in the kinds of capabilities that are going to disrupt, degrade, and even destroy our on orbit capabilities.

It is that pace of change and their commitment to disabling it that is most concerning to me, Senator.

Senator ROUNDS. If you take a look at the existing capabilities, I am really curious because we have all seen what has happened in Ukraine. Yet, if Russia has capabilities in space that are good and, perhaps, advancing, how do we account for their—well, their repeated failures to provide relevant and timely information to strike Ukrainian forces on the ground?

Lieutenant General SALTZMAN. I am, certainly, not in a position to comment on the Russian operational failures. I will tell you that we have learned some lessons watching that operation. It may be a little early to say complete lessons learned but there are observations that are important.

For example, the use of commercial space capabilities to augment military and national decision-making capabilities has proven to be effective for the Ukrainians. The disaggregated proliferated nature of some of the constellations that they are using has shown a level of resilience to degradation attempts that, I think, is noteworthy.

Finally, I think we see how important it is to defend our cyber networks because those cyber networks create vulnerabilities if attacked to actual space capabilities.

So when I look across what we are seeing in that Ukrainian theater I see some important lessons that we should take to heart in terms of building our Space Force design.

Senator ROUNDS. General, the new Advanced Battle Management System, or ABMS, will be a critical piece of our command and control on the battlefield and I understand the reasoning behind moving away from J-STARS. In fact, I support moving away from J-STARS due to the survivability issues in a contested environment.

I am concerned that a specific alternative that has gained support within and outside of the department might not provide the same level of situational awareness and targeting capabilities to our troops on the ground that the J-STARS radar is able to provide.

Part of what we look at when we talk about the ABMS is the broad picture but also specifically the need for an officer—a com-

manding officer on the ground to rely on good, specific, and very timely data in a close quarter battle situation.

Do I have your commitment that, if confirmed, you will assure that the Joint Requirements Oversight Council validated requirements for this system are met so that our troops on the ground are provided the capabilities that they need to win on the battlefield?

Lieutenant General SALTZMAN. Senator, one of the important responsibilities that is given to the Chief of Space Operations is to be the DOD integrator for joint space requirements.

It is just that kind of concern which, I think, we take seriously by establishing that critical position, and so as we evaluate the requirements we have to take all the perspectives into account. That ground commander that has to make the final decision is one of those key inputs.

So you have my commitment, if confirmed as CSO, that I will account for all the requirement stakeholders when we make critical decisions about whether missions should be migrated into space or performed by other platforms and other domains.

Senator ROUNDS. In Ukraine, Russia, clearly, has good space capabilities and, yet, they are not able to implement them and to use them effectively. There is not that line of command down to that local commander.

The last thing that we want to see when we move in to the ABMS system is one which gives broad informational situational awareness but is not capable of providing what we do today with regard to J-STARS to that commander on the ground.

Would you agree with that?

Lieutenant General SALTZMAN. I agree that closing that last tactical mile to make sure the right decision maker has the right information at the time and place that is operationally relevant is important.

Senator ROUNDS. Thank you. Thank you, Mr. Chairman.

Chairman REED. Thank you, Senator Rounds.

Senator Kaine, please?

Senator KAINE. Thank you, Mr. Chair.

General Saltzman, congratulations on your nomination.

I want to ask you some questions about leveraging commercial space technology to ensure U.S. space dominance.

In the run up to the Russian invasion of Ukraine our IC doubled its procurement of commercial satellite imagery to help prepare and provide intel to our Ukrainian allies.

The IC was also able to leverage satellites operated by Virginia Company HawkEye 360 to detect jamming efforts that were being undertaken by the Russian military in the Donbas.

This is not the first time where commercial technologies have been leveraged in effective ways but I think it is really hitting a warp speed. In your view, how important is leveraging innovative commercial technologies to preserve U.S. space dominance?

Lieutenant General SALTZMAN. It is critically important, Senator.

The idea—the mantra that we are using to exploit what we have, get the most out of the systems that we have already paid, for but then also to consider how commercial capabilities—a broad spectrum of commercial capabilities—can contribute directly to our mis-

sion set and, perhaps, do it more cheaply than us building our own systems is essential.

The final element would be when there are still gaps—as we look at our mission set if there are still gaps we might need to consider a specific military solution—military-unique solution to that.

But the commercial services, commercial capabilities, are profoundly growing and we need to take advantage of it.

Senator Kaine. Let me ask you about one example of this.

Last year the Space Force approved experimentation and prototyping for a new tactical space layer that would leverage commercial satellite imagery to provide battle space awareness and bolster targeting capacity.

What is the time line for the development of this capacity so that our warfighters might be able to use satellite-based information in real time to make battlefield decisions?

Lieutenant General Saltzman. Senator, I do not have a specific time line. If it is okay I will take that for the record and get the specific time line back to you. But I can tell you it is an important capability that we consider very seriously.

Senator Kaine. Excellent. Thank you. I will ask that for the record.

Over to another topic, the increase in the number of commercial space launch providers, together with a substantial reduction in the cost of access to space and then the proliferation of commercial constellations, could create a kind of a traffic jam in the demand for launch services, and I imagine that demand could play significant challenges on Federal launch ranges such as Vandenberg and Cape Canaveral.

There are state space ports, for example, the Mid-Atlantic space port in Wallops Island, Virginia, that are being used significantly not only by private sector space operators but by NASA and others.

What would—what could the potential relationship be between Space Force and state space launch facilities be in the future?

Lieutenant General Saltzman. Senator, assured access to space is a national imperative, simple as that, and I believe that having agility, having flexibility in the types of capabilities that provide payloads to orbit to all of the orbits is essential. That means maximizing the number of launch providers as well as the amount of launch locations that are available to the nation.

Currently, our capacity on our ranges meets the governmental needs. But with the proliferation of small satellites that is going to change rapidly and I think that the number of launches is going to go up dramatically and we are going to need to look at other opportunities.

We are currently engaged in an interagency process to look at a national space port strategy and I think the capabilities like at Wallops Island will naturally be a part of that discussion.

Senator Kaine. Should you be confirmed, and I am confident you will be, I would love to carry that discussion further.

Let me ask you about one other topic. This is one that I am kind of a nerd about. My favorite government publication is Orbital Debris Quarterly News—ODQN—that is published by NASA.

It is getting more and more important because there is currently 4,500 active satellites in orbit. SpaceX has deployed more than

1,700 Starlink broadband satellites into low earth orbit, and then last year the FCC received from companies like Amazon, ASTRO, and Boeing petitions to put as many as 38,000 more broadband satellites in low earth orbit.

Are you concerned about how the proliferation of commercial investments could interfere or complicate national space needs and do we need to look at international rules of the road both about commercial use of space but also about the handling of debris that can—a small amount of orbital debris can wreak havoc on a super expensive satellite platform?

Lieutenant General SALTZMAN. I am not concerned at this point about the traffic, as you mention it. I am always concerned about debris. We are committed to making sure that we lead and model responsible behaviors in space and I think that will help reduce the amount of debris associated with launch and other kinds of operations.

Senator KAINE. Thank you very much. Thanks, Mr. Chair.

Chairman REED. Thank you, Senator Kaine.

Senator Cramer, please?

Senator CRAMER. Thank you, Mr. Chairman, and, thank you, General.

Jennifer, good to see you and your family here. This is a really great day, and congratulations.

I am going to—Senator Kaine brought up the issue of commercial companies. I want to emphasize small commercial because one of the things—you are in the innovation business if anybody is in the innovation business, and so I am going to ask sort of maybe three questions in one and let you just opine, if that is okay.

So, piggybacking, again, on Senator Kaine's point, maybe elaborate a little bit on the role of small commercial space companies that are seeming to just going great guns, thank goodness, and having access.

At the same time, we are coming up on October 1st at which time as a matter of legislative policy Space Development Agency will move over to Space Force.

One of the benefits, I think, of Space Development Agency has been their autonomy, their independence. That has allowed that innovation to really grow.

At the same time, I think they and Space Force and all of us will benefit from the discipline, the oversight, and the collective, if you will, of Space Force—the collective opportunities, the strategies, if you will, and that is part of why we stood up the Space Force.

At the same time—and I know there has been some talk already of cyber—once again, the coming together of commercial and government becomes all the more critical.

Could you just maybe elaborate a little bit on those specific things—small SDA and its autonomy blossoming under your jurisdiction—and then the role of cyber in all of that?

Lieutenant General SALTZMAN. You hit on the key principle there and that is that innovation is going to be critical to the success of the Space Force.

So I will start with the small businesses. One thing I can say for certain is that with regards to ideas the more the better, and if you can look across the broad space ecosystem and pull in as many

ideas as possible, regardless of the size of the vendor that is promoting that idea, you are going to be more successful at putting solid innovative ideas on the plate.

With regards to Space Development Agency, I could not agree more. Their innovative business model, if you will, has been very successful in the early efforts associated with missile warning, missile tracking, space data, transport layer, et cetera.

When they come over to the Space Force 1 October we have already been working with them. We have been planning for months to make that transition seamless, to make it smooth, and we want to make sure that we do not violate that secret sauce, which is the innovation engine of Space Development Agency.

So, if confirmed as CSO, I will be committed to making sure that we do not lose the goodness as we bring them over. Now, we need to integrate them and make sure they are a part of the Force Design. That is what is going to make it an effective force when it is finally fielded. But I do not want to lose that innovation engine.

Nothing requires staying at the technical forefront than cyber. It is such a fast-paced changing environment that innovation, our ability to stay engaged with the leading edge of technology there, is going to be essential.

One of the innovative ideas that we came up with is something we are calling Super Coders and the idea is that we take our guardians, especially the ones who kind of do coding as hobbies, quite frankly, and pull them in, give them advanced training and then put them back into the units so that our operational units have direct connection to people that can code and develop applications that support the mission.

That is—it is already paying off. We are seeing some new tools being developed for how to monitor our systems and how to do crew logging activities, for example.

Those are the kind of innovative ideas to stay on the forefront of cyber.

Senator CRAMER. Thank you.

In the last minute, let us talk a little bit about my favorite space topic PARCS radar. As you know, the Cavalier Space Force Station has that beautiful old gigantic piece of concrete that watches space and missile warning, of course. It has for several decades.

But modernization is important, and some has taken place there already and appreciate that. We were able to put \$5 million into the fiscal year '23 NDAA here in the Senate. Hopefully, that survives.

But maybe you could just share a little bit in the closing seconds your vision for that radar.

Lieutenant General SALTZMAN. Sir, the missile warning mission is a no-fail mission for us. Missile tracking is going to be just as important with hypersonics, and what those radars provide is not just missile warning but the space domain awareness, and I, certainly, will not be able to do my job, if confirmed as CSO, if I have no idea what is going on in space.

So the more data that we can collect from the sensors on the planet the better we are going to have for space domain awareness and I think the better we are going to be able to do our mission.

Senator CRAMER. Thank you, General. Good luck. I look forward to supporting you.

Thank you, Mr. Chairman.

Chairman REED. Thank you, Senator Cramer.

Senator KING, please?

Senator KING. Thank you, Mr. Chairman. Are we on?

General, I have to tell you at the outset I have rarely been as impressed with a witness' preparation and grasp of the issues as you have demonstrated here this morning. You have really, I think, thought deeply about a lot of these issues and I want to start with a more conceptual question.

The conventional political position through the '80s and '90s and, perhaps, the early part of this century was we do not want to militarize space. My concern is that this administration may still be holding on to that concept to some extent and that train has left the station, has it not?

We have to react to the militarization of space that has already taken place by our potential adversaries.

Lieutenant General SALTZMAN. Senator, it is one of my primary objectives to make sure that a war does not extend into space. That is not a good day for the United States.

I believe the best way to create a deterrent capability to prevent that is to have a credible force that can both deny benefits of those actions and impose costs where necessary. That creates doubt in our adversaries' mind that it is a good idea to start attacking capabilities in space.

Senator KING. But the implication of what you just said is that we have to have both offensive and defensive capability in space in order to have an effective deterrent. Is that correct?

Lieutenant General SALTZMAN. We, certainly, need to defend what we have and if we are going to protect the Joint Force from what the adversaries have already put in space—their space-enabled targeting—we are going to have to have counter capabilities.

Senator KING. I appreciate that and I hope that you will argue that effectively in the administration because this is—as I say, this train has actually pretty well left the station.

I wanted to follow up on a question that Senator Cotton asked and just sort of tie it up in a bow.

General Raymond said that the joint effort—unity of effort between the Space Force and the NRO has worked well and that the two entities should remain separate. Is that your position?

Lieutenant General SALTZMAN. I think because there are two organizations it allows them to focus on different requirements and different customer bases. The key will be to how they collaborate where their mission sets get close, and I think it is in that collaboration we make sure the right lanes in the road, the right authorities, the right funding, so that we are not overly redundant, that that is going to happen in detailed collaboration.

Senator KING. Is there a formal process by which that collaboration is ensured? Is there—in other words, are there monthly meetings or communication back and forth? Because you can say collaboration but if you are not talking it is not going to happen.

Lieutenant General SALTZMAN. Yes, sir. There is an executive committee that meets routinely. Both are parties—and members of

the Space Acquisition Council and both are parties to what we are calling the Program Integration Council, which is even a lower level organization committee that gets together to talk about requirements, acquisition strategies, to make sure that we are meeting the mission requirements of both without being overly redundant.

Senator KING. Thank you. You had a lot of discussion this morning about innovation, which is—as you suggest, is absolutely critical to the mission of your agency, perhaps more so than any agency in our government.

We have also talked about—Senator Cramer asked about smaller businesses. We have had testimony before this Committee from innovative smaller companies, particularly in Silicon Valley, who, basically, said we have given up responding to the Pentagon RFPs. It is just too burdensome. The process is too lengthy, too expensive and so we are losing those suppliers.

I would hope that you might meet with—take your 20 smallest companies that you are working with, pull them together, and have a discussion about how they feel about the process and are there ways that that can be improved.

I am concerned that just the nature of the Pentagon acquisition process may itself be an impediment to smaller companies even getting into the game.

Lieutenant General SALTZMAN. Senator, we cannot afford to lose those contributions. So, if confirmed as CSO, I would definitely explore opportunities to get their feedback to make this a better process.

Senator KING. A final question about—and you have touched on this—about culture and recruitment.

You indicated that you are not having any problem with recruitment. I guess one measure of how you are doing is how many Air Force Academy graduates, when they leave, want to join the Space Force?

Lieutenant General SALTZMAN. More than we have slots for.

Senator KING. So that is a good sign in terms of their view of the future in this area.

I said that was the final question but I thought of another one. A lot of your space capability—we are all—our military is based upon, in many ways, space capability, GPS being the best example.

Do you not believe, however, that we need to be sure that our military has the capability to effectively deploy and act without GPS? Because that may be the first thing to go in a conflict?

I have heard that they are teaching celestial navigation at Annapolis. But I want to be sure that that is the case because we could be blinded in the first day of a conflict and we need to have backup.

Lieutenant General SALTZMAN. Sir, I am a military planner at heart. Our job is to prepare for the worst case scenario. So I agree with you, we always need to plan for contingencies for when things go wrong or when things are not available to us.

Senator KING. Thank you. Thank you, Mr. Chairman.

Chairman REED. Thank you, Senator King.

Senator Ernst, please?

Senator ERNST. Yes. Thank you, General Saltzman, and to your family as well for joining you here today. Congratulations on your nomination and thank you for your service.

Lieutenant General SALTZMAN. Thank you.

Senator ERNST. I would like to go back to the deterrence discussion.

So the bedrock of Biden's administration—their National Defense Strategy is a so-called integrated deterrence, and how does this concept account for cross-domain deterrence, so holding terrestrial targets accountable and at risk to deter attack on U.S. space assets?

Lieutenant General SALTZMAN. The idea is integrated deterrence leverages a whole of government approach to imposing costs and denying benefits if an adversary were to think about taking actions detrimental to U.S. interests.

So I think in that whole of government approach then on the military side of things you look at all of the domains. If there is a threat against a particular domain or a particular target set then we can take asymmetric action and others to impose costs or deny benefits, and it is the collaboration of the Joint Force that brings power to that full set of capabilities.

Senator ERNST. Very good, and would you support revealing some of our space capabilities for deterrence, demonstrating to our adversaries that we can respond effectively to their attacks?

Lieutenant General SALTZMAN. You bring up an important point about deterrence and that is if you do not know the capabilities are there it is hard to deter specifically an adversary if they do not know the capabilities there.

The problem is is if we think too much about revealing capabilities that are vulnerable that we might be jeopardizing those capabilities. If confirmed as the CSO I would welcome an opportunity in a classified environment to talk about some of those tradeoffs.

Senator ERNST. I would appreciate that.

Going along with that, the Biden administration had recently announced a unilateral moratorium on certain anti-satellite tests.

Do you believe that this self-imposed restriction will inhibit or stop China and Russia then from conducting anti-satellite tests?

Lieutenant General SALTZMAN. I think it is a commitment to not conduct destructive ASAT missile tests, which is currently the most dangerous thing to U.S. space capabilities in the form of what the Chinese and the Russians are doing.

So I do not know if it is going to dictate that they will not do it. I am not hopeful of that. But I think it does show a commitment to, hey, there are better ways to test. There are more responsible ways, and I think by demonstrating and modeling that behavior we do not give up much because we have other ways to test our capabilities but we lead by saying we are not going to intentionally create debris in space.

Senator ERNST. Okay. I can appreciate that.

However, I do not want to continue to set the United States up by operating from a doctrine of appeasement. So I do think it is important that we can signal to our adversaries that we have the capabilities of destroying satellites. Maybe we do not conduct those.

But, again, maybe in a classified setting, we can talk more about that.

How can the United States go ahead and promote or, as you said, model the norms of conduct for space? How can we do that and then encourage other countries to do the same? If they do not, then how do we impose penalties on those countries or states that are violating them?

Lieutenant General SALTZMAN. I think as we clearly define what it means to be responsible and professional in space activities it will cause—put into greater relief those activities which are not responsible, and I think by building a coalition of like-minded spacefaring nations around a set of responsible behaviors, again, it will create peer pressure, if you will, for the international community to deem certain activities professional and responsible and other activities to be irresponsible, and that would be the focus, I think, of those tenets.

Senator ERNST. Thank you very much, General Saltzman. I look forward to supporting your confirmation.

But probably the most important question, General Raymond had a daughter that attended Iowa State University. Did any of your children attend Iowa State University?

Lieutenant General SALTZMAN. Ma'am, they are proud graduates of the University of Missouri. M-I-Z back there.

Senator ERNST. Okay. Close enough.

[Laughter.]

Senator ERNST. Thank you very much, sir.

Lieutenant General SALTZMAN. Yes, ma'am.

Chairman REED. Thank you, Senator Ernst.

Senator Kelly, please?

Senator KELLY. Thank you, Mr. Chairman.

General, welcome. Very nice meeting you and your family.

The administration's fiscal year '23 budget request requested a growth in Space Force end strength from 8,400 to 8,600 guardians and this Committee's version of the NDAA supports that request.

The military's emphasis and reliance on global space operations will demand a robust force, moving forward. But there are concerns that budgets for the Space Force are expected to flat line in fiscal year '27.

So what type of growth do you foresee in the Space Force over the next five or 10 years?

Lieutenant General SALTZMAN. Senator, I would not want to comment on any particular numbers. Just have not had a chance to really dig in and see what appropriate levels would be.

However, I can tell you that, in my estimation, looking at the readiness of the force, there is substantial capabilities in test and training infrastructure that we need to invest in.

If we have exquisite weapon systems, exquisite systems on orbit to provide joint capabilities but our guardians and our operators do not have the skills, the training, the experience, they need to make the most out of those systems, then I feel like we are not really fully combat ready, fully ready to do those critical mission tasks.

Senator KELLY. What are some examples of those capabilities?

Lieutenant General SALTZMAN. We do not have simulators that allow our operators to practice their tactics against a thinking ad-

versary. Even if it is a simulated adversary, we do not have good simulators.

We do not have ranges where they can routinely practice their tradecraft. We do not have the ability to link multiple units together so they can practice the coordination that is necessary to do large force employments, if you will.

We have just been operating in a benign environment for so long we did not need to necessarily have those kinds of capabilities. So I think over the next few years we are going to have to look at that and be as specific as we can but provide that kind of training and experience to our operators.

Senator KELLY. Yeah. I mean, having the equipment and the capability is one thing. Being able to use it is entirely another and being able to simulate operations on a range, operate jointly, as well. I imagine that is something that is on the agenda.

A simulator and range, that is infrastructure. Is there any other infrastructure capacity that you feel you need?

Lieutenant General SALTZMAN. We are continuing to build and design a more resilient defendable architecture. As I mentioned, we have operated for years in a benign domain and so we were focused more on the capabilities of the payloads and how long they would last on orbit, try to get the most out of the expensive launch that put them into orbit.

Launch prices are coming down. We are doing distributed architectures because they are more resilient. We are trying to think about ways to disaggregate our payloads so they are not as easy targets.

All of that is new investment in new Force Design and so it is going to come with a transition from our legacy capabilities to these new architectures. That will be work that we are doing in the requirements phase and in the Force Design phase and, if confirmed, I look forward to working with the Committee to get that balance as we transition from legacy to the new architecture right.

Senator KELLY. Senator King asked about recruiting and you mentioned from the Air Force Academy you have more volunteers to go into the Space Force than you have spots.

In the enlisted ranks, how is recruiting there?

Lieutenant General SALTZMAN. It is very good. Again, despite the fact that we are looking for highly capable, highly technical skills, we have more volunteers than we have spots to fill. Just—again, we are lucky. We are a small force at this point, doing a very specific mission set, and so we can handpick and we are really getting solid volunteers.

Senator KELLY. It is one thing getting people. It is another thing getting the right people. Have you felt the need to do any marketing of the Space Force at this point?

Lieutenant General SALTZMAN. Lots of people are doing marketing for us. It is working out to our advantage.

We are also very active in going to specific universities where there are underrepresented populations and make sure that we are looking across the board to bring the right people in, the right kind of diversity, the right kinds of diversity of thought, the right backgrounds and skills, and, so far, we have been very successful in doing that.

Senator KELLY. All right. Thank you, General.

Lieutenant General SALTZMAN. Yes, sir.

Senator KELLY. I yield back.

Chairman REED. Thank you, Senator Kelly.

Senator FISCHER, please?

Senator FISCHER. Thank you, Mr. Chairman, and thank you, General, for your willingness to step forward once again to serve this country. My thanks to your family for their sacrifices and service as well.

General, as you know, the Next-Gen OPIR Satellite Program is one of the key components of our future missile warning architecture along with the proliferating constellations of smaller satellites operating in lower orbits.

Your predecessor, General Raymond, testified in support of this approach before this Committee in May. But I am concerned about discussion of alternative proposals that have not been developed with input from the combatant commands and would, ultimately, accept greater risk in the mission of the department that the department itself describes as no-fail.

I hope this is something you will take a look at and ensure that we continue to pursue a diverse architecture of complementary constellations that meets the warfighter needs for capacity in the schedule.

Do I have your commitment on that?

Lieutenant General SALTZMAN. Yes, ma'am. As you mentioned, missile warning is a no-fail mission and bridging that transition for new capabilities, legacy capabilities, so we have no gaps in coverage is a high priority for me.

Senator FISCHER. Thank you.

I know the Space Force is in the process of designing the requirements for Phase 3 of the National Security Space Launch program.

Do you see Phase 3 as being more of an evolution of Phase 2 or a revolution in terms of its structure and capabilities?

Lieutenant General SALTZMAN. I will be honest, ma'am. I have not really dug into the details of what that strategy proposes. I have had some briefings in preparation for this.

I would offer there was a great deal of effort that was put into going out across all of the stakeholders and getting as many inputs as possible so that the strategy would at least learn the lessons of the previous phases of National Security Space Launch, not ignore those lessons and bring those forward into Phase 3.

I think keeping a fair open competition to make sure as many providers, both established launch providers as well as emerging launch providers, was also a key element of the strategy being devised and I think that they are on the right path.

We will see as we get closer to the final decisions on how that strategy plays out. But, if confirmed, I look forward to getting inputs from all the Committee Members as well as the other stakeholders in this—in our critical mission set for the Space Force.

Senator FISCHER. There has been some criticism of the program, particularly its use of block buys and certified providers. But I want you to know this Committee understands the importance of maintaining assured access to space, especially for the most challenging orbit.

We want to take advantage of the private sector's innovation—you talked about that earlier—but we are talking about unique and very expensive payloads, that if they are not delivered perfectly it will result in capability gaps for our warfighters.

So we understand there has to be a balanced approach to that risk. When you say that you want to include all stakeholders, give me examples.

Lieutenant General SALTZMAN. Certainly, all the launch service providers. Certainly, the people whose payloads we are putting onto orbit. Certainly, the acquisition community has to balance contracting requirements, cost profiling, all of the key considerations when you put an acquisition strategy together—a procurement strategy together—making sure that all those variables are accounted for so that we can thread the needle to get the balance that you just mentioned right.

There is risk to mission but there is also cost overruns that we want to avoid. Spending too much for these required mission sets is something that is on my mind, and so I think we just need to pull as many of those key opinions from all the stakeholders together to make the wise decision for the strategy, going forward.

Senator FISCHER. How do you balance the risk?

Lieutenant General SALTZMAN. It is a challenge because we have to—it has to be a no-fail mission. We have to be able to put the payloads we need into the orbits that we require. But we need flexibility across that. So it is this balance between mission assurance and flexibility, which is always a conundrum for military planners.

But I think the best way to do it is just to have open deliberate debates about what the merits are on both sides and make sure you try to get it as close to perfect as you can.

Senator FISCHER. Last question. Can you talk about how the Space Force has made changes to deliver capabilities faster so that it is more responsive to the needs that we face such as restructuring of Space Systems Command and how you plan to build on these steps to ensure our space enterprise is responsive to both threats and technological changes?

Lieutenant General SALTZMAN. With the help of Congress, we established the Force Design architect in the Chief of Space Operations. The Joint Requirements Oversight Committee gave us responsibility as the DOD integrator. This is allowing us to streamline the requirements development, and if we get the requirements just right it sets us on the right path for the major acquisition programs.

We are also considering exploiting what we have and then the commercial capabilities that we can buy as a complement to those major acquisition programs that we have to build from scratch. Through those processes, I think, we have streamlined at least the early phases of that larger complicated acquisition process.

Senator FISCHER. When you look at these reforms what benchmarks do you look at in order to determine success or measure success?

Lieutenant General SALTZMAN. The classic acquisitions are cost, schedule, and performance. But for me, it is about delivering a full

set, a full-throated capability, that gives us both the mission agility to do the job, sustainability over time.

Just because it works today in a dynamic environment against a dynamic threat it may not work in the future, and so I am looking at always being able to provide a capability to the President, to the combatant commanders, that give them flexibility in execution of their mission set.

So it is the readiness of the force to meet that broad spectrum of anticipated threats that I am looking for as a measure of effectiveness.

Senator FISCHER. Thank you, sir. Thank you, Mr. Chairman.

Chairman REED. Thank you, Senator Fischer.

Senator Rosen, please?

Senator ROSEN. Thank you, Chairman Reed, and for holding this hearing. I also want to thank General Saltzman for testifying today, for your service, and for your vast knowledge in this area.

I want to talk a little bit about our tech and cyber challenges in space because our nation, of course, we know facing increasingly sophisticated cybersecurity threats in space from disruptive technologies, including the threat of stealing data, jamming satellite signals, hijacking satellites, and disrupting internet services.

I have kind of a multi-part question. If confirmed, how are you going to work to keep our space-based assets like satellites safe from cyber attacks? Who are you going to—what other agencies interdepartmental or otherwise?

Do you need to coordinate to protect that all of government approach on cyber that we have been trying to work on and how are you using emerging technologies in all of this?

Lieutenant General SALTZMAN. Thank you, Senator.

That is an important topic, and watching what happened in Ukraine to cyber attacks that had space effects dismantled to some degree showed that there is a large concern for just what you are pointing out, that our cyber networks are an avenue to disrupt and degrade our space capabilities.

So this is a critical issue for me as well. We have organized one of our units, Delta. Delta 6 is actually dedicated to cyber operations and specifically cyber mission defense of Space Force systems.

We also leverage the authorities that U.S. Cyber Command has to monitor and, if necessary, defend—actively defend in protection of those capabilities. So those you mentioned, which ones are the stakeholders, who are we collaborating with, U.S. Cyber Command is at the top of that list, certainly.

But what we are doing is training our cyber operators on our mission-unique—what we call cyber terrain. They are living day to day inside our weapons and the networks that feed them and make them work, and they are monitoring for malicious actions, malicious behavior, and they are continually updating the defenses to make sure they are as secure as possible. I am comfortable that they are actively doing it.

Now, what I want to give them are some of the tools to do the job better and some of the training and education that they are going to need as this very dynamic field moves down the road.

So I want to keep them at the forefront of that technology to have the tools, the monitoring systems, and the ability to defend our critical cyber networks.

Senator ROSEN. Well, you must have read my mind because that is my next question because as a former computer programmer I am very excited to hear you talk about Super Coders. That is very exciting to me.

But it is so important that we think about our STEM outreach, generally, and that, like you said, Space Force provides an opportunity to ensure our guardians, including the Space Force unit stationed in my state at Nellis Air Force Base, they are fully equipped to address evolving threats in space, and I really hope this new branch of the military can also play a role in promoting what I think are exciting STEM career fields and helping bridge the technological gaps facing military and industry because it is a collaboration.

It is why I am glad in 2020 the PROMOTES Act, bipartisan legislation I introduced, it authorized DOD to provide STEM education and training to junior ROTC students and it was signed into law as part of the NDAA.

So we hope that gives you a good pipeline.

But considering how important it is, and you spoke a little bit about this, how are you going to do things like the STEM to Space Initiative and other STEM outreach programs to try to be sure that you are really reaching out there and letting young folks or anyone, really, know what an exciting career field this is?

Lieutenant General SALTZMAN. Yes, ma'am, and thank you for the support.

I agree that attracting the right kind of professionals with the right kind of acumen on this STEM field of play, if you will, is critical to our success, and so, certainly, we do outreach. We go to—we start in grade schools. We send people out into grade schools and high schools to talk about the importance of space.

John Raymond is always famous for dragging our astronauts that are Space Force guardians along with him to talk about how exciting the space domain is and I think there is a lot of excitement, a lot of buzz, that that creates.

We have established a university partner program whereby we have 14 universities, maybe 15 now—it is expanding—where we go out and try to leverage that diverse, highly technical skill set that that people are seeking in those universities and try to attract them into the force.

We are establishing partnerships for research to stay at the leading edge of cyber through that same partnership program with the universities, and I think we are seeing the benefits of that on a day to day basis.

I agree it is a critical mission. If confirmed as CSO, I will continue to support that.

Senator ROSEN. Thank you. I yield back.

Chairman REED. Thank you, Senator Rosen.

Senator Scott, if you are ready you are next in order.

Senator SCOTT. Thank you.

First, thanks for being here—I think this is working—and congratulations on your nomination.

Lieutenant General SALTZMAN. Thank you.

Senator SCOTT. Thanks for your service and thanks for everybody who works with you.

Since the Space Force is relatively new and the department is still working out its operations, can you describe the role you have been nominated for in terms of how the Space Force enhances the U.S. ability to deter and, if necessary, defeat our enemies, especially Communist China—Communist China and Russia—but also any aggressive state that seeks to use Space Force against us or to use space against us?

Lieutenant General SALTZMAN. Yes, sir. Thank you for that question.

It is an important foundational piece for the reason there is a Space Force and I take that very seriously.

Every American benefits from the capabilities that are inherent in space and U.S. space capabilities. Whether it is the navigation apps on their phones, solid communications, weather reports, digital banking access, all of these are critical things you may not see on a day-to-day basis because you do not see the satellites. But that space—those space effects are critical to every American.

I think it drives the economy. It spurs technological advancement. It, certainly, underpins the military capabilities. We just could not live without our space capabilities. The American way of life now is inextricably linked to space capabilities.

So it is the Space Force that has to address the emerging threats. China is that pacing challenge. Russia, certainly, is a challenge. They have invested heavily in the ability to destroy—not just disrupt or degrade but to destroy our space capabilities, and the Space Force wakes up every single day dedicated to protecting our vital interest in space but also protecting the Joint Force from the adversaries' designs of space-enabled targeting, space-enabled capabilities.

So we are committed to developing the operational concepts—the on orbit assets, the tactics, the training—to make sure that we can protect that capability.

Senator SCOTT. Let me ask a question. So what you just said is what I believe also. I believe Communist China and Russia are out to defeat us. Their governments—not the people, but their governments actually do not like our way of life.

Why does the public not know that and what can you do in your role or what should—I mean, what can you do to get people to understand that they actually—I mean, you are trying to prevent bad acts. That is what you do for a living.

Lieutenant General SALTZMAN. It is, certainly, a matter of scale. When I talk to friends and family back home I think there is a recognition that this—the world is not safe. I think there is recognition that there are countries out there that do not have the same ideas we do and that they are working actively to try to deny us those interests.

From a space perspective, it is a little bit harder to get support around something you do not see on a day-to-day basis, and with the satellites a little bit out of view sometimes they always do not make the connection that, hey, it is the satellites that they are trying to attack and that prevents us from doing X, Y, and Z.

So it is education. It is us getting out. It is connecting with the public. It is connecting through speeches and academic interactions to make sure that those connections are clear.

Senator SCOTT. Do you think that is part of your role?

Lieutenant General SALTZMAN. I do.

Senator SCOTT. Can I ask you another question?

I assume you are going to play an active role in budgeting and the acquisition process. So can you talk about how the department is going to use the most of any readily available commercial technology or products so you can be more—with the money that we allocate to you, you are going to be more efficient with this and get more things accomplished?

Lieutenant General SALTZMAN. Yes, sir.

With the help of Congress, the Chief of Space Operations has been designated as the Force Design architect, have a further responsibility in the joint requirements process to be the DOD integrator.

This gives us an important leadership role in setting the requirements and then working with the acquisition community to make sure that we meet those requirements based on all the capabilities that are available to us.

Space Systems Command is convinced that if we have the ability to exploit existing capabilities that would be great. But we also have to be able to then buy commercial capabilities. It might be cheaper to procure what is already available through the commercial sector and then only build what we must.

Senator SCOTT. Do you feel comfortable that you are doing that?

Lieutenant General SALTZMAN. I do.

Senator SCOTT. Okay. If you find problems, I think everybody on this Committee would like to make sure that we are not creating roadblocks for your ability to use readily available technology to make sure our tax dollars go further so you can do more.

So if you would let me know and let this Committee know where we are creating any bottlenecks and what we could do to make it easier for you to use commercially ready available—will you commit to doing that?

Lieutenant General SALTZMAN. If confirmed as CSO, it is a top priority to make sure we get the most out of the commercial private sector.

Senator SCOTT. Now, I am sure that senators from Colorado and Alabama think they are probably the best state for Space Force.

But, I mean, do you really believe that you are doing enough in Florida? Do you think that if you had—you can wave a magic wand you would just do almost everything in Florida?

Lieutenant General SALTZMAN. There is—sir, there is no question that Florida has an important —

Senator SCOTT. Easy answer.

[Laughter.]

General SALTZMAN.—rich history of space support. The Space Coast is vital to our success as a service. Now even the Guard capability, the space electronic warfare capability they have, vital. Florida remains an important aspect of the Space Force capabilities.

Senator SCOTT. Can I ask you a question? I will ask—just be real quick.

How is the Space Force working with not just Florida? I know we have a—our National Guard has an interest in the Space Force and we are doing a lot of stuff. Is that working? Are you picking National Guards around the country that—I would like you to do everything in Florida but I do not think that is necessarily realistic.

But are you doing that now?

Lieutenant General SALTZMAN. We work with the Guard very closely on which mission sets, what we need. If confirmed, my responsibility would be to define those operational requirements.

I work very close with the Guard Bureau, with the Air National Guard, to see if there are capabilities that make sense to go to the Guard, especially where it is maybe surge capability or something we do not need on a day-to-day basis. We work very closely in collaboration with them to get that right.

Senator SCOTT. Thanks.

Lieutenant General SALTZMAN. Yes, sir.

Chairman REED. Thank you, Senator Scott.

Senator Hawley, please?

Senator HAWLEY. There we go. Thank you, Mr. Chairman. General, thanks for being here.

That is enough talk about Florida. Let us talk about Missouri.

[Laughter.]

Senator HAWLEY. Did I hear you say an answer or two ago that your children were graduates of the University of Missouri?

Lieutenant General SALTZMAN. Can I get an M-I-Z back there? I do not know.

[Laughter.]

Senator HAWLEY. All right. Awesome. There you go. I am feeling a lot better now, Mr. Chairman.

Let me ask you about the pacing threat. You mentioned just a second ago the pacing threat—the pacing scenario. So the Secretary of Defense has designated China as the department's pacing threat, PACOM as the pacing theater—the priority theater—and then the Taiwan contingency as the pacing contingency.

Let me just ask you, first off, do you agree with those designations?

Lieutenant General SALTZMAN. I do not see anybody more dangerous, more committed to attacking U.S. interests in those areas than the President has defined.

Senator HAWLEY. Very good.

Do you agree that the threat of a potential Chinese invasion of Taiwan is something that we need to be concerned about this decade in the 2020s, not just 2030 and beyond?

Lieutenant General SALTZMAN. I think the observables show that there is a clear indication that they are moving in that direction very rapidly.

Senator HAWLEY. So let me ask you this then.

Would you commit to making it your top priority to ensure that the Space Force is ready to help deter China from aggression in PACOM, generally, and then specifically with regard to the pacing scenario in Taiwan?

Would Space Force be ready? Would you help them get ready to make sure we are able to deter a Chinese invasion of Taiwan?

Lieutenant General SALTZMAN. If confirmed as the Chief of Space Operations, there will be no higher priority than maintain the readiness of our force to meet all of those contingencies, the Chinese threat first amongst them.

Senator HAWLEY. Very good. Thank you for that.

Let me ask you a bit more specifically, what kind of space capabilities do you think would need to be prioritized in order to deter a potential Chinese invasion of Taiwan? I mean, walk us through your thinking there.

Lieutenant General SALTZMAN. I look at this, sir, from a two-pronged approach.

We have to be able to protect the capabilities that are enabling our Joint Force today whether it is navigation and timing, whether it is satellite communications, the missile warning architectures that provide indications and warning of attack.

The structure of our Joint Force is built presuming we have access to those space capabilities. We must preserve them. That requires a shift to a more resilient, defensible architecture to provide that level of mission resiliency that we need.

But it is also important to realize that the Joint Force is under a threat umbrella by space-enabled capabilities of our adversaries and they will not be able to meet their military objectives if we allow the Chinese in particular to use the space-enabled targeting capabilities that they have at their disposal.

So in order to be a deterrent, to prevent this from going into a war that extends into space, we will have to be resilient and we will have to have the offense and defensive capability necessary to create a credible deterrent force.

Senator HAWLEY. You mentioned resiliency several times now. So let me just ask you, do you think that we are currently resilient enough in space and, in particular, resilient enough to absorb losses from China or Russia in a conflict with either?

Lieutenant General SALTZMAN. I think the best way to state that is the current attacks that we are seeing are not sufficient to take out our capabilities. We are resilient today.

As soon as we go into a crisis contingency, I do not believe we have designed our systems to operate in that level of contested environment and so we need to change to a more defensible architecture to account for the fact that space has shifted from a benign environment to a more contested warfighting domain.

Senator HAWLEY. What does a more defensible architecture look like?

Lieutenant General SALTZMAN. I think we can look at some of the observations we are seeing in Ukraine, that a distributed architecture where there are more satellites with proliferated missions that is harder to attack. Big single satellites are much easier to attack than a distributed proliferated constellation of capabilities. It becomes a tougher targeting problem.

Senator HAWLEY. Let me ask you this.

In your personal opinion, does the United States have the anti-satellite weapons that we need, whether that is to deter China or Russia or, if necessary, to defeat them should deterrence fail?

Lieutenant General SALTZMAN. I think the best way to answer that is for the current conditions I think we have suitable capabilities. But I think the security situation is changing dynamically and I would really appreciate the opportunity to talk with you in a classified environment on the specific details.

Senator HAWLEY. Let me ask you, just more broadly, if you are confirmed what steps would you take to ensure that we are doing everything that we have got to do in order to improve our counter space capabilities?

Lieutenant General SALTZMAN. If confirmed as CSO, I will lean on the Force Design architecture role that Congress has given to the Chief of Space Operations. We are doing Force Design analysis.

This is rigorous data analytics that show what one constellation against a modeled threat would do and we run thousands of permutations to really see what the optimal configuration is.

I am committed to continue doing that so that we can, one, buy the systems we need and not be overly redundant or have too little resilience in the face of the adversary.

Senator HAWLEY. Very good. General, thanks for being here.

Lieutenant General SALTZMAN. Thank you.

Senator HAWLEY. Thank you, Mr. Chairman.

Chairman REED. Thank you, Senator Hawley.

General, thank you for your testimony.

Senator Sullivan, I have been told, is trying to get here but—and that will give me an opportunity to ask one more question, and if he is not here by the end of my question then I will call the hearing to a close.

But this question has been sort of alluded to and, in some cases, directly posed to you throughout the hearing. What are the critical hardware and software gaps you see on the ground to effectively—or in the air to effectively inhibit your mission?

Lieutenant General SALTZMAN. Yes, sir.

That analysis is ongoing. But there is some initial thoughts in terms of how do we build an architecture on the ground that is resilient to attacks from Russia, from China, from other malicious cyber actors, and we have not had the need to build quite the level of resiliency or redundancy on the ground in the past as we see necessary today.

So when I look at the software, the monitoring of those networks, I think there are still some gaps that we need to fill. When I think about space domain awareness and the number of sensors worldwide that we are going to need in order to effectively evaluate and determine what is on orbit and where it is and what it is doing and then have the tools—the software tools—on the ground to take all that data in and turn that data into information and decision-quality information, those are some near-term issues that I think we are going to have to address from a software and a hardware standpoint.

Chairman REED. Well, thank you very much, General. Thank you for your service. Thank you for your very compelling testimony today.

We look forward to your confirmation in the next—as soon as possible, and thank your family again for the support they have given and the service they have also given.

With that, and an indication that Senator Sullivan will not be joining us, I will adjourn the hearing. Thank you.
 [Whereupon, at 11:07 a.m., the Committee adjourned.]

[Prepared questions submitted to Lieutenant General Bradley C. Saltzman, USSF by Chairman Reed prior to the hearing with answers supplied follow:]

QUESTIONS AND RESPONSES

DUTIES

Question. Section 9082 of title 10, United States Code, describes the duties and functions of the Chief of Space Operations of the Space Force.

What is your understanding of the duties and responsibilities of the Chief of Space Operations of the Space Force?

Answer. The Chief of Space Operations (CSO), acting under the authority, direction, and control of the Secretary of the Air Force, prepares guardians and space forces to defend the Nation, protect its interests, and defeat its enemies. In my appraisal, the CSO does this through four (4) distinct functional responsibilities: 1) As a Service Chief, the CSO is directly responsible to the Secretary of the Air Force for the organizational health and strength of the U.S. Space Force. 2) As a member of the Joint Chiefs of Staff, the CSO is responsible for providing military advice through the Chairman of the Joint Chiefs of Staff to the Secretary of Defense, President, and Congress. 3) As a Space Chief on the international stage, the CSO works to enhance global partnerships with our Allies and like-minded nations to maintain a safe, secure and stable space environment. 4) As the Force Design Architect for Space Systems of the Armed Forces the Chief of Space Operations, under the authority, direction, and control of the Secretary of the Air Force, is responsible for presenting integrated force design recommendations to the Secretary of Defense for space systems of the Armed Forces necessary to meet identified joint requirements and support the National Security Strategy.

Question. What background and experience, including joint duty assignments, do you possess that you believe qualify you to perform these duties?

Answer. My qualifications to serve as the second Chief of Space Operations are built upon the education, training, and operational experiences I have collected over a 31-year career focused on military space operations. Command tours at multiple echelons have prepared me to lead and serve guardians while four (4) staff tours at the Pentagon have developed my understanding of DOD corporate processes and prepared me to interact with Congress, the White House, the Office of the Secretary of Defense leadership, and the Joint Chiefs of Staff. Specifically, I served as Chief of Combat Plans and Chief of Combat Operations for the Joint Space Operations Center (now CSpOC) at Vandenberg SFB, including leading the operations when the Chinese conducted their Anti-Satellite (ASAT) test destroying a satellite in 2007. I served twice in the National Reconnaissance Office including commanding the Aerospace Data Facility—Colorado ground station. My final position in the USAF was serving as the Deputy Commander for Air Forces Central Command and the Deputy Combined Forces Air Component Commander where I was responsible for day-to-day management of the air and space campaign in the Central Command area of responsibility. Most importantly, for the last 2+ years I have served as the first Deputy Chief of Space Operations for Operations in the U.S. Space Force where I have had responsibility for intelligence, space and cyber operations, logistics and sustainment, training and readiness, and nuclear matters. In this role, I have been central to the establishment of many of the new Service's foundational processes, policies and organizational constructs. If confirmed, I am committed to enhancing U.S. Space Force partnerships within the Department of the Air Force as well as with the other services, joint staffs and OSD teammates.

Question. Do you believe that there are any steps that you need to take to enhance your ability to perform the duties and responsibilities of the Chief of Space Operations of the Space Force, particularly in regard to serving as a member of the Joint Chiefs of Staff and in performing certain acquisition-related functions?

Answer. Yes. If confirmed, I will continuously seek to enhance my ability to perform the duties of the Chief of Space Operations to the level our guardians deserve, and our Nation demands. In my current position as a Deputy Chief of Space Operations for Operations in the Office of the Chief of Space Operations, I am familiar

with Service-level resourcing and acquisition efforts; however, an expanded understanding of Space Force acquisition issues will enhance my ability to serve as CSO. If confirmed, my initial preparatory efforts will focus on strengthening my understanding of mid- and long-term force design and acquisition initiatives that are beyond the scope of my current responsibilities. Through this preparation, I will work closely with Assistant Secretary of the Air Force for Space Acquisitions and Integration, Mr. Frank Calvelli, and support his efforts to transform Department of the Air Force space acquisitions and synchronize them across the DOD. In order to properly represent guardians across the , I will also prioritize developing personal working relationships with the Chairman and Vice Chairman of the Joint Chiefs of Staff, the other Service chiefs, the Combatant Commanders, and OSD leadership. Finally, I will place a high priority on expanding my relationships with Members of Congress and their staffs, as I believe it is vital to have mutual trust, respect and open communications between us if we are going to collectively ensure the effectiveness of the U.S. Space Force.

Question. If confirmed, what innovative ideas would you consider providing to the Secretary of the Air Force for enhancing the organization, training, and equipping of the Space Force?

Answer. If confirmed, I will recommend the Secretary of the Air Force build on the successes of my predecessor and the rest of the Space Force by accelerating initiatives to build a lean, agile, and innovative Service. I believe that if these principles are appropriately applied at the squadron level and below, we can ignite further innovation by empowering guardians, simplifying the chain of command, and delegating responsibility to the lowest level possible. We should also continue to review and evaluate the career fields used to categorize the expertise of our guardians. Because space is a remote domain with digital and technological dependencies, space operations cannot be separated from military intelligence, cyber operations, engineering, and acquisition activities. Effective military operations in space will depend on our ability to combine all of this expertise into high-performing teams. Finally, I will present ideas to train and educate the guardian using innovative approaches. Training for a contested space domain offers opportunities to leverage virtual reality training and synthetic training environments allowing guardians to creatively assess new tactics and gain experience in future operations. I also believe we can be innovative in how we educate our guardians by leveraging experiences with space and other high-tech industries. If confirmed, I plan to explore these ideas to ensure our guardians have the best opportunities to advance their expertise and skills.

Question. What are your goals, if confirmed, for the transformation of the Space Force to meet new and emerging threats?

Answer. If confirmed, I would have three overarching goals for the Space Force: (1) field combat-ready forces, (2) amplify guardian talent and expertise, and (3) partner to win. "Field combat-ready forces" reflects that the Space Force must field military forces—not just systems, but personnel, equipment, and expertise—capable of outcompeting rivals, deterring aggressors, and defeating enemies. For Space Force forces to be combat-ready and viable, we need to empower them to defend U.S. interests in space with capable and survivable weapon systems, secure networks, actionable intelligence, decisive command and control, realistic training infrastructure, and rigorous test capacity. Neglecting any of these elements jeopardizes the ability of space forces to accomplish their assigned missions and tasks. My second goal will be to maximize the Space Force's ability to attract, develop, and empower talent. The Nation benefits from a strong Space Force, and the Space Force is strongest when guardians thrive. My third goal recognizes that even with superlative talent and exceptional capabilities, the Space Force will not succeed without robust joint, coalition, interagency, commercial, and academic partnerships. If confirmed, I will continually look for innovative ways to engage these mission partners in a way that strengthens Space Force combat capability and sets us up for success in the highly competitive security environment.

Question. Section 9082(d)(4) of title 10 provides that (subject to the authority, direction, and control of the Secretary of the Air Force), that the Chief of the Space Force shall "exercise supervision, consistent with the authority assigned to commanders of unified or specified Combatant Commands under chapter 6 of this title [10], over such of the members and organizations of the Space Force as the Secretary determines;"

Over which members and organizations of the Space Force has the Secretary of the Air Force directed the Chief of Space Operations to exercise supervision and what is the scope of such supervision?

Answer. The Chief of Space Operations exercises supervision over the Office of the Chief of Space Operations (also known as the Space Staff) and the Space Force's

Field Commands. As part of this supervision, the CSO oversees and manages—under the authority, direction, and control of the Secretary of the Air Force—Service-level processes for designing, resourcing, developing, presenting, and championing military space forces.

Question. If confirmed, how would you exercise meaningful supervision of such members and organizations, while ensuring compatibility with the authorities of the Combatant Commanders?

Answer. Title 10 clearly distinguishes the authorities of the Combatant Commanders and the roles of Service chiefs. If confirmed, my supervision of Space Force members assigned to Combatant Commanders would be limited to implementing the Secretary of the Air Force's administrative control over those forces and monitoring to ensure they have the resources needed to execute operations directed by the Combatant Commanders. These processes are well established within the Department of the Air Force for assigned Air Force forces and will be applied no differently to Space Force forces.

Question. If confirmed, what duties and responsibilities would you assign to the Vice Chief of Staff of the Space Force?

Answer. If confirmed, I would work with Secretary Kendall to establish appropriate duties and responsibilities for the Vice Chief of Space Operations of the Space Force, which would include various aspects of presiding over the Space Staff, working with the Joint Chiefs of Staff, and assisting in organizing, training, and equipping Space Force guardians and civilian personnel to accomplish our mission.

2022 NATIONAL DEFENSE STRATEGY

Question. The 2022 National Defense Strategy (NDS) puts forward an integrated deterrence framework that incorporates the Nuclear Posture Review (NPR) and Missile Defense Review (MDR) under the NDS. The priorities of the strategy are (1) defending the Homeland; (2) deterring strategic attacks against the United States, Allies, and partners; (3) deterring aggression, while being prepared to prevail in conflict when necessary, prioritizing the PRC challenge in the Indo-Pacific, then the Russia challenge in Europe and (4) building a resilient Joint Force and defense ecosystem.

In your view, does the 2022 NDS accurately assess the current strategic environment, including prioritization of the most critical and enduring threats to the national security of the United States and its allies? Please explain your answer.

Answer. Yes, the NDS accurately assesses the strategic environment as it pertains to the space domain. The space domain will be used much as the sea and air have been, as a way for states to project their power in support of national interests. The NDS accurately captures the actors who pose a threat to U.S. equities in space. Integrated deterrence and collaborating with allies and partners around the globe will go a long way towards mitigating those threats and heading off emerging areas for concern before they become a risk. For a more detailed discussion, I would welcome the opportunity to meet in a classified session.

Question. In your view, does the 2022 NDS correctly specify and prioritize DOD missions in the context of the current strategic environment?

Answer. Yes, I believe that the NDS prepares us to compete, deter, and win against a range of threats in the space domain. The NDS inextricably links space to the international security environment by asserting the centrality of space in defense priorities and joint operations. The NDS calls on investment, defense, doctrine, employment and reconstitution of space-based capabilities to assure the missions and lethality of the Joint Force across all domains. For a more detailed discussion, I would welcome the opportunity to meet in a classified session.

Question. In your view, does the 2022 NDS specify the correct set of capabilities by which the United States can achieve its security objectives in the face of ongoing competition and potential conflict with China and Russia? What do you perceive as the areas of greatest risk?

Answer. Yes, the NDS is broadly supportive of the critical capabilities that space brings to the Joint Force to address a potential conflict with China and Russia. In my view, the greatest risk would be to underestimate China and Russia's will and ability to counter our space capabilities. To mitigate that risk, we must invest in the right capabilities, design the right operational concepts and train our guardians for this contingency now. We cannot afford to lose the first engagement in a conflict that extends to space. If confirmed, I would welcome the opportunity to meet in a classified session on this important topic.

Question. In your view, how does space and the mission of the Space Force integrate into the NDS?

Answer. The NDS specifically identifies the need for space integration to U.S. strategic objectives and the Joint Force. These objectives include maintaining a robust and responsible national space enterprise, continuing the Nation's strength and leadership in space activities, and preserving space for current and future generations. The Space Force integrates into the traditional and complementary roles of the Services with Combatant Commands to provide trained and equipped forces in support of the NDS. This integration is in effect today and, if confirmed, I plan to ensure execution of missions that preserve national interests and the freedom of operation for the Nation in, from, and to space. Successful implementation of the NDS would set the conditions of continued leadership in the military space domain, enduring military advantage in space capabilities and resilient architectures, and a safe, secure and stable space environment for the U.S. and its allies and partners.

Question. In light of the lines of effort set forth in the 2022 National Defense Strategy, what other military duties do you anticipate the Secretary of Defense, or the Secretary of the Air Force would assign to you, if confirmed?

Answer. I anticipate the Secretary of Defense and the Secretary of the Air Force will encourage the expansion of collaboration with our Allies and partners, the U.S. space industrial base, and other nations to shape the strategic environment. This collaboration can be made possible through the establishment and growth of tenets of responsible behavior in space, as well as by addressing supply chain challenges, and by developing resiliency in space architecture, workforce, and capabilities. These actions are at the heart of building enduring advantages. Additionally, I anticipate being assigned the task of developing and fielding capabilities to attribute irresponsible or aggressive behavior in space.

MAJOR CHALLENGES AND PRIORITIES

Question. What is your vision for the Space Force of today? Of the future?

Answer. If confirmed, my vision for the Space Force today, and in the future, is for the Space Force to be the most capable, combat-ready space force in the world. There is no question in my mind that the Space Force meets this standard today. However, given the growing arsenal of potential Chinese counterspace threats, maintaining that edge will require the Space Force to diligently enhance our combat power with more capable and survivable weapon systems, innovative warfighting concepts, and the most talented and well-trained guardians in the world.

Question. What is your vision for how the other armed services and the Space Force will work with each other?

Answer. My vision for the Space Force and other Armed Services is centered on normalization. The joint team's relationship with the Space Force must be consistent with the relationship it has with all other Services. The capabilities that each Service provides are seamlessly integrated together into a synchronized unity of effort. The Space Force can be no different. My vision, therefore, is to ensure the Space Force has the right organizational structures, operational concepts, equipment and training to seamlessly integrate into the Joint Force team. If confirmed, I will work tirelessly to ensure the other armed services account for critical space capabilities in their planning and that the Joint Force understands the necessity of space superiority to protect space capabilities from potential adversary attack while also protecting the rest of the Joint Force from space-enabled attack. Space operations is a collaborative endeavor, and guardians cannot accomplish their missions without working in close coordination with the other Armed Services and the Joint Force.

Question. What do you consider to be the most significant challenges you will face if confirmed to be the Chief of Space Operations?

Answer. I consider the most significant challenge for the USSF is staying ahead of the growing arsenal of space and counterspace weapons by strategic competitors. I am confident guardians, along with the rest of the Services and Joint Force, are postured to deter and, if required, defeat these potential threats today. Maintaining this relative advantage, however, will require the Space Force to outpace the accelerating threat trajectory by relentlessly pursuing innovative and decisive operational capabilities. This includes fielding resilient and defensible architectures, preparing guardians to outcompete and overcome these threats, and partner with joint, coalition, commercial, and interagency partners to maximize our combat capability.

Question. What plans do you have for addressing each of these challenges, if confirmed?

Answer. If confirmed, I would build off of the foundation established by General Raymond to ensure the Nation maintains its relative advantage in space. The USSF's force design effort has us moving in the right direction to acquire the capa-

bilities we will need to be effective. My plans are focused on ensuring our guardians have what they need to turn these new systems into operationally effective, combat-ready capabilities for the joint force. If confirmed, I would do this by focusing service efforts on fielding a robust test and training infrastructure; designing, training and implementing effective operational concepts; optimizing the Service's ability to attract, develop, and empower talent; and strengthening the partnerships we rely on to succeed in the space domain.

Question. If confirmed, what actions would you take to focus Space Force efforts on addressing each of these challenges, and on what timeline?

Answer. If confirmed, my actions will reflect my confidence that the Space Force's trajectory established by Congress, the President, and the civilian leadership of the DOD will outpace our potential adversaries and preserve the U.S. advantage in space. Working under the authority, direction, and control of the Secretary of the Air Force, I'll organize Space Force efforts to stay on this trajectory by establishing three (3) focus areas for my first year in the position: fielding combat-ready forces; amplifying guardian talent and expertise; and strengthening joint, coalition, civil, commercial, and academic partnerships that bolster our ability to defend the Nation and defeat its enemies. Additionally, if confirmed, I will ensure we have the processes and collaboration venues in place for the Chief of Space Operations to serve as the Force Design Architect for Space Systems of the Armed Forces in time to inform fiscal year 2024 authorization and appropriation decisions.

Question. Space has traditionally been fragmented across the DOD and the intelligence community. The congressional intent of creating a Space Force is to consolidate space operations of the armed services under one service.

What is your assessment of this consolidation of other service programs and personnel and what outstanding issues remain?

Answer. Space has been federated across a number of stakeholder organizations because space is critical to so many mission areas and can contribute to the success of so many different organizations. While I do not expect this to change, consolidation of some space capabilities into the U.S. Space Force does make sense in terms of unity of effort and potential efficiencies. For example, the consolidation of military satellite communication units, personnel and capabilities will have the net effect of enhancing effectiveness and efficiency in dynamic allocation and apportionment of high-demand, low-density satellite communications bandwidth. As we continue to finalize those transitions, we must ensure that associated training and sustainment capabilities are effectively transitioned to ensure long-term viability of the mission sets in the Space Force.

Question. What is your assessment of the integration of operations with the intelligence community whose authorities and funding are outlined in title 50 of the United States Code?

Answer. The intelligence community (IC) provides intelligence and support to both policymakers and warfighters. Within the Department, all domain military operations have well-tested processes for support, synchronization, and integration of intelligence activities. Pertaining to Intelligence, Surveillance, and Reconnaissance operations, the USSF and IC (particularly National Reconnaissance Office and National Geospatial-Intelligence Agency) are currently working together to clearly delineate mission lanes, shared responsibilities, baseline requirements and potential courses of action to optimize our capabilities development, reduce unnecessary redundancy and meet the vast array of customer intel requirements. Any future USSF space-based ISR capabilities will be developed to meet joint warfighting needs (including guardians) in concert and collaboration with capabilities that meet these requirements from other organizations. The USSF will focus its efforts in this area to support operational commanders and joint warfighters in concert with Title 50 capabilities. Ideally, these USSF capabilities will enable the IC to increase focus on national and strategic requirements.

THE JOINT CHIEFS OF STAFF

Question. What is your assessment of the authorities of, and process by which, members of the Joint Chiefs (other than the Chairman) provide military advice and opinions to the President, National Security Council, the Homeland Security Council, and civilian leadership of the Department of Defense?

Answer. In my current capacity as Deputy Chief of Space Operations for Operations, I sit as the USSF representative to the Operations Deputies (OPSDEP) structure on the Joint Staff. I also oversee Space staff processes that help prepare the CSO to serve as a member of the Joint Chiefs of Staff. Based on these specific roles, my appraisal is that these processes promote a thorough evaluation of the relevant issues and ensure all viewpoints, positions, rationales and opinions are rep-

resented to national leadership. I take seriously my role in supporting the Best Military Advice development process. If confirmed, I will offer my Best Military Advice to the Chairman of the Joint Chiefs, the Secretary of Defense, the President and Congress when I am a part of the deliberative process.

Question. If confirmed, would you have any hesitation in providing your best military advice to the President, National Security Council, Homeland Security Council, and civilian leadership of the Department of Defense, even when your advice and opinions might differ from those of the Chairman or the other members of the Joint Chiefs of Staff?

Answer. No, I would not hesitate, as I believe this is a fundamental responsibility of a Service Chief and member of the Joint Chiefs of Staff. If confirmed, I would provide my best military advice to the President, National Security Council, Homeland Security Council, and civilian leadership in the Department of Defense.

FUNCTIONS OF THE SPACE FORCE

Question. Section 9081 of title 10, United States Code mandates that the Space Force be organized, trained and equipped to “(1) provide freedom of operation for the United States in, from, and to space; (2) conduct space operations; and (3) protect the interests of the United States in space.”

Please describe in your own words your understanding of each of these three functions.

Answer. “Provide freedom of operations” ensures that the U.S. can continue to use the space domain in pursuit of its national interests. This is a core responsibility of Space Force forces that endures through peacetime, competition, crisis, and conflict. The U.S. must have the continuous ability to safely and securely launch and operate satellites in space in support of economic, military, and diplomatic interests. The Space Force provides capabilities to ensure no other nation is in a position to deny the U.S. its access to the space domain. U.S. interests are protected by safeguarding and enhancing the ability of U.S. commercial, civil, intelligence, and military entities to safely and effectively access, maneuver within, and exploit the space domain without interference.

“Conduct space operations” is the technical specialty of our Service. We design, build, launch, employ, integrate, maintain, and responsibly dispose of military space capabilities. It is this responsibility that requires the USSF to present ready forces to Combatant Commanders. Combatant Commanders have the authority to execute operations in pursuit of assigned missions. Generally speaking, for the space element of these missions, it is the Space Force guardians who conduct the space operations necessary to meet the needs of the Combatant Commander.

“Protect the interests of the United States in space” is the capability development imperative of our Service. Space Force forces must be prepared to outcompete, deter, and defeat the potential adversaries of the U.S. in direct support of a ‘whole-of-government’ approach to integrated deterrence.

SPACE AS A WARFIGHTING DOMAIN

Question. Space is often described as “congested and contested.” Please describe your views of this statement and whether you consider space a warfighting domain?

Answer. “Congested” refers to the growing number of commercial, civil, and military actors across the globe who have a presence in the space domain. Despite the large volume of space, there are specific orbits and key access points that are highly desirable locations for satellites. This creates parts of the domain where satellites tend to congregate, and thereby create both physical congestion and congestion in the radio frequencies they require to link back to ground stations. This congestion must be monitored and ‘controlled’ to the degree necessary to ensure optimal use and safety of flight. This is one reason why adhering to the tenets of responsible behavior in space is important.

“Contested” refers to the efforts our potential adversaries have taken to deny others the ability to access, maneuver in, or exploit the space domain. We can no longer assume that we will be able to use space capabilities without prohibitive interference.

Yes, I consider space a warfighting domain because of specific actions Russia and China have taken to field space weapons capable of disrupting, degrading and even destroying our space capabilities. Furthermore, these nations continue to prepare forces and weapons that can project military power in, through, and from space in order to advance their own interests and directly threaten our Joint Force.

NEAR PEER ADVERSARIES

Question. Please describe your assessment of the capabilities for China and Russia relative to section 9081 of 10 United States Code.

Answer. For the past several decades, the U.S. Military has relied upon technological superiority to maintain our Nation's comparative advantage—an advantage that has been underpinned in large part by our military space capabilities. To a certain degree, the Joint Force has been shaped, sized and conceptualized presuming support from space-based capabilities like ISR, GPS and military Satellite Communications. Consequently, both China and Russia are making significant investments to advance their capabilities, capacity, and activities to counter our space-based advantages. I assess that they will continue to invest in (1) counterspace systems that threaten our freedom to operate in space; (2) expand their use of space to enable their broader military forces in other domains; and (3) enhance the use of space-based targeting to threaten our forces on land, air and sea. The pace at which they are doing so is what concerns me the most. China has doubled its launches per year during the past 10 years and has demonstrated the ability to hold United States space capabilities at risk in every orbital regime.

Section 9081 of title 10 USC establishes the U.S. Space Force for the express purpose of addressing these concerns. The Space Force is organized, trained and equipped to provide freedom of operation for the US in, from and to space; conduct space operations and protect the interests of the US in space. In short, Section 9081 directs the US Space Force to provide trained personnel and capabilities to counter the aims of potential adversaries in denying us our space advantages.

FORCE DESIGN ARCHITECT

Question. Section 1064(b) of the National Defense Authorization Act for Fiscal Year 2022 (P.L. 117–81) requires the Secretary of Defense to designate within 90 days of enactment that the Chief of Space Operations shall be the Force Design Architect for space systems of the Armed Force. In addition, the Joint Requirements Oversight Council has designated the Space Force as the “integrator for joint space requirements.”

What is your interpretation of the Force Design Architect for space systems of the Armed Forces relative to section 9081 of 10 United States Code, space as a warfighting domain and the abilities of near peer adversaries? Please explain your views in detail.

Answer. The role of Force Design Architect is complementary to the CSO's Organize, Train and Equip (OT&E) responsibilities, with a focus on ensuring unity of effort in defining critical space capabilities for the future joint fight. In the OT&E role, the CSO is also responsible to assist the Secretary of the Air Force with providing trained forces to operate future capabilities and provide full-scope operational effects to the Joint Force, denying adversaries access to similar services, and protecting the Joint Force from mitigating the operational use of space by adversaries. The Force Design Architect role helps streamline requirements development and brings together the various space stakeholders to ensure the requirements are defined and pursued in the most efficient and effective way possible.

Question. Do you support the Chief of Space Operations as the Force Design Architect of the Armed Forces? Please explain your views in detail.

Answer. Yes. CSO's roles and responsibilities as the Force Design Architect for space systems is to evaluate Joint Force mission needs, balancing capability, technology readiness, resiliency, and affordability to inform the requirements development and acquisition communities. This role will allow the CSO to enable agility in the acquisition process (as required in the Fiscal Year 2019 NDAA) and ensure that future capabilities are robust and resilient and continue to provide the Joint Force with the space capabilities necessary to win. This will enable cost-informed options to ensure good stewardship of the Nation's resources while allowing the Department to drive strategic partnerships and unity of effort across the National Security Space enterprise (US acquisition organizations, the IC, DOD, allied partners and commercial) to accelerate capability, capacity, and resilience to augment military space capabilities.

Question. What is your interpretation of the Space Force being the integrator for joint space requirements?

Answer. The Joint Requirements Oversight Council (JROC) has designated the USSF as the integrator for DOD's Joint Space Requirements. The Joint Integrator now has the ability to bring the entire space community together to develop cogent space requirements. Additionally, with this responsibility, the Space Force is able to collect, organize and adjudicate these requirements and provide endorsements

and recommendations that help accelerate the JROC's capabilities development processes.

Question. If confirmed, how will you coordinate the two roles designated as the Force Design Architect and the integrator for joint space requirements? Please explain your views with respect to the authorities of the other armed forces and the Office of the Secretary of Defense as outlined in the August 17, 2022, letter designating the Chief of Space Operations as the Force Design architect for space systems of the armed forces. Please give an unclassified example.

Answer. In essence, both of these roles allow the Space Force to make Enterprise-wide recommendations rather than allowing capability initiatives or requirements to work their way through the process out of context. Because of the global nature of space, capabilities must be designed and fielded as part of a system of systems to optimize mission performance, reduce unnecessary redundancies and maximize resource efficiency. If confirmed as CSO and as the Integrator for DOD's Joint Space Requirements, I would work with the other Services and Combatant Commands to understand their needs for space capabilities. This would inform what architecture I would recommend as the Force Design Architect. One of the first examples of the Force Design Architect and the Joint Integrator role in action was the work done to redesign the Missile Warning/Missile Tracking (MW/MT) Architecture. In collaboration with key stakeholders and in light of emerging threat assessments, rigorous analysis and wargaming was used to define a more resilient, more capable and more defendable MW/MT architecture. The requirements for the systems ensured that key customers' needs were accounted for. The net result was a well-coordinated and synchronized set of architecture requirements rapidly put in place, and we are on an accelerated path to fielding the enhanced capability.

SPACE INTELLIGENCE, SURVEILLANCES, AND RECONNAISSANCE

Question. Many of the traditional Intelligence, Surveillances and Reconnaissance missions for ground and air targets that are currently performed by airborne platforms in support of a Combatant Commander's operation are now under consideration to move to space-based platforms.

Do you believe this transition in intelligence mission from air to space platforms is a mission of the armed forces?

Answer. Yes, I believe the myriad of intelligence collection requirements means there is a need to utilize capabilities in all domains. Furthermore, the Space Force, as the 18th element of the Intelligence Community (IC), is well postured to help support this effort. Each military Service and the Coast Guard are members of the IC because intelligence operations in all domains are critical parts of military operations.

Question. If confirmed, how will this mission of the Space Force be coordinated in terms of acquisition and operations with the intelligence community which falls under title 50 of the United States Code?

Answer. In accordance with well-established DOD processes, Title 10-focused capabilities will provide space-based Intelligence, Surveillance, and Reconnaissance to operational commanders and joint warfighters at relevant speeds and in concert with Title 50 capabilities. USSF capabilities will complement IC capabilities to continue to provide our nation a strategic advantage.

ACQUISITION

Question. Section 9016(b)(6)(B)(i) of title 10, United States Code states that the Assistant Secretary of the Air Force for Space Acquisition and Integration shall "be responsible for and oversee all architecture and integration with respect to the acquisition of the space systems and programs of the armed forces, including in support of the Chief of Space Operations under section 9082 of [title 10, United States Code]." In addition, section 9021 of title 10, United States Code authorizes the duties of the Space Acquisition Council whose purpose is to "oversee, direct, and manage acquisition and integration space systems and programs of the armed forces in order to ensure integration across the national security space enterprise" of which, if confirmed, you will be a member.

Please describe how, if confirmed, the duties of a Force Design Architect for space systems of the Armed Forces will integrate with section 9016(b)(6)(B)(i) for the Assistant Secretary of the Air Force for Space Acquisition and Integration.

Answer. Defining operational requirements is an early and critical step in the broader acquisition process to deliver capabilities. The CSO has the important role of defining and advocating for the operational requirements needed to support USSF missions. The Force Design Architect responsibilities are an expansion of this basic responsibility across the broader set of Armed Forces' space requirements. This

broader responsibility for Force Design will enable unity of effort across all stakeholders and allow for accelerated requirements development that meets the needs of the broader joint force.

These duties will naturally integrate with the Assistant Secretary of the Air Force for Space Acquisition and Integration's responsibilities and authorities for acquiring the systems to meet the defined requirements. The faster and more appropriately we can tell the acquisition community the mission needs, the faster they can build it. For example, the new missile warning/missile track force design shaved years off the requirements process versus the process used to generate requirements for the predecessor program. If confirmed, I will ensure there is robust collaboration and coordination with the ASAF for Space Acquisition and Integration to ensure there are no seams between requirements development and the acquisition processes needed to field the resultant systems.

Question. Please describe, if confirmed, your role on the Space Acquisition Council, and as required by Section 1064(b) the National Defense Authorization Act for Fiscal Year 2022 (P.L. 117–81) your duty as the Force Design Architect on the Space Acquisition Council.

Answer. As a statutory member of the Space Acquisition Council (SAC), if confirmed, I will support the congressional mandate for the SAC to oversee, direct, and manage the acquisition and integration of space systems and programs of the armed forces, to ensure integration across the National Security Space enterprise. In my capacity as the Force Design architect, if confirmed, I will utilize the SAC as a forum to synchronize requirements with the acquisition process. As an example, the SAC served as a forum for stakeholders to review and approve the Missile Warning/ Missile Tracking (MW/MT) requirements, acquisition approach, and program office structure.

Question. If confirmed as Chief of Space Operations, how would you assist the Secretary of the Air Force in the performance of certain acquisition-related functions, while ensuring compatibility with the duties and responsibilities of the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics (primarily established in sections 3104, 9013 and 9016 of title 10, United States Code)? Please give specific examples.

Answer. If confirmed, my primary role in supporting the Secretary of the Air Force in performance of certain acquisition-related functions would be to ensure the Assistant Secretary of the Air Force for Space Acquisition and Integration, as the Space Service Acquisition Executive, has the operational requirements and programmed funding to craft acquisition strategies and programs that deliver the capabilities we need to stay ahead of our competitors. Additionally, if confirmed, it is my responsibility to recruit, train, and develop the military acquisition professionals that drive our capability development. Where those inputs affect Joint or Air Force programs, if confirmed, I will provide the same support to the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics.

Question. If confirmed, what actions would you take to improve each of the three aspects of the acquisition process—requirements, acquisition, and budgeting?

Answer. The Space Force must focus on providing inputs to the acquisition system and the Assistant Secretary of the Air Force for Space Acquisition and Integration (SA&I) that enable speed and flexibility. Ensuring we develop accurate and timely requirements is vital to kickstart the process of delivering capabilities when we need them. We must accelerate space acquisition to outpace our potential adversaries and maintain our technological advantage. To that end, if confirmed, I would support the ASAF(SA&I)'s priorities. Stable funding and requirements are essential to program execution, the science and technology pipeline, and delivery of capability on time and within budget. Therefore, if confirmed, I will work hard to ensure that from the outset funding and operational requirements are well founded and deliberately planned so that we can maintain them throughout the life cycle of the program.

Question. If confirmed, what actions would you propose, if any, to ensure that requirements are realistic, technically achievable, and prioritized?

Answer. The Space Force's role as DOD's Joint Integrator for Space Requirements and the Force Design Architect presents an opportunity to develop cohesive space capabilities across the DOD. The rigorous technical analysis, wargaming and prototyping performed by the Space Warfighting Analysis Center will be leveraged to ensure the Force Design work is both cost-informed and shaped by what is technically feasible. After Force Designs transition to formal requirements documentation, the Joint Integrator role ensures the requirements are prioritized by the gaps identified by the Joint Force. If confirmed, I look forward to the opportunity to collaborate with Congress as we evaluate operational requirements against these standards.

Question. If confirmed, what specific measures would you recommend to control “requirements creep” in the defense acquisition system?

Answer. In my experience, ‘requirements creep’ is the result of two (2) main factors: 1) requirements developed without analytic rigor making them subject to adjustment and 2) the absence of a single unifying authority disciplining the system towards requirements stability. The USSF’s Force Design process is underpinned by Space Warfighting Analysis Center’s rigorous technical analysis, wargaming, modeling and simulation that should allow the resultant requirements to carry through program definition without the need to make major modifications. Further, designation of CSO as the Force Design Architect for space capabilities across the Armed Force and the added role of being Joint Space Requirements Integrator provides a unifying authority that ensure there is discipline in the requirements development process. Finally, because this unifying authority is also the chief programmer for the enabling budget submission, there will be incentives to maintain stability in the programs and not let the requirements ‘creep.’ In collaboration with the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I), the Space Acquisition Council will serve as the governing mechanism to ensure we maintain requirements stability throughout the acquisition process.

Question. If confirmed, how would you utilize your authority to arrest the exponential escalation in cost that, in recent history, has marked the acquisition life-cycle of Service platforms and weapons systems?

Answer. While acquisition authorities to make these kinds of decisions reside with the Service Acquisition Executive, the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I), if confirmed, I will not hesitate to collaborate with the ASAF/SA&I and provide my best military advice related to program costs. Furthermore, if confirmed, as I execute CSO responsibilities associated with budget submissions, program cost will be a prime consideration for funding levels. Therefore, if confirmed, I will work very closely with the acquisition authorities to ensure we are spending our resources on the programs that provide the most effective capabilities informed by the overall cost of the program. As stewards of national defense resources, I am committed to rigorous assessment of space capabilities and programs.

Question. In your view, in whom should accountability for large-scale acquisition failures and/or extraordinary cost overruns rest?

Answer. Just as successes are not the result of an individual person or organization, failures are rarely the result of a single individual or organization. In my estimation, large-scale failures occur as a result of many factors coming together in unpredictable ways. Because factors and conditions can change dynamically, the key is to ensure effective monitoring and assessment mechanisms are in place to enable vigilance and sensitivity to changes so that mitigation efforts can keep programs on track. Even then, it is possible for programs to fail to meet expectations and then tough decisions need to be made in collaboration and with full transparency to all stakeholders, including Congress as they execute their vital oversight functions. If confirmed, I will support all efforts to ensure proper program oversight is in place and that communication with all stakeholders, including Congress, is transparent and routine. I will also support the priority of the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I) to drive rigorous program management discipline to deliver capabilities on cost and schedule. If large-scale failures occur, I will support the Secretary of the Air Force in understanding what led to the failure and putting measures in place to improve our future performance.

Question. Are there other roles or responsibilities in the acquisition process that should be assigned to the Chief of Space Operations and the other Service Chiefs, in your view?

Answer. I believe that the current assignment of responsibilities to the Chief of Space Operations and the Service Chiefs in supporting the acquisition process is appropriate. If confirmed, I will focus on establishing realistic operational requirements and stable funding to maximize the probability of acquisition program success.

ACQUISITION OF SPECIFIC SPACE SYSTEMS

Question. The Space Force executes a wide range of acquisition efforts in space in order to support Combatant Command requirements, synchronized with ground systems and user terminals. If confirmed, please describe what you would consider to be the most serious issues with the following areas:

Missile Warning, Tracking, and Space Sensing

Question. Next Generation Overhead Persistent Infrared Satellites

Answer. The Next Generation Overhead Persistent Infrared program is designed to detect traditional ballistic missile warning signatures primarily associated with early boost phase. If confirmed, the most serious issue I expect to tackle is delivering missile warning capabilities that outpace the rapidly evolving adversarial threats. Along with our operations and acquisition teams, I remain committed to supporting the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I) to ensure the USSF delivers the seamless 24/7 on-demand, global, and localized coverage of infrared events our joint warfighters demand for this no-fail mission.

Question. Proliferated constellations for missile tracking including non-ballistic missiles

Answer. If confirmed, the most serious issue I expect to address is the urgent need for resiliency in our space and ground architectures in support of this emerging architecture. The USSF completed a critical Force Design analysis last August that resulted in our request for a pivotal mission area architecture shift from a geosynchronous and highly elliptical force presentation to a proliferated low and medium earth orbit design. This approach allows for resiliency and detection of new and emerging threats, such as hypersonics.

Question. Space and Ground Weather

Answer. While we are challenged by an expanding need for consistent access to weather data, this leads to big opportunities. One of the biggest opportunities within the Space and Ground Weather mission area is fostering relationships to optimize persistent warfighter capability. If confirmed, I will collaborate with departmental, civil, commercial, and international communities to expand access to space-based environmental monitoring in support of our national security imperatives.

Question. Nuclear Event detection on ground and in space

Answer. Based on my experience, the most serious issue in this arena is maintaining our technological advantage as new threats emerge, and as legacy systems degrade. If confirmed, I will support the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I) and collaborate with the broader space community to ensure the department is postured effectively to detect nuclear events in any domain—air, land, sea, or space—well into the future.

Intelligence Reconnaissance, and Surveillance

Question. Air and Ground Movement Target Indicator capabilities to support Combatant Commander requirements

Answer. Moving Target Indication (MTI) is a new mission being considered by the Space Force. The main challenge with MTI is focusing the target collection requirements so the systems can be fielded in a way that provides data for decision makers and operators to ensure target prosecution can occur in a timely manner. If confirmed, I will leverage our experience from our Missile-Warning/Missile-Track (MW/MT) mission area and work closely with the Department of the Air Force and Joint team to ensure the DOD pursues an integrated solution for the joint warfighter.

GPS

Question. GPS III, IIF

Answer. The greatest challenges to GPS are the proliferation and threat of purposeful signal jamming. This purposeful interference represents a significant challenge due to the negative economic and military impacts that GPS degradation causes. Protecting Positioning, Navigation and Timing services are critical for the nation. If confirmed, I will support the Assistant Secretary of the Air Force for Space Acquisition and Integration, ASAF (SA&I), in delivering GPS III and IIF systems to ensure the Department delivers jam-resistant Military-Code GPS capabilities to warfighters.

Question. Military Grade User Equipment

Answer. With respect to Military GPS User Equipment, an important challenge is integrating GPS equipment into thousands of platforms across the DOD. It is critical for our joint warfighters to have resilient Positioning, Navigation and Timing in times of crisis or conflict. If confirmed, I will continue to work across the Department to prioritize Military GPS user equipment integration into weapon platforms across the Services.

Question. Alternate Positioning Navigation and Timing

Answer. Countering real threats to navigation estimates in an anticipated contested space domain is a valid concern. The Space Force is exploring alternative space-based Positioning, Navigation, and Timing systems to augment our GPS capabilities and improve resiliency. If confirmed, I will help ensure alternative PNT capabilities are explored to provide viable pathways towards resiliency for the critical GPS enterprise.

SATCOM

Question. Advanced Extremely High Frequency satellites and their follow-on constellation for strategic communications

Answer. The Advanced Extremely High Frequency satellite program capability is critical to the President and the National Command Authorities for protected strategic communications capabilities, including globally connected operations through nuclear-related events. A key challenge is to ensure continuous capability in this mission area as we transition the enterprise and field follow-on capabilities. If confirmed, I will work across the Department and this Committee to protect against any gap in capability.

Question. Family of Advanced Beyond Line-of-Sight Terminals and other strategic grade user terminals

Answer. A key challenge for the FAB-T capability is speed of delivery to the diverse set of platforms that require this upgrade. Each platform that requires the upgrade has unique constraints that must be addressed individually as the capability continues to be fielded. If confirmed, I will continue to work across the Department to support this important upgrade, as well as support integration into platforms across the Services.

Question. Protected Tactical Enterprise Service and user terminals

Answer. If confirmed, my top priority for Protected Tactical Enterprise Service will be to maintain synchronization between space, ground, and terminal segments to ensure Joint warfighters can fully leverage the system for contested operations near enemy jammers.

Question. Absorbing the current fleet of the Army's Wideband Gap Satellites (WGS) and their Replacement

Answer. The USSF (and Air Force Space Command before it) has operated the WGS satellites for many years and has recently taken control of the WGS payload operations. The remaining challenge will be to transition the payload management training currently conducted by the Army and the sustainment of the wideband satellite capability. Planning to complete this transition is underway across the Department of the Air Force. If confirmed, I will ensure the planning to address this challenge enables an efficient and effective transition.

Question. Absorbing the Navy's Mobile User Objective System satellites and their replacement

Answer. Transition of the Navy's Mobile User Objective System to the Space Force is complete. If confirmed, I will ensure all efforts associated with the transition of the Mobile User Objective System continue to support Joint warfighters.

Assured Access to Space

Question. National Security Space Launch Phase II procurements

Answer. The most pressing issue for space launch is ensuring we have an infrastructure to support the rapid expansion of commercial launches while also ensuring we meet our high priority national security space launches. For us to keep pace with potential threats posed by strategic competitors our launch capacity must be optimized. For Phase II, we must continue National Security Space Launch's mission success track record to ensure access to space and to counter threats posed by potential adversaries. If confirmed, I will work with this Committee and across the Department and space enterprise to help maintain the ability for assured access to space.

Question. National Security Space Launch Phase III procurements

Answer. I believe the most pressing issue for Phase 3 acquisition is to maintain a vibrant market for launch service providers in order to assure access to space, maximize competition to reduce cost, and ensure the USSF continues to encourage a strong launch industrial base. If confirmed, I will support efforts to set strategy for the next acquisition phase.

Question. Tactical and Responsive Launch and replenishment of space-based assets

Answer. If confirmed, the most critical issue I would address is expanding the scope of tactically responsive space to ensure we generate complete operational capabilities that respond to any on-orbit threats on a tactically relevant timeline. We must have end-to-end capabilities that include launch vehicles, satellites, ground systems, operational concepts, and most importantly, the specific requirements of the Combatant Commanders, that enable a tangible response to potential adversary destabilizing actions in space.

Battle Management, Command and Control, and Associated Ground Systems

Question. Space Command and Control, including the Kobayshi Maru program to replace the operating systems (SPADOC) at the Combined Space Operations Center

Answer. A significant challenge to space command and control is the integration and fielding of a system of systems to enable multiple software applications to work together. If confirmed, as a member of the Space Acquisition Council, and in coordination with the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I), I will work to ensure delivery of a Space Domain Awareness Command and Control (C2) capability that will replace the antiquated Space Defense Operations Center currently in use. While also ensuring that we deliver the additional needed capabilities in a way that eases integration into our various C2 nodes. We need to recognize that no single system or single software program or algorithm is capable of meeting all of USSF's C2 needs. Integration of disparate capabilities into a common platform enabling sharable data is the key to success.

Question. Sensor agnostic integration for Space Domain and Situational Awareness, including MDA's BMC2 to meet US SPACECOM requirements

Answer. Space Domain Awareness (SDA) is a condition achieved by the performance of a variety of operations that require multiple software capabilities exploiting data from a diverse set of disaggregated sensors. Cloud-based sensor data management, common data standards and integration protocols are the foundational elements that allow mission software tools needed for SDA and BMC2 to have access to the data needed for mission success. If confirmed, as a member of the Space Acquisition Council, and in coordination with the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I), I will work to ensure the Space Force drives towards a more integrated, resilient, multi-source information architecture to accept, discern, and trust data from all valid sources, while ensuring it is accessible to, and supported by, our Joint warfighters.

Question. Integrated Tactical Warning and Attack Assessment (ITW/AA), including the Combatant Commanders Integrated Command and Control System (CICCS) for assured missile warning as part of the NC3 system

Answer. If confirmed, as a member of the Space Acquisition Council and in coordination with the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I) I will collaborate to help develop a standardized, integrated C2 system of systems across the NC3 enterprise to meet warfighter and National Command Authority needs.

Question. Integration of Space Force systems into the Joint All Domain Command and Control system.

Answer. Because of the nature of the USSF missions, we inherently think in Joint and all-domain terms. Clearly the space domain is our focus, but we cannot be successful without cyber operations in our ground networks and the cyber mission assurance of them. Furthermore, the USSF must understand the domains of our multiple Service users from SATCOM receivers on the ground, at sea or in the air. We must understand the needs of worldwide GPS users in all domains, and we must understand the requirements for missile warning data to globally distributed networks in all domains. The Space Force will specifically integrate into the JADC2 concepts because the C2 capabilities will require worldwide distribution of data, shared situational awareness, sensor data on tactical timelines and global communication with decentralized units. None of this is complete without space capabilities. The Space Force's unique capabilities will be crucial features that enable the joint force to realize the JADC2 vision. If confirmed, as a member of the Space Acquisition Council and in coordination with the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I) I will work across the Department and space community to ensure the Space Force's contributions to JADC2 meet user needs and support Joint warfighter decision-making.

Space Domain Awareness and Space Control

Question. Synchronization writ large between satellite and ground systems

Answer. It is important that we have synchronization between satellite and ground systems to ensure delivery of a comprehensive operational capability that integrates effectively to accept, discern, and fuse data from national, defense, and commercial sources and share it across multiple security boundaries. If confirmed, I will work closely with the Assistant Secretary of the Air Force for Space Acquisition and Integration (ASAF/SA&I) and the space acquisition community to address challenges and deliver a Space Domain Awareness (SDA) architecture with synchronized space and ground systems.

Procurement of Commercial Space Services

Question. Procurement of commercial satellite communications services for other armed forces and Combatant Commands.

Answer. The rapid growth of the commercial space sector provides a significant opportunity for the DOD to use innovative commercial capabilities and production

processes to deliver critical space capabilities. We must evaluate each mission area to determine the risks to achieve the balance between government and commercial capabilities. If confirmed, I will take a balanced, risk-informed approach to adding commercial space capabilities that leverages agility, innovation, and value of commercial systems without compromising critical national security missions.

RECRUITING, TRAINING AND READINESS

Question. The Space Force is a new service that is standing up a capability to recruit, train, and present a ready military force of guardians to the Combatant Commanders in order to support their operational plans. Please describe your views on the following:

The ability of the Space Force to achieve enlisted and officer recruiting goals.

Answer. Space Force has successfully met and exceeded its fiscal year 2022 enlisted (105%) and officer (119%) recruiting and accession goals by leveraging high interest. We are well positioned to achieve our fiscal year 2023 goals based on a current pool of interested cadets and civilians currently selected for entry.

Question. The current and future readiness status of the force, including shortfalls of training guardians including the stand up of STARCOM.

Answer. The standup of the Space Training and Readiness Command (STARCOM) is a significant step forward in improving the training of guardians. However, because we have operated in a relatively benign space environment for decades, we have not fielded a sufficient test and training infrastructure that allows our guardians to prepare properly for a contested space domain. If confirmed, it will be one of my top priorities to design and field an Operational Test and Training Infrastructure that allows our guardians to innovate new tactics, validate those tactics, train to execute the tactics and then practice the tactics against a simulated adversary. This set of capabilities will be essential in the USSF's ability to present combat-ready forces to US Space Command (USSPACECOM) and other Combatant Commands and ensure that they are ready to face an emerging spectrum of threats.

The ability to assess readiness, including range training, of guardians in performing their mission consistent with section 117 of title 10 of the United States Code.

Answer. Space Force's readiness reporting is based on a legacy set of standards that was not customized for its missions and did not adequately account for threats in the space domain. We are changing this rapidly. If confirmed, I will continue the work of redefining our readiness standards including training requirements, equipment sustainment standards, exercise frequency requirements and generally the ability of the force to meet its assigned mission sets even in the face of a determined adversary.

SUPPORT TO COMBATANT COMMANDS

Question. The relationship as a space force provider to the US Space Command is unique compared to other Combatant Commands. Please explain how the Space Force delineates between a presenter of forces and their functions to the US Space Command as compared to other Combatant Commands.

Answer. As a Service Force Provider, the USSF's number one customer is USSPACECOM. Most space missions are conducted at a global enterprise level by USSPACECOM and therefore, the vast majority of USSF capabilities are appropriately presented to USSC. However, other Combatant Commands have requirements for space expertise, activities and space capabilities. These requirements include planning and exercise integration expertise, regional space activities like security cooperation activities with allies and partner nations and establishment of networks and procedures to disseminate missile warning data to all forces in the theater regardless of dynamically shifting bases or disadvantage comm positions in the theater. Regional space capabilities like counter-SATCOM capabilities to support personnel recovery or force protection of maneuver elements may also be requested in theater. The USSF will be postured to provide command and control structures and ready forces to meet these requirements as well.

Question. What are the key areas in which the Space Force must improve to provide the necessary capabilities and capacity to:

US Indo-Pacific Command

Answer. Particularly here, with China as the pacing challenge, the USSF must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capabilities. These requirements include planning and exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater

forces. In my view, the key improvements will be in capacity of personnel and both organic and deployable capabilities to meet Combatant Command needs.

Question. US European Command

Answer. With the acute Russian threat, the USSF must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capabilities. These requirements include planning and exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater forces. The key improvements will be in capacity of personnel and both organic and deployable capabilities to meet Combatant Command needs.

Question. US Central Command

Answer. With the continued Iranian and Violent Extremist Organizations (VEO) threats, the USSF must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capabilities. These requirements include planning and exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater forces. The key improvements will be in capacity of personnel and deployable capabilities to meet Combatant Command needs.

Question. US Northern Command

Answer. With growing threats to the Homeland, the USSF must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capabilities. These requirements include planning and exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater forces. The key improvements will be in capacity of personnel, situational awareness and rapid access to assured data in support of missile warning and missile defense to meet Combatant Command needs.

Question. US Strategic Command

Answer. With continuous need for nuclear deterrence and national command and control and communications (NC3), the USSF must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capabilities. These requirements include planning and exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater forces. The key improvements will be in capacity of NC3 dynamically shifting theater forces. The key improvements will be in capacity of NC3 dynamically shifting theater forces. The key improvements will be in capacity of NC3 dynamically shifting theater forces. The key improvements will be in capacity of NC3 dynamically shifting theater forces. The key improvements will be in capacity of NC3

Question. US Transportation Command

Answer. With the need to support worldwide mobility, distribution and sustainment of military forces, the USSF must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capabilities. These requirements include planning and exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater forces. The key improvements will be in capacity of personnel, situational awareness and rapid access to supply chains and logistics to meet Combatant Command needs.

Question. US Southern Command

Answer. With growing investments by strategic competitors in the southern hemisphere, the USSF must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capabilities. These requirements include planning and exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater forces. The key improvements will be in capacity of personnel, situational awareness and rapid access to assured data in support of Combatant Command needs.

Question. US Cyber Command

Answer. With growing cyber threats to space ground infrastructure, the USSF must be postured to provide command and control (C2) structures and ready forces to provide space-related cyber expertise, conduct space-related cyber defense activities and C2 attached cyber capabilities. These requirements include planning and

exercise integration expertise, security cooperation activities to build partner capacity and establishment of networks and procedures to disseminate critical space data to dynamically shifting theater forces. The key improvements will be in capacity of personnel, situational awareness of the cyber terrain of space systems and rapid access to assured data in support of cyber defense of our space systems and to meet other Combatant Command needs.

ALLIANCES AND PARTNERSHIPS

Question. Mutually beneficial alliances and partnerships are crucial to US success in competition and conflict against a great power.

If confirmed, what specific actions would you take to build strong international partnerships, overcome challenges to our partnerships, and exploit opportunities in international cooperation?

Answer. I believe the foundation of international partnerships is routine interaction to build relationships of mutual respect, trust and thorough understanding of partners' needs and capabilities. If confirmed, I will continue to expand the quantity and quality of international partnerships by engaging more like-minded space-faring nations and moving from data sharing agreements to more operations integration, payload sharing, and even mission sharing where appropriate.

Question. How would you characterize your familiarity with international space leaders, forums, and processes? If confirmed, which leaders and forums would you focus your engagement with a view to advancing most effectively the national security interests of the Space Force?

Answer. In my previous positions, I have had only a few engagements with international space leaders and have only been in supporting roles in international forums and processes. However, if confirmed, I will rapidly seek to build on existing relationships and ensure the USSF continues to enjoy and expand international partnerships. Early expansion should focus on Finland and Sweden as likely new members of NATO as well as India to counterbalance Chinese activity. These partnerships are critical in enhancing resilience and developing a coalition around responsible behaviors in space and therefore extremely valuable to protecting national security interests.

Question. How will the Space Force participate within NATO and its developing Space Capabilities?

Answer. NATO has extreme interest in expanding efforts to share space information and integrate space capabilities into plans and operations. In addition to continuing with the existing NATO forums, the USSF will focus on integrating with the newly formed NATO Space Centre. Additionally, the USSF is seeking to establish a USSF Service Component HQ under European Command which will allow more comprehensive integration of capabilities and effects into all NATO activities.

Question. How will the Space Force ensure that the correct levels of information are getting to and from allies that are integral to various missions of the Space Force?

Answer. The key to ensuring the correct levels of information are being shared for mission success starts with transparency of requirements and solid feedback loops with the partner nations. If confirmed, I plan to collaborate extensively with stakeholders and authorities needed to ensure the right information is made available to the right people to optimize mission sharing with our international partners. While the USSF will need to be sensitive to protecting our most critical information, I believe there are opportunities to expand how and with whom we share information.

NORMS OF SPACE BEHAVIOR

Question. Actions by other nations in space have direct consequences on the ability of the United States to execute freedom of movement and operations both in space and on the ground for civilian and national security means. One example includes recent destructive anti-satellite operations in November of 2021 by Russia, whose debris field affected the international space station causing it to maneuver and its astronauts to seek shelter in its return capsule.

What are your views on international norms of behavior in space and how should the Space Force be part of a whole of government approach to negotiating and implementing such norms?

Answer. Shortly after the reckless, dangerous, and destructive Russian direct-ascent anti-satellite (ASAT) missile test in November 2021, US leaders such as the Vice President, Secretary of State, and the Deputy Secretary of Defense spoke about the importance of standards of responsible behaviors to address these types of actions. I believe that the US, along with allies and partners must uphold inter-

national standards and develop new standards in space. Standards help us identify safe versus malign activities, reduce risks of misperception, and shape perceptions regarding collective reactions and cost imposition. We are fully engaged regarding interagency, whole-of-government efforts on tenets of responsible behaviors in space. Our collective ability to deter a conflict from beginning or extending into space relies on our cooperation with allies and partners to develop best practices and standards of behavior for responsible space operations and then to holding violators accountable to the international community.

CYBER

Question. In May 2018, the Cyber Mission Force achieved full operational capability. In September of the same year, DOD released its 2018 Cyber Strategy.

In your view, how well postured is the Space Force to meet the goals outlined in the 2018 DOD Cyber Strategy? What actions will you take, if confirmed, to remediate any gaps between Space Force capacity and capability and Cyber Strategy goals?

Answer. The Space Force is postured to support the DOD Cyber Strategy but will require a realignment of our cyber capabilities to fully meet the goals and objectives of the strategy. The USSF will rely on USCYBERCOM component cyber forces to collect intelligence and prepare military cyber capabilities to be used in the event of crisis or conflict and for disrupting and/or halting malicious cyber activity at its source. However, USSF is actively strengthening the security and resilience of networks and systems that contribute to current and future US military advantages in the space domain. If confirmed, I am committed to meeting the DOD cyber strategy objectives by fully integrating cyber defense into space missions and by transforming cyber guardians' duties from traditional base support IT functions to execute mission assurance capabilities to secure, monitor and defend Space Force missions. Finally, I will advocate for the necessary investments in the tools and systems needed to fortify our space mission networks to enhance their resiliency and defensibility.

Question. Are the size and capabilities of the Space Force components sufficient to meet current and future cyber and information warfare (IW) requirements?

Answer. With regards to meeting cyber and information warfare requirements, the primary challenge is the alignment of duties for the cyber guardians not the number of cyber guardians. Many of our cyber guardians are needed to perform traditional base communication and IT support functions and therefore are not available to perform the more critical mission assurance to secure, monitor and defend USSF mission systems. The USSF is working to contract out most of the traditional communication and IT support functions to free up more cyber guardians to focus on cyber defense. Once resourced to do this we will have a better understanding of the full set of cyber defense manpower requirements. As for future cyber and IW manpower requirements, the USSF is investing in tools and training that will make our cyber workforce more efficient and effective in performing their cyber defense roles; however, with the growing number of cyber threats and the expansion of critical networks, I believe there will be a future need for more cyber experts in the Space Force. If confirmed, I look forward to working with Congress on the right kinds of investments in tools, networks, training and personnel to ensure that the USSF meets its cyber defense needs in the most efficient way possible.

Question. What is your view on the current definition of the Cyber Operational Forces? Are additional categories needed to support the Space Force?

Answer. The Cyber Operational Forces (COF) are made up of several elements including the Cyber Mission Force and the Cyber Security Service Providers (CSSP). The Cyber Mission Force is composed of 133 teams conducting offensive and defensive cyber operations and the associated support functions under USCYBERCOM authorities. The CSSPs are focused on network defense. Having service-retained cyber mission defense teams, specifically not included in the DOD COF, that can focus training and operations on the specific and unique cyber terrain of USSF weapon system networks is also an important element of USSF cyber defense capabilities to enable tactical command and control of weapon systems and critical infrastructure resiliency. A combination of these service-retained cyber mission defense capabilities with the DOD COF is suitable and provides all the categories needed to support the Space Force.

Question. Do you think the Space Force should be responsible for providing teams to the Cyber Mission Force?

Answer. Since all other Services provide teams to the Cyber Mission Force (CMF), it is reasonable for some to assume that the Space Force should also provide teams. However, the analysis of manpower required to standup the USSF did not include

cyber manpower requirements to provide teams to the CMF. Therefore, any requirement to support the CMF would be new mission that would require a commensurate increase to USSF manpower to support this new mission area.

Question. In your view, should the Space Force expand acceptable professional qualifications for its cyber workforce to include non-traditional professional credentialing and schooling from so-called technology boot camps and massive online open courses (MOOCs) as an alternative to traditional education, provided candidates meet the necessary technical standards?

Answer. The Space Force is committed to innovative approaches in recruiting and talent management to ensure we always have access to the expertise needed to conduct our critical missions. Assuming candidates meet necessary technical standards, I believe non-traditional professional credentialing and schooling would open up the pool of talent available to the USSF creating a broader and more diverse set of applicants. The larger the pool of applicants, the greater the selectivity, and the better the workforce which enhances the USSF cyber capabilities.

Question. If confirmed, what would you do to enhance Space Force information dominance capabilities?

Answer. There are three (3) lines of effort needed to enhance USSF information dominance capabilities. First, we must ensure our cyber guardians are focused on their mission assurance to secure, monitor, and defend USSF mission systems, not traditional base communications and IT support functions. Second, cyber guardians need an operational test and training infrastructure to allow them to innovate cyber defense tactics, train to execute those tactics in a realistic environment and then practice their skills against a simulated adversary on a cyber range. Third, cyber guardians need the tools and technology to fully map and monitor the cyber terrain associated with USSF weapon systems. If confirmed, I will be committed to building a ready force of cyber guardians by investing along these lines of effort.

Question. If confirmed, what would you do to improve military cybersecurity career pathways to meet the present and future needs of the Space Force and US Cyber Command?

Answer. Force Development is a critically important task of any military service, but the highly technical and expert workforce required for USSF success makes it even more critical that we ensure all of our personnel, including cybersecurity personnel, have meaningful career pathways in order to retain the talent we need for success. If confirmed, one important way I intend to accomplish this is to develop career broadening and professional development opportunities with the commercial cyber security industry that guardians will be expected to take advantage of at various points throughout their career. I expect the commercial cybersecurity industry to continue to accelerate its capabilities, techniques and technologies, therefore it will be imperative that our cyber guardians keep pace professionally. To this end, the USSF must develop opportunities to send our cyber guardians into the commercial sector periodically to immerse themselves in these capabilities and cultures in order to bring back new and advanced expertise and ideas to protect and defend USSF cyber infrastructure and data.

ELECTRONIC WARFARE (EW)

Question. What is your vision for the future of Space Force EW capabilities?

Answer. We fully realize the importance the electromagnetic spectrum, including cyberspace, holds in warfare today, and I expect it to grow in the future as our potential adversaries attempt to capitalize and exploit its strengths and vulnerabilities. As seen in the current conflict between Russia and Ukraine, Russia's disruption of commercial satellite communications and the provider's prompt adaptation to restore service is but one example of what we can expect in the future, but on a far greater scale. As such, the USSF must develop and field a diversified array of active, adaptive, and networked electronic warfare capabilities to project power and defend the Joint Force across the competition continuum. We must develop and employ cutting-edge technology to expand our maneuver space and provide the Joint Force maximum operational flexibility while denying a potential adversary the ability to do the same. If confirmed, I will work with Congress to ensure that USSF Force Design includes the necessary EW capabilities to support the Joint Force.

Question. US Strategic Command is the Joint Staff lead for ensuring the Joint Force can defend and conduct offensive EW strike operations. How has the Space Force integrated with STRATCOM to conduct Joint Electromagnetic Spectrum Operations including the following:

The Joint Electromagnetic Warfare Center?

The Joint Navigation Warfare Center?

The Joint Electromagnetic Readiness Center?

The Defense Information Systems Agency?

The Development of the Electromagnetic Battle Management tool?

Answer. Electromagnetic Spectrum Superiority (EMSS) is of critical importance to the national security of the nation. To ensure Electromagnetic Spectrum superiority, Space Force must work with other Headquarters Department of the Air Force offices and US Strategic Command (USSTRATCOM) to have an integrated approach to governance that prioritizes EMSS through requirements, resourcing, workforce, and operations. As the Space Force Deputy Chief Space Operations for Operations, I stood up an Electromagnetic Spectrum Operations (EMSO) branch within the Space Force specifically to coordinate and partner with other Headquarters Department of the Air Force, Joint and Agency partners on Electromagnetic Spectrum Operations topics. This branch works to advocate for Space Force EMSO equities, to grow Space Force EMSO capabilities, and to ensure full integration with USSTRATCOM and other Electronic Warfare supporting Centers and Agencies. Space Force is currently working with the Joint Electromagnetic Warfare Center on a DOD-wide Electronic Warfare Assessment of our EW capabilities to inform funding recommendations. Additionally, Space Force works closely with DISA, STRATCOM, and the Air Force in various forums and working groups, such as their working group focused on delivering the initial toolset for the Electromagnetic Battle Management Tool. If confirmed, I will continue to work with all stakeholders to ensure the Joint Force has the required capabilities to maintain our competitiveness, conduct operations, and protect our vital national interests.

SPECTRUM

Question. Electromagnetic spectrum plays a critical role in many DOD missions and is integrally related to electronic warfare.

In what ways does the Space Force rely on spectrum to support warfighter requirements?

Answer. Space Force relies on spectrum for everything from launching space vehicles, to operating those vehicles, and to providing mission effects worldwide. Everything we do in space relies on our ability to effectively utilize spectrum.

Question. In your view, which warfighter spectrum requirements will be essential to competing with Russia and China on a future battlefield?

Answer. Broad access to a diversity of commercial and military wideband satellite capabilities will be required for warfighters on any potential future battlefield.

In testimony before the House Armed Services Committee in February 2020, then-Secretary of Defense Esper stated that DOD is willing to share spectrum with 5G networks in the “Mid-Band” (3 to 4.2 gigahertz). What Space Force systems might be affected by this “sharing” and how could “sharing” affect homeland defense, in your view?

Answer. The DOD 5G Strategy Implementation Plan outlines how the DOD will support research, development, testing, acquisition, and fielding of systems incorporating new technologies that permit greater spectrum access while preventing harmful interference to legacy systems. DOD will develop capabilities needed for near-real-time sharing, to enable military operations in congested spectrum environments to ensure that DOD can continue to use its radars to sense threats both domestically and internationally. To accomplish this, DOD is standing up a highly controlled testing environment to better understand 5G and radar spectrum dynamics that impact interference between these systems. Based on interference measurements and analyses from this testbed, dynamic spectrum utilization technologies for radar and 5G are being developed and evaluated. Interference with these systems could result in negative homeland defense mission impact and overall Space Force readiness. Therefore, it is critical that an effective sharing plan is in place to ensure that Space Force and homeland defense systems can operate in a way to enable readiness and mission accomplishment without interference.

Question. If DOD were required to “vacate” or leave the spectrum “Mid-Band” instead of sharing, what are the potential operational and dollar costs to the Space Force, in your view? How long would a move to a different area of the spectrum take, in your view?

Answer. At this point, I am not in a position to make a full assessment. If confirmed, I will be able to assess how spectrum changes impact Space Force both financially and operationally in support of the National Defense Strategy. At that time, I would welcome the opportunity to come back to the Committee to discuss this important issue.

Question. US superiority in key areas of innovation is decreasing or has disappeared, while our competitors are engaging in aggressive military modernization and advanced weaponry development. DOD has identified 14 critical technology areas in which investment to develop next generation operational capabilities is imperative: biotechnology; quantum science; future generation wireless technology (FutureG); advanced materials; trusted artificial intelligence (AI) and autonomy; integrated network systems-of-systems; microelectronics; space technology; renewable energy generation and storage; advanced computing and software; human-machine interfaces; directed energy; hypersonics; and integrated sensing and cyber. Much of the innovation in these technologies that could prove suitable for national defense purposes is occurring outside of the traditional defense industry.

What do you see as the most significant challenges (e.g., technical, organizational, or cultural) to US development of these key technologies?

Answer. Maintaining our technology lead over our peer competitors is critical to USSF's continuing ability to deter conflict in space. Pressing issues include meeting the pacing challenge. China is a very advanced and technology-savvy competitor who is innovating at a rapid pace, in some areas faster than we and our Allies can keep pace. We need to identify the best opportunities and mechanisms to leverage the tremendous commercial innovation and then we must be able to rapidly integrate those capabilities into a resilient hybrid architecture. If confirmed, I look forward to working with this Committee and across the DOD to address these challenges.

Question. How is Space Force integrating and synchronizing investments in these technologies across all Services? In your view, how is OSD doing in helping that integration process?

Answer. There are several initiatives that assist the USSF in integrating and synchronizing investments in key technologies. The concept of "One AFRL—Two Services" (Air Force Research Lab) allows the Space Force to integrate and synchronize with AF science and technology activities, as well as with other Services. The Space Acquisition Council allows us to integrate and synchronize across the DOD and Intelligence Community. The OSD-led Space Community of Interest is key in coordinating technology roadmaps and investments. If confirmed, I look forward to working with this Committee and across the DOD to address these challenges.

Question. How has the Space Force prioritized limited research and development funding across its technology focus areas? Specifically, where is the Space Force either increasing or decreasing focus and funding?

Answer. The USSF is working to establish a balanced science and technology portfolio that supports current technology needs, Space Warfighting Analysis Center force design efforts, and longer term technology horizon scanning. These are critical efforts as the USSF seeks to deliver evolutionary and game changing capabilities to the warfighter to keep us ahead of our pacing threats. Areas of increased investment include hybrid space architecture, integrating commercial and allied partners, artificial intelligence/machine learning, space mobility and logistics, tactical intelligence, surveillance, and reconnaissance, missile warning for hypersonics, multi-domain resilient space data transport and positioning, navigation, and timing.

Question. In the Fiscal Year 2023 President's Budget Request, the Space Force increased overall Research, Development, Test and Evaluation (RDTE) funding from \$11.5 to \$15.8 billion. How would you prioritize these budget areas in future budget requests?

Answer. Based on my experience, I am concerned about and see critical opportunities in resiliency, especially protection and proliferation to build toward the resilient hybrid space architecture across all our mission areas. Additionally, it will be important for us to assess the appropriate missions to migrate to space (e.g., Ground Moving Target Indicator [GMTI]) to optimize mission performance in light of emerging threats to the existing capabilities. If confirmed, I would work to ensure the space Research, Development, Test & Evaluation portfolio provides long-term competitive advantage, balancing the pursuit of transformational capabilities and nearer-term incremental improvements.

Question. One of the main objectives of the defense research enterprise is to develop advanced technologies that will be of benefit to the warfighter. In this regard, it is critical that advancements quickly transition from the development phase into testing and evaluation and ultimately into a program of record for the deployment of capability to the warfighter.

The Air Force Research Laboratory (AFRL) is responsible for Science and Technology (S&T) research for both the Air Force and Space Force. They have adopted a motto of "One lab, two services." In your opinion, how is that dual-hatted relation-

ship working for the Space Force? Are there other labs within the Army or Navy that you also think contribute to the Space Force mission?

Answer. It is my understanding that the “One AFRL—Two Services” approach is working well. The construct allows us to accomplish significantly more science and technology innovation for the Space Force than we would be able to accomplish with a separate space laboratory. It provides an opportunity to leverage shared world-class lab facilities, test assets, tools, and expertise to prepare for future threats that require multi-disciplinary solutions. The Space Force is also able to work with the Navy Research Lab on space technology.

Question. If confirmed, how would you ensure that a greater percentage of the Space research technologies being developed by AFRL transition into programs of record for deployment to the warfighter? How would you ensure that appropriate technologies are transitioning more quickly into programs of record?to the warfighter? How would you ensure that appropriate technologies are transitioning more quickly into programs of record?

Answer. If confirmed, I will work to strengthen the relationship between operators and researchers to ensure that the voice of operators is heard in the development and deployment of new technologies. Additionally, I will continue to advocate for modular, open systems approaches, commercial as-a-service models, and investment in foundational enterprise infrastructure that allow rapid insertion of emerging technologies to enable the delivery of capabilities in iterations similar to industry.

Question. What efforts is the Space Force making to identify new technologies developed commercially by the private sector and apply them to military and national security purposes?

Answer. The USSF, and Space Systems Command specifically, is continuously engaged with the private sector collaborating to discover and assess new technologies for military and national security utility. Industry Days (and reverse Industry Days) including crosstalks, demonstrations and sharing of modeling and simulation data have been productive in sharing operational challenges and potential mitigation capabilities between the government and the private sector. Commercial space capabilities and services offer many benefits for national security space missions and architectures. The DOD uses commercial space services to augment government systems and missions where practical; the opportunity to use these services and technologies will only grow in the future. The DOD intends to serve as a reliable customer to stimulate market segments that might not otherwise mature. Stimulating demand in these areas strengthens the industrial and economic base and incubates commercial capabilities that may meet future requirements. If confirmed, I will work to identify and reduce the barriers to leverage the best available commercial technologies to meet warfighter requirements.

Question. In your view, what steps must DOD take to protect and strengthen our National Security Innovation Base to ensure that critical information is protected?

Answer. Based on my experience, a balance between collaboration with industry and protection of critical information is needed. Educating industry partners about threats is key, as many small businesses may not be aware of threats. Continuing the work the USSF has begun to build out secure facilities, which can be shared by small companies who do not have their own, is another way to reduce the threshold for smaller companies to contribute and thereby strengthen the industrial base. If confirmed, I will work across the Department to reduce barriers for small businesses, share operational challenges with the private sector and work to quickly integrate commercial capabilities of value to the DOD.

Question. How are you leveraging the National Technology and Industrial Base as a means of fostering the industrial base needed for space, as well as promoting collaboration and interoperability with key allies?

Answer. The USSF is committed to implementing flexible terminals, networks, and ground interfaces, establishing an infrastructure and a management framework. This framework would allow National Technology and Industrial Base partners to provide theNational Technology and Industrial Base partners to provide the

TECHNICAL WORKFORCE

Question. A significant challenge facing the Space Force today is a shortage of highly skilled data scientists; computer programmers; cyber; and other scientific, technical, and engineering talent to work at Defense laboratories and technical centers.

In your view, what are the pros and cons of having Space Force Active Duty military personnel trained and working as scientists, engineers, software coders, and in other technical positions across the Air Force’s research, development, and acquisition enterprise?

Answer. Active duty personnel trained in these technical positions offer greater insights into operational challenges, mission necessity and tighter coupling of technical solutions to operational realities. However, the challenges, requirements and hardships inherent in military service coupled with financial incentives to work in the private sector make retaining technical talent for career long service challenging. Therefore, it is imperative that we create a mix of personnel and employment models to ensure the USSF has access to the talent it needs in the most operational relevant way possible. If confirmed, I will work hard to leverage innovations in talent management and career field progression to maximize the USSF's access to these important technical skillsets.

Question. What are the pros and cons of employing Federal civilian employees in these fields, and what, in your view, is the optimum force mix of civilian, military, and contractor personnel?

Answer. The USSF has a unique force distribution, relative to other Services, between its military and civilian personnel numbers. The higher percentage of civilians is a direct reflection on the need to leverage very skilled, experienced technical experts in order to accomplish USSF missions. While it is true that both military and civilian personnel are important to mission execution, they cannot be treated as completely interchangeable parts of the USSF workforce. Each cohort brings different capabilities and limitations in terms of experience, background, motivations, perspectives, positional stability and rotational agility. If confirmed, I will leverage all of the talent management tools at my disposal to ensure we recruit and retain the necessary talent and maintain an effective balance between military and civilian personnel numbers to optimize mission performance and workforce development and sustainability.

Question. What shortfalls (both in numbers and technical disciplines) do you have in your technical workforce outside of the labs and acquisition workforce, for both military and civilian personnel?

Answer. The USSF technical workforce is currently experiencing military shortfalls in the following disciplines: cyber operations (-67), intelligence (-158), and space operations (-189). While these numbers are small relative to other Services, they represent a consequential percentage of our most critical mission areas. Additionally, the USSF continues to experience challenges in recruiting civilian talent within the artificial intelligence and data analytics fields. Because of the USSF's approach to being as lean as possible, there is very little slack in the system to absorb any shortfalls at all. If confirmed, I look forward to working with Congress on building some level of resiliency in our workforce numbers so that we can mitigate severe drops in mission effectiveness in the event of small numbers of personnel shortages.

SPACE FORCE MILITARY END STRENGTH

Question. The Space Force has requested an end strength of 8,600 guardians for fiscal year 2023.

Do you have any major concerns with the Space Force end strength target? If so, what are they, and how will you address them if confirmed?

Answer. The Space Force is focused on ensuring the authorized end-strength of 8,600 is comprised of the right mix, to include background, experience, and skills, so that we can effectively execute our mission requirements. The USSF's end strength is expected to grow over the next few years as we continue building out the necessary force to meet NDS objectives, integrate with the Joint Force and fulfill operational requirements of Combatant Commanders. If confirmed, I intend to review end strength requirements to ensure we continue to balance risk in maintaining legacy capabilities against demands of future force requirements, as well as provide for healthy and sustainable career progression for our guardians.

Question. What is the appropriate mix of Active, Reserve component, and civilian employees in the Space Force? How will you review current proposals if confirmed?

Answer. The mix of the force will be informed by a combination of current and future requirements as well as current and future available inventory. We expect our business processes to inspire quality competition and innovative talent management. We will employ the best we can afford to empower a lean and agile mission-focused force in an accountable environment using all the human resource vehicles. In pursuit of this vision, we must leverage all of the personnel tools at our disposal, including military and civilian cohorts with both full-time and part-time options. If confirmed, I will evaluate personnel policies and talent management processes through a force readiness lens. I will focus on implementing the policies and processes that optimize our readiness in the most expeditious manner.

Question. What additional force shaping authorities and tools does the Space Force need, in your view?

Answer. The authorities granted by Congress have been sufficient to shape the size and composition of the Space Force. If confirmed, I welcome the opportunity to work with Congress if changing conditions require us to evaluate future force shaping authorities or tools.

SPACE FORCE RESERVE COMPONENT

Question. As of now, there are no Space Force components in the National Guard. What is your opinion on whether a Space National Guard should be established?

Answer. The capabilities the space units in the Air National Guard provide are critical—the Space Force cannot do its mission without them. As a military leader, I am most concerned with maintaining the readiness of these units in whatever organization is settled upon. We can do that a few ways and, if confirmed, I look forward to working with this Committee to make sure we get this important question right.

Question. In your view, does the Space Force have a role in supporting domestic civil support missions?

Answer. Yes. Space Force capabilities like GPS, environmental monitoring, and communication satellites are critical capabilities for several contingencies. During emergencies, and under the direction of the President or Secretary of Defense, Space Force forces have a role in supporting domestic civil support missions.

Question. What is your vision for the proposed full-time/part-time “Space Component?”

Answer. Properly implemented, the full-time/part-time “single component” for the Space Force can be a powerful recruiting and retention tool. This approach gives guardians the flexibility to pursue interests outside of the Space Force without completely severing their connection to the Service. However, the ability of the Service and the members to seamlessly take advantage of this connection is complicated under the traditional Regular/Reserve components model by an administrative burden associated with transferring from the Regular to Reserve components. If implemented effectively, a single component could alleviate some of this burden and make it easier to retain high performing guardians, then leverage them in full-time and part-time status more seamlessly throughout their career. If confirmed, I will work with Congress to explore the implementation of this important legislative initiative.

SPACE FORCE RECRUITING AND RETENTION

Question. The National Defense Strategy Commission asserted unequivocally that the most critical resource required to produce a highly capable military is highly capable people, in the quantity required, willing to serve. The recruitment and retention of quality guardians—officer and enlisted, Active and Reserve Component—is vital to the Space Force. Yet, DOD studies indicate that only about 29% of today’s youth population is eligible for military service. Further, only a fraction of those who meet military accession standards are interested in serving.

If confirmed, how would you ensure that the Space Force maintains sufficiently high recruitment and retention standards?

Answer. If confirmed, step one in this process will be to maximize the pool of acceptable candidates. We will continue to review and make appropriate changes to our entry standard (aptitude, moral, and medical) to ensure we are recruiting individuals that are not only highly qualified, but ensure we are not excluding individuals based on certain non-mission critical standards (tattoo, height/weight, etc.). Maintaining high standards is essential to attracting, building, and retaining a capable, competent and combat-ready force. I will ensure recruiters have the tools necessary to attract men and women who meet and exceed the high standards of the Department of the Air Force from every corner of America. I will monitor retention trends and take prudent steps to ensure we have the necessary room within our authorized end strength to continue to recruit and access talent that will sustain us into the future and maintain force readiness.

Question. What steps will you undertake to ensure that the Space Force is a diverse and inclusive military service?

Answer. Establishment and sustainment of a diverse and inclusive Space Force begins with accessions. Therefore, the Space Force has taken active steps to modernize its outreach as well as recruiting programs targeting diverse populations to ensure a capable force for the future. For example, we are developing the University Partnership Program, which includes Historical Black Colleges and Universities. We have instituted an Applicant Pool Cycle inside our recruiting efforts which enables us to handpick the optimal candidates over the course of a year rather than fill our ranks on a first-come, first-served basis. Once in the Space Force, our workforce must be continually challenged and be provided advancement and development op-

opportunities in order to retain diverse talent. Therefore, if confirmed, I will routinely review recruiting strategies and outcomes, using data to deliberately shape future recruiting and retention efforts so that Space Force represents the best and full breadth of diversity in America. I will also assess workplaces of our guardians to ensure there is a culture of respect and universal inclusion so that all members of the Space Force team know that they are valued. I will also rigorously evaluate the developmental and advancement opportunities for guardians to ensure we are providing for and enhancing the capabilities of all segments of our workforce.

Question. What do you consider to be key to the Space Force's future success in retaining the best qualified personnel for continued service in positions of greater responsibility and leadership in the Space Force?

Answer. I believe there are two (2) key factors primarily associated with retaining talent in the Space Force: 1) Empowering guardians to do meaningful work and recognizing the value of their contribution and 2) Providing guardians with development and advancement opportunities. If confirmed, I will work to cultivate a Space Force culture in which guardians can fully embody our values and who are recognized and rewarded for personifying those values in a respectful, innovative and risk-tolerant environment. I will also work to institute challenging and innovative developmental opportunities to ensure guardians remain at the leading edge of their professional expertise.

Question. What steps, if any, do you feel should be taken to ensure that current operational requirements and tempo do not adversely impact the overall recruiting, retention, readiness, and morale of guardians?

Answer. To retain talented guardians, we must constantly look to maximize the quality of their service and the quality of life for them and their families. There are inherent sacrifices associated with military service. If confirmed, my job will be to ensure the rewards and the quality of the experience for military members and their families balances or outweighs the sacrifices that each will inevitably need to make.

Question. In your view, what effect do current recruiting standards—particularly DOD-wide criteria for tier-one recruits—have on recruit attrition and/or future success in the Space Force?

Answer. Because of the size of the Space Force and the requisite number of accessions needed each year, Tier 1 education standards currently have minimal impact on the Space Force. Currently 99% of all enlisted Space Force entries are Tier 1, far exceeding the DOD requirement of 90%.

MILITARY COMPENSATION

Question. What is your assessment of the adequacy of military compensation?

Answer. On average, servicemembers are compensated well when compared to their counterparts in the private sector. The military compensation system, to include cash compensation (basic pay, BAH, BAS, Retirement, etc.) and non-cash compensation (health care, leave and liberty, etc.), is adequate to recruit and retain the majority of the nation's military forces and to ensure an appropriate quality of life for military servicemembers. There are specific career fields that require higher levels of compensation to meet retention goals, and Congress has provided the military Services a robust package of special and incentive pays to address those populations. It is also true that the Space Force as a newly formed independent Armed Service does not have a large amount of historical trending data to rely on to predict retention trends. If confirmed, I will monitor closely all available data and seek active feedback from the workforce to assess retention of our critical talent.

Question. In your view, are there any unique challenges or issues within the Space Force with respect to military compensation?

Answer. The competitive environment for talent faced by the Space Force is significantly different, in the aggregate, than that faced by our sister Services. We have a higher percentage of highly technical career fields whose talent is in high demand across all sectors of employment. As we seek to attract the quality of talent that can succeed in these fields, we must always remember that compensations include not only monetary compensation, but also non-monetary incentives, culture, environment, and quality of life. The Space Force must present a total compensation package to attract and retain the talent we need in a highly competitive and dynamic environment. If confirmed, I will advocate for the appropriate resources to retain Space Force talent but also work hard to build a culture and environment that appeals to our workforce and entices them to stay.

Question. What recommendations would you have for controlling the rising cost of personnel?

Answer. If confirmed, I will assess the size, composition, and compensation structure of the entire force in order to create a force composed of the highest quality

individuals that are properly trained and equipped to meet our national defense goals. To maximize the talents and potential of Space Force members, we should be considering as many innovative ideas as possible for talent management. Alternative approaches like grade-in-person system versus a grade-in-position system may better enable the workforce to develop and contribute across the Force. The key is to leverage any tool that would optimize the investment we make in our employees allowing them to contribute to mission achievement more broadly (avoid organizational stovepipes). In the end, this may provide greater retention, enhanced career growth with career variety and a deeper bench of expertise and skills to leverage.

NON-DEPLOYABLE SERVICEMEMBERS

Question. The Department has published DODI 1332.45, Retention Determinations for Non-Deployable Servicemembers.

Do you agree that guardians who are non-deployable for more than 12 consecutive months should be subject either to separation from the Space Force or referral into the Disability Evaluation System?

Answer. I believe every servicemember must be able to perform their assigned missions effectively when the Nation calls. Deployability is one aspect of readiness for the Space Force. If a servicemember is non-deployable for 12 consecutive months, an assessment is needed to determine if continued service is in the best interests of the Space Force, specifically, and the military more generally. When continued service is not in these best interests, the member should be separated or referred into the Disability Evaluation system.

Question. DODI 1332.45 provides that the Secretaries of the Military Departments may “retain . . . those servicemembers whose period of non-deployability exceeds the 12 consecutive month limit . . . if determined to be in the best interest of the Military Service.”

In your view, under what circumstances might the retention of a guardian who has been non-deployable for more than 12 months be “in the best interest of the [Space Force]”?

Answer. In my experience, there are circumstances that make someone non-deployable but do not prevent the member from performing operational duties in CONUS-based garrisons. Since many of the USSF’s missions are conducted as employed-in-place operations from CONUS-based installations, it may be in the best interest of the Space Force to retain the member because they can still perform vital missions from Space Force bases despite not being eligible to perform duties from deployed locations. If confirmed, I would ensure that our processes for making these determinations take advantage of our smaller numbers allowing more individualized consideration of factors. In the end, the optimal answer will be the one that enhances Space Force readiness and accounts for the health and safety of Space Force members and their families.

Question. In your view, how should this policy be applied to guardians with HIV or other chronic diseases? To guardians who identify as transgender?

Answer. The health and safety of Space Force members and the impact it has on force readiness is the primary consideration for this policy. If confirmed, it will be my responsibility to weigh these factors and make recommendations to the Secretary of the Air Force related to the readiness impact any policy decision could have.

Question. Has the Space Force established any class or group of personnel deemed “deployable with limitations,” such that the class or group is exempt from the 12-month non-deployable retention determination requirement?

Answer. The Space Force is challenging traditional deployment availability limitations that are based on scenarios where most personnel deploy to forward and/or austere locations. Where these limitations can be adjusted in the context of a Force postured against a greater proportion of deployed-in-place requirements, it opens the potential for talented guardians to be mission effective who would otherwise be deployment ineligible or even disqualified from service. In the interim, the Space Force follows the deployment readiness requirements established in DOD and DAF guidance.

Question. In your view, what percentage of guardians can be non-deployable at any given time without adversely affecting the readiness of the force to execute the NDS and associated operational plans?

Answer. Today the Space Force actively manages deployment availability by assigning guardians Deployment Availability Codes when they have deployment limitations. Those codes help commanders identify risks and, in some cases, disqualifying factors that prevent guardians from performing certain missions. As the Space Force re-assesses what risks and factors are acceptable in deployed-in-place mis-

sions (i.e., that would not be disqualifying), the Space Force has the opportunity to weigh the advantages these guardians offer by bringing other desirable qualities (such as specialized skills), without the constraints that would limit military members deploying to forward and/or austere locations.

MILITARY QUALITY OF LIFE

Question. The Committee remains concerned about the sustainment of key quality of life programs for military families, such as family advocacy and parenting skills programs; childcare; spouse education and employment support; health care; and morale, welfare and recreation (MWR) services.

If confirmed, what quality of life and MWR programs would you consider a priority? How will the Space Force work with the Air Force and other military services to ensure MWR support for guardians and their families?

Answer. Military family readiness and quality of life are critical to recruiting and retaining the force required to meet current and emerging threats. The range of quality of life (QOL) and MWR programs are all a priority if we are to meet the needs of our guardians' families and thus not impact servicemember's readiness and availability. From my experience, while there are many programs that are important in supporting our guardians and their families, the highest priority QOL issues are related to housing, medical care and childcare. Because the Space Force was established intentionally without organic support capabilities, we rely heavily on the Air Force to provide much of the supporting structure that takes care of our families. If confirmed as CSO, it will be my role to partner with the AF to ensure we take care of all our families (particularly in these high priority areas), and the guardians can expect me to be a demanding customer of the AF to ensure we get the support we need.

FAMILY READINESS AND SUPPORT

Question. What do you consider to be the most important family readiness issues for guardians and their families?

Answer. Personal (and family) resiliency in a demanding and often stressful military environment is one of the most critical family readiness issues for guardians and their families. Military life can be inherently difficult and family readiness issues encompass various aspects of well-being for guardians and their families. Priorities for family-readiness issues must include opportunities for increasing resilience to encourage and sustain wellbeing and helping families overcome the adversities associated with military life. Development of the requisite skills needed to increase and promote resilience is a key priority for addressing the issue. Furthermore, easy access to child and medical care and suitable, safe and affordable housing are important factors in promoting family well-being. If confirmed, I will support programs that address these primary considerations for quality of life and reinforce a strong Space Force community and focus on those that build and sustain resilient families.

Question. If confirmed, how would you ensure that the family readiness issues you identified are properly addressed and adequately resourced?

Answer. If confirmed, I plan to conduct frequent visits to the field to see and hear for myself from the people most affected by our quality of life decisions. The relatively small size of the Space Force provides an opportunity to have a higher degree of senior leader interaction and engagement. Therefore, I will leverage formal and informal feedback mechanisms and collect as much information as possible to assess for myself the effectiveness and suitability of the programs we establish or need to establish. If confirmed, I will work hard to receive honest, comprehensive and constructive feedback directly from the field and then connect these inputs directly to resourcing decisions and monitor outcomes utilizing all available methods and information.

Question. In your view, what role do non-medical counseling services provided by DOD Military Family Life Counselors have in promoting the readiness of the force and family?

Answer. Because personal resiliency and well-being is a very individual condition, the quality and quantity and variety of services are important. It is hard to predict which services will provide the best support to an individual. Because personal well-being is linked to force readiness, I think leaders have a responsibility to provide as many options as possible to optimize the effectiveness of the programs to the greatest number of individuals. Happier and healthier personnel are inherently more capable and ready to perform their missions.

Question. The Committee often hears that Active Duty families have difficulty obtaining childcare on base and that there are thousands of military families on waitlists to receive care.

If confirmed, what specifically would you do to provide Space Force families with accessible, high-quality childcare, at an appropriate cost?

Answer. Available, affordable, and quality childcare services allow guardians to focus on and execute the Space Force's mission. Before making any specific recommendations, a more in-depth evaluation of the issue is required to ensure the right solution is brought forth for guardian's accessibility to high-quality childcare at an appropriate cost. The evaluation includes assessing the current state of program operations (including analysis of wait times for access to care and program financial models, and staffing and facility requirements), identification of facilitators and barriers contributing to childcare successes and challenges, and development and execution of a plan of action to ensure guardians' childcare needs are met, they receive quality childcare, and it is delivered at an appropriate cost. If confirmed, I will work closely with my Department counterparts to ensure garrison childcare programs are well staffed and operating to maximize existing childcare spaces, utilize all available community based childcare options, and smartly invest in facilities to expand the number of childcare spaces where needed.

Question. How would you ensure that childcare services for Space Force families are properly resourced?

Answer. Step 1 is to collect information to fully understand the capabilities, challenges and opportunities related to this important family readiness issue. Step 2 would be to partner with the Air Force, who provides this support to the Space Force, to determine the appropriate way ahead. Space Force is already establishing and fostering a partnership with HQ USAF/A1S. If confirmed, I would advocate to ensure the Department of the Air Force continues to recognize and support the critical need to provide available, affordable and quality childcare services for Air and Space families.

SUPPORT FOR MILITARY FAMILIES WITH SPECIAL NEEDS

Question. If confirmed, how would you ensure that a guardian with a special needs family member is relocated only to a new duty station at which the medical and educational services required by that family member are available?

Answer. The Department of the Air Force (DAF) has made significant strides in its multi-year transformation of the Exceptional Family Member Program (EFMP) with the most recent focus on Family Member Travel Screening and Centralized Medical Screening. If confirmed, I would continue to support DAF EFMP transformation efforts, implementation of EFMP standardization requirements identified in the National Defense Authorization Act for Fiscal Year 2021, and continually solicit feedback from guardians and their families to ensure that the permanent change of station (PCS) process was efficient and that all required services were available at the new duty location.

Question. If confirmed, what tools would you use to encourage guardians to enroll in the exceptional family member program (EFMP)?

Answer. If confirmed, I would use all avenues available to me—leadership at every level, messaging and social media platforms—educating guardians and their families on the benefits of enrollment in the program and the support it provides throughout the military lifecycle is critical to enrollment and the success of the program.

Question. If confirmed, what role would you establish for yourself in ensuring that Military Housing Privatization Initiative partners and military commanders consider the needs of servicemembers with an exceptional family member in making assignments to privatized military housing?

Answer. A strong and healthy home life underpins a ready Force. If confirmed, I would continue to be a strong advocate for the needs of our guardians and their families. I will work with key agencies across the Department of the Air Force, who provide this support to the Space Force, to address the unique requirements of families enrolled in the Exceptional Family Member Program (EFMP).

DOMESTIC VIOLENCE AND CHILD ABUSE IN MILITARY FAMILIES

Question. What is your understanding of the extent of domestic violence and child abuse in the Department of the Air Force, and if confirmed, what actions would you take to address these issues within the Space Force?

Answer. Crimes of domestic violence and child abuse run counter to our Space Force culture and core values and cannot be tolerated. Domestic violence and child abuse must be addressed to ensure victims are given the resources and support they

need, and abusers are held accountable. My understanding is the Department is engaged in multiple efforts to improve available resources and communication of those resources to domestic violence victims, while simultaneously improving education on domestic violence prevention to guardians throughout the entire Space Force. Additionally, the Department of the Air Force (DAF) is committed to holding abusers appropriately accountable through their chains of command pursuant to the Uniform Code of Military Justice. Additionally, it's my understanding that by the end of 2023, disposition of domestic violence and child sex abuse offenses will fall under the exclusive jurisdiction of Office of Special Trial Counsel (OSTC). In the interim, OSTC has begun phased implementation, to include Special Trial Counsel input on commanders' disposition decisions for these offenses. Until the OSTC effective date, the DAF will continue to provide principled legal counsel to commanders exercising disposition authority over these offenses. If confirmed, I will support these initiatives and any others that help protect our guardians and their families.

Question. In your view, what more can the Department do to prevent child abuse and domestic and intimate partner violence?

Answer. We must continue to collaborate with agencies inside and outside the Department of the Air Force to ensure that airmen and guardians live a life free from family violence. The Prevention Workforce will integrate primary prevention efforts with the goal of reducing risk factors shared across multiple forms of violence and increasing efficiency in the installation prevention system. We will continue to press forward with institutionalizing and implementing prevention at all levels while engaging key stakeholders to find innovative and promising approaches.

Question. Do you believe that the Air Force Department's Family Advocacy Program strikes the right balance between healing families and holding individuals accountable for acts of domestic violence and child abuse?

Answer. Domestic violence and child abuse must be addressed to ensure that individuals and families get the resources needed to heal from the abuse. The Family Advocacy Program is primarily focused on ensuring families are provided with the appropriate support resources. Our military justice system operates within a careful balance between the interests of the government, the rights of the accused, and the respect for the dignity of victims. We need to be focused on all aspects of this issue. If confirmed, I will ensure we continue to place an emphasis on supporting families through the Family Advocacy Program and holding offenders appropriately accountable under the Uniform Code of Military Justice. Additionally, it is my understanding that by the end of 2023, disposition of domestic violence and child sex abuse offenses will fall under the exclusive jurisdiction of Office of Special Trial Counsel (OSTC). In the interim, OSTC has begun phased implementation, to include Special Trial Counsel input on commanders' disposition decisions for these offenses. Until the OSTC effective date, the Department of the Air Force will continue to provide principled legal counsel to commanders exercising disposition authority over these offenses. If confirmed, I will support these initiatives and any others that help protect our guardians and their families.

SEXUAL ASSAULT PREVENTION AND RESPONSE

Question. Despite significant efforts by the Military Services to enhance their response to sexual assaults, including measures to care for victims and hold assailants accountable, prevalence surveys continue to show increases in sexual assault and unwanted sexual conduct, primarily for female servicemembers aged 17 to 24, similar to findings of the prevalence of sexual harassment and assault at the Military Service Academies.

What is your view of the role of the Space Force chain of command in maintaining a command climate in which sexual harassment and sexual assault are not tolerated?

Answer. This issue is important for the Department as any instance of sexual assault or sexual harassment is unacceptable and must not be tolerated. It betrays the trust of our guardians, it negatively impacts readiness and as a parent myself, I believe military leaders have an obligation to protect America's sons and daughters who have chosen to serve their country. Because I am committed to the health and safety of our guardians, you will not find a better partner working with Congress on this issue because I believe there will always be more that leaders can do to protect our guardians.

Question. If confirmed, what specific role and tasks would you establish for yourself in the Space Force's program of preventing and responding to sexual harassment and sexual assault?

Answer. If confirmed I will continue to emphasize the importance of Commanders' and other leaders' roles in ensuring that the climate and culture within their units

are free of sexual harassment and sexual assault. Leaders set the tone for their units by their words and actions. If confirmed, I will also play an active role in reviewing incidents of sexual assault and harassment and will ensure that programs designed to prevent them from happening are properly resourced.

Question. In your view, are the policies, programs, and training that the Space Force has put in place to prevent sexual assault and to respond to sexual assault when it does occur adequate and effective?

Answer. Because any instance of sexual assault is too many, the policies, programs and training that are in place are continuously being evaluated and improved to reduce the occurrence and ensure if sexual assault occurs, the response and support are adequate and effective.

Question. Are Space Force policies for addressing retaliation and reprisal—most notably, social ostracism and reputation damage—for reporting sexual assault adequate in your view?

Answer. At this time DAF policy for addressing retaliation and reprisal encompasses the USSF and is moving in the right direction with implementing protections against retaliation. I am supportive of these efforts. If confirmed, I will use data to inform future changes and efforts to reinforce protections against retaliation and social ostracism.

Question. What is your assessment of the adequacy of Air Force resources and programs to provide victims of sexual assault the medical, psychological, and legal help they need?

Answer. The policies, programs and training that are in place are continuously evaluated and improved to ensure if sexual assault occurs, the response and support are adequate and effective to facilitate healing. This is an important issue and the health and safety of guardians, and their families are a top priority so there is always more we can do to protect them.

SUICIDE PREVENTION

Question. The number of suicides in each of the Services continues to concern the Committee.

If confirmed, specifically what would you do to maintain a strong focus on preventing suicides in the Space Force, including their family members?

Answer. If confirmed, I will ensure the USSF continues to actively participate in the Department of the Air Force (DAF) effort to ensure we maintain our focus on prevention of suicides. DOD and DAF are working several initiatives in this area to include DAF's time-based prevention and expanding the Prevention Workforce initiative.

Question. If confirmed, specifically what more would you do to enhance the reporting and tracking of suicide among family members and dependents of guardians?

Answer. If confirmed, I will ensure the USSF will continue to align with the Department of the Air Force's efforts to increase reporting and tracking of deaths by suicides among our family members and dependents.

AUDIT

Question. Why is it important for the Department of the Air Force to achieve a clean audit opinion?

Answer. Achieving a clean audit opinion demonstrates the Department of the Air Force's ability to accurately and comprehensively account for the dollars we spend to perform our mission. The audit is driving necessary changes to improve the way we equip and pay airmen and guardians, protect our IT systems and data, and optimize our budget and spend cycles. Data consolidation efforts, motivated by the audit, are arming decision-makers with real time Department-wide views and advanced data analytic capabilities that support efficiencies and sustain improvements. Continuing to engage in a financial statement audit and prioritizing the big rocks identified during that annual process, will empower the DAF to innovate, accelerate, and transform how we do business for years to come.

SPACE FORCE GENERAL OFFICER (GO) AUTHORIZATIONS

Question. What is the appropriate number of General Officers in the Space Force, and why?

Answer. I am sensitive to Congressional concerns regarding excess growth in leadership and believe resources should be prioritized to focus on combat capability. Today we are supporting and executing the Space Force missions successfully with 21 full-time general officers. This number represents a lean approach to leadership across our headquarters staff, three (3) Field Commands, our largest launch Delta, and several other key positions across the DOD. However, it is my personal opinion

that although currently working, this number is not sustainable in that the capacity in each grade is not sufficient to sustain the two (2) four-star positions as the Service Chief and Vice that are necessary to effectively lead the service. Furthermore, there are key areas where senior ranking leadership is required for proper Space Force integration across DOD, on the Joint Staff and inside the Combatant Commands but we lack the capacity to participate at the expected grade levels. If confirmed, I look forward to working with Congress to determine the appropriate number of General Officers that allows for effective integration and career sustainment of key leadership positions while limiting any unnecessary growth in the size of the Space Force.

Question. How have Space Force GOs been affected by the layering of post-government employment constraints, including the enactment of section 1045 of the National Defense Authorization Act for Fiscal Year 2017 (P.L. 114–328)—applicable only to DOD?

Answer. All officers that transferred to the Space Force accepted a two-year service commitment, so we are only now experiencing our first general officer retirements. As such, the extent of impact of section 1045 of the National Defense Authorization Act for Fiscal Year 2017 on the USSF remains unknown. It is our hope and desire to have legal and ethical access to retired servicemembers of all grades in an advisory and mentoring fashion without delay.

Question. In your view, does the Space Force have sufficient training and resources in place to provide its GOs with the training, advice, and assistance they need to avoid and address conflicts of interest, comply with travel regulations, and ensure that government resources—including employee time—are used only for official purposes? Please explain your answer.

Answer. Yes. All newly promoted general officers within the Space Force receive mandatory ethics training which covers conflicts of interest and a variety of other topics such as proper utilization and oversight of resources. Refresher training is provided, and financial reporting is required on an annual basis.

ADVERSE AND REPORTABLE INFORMATION

Question. Incidents of misconduct or substandard performance, and the findings of Inspectors General and command-directed investigations are documented in various ways in each of the Military Services. Procedures for reviewing and forwarding adverse and reportable information for consideration in the promotion selection process, including consideration by the Senate where applicable, are set forth in title 10, United States Code, and in DOD Instruction 1320.4.

How is the Space Force ensuring compliance with the requirements of law and regulation regarding the investigation and review of adverse and reportable information in the context of both GO and below-GO promotion selection processes?

Answer. The Department of the Air Force's (DAF's) Inspector General and Office of Special Investigations serve both the Air Force and the Space Force. The Space Force utilizes the DAF's investigation, review and personal processes to consistently support the requirements of law and regulations regarding the investigation and review of adverse and reportable information related to promotion selection.

Question. Do you believe current procedures and practices applicable to the Space Force concerning the review of records of officers pending the President's nomination for promotion or assignment are sufficient to enable fully-informed decisions by the Secretary of the Air Force, the Chairman of the Joint Chiefs of Staff, the Secretary of Defense, and the President?

Answer. Yes, I do. The Space Force leverages the existing and effective Department of the Air Force's (DAF's) processes to support the promotion and assignment recommendation process.

Question. In your view, are these procedures and practices fair to the individual military officers proceeding through the promotion or assignment process? Please explain your answer.

Answer. Yes, I believe the procedures and practices of the promotion and assignment processes are fair. They ensure rigorous adherence to all associated laws, policies and guidance and are generally conducted in a timely manner.

JOINT OFFICER MANAGEMENT

Question. The National Defense Authorization Act for Fiscal Year 2017 (P.L. 114–328) modified the Joint Qualified Officer (JQO) system established by the Goldwater-Nichols Act in two significant ways. First, it broadened the statutory definition of "joint matters" to expand the types of positions for which an officer can receive joint duty credit. Further, it reduced from three years to two the minimum tour length required for joint duty credit.

What is your assessment of the effectiveness of the fiscal year 2017 modifications to the JQO system?

Answer. I believe the modification maintains the effectiveness of the JQO system while maximizing the flexibility that is inherently needed in the system to ensure the right officer is matched to the right position in the right timeframe. Furthermore, my experience tells me that the US military has become so “joint” that there are many Service responsibilities that are inherently and significantly joint in character and responsibility. Therefore, it is logical that the “joint matters” definition be expanded.

Question. In your view, are the requirements associated with becoming a JQO, and the link between attaining joint qualification and eligibility for promotion to general and flag officer rank, consistent with the operational and professional demands of Space Force officers?

Answer. The USSF should not be treated differently with regard to qualifications and eligibilities associated with joint duties. However, the USSF is not yet fully integrated into Joint staffs and commands in the right quantities and ranks. This is partly because we do not have enough personnel to perform service responsibilities and many joint responsibilities. However, I believe there is also work to be done inside the Joint organizations to create a sufficient demand single for appropriate levels of USSF support so that the Service can respond to the request rather than trying to drive integration from the outside in.

Question. In your view, what additional modifications, if any, to JQO prerequisites are necessary to ensure that Space Force officers are able to attain both meaningful joint and Space Force-specific leadership experience and adequate professional development?

Answer. Space Force officers are already well postured to take on joint leadership positions. With very few junior grade exceptions, USSF officers all were commissioned in another Service and learned other domains before transitioning into the USSF. This makes many of them perfectly suited for joint duty and leadership. On the other hand, most non-USSF Joint officers have very little experience with space operations. Joint PME should include far more space training, as this is a critical domain with critical missions to the Joint Force. If confirmed, I will work with my Joint and Service counterparts to enhance space expertise outside the USSF ranks.

PROFESSIONAL MILITARY EDUCATION

Question. The 2018 NDS asserts that Professional Military Education (PME) has stagnated—that it focuses on the accomplishment of mandatory credit at the expense of lethality and ingenuity.

What is your vision for PME in the Space Force?

Answer. Like all other Services, USSF PME will abide by educational requirements established for Joint Professional Military Education. Second, USSF PME will provide opportunities for the other Services to send personnel to become educated in depth on space domain, capabilities and culture. Finally, USSF PME will explore and leverage non-traditional educational venues to expand perspectives and experiences. USSF will explore Education with Industry and Academic and Inter-agency Fellowships to maximize the diversity of viewpoints that Space Force personnel bring to problem solving.

Question. In your judgement, what is the most significant shortcoming of today’s PME system?

Answer. The richness of the in-residence experience is limited to only a small percentage of personnel in the Services. It is my hope that due to the smaller number of guardians in the Space Force we can expand in-residence PME options to a much larger percentage of guardians. The expansion of developmental opportunities leads to greater pools of candidates for senior positions of responsibility and ultimately to a more capable force.

Question. Do you believe that PME today creates adequate joint leaders? Why or why not?

Answer. In conjunction with the experiences acquired in joint assignments, Joint PME helps create adequate joint leaders. The most significant educational shortfall is the relatively small amount of space-based curriculum provided to non-USSF personnel. Additionally, the USSF will need to secure more joint duty assignments for its personnel to maximize the number of candidates for joint leadership positions.

Question. If confirmed, what specific actions would you take to develop a Space Force PME system to ensure that it fosters the education and development of a cadre of strategic thinkers and planners with the intellectual acumen, military leadership proficiency, and sound judgment to lead the Joint Force in a globally integrated, multi-domain fight?

Answer. The most important action is to create and leverage non-traditional educational opportunities for guardians to immerse themselves in the space industry, commercial tech sector, civil space agencies, foreign institutions, think tanks and similar mind expansion environments. Diversity of thought is key to driving innovation and is fostered by external experiences that move USSF members outside their normal comfort zones and teach them to think differently about the challenges we face.

Question. What changes or reform would you recommend to the PME system to ensure that tomorrow's leaders have the tools necessary to ensure the Space Force is able to meet the national defense objectives of the future?

Answer. Not knowing precisely where tomorrow's leaders will come from, the most important change is to expand PME capacity to provide professional development opportunities to the greatest number of guardians possible. Education of a maximum number of junior members is the hedge against not knowing who the CSO will be 20 years from now. Then ensure that our development opportunities focus on lasting skills like critical thinking, logic and reasoning and communication . . . answer, there is no shelf life to these skills, and they will inevitably help the CSO of 2050 in ways that specific tech details of today may not.

OFFICER PERSONNEL MANAGEMENT SYSTEM REFORMS

Question. The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (P.L. 115–232) contained several provisions to modernize the officer personnel management system. These reforms were designed to align officer career management with the priorities outlined in the 2018 NDS.

How is the Space Force implementing these authorities today and to what effect?

Answer. The new authorities granted by the National Defense Authorization Act of Fiscal Year 2019 have given the Space Force more flexibility to better manage the officer corps. We appreciate continued Congressional support. It is imperative we continue to develop and modernize our talent management tools to build the force we need for a future high-end fight. If confirmed, I will ensure the Space Force is working hard to modernize personnel management practices and policies to reflect best practices in talent management.

Question. In your view, does the Space Force need any additional authorities to modernize the management of military personnel?

Answer. We appreciate the authorities Congress has granted the Space Force and DOD. We will work to maximize the use of currently available authorities, but our work will require expanded authorities to transition more easily between full and part-time employment. There will be a need for new authorities to support our proposed human capital structure—the Space Component. The space component will leverage permeability and flexibility between full and part-time service of current and former military as well as with other Services. With the significant number of recent Inter-Service Transfers to the Space Force, we are reviewing options to make this more efficient for the losing and gaining Service. If confirmed, I will look into any additional authorities the Space Force may need in the future and will work with Congress to develop these authorities.

SPACE FORCE CIVILIAN PERSONNEL WORKFORCE

Question. In your judgment, what is the biggest challenge facing the Space Force in effectively and efficiently managing its civilian workforce, and how would you address that challenge, if confirmed?

Answer. The biggest challenge is ensuring a sustainable work force with the right skill set. To maintain a civilian workforce to operate effectively within the Space Domain we must provide our employees growth opportunities to foster excitement and engagement. We must ensure they are provided opportunities to work on meaningful projects and be collectively part of the USSF force as a multiplier and critical aspect. If confirmed, I will work to ensure their development and training are an effective part of our civilian workforce strategy.

Question. How would you assess the adequacy of compensation and benefits for Department of Space Force civilian employees, the morale of the civilian workforce, and the Department's ability to recruit and retain the very best talent for civilian service?

Answer. It is my understanding that there are concerns about the adequacy of existing levels of compensation to recruit and retain top talent in highly technical fields particularly in areas of the country with higher costs of living. The current morale of the civilian workforce is facing challenges in balancing the building of the force while developing its identity as guardians. If confirmed, I would welcome the

opportunity to work with Congress on developing strategies and securing the resources needed to retain our talented civilian workforce.

Question. How will the Space Force build and sustain requisite capacity and capability in its civilian workforce to meet national defense requirements over the next decade?

Answer. We need significant emphasis on forecasting future skillsets needed to meet nation defense requirements. If confirmed, I am committed to supporting the analysis of our future workforce skillset.

Question. In your view, how can DOD and its Components better utilize telework, and other alternative work arrangements, while maintaining supervisory and employee accountability for high quality performance and the appropriate use of official time?

Answer. High quality performance is achieved through clear supervisory and employee communications and engagement, there are technology enhancements needed to capitalize this for a robust telework or alternate work arrangement. If confirmed, I am committed to exploring innovations that enable flexible work environments while maintain high levels of productivity and high quality work.

Question. One long-standing special civilian personnel management program is the DOD Civilian Acquisition Workforce Personnel Demonstration Project (commonly known as AcqDemo). Originally implemented in 1999, AcqDemo provides tremendous flexibility in the compensation, hiring, and overall management of the DOD acquisition workforce. AcqDemo has been deemed a success by the Department and by the employees it covers, yet almost 20 years later, it remains a “temporary” authority.

In your view, are there sound reasons for transitioning AcqDemo to a permanent program?

Answer. Yes, I believe the successes shown in simplifying and streamlining the hiring processes while maintaining Merit System Principles warrants consideration for permanency. But I also believe that our experiences in implementing AcqDemo also allow us to offer suggestions for improvements in pay scales, promotion opportunities, etc. If confirmed, I will collaborate with the personnel teams in the DAF to explore ways to improve this program.

Question. In your view, could the AcqDemo system be applied successfully—as it currently stands, or with modifications—to other civilian personnel functional communities?

Answer. Yes, there are several streamlined practices and authorities that could be applied across multiple functional communities. The benefits of such “demo programs” merit expansion across wider populations. But I also believe that our experiences in implementing AcqDemo allow us to offer suggestions for improvements in pay scales, promotion opportunities, etc. If confirmed, I will collaborate with the personnel teams in the DAF to explore ways to improve this program.

SEXUAL HARASSMENT IN THE CIVILIAN WORKFORCE

Question. In responding to the inaugural DOD Civilian Employee Workplace and Gender Relations survey administered in 2016, 14.2 percent of female DOD employees and 5.1 percent of males indicated that they had experienced sexual harassment or gender discrimination by “someone at work” in the 12 months prior to completing the survey.

In your view, is civilian workforce harassment prevention and response training across the Space Force adequate and useful to employees?

Answer. Because a single instance of sexual harassment is too many, the policies, programs and training that are in place are continuously evaluated and improved to reduce the occurrence, and ensure if sexual harassment occurs, the response and support are adequate and effective.

Question. Does the Space Force’s method for responding to complaints of sexual harassment or discrimination in the civilian workforce provide appropriate care and services for victims?

Answer. Yes. The policies, programs and training that are in place are continuously evaluated and improved to ensure if sexual harassment or discrimination occurs, the response and support are adequate and effective to provide appropriate care and services for the victim.

Question. If confirmed, what role would you establish for yourself in preventing and responding to sexual harassment in the Space Force civilian workforce?

Answer. This issue is important for the Department, as any instance of sexual harassment is unacceptable and must not be tolerated. If confirmed, I will continue to emphasize the importance of Commanders’ and other leaders’ roles to ensure that the climate and culture within their units are free of sexual harassment. Leaders

set the tone for their units by their words and actions. If confirmed, I will also play an active role in reviewing incidents of sexual harassment and will ensure programs designed to prevent it are properly resourced.

CONGRESSIONAL OVERSIGHT

In order to exercise legislative and oversight responsibilities, it is important that this Committee, its subcommittees, and other appropriate committees of Congress receive timely testimony, briefings, reports, records—including documents and electronic communications, and other information from the executive branch.

Question. Do you agree, without qualification, if confirmed, and on request, to appear and testify before this Committee, its subcommittees, and other appropriate committees of Congress? Please answer yes or no.

Answer. Yes.

Question. Do you agree, without qualification, if confirmed, and when asked before this Committee, its subcommittees, or other appropriate committees of Congress to give your personal views, even if those views differ from the position of the Administration? Please answer yes or no.

Answer. Yes.

Question. Do you agree, without qualification, if confirmed, to provide this Committee, its subcommittees, other appropriate committees of Congress, and their respective staffs such witnesses and briefers, briefings, reports, records—including documents and electronic communications, and other information, as may be requested of you, and to do so in a timely manner? Please answer yes or no.

Answer. Yes.

Question. Do you agree, without qualification, if confirmed, to consult with this Committee, its subcommittees, other appropriate committees of Congress, and their respective staffs, regarding your basis for any delay or denial in providing testimony, briefings, reports, records—including documents and electronic communications, and other information requested of you? Please answer yes or no.

Answer. Yes.

Question. Do you agree, without qualification, if confirmed, to keep this Committee, its subcommittees, other appropriate committees of Congress, and their respective staffs apprised of new information that materially impacts the accuracy of testimony, briefings, reports, records—including documents and electronic communications, and other information you or your organization previously provided? Please answer yes or no.

Answer. Yes.

Question. Do you agree, without qualification, if confirmed, and on request, to provide this Committee and its subcommittees with records and other information within their oversight jurisdiction, even absent a formal Committee request? Please answer yes or no.

Answer. Yes.

Question. Do you agree, without qualification, if confirmed, to respond timely to letters to, and/or inquiries and other requests of you or your organization from individual Senators who are Members of this Committee? Please answer yes or no.

Answer. Yes.

Question. Do you agree, without qualification, if confirmed, to ensure that you and other members of your organization protect from retaliation any military member, Federal employee, or contractor employee who testifies before, or communicates with this Committee, its subcommittees, and any other appropriate committee of Congress? Please answer yes or no.

Answer. Yes.

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR JEANNE SHAHEEN

RESPONSIVE SPACE LAUNCH

1. Senator SHAHEEN. Lieutenant General Saltzman, what opportunities exist to increase our work with allies on responsive space launch?

Lieutenant General SALTZMAN. Responsive space launch is a critical enabler of “responsive space.” Responsive space encompasses not just launch, but spacecraft development, operations, ground networks, and data distribution as well. I therefore see great opportunity to partner with allies in space launch as the responsive space mission continues to expand and mature. If confirmed, I will commit to look for

these additional opportunities to engage with our allies in each of the facets of responsive space, including launch.

2. Senator SHAHEEN. Lieutenant General Saltzman, based upon your operational experience, does this collaboration offer operational advantages to our military forces?

Lieutenant General SALTZMAN. Yes. The U.S. is unequivocally stronger when we collaborate with allies and partners. Combining and coordinating our warfighting capabilities enhances our collective ability to deter conflict and increases flexibility for Combatant Commanders should deterrence fail. Robust responsive space launch options demonstrate our ability to deliver a tangible response to potential adversary destabilizing actions in space and respond to on-orbit threats on tactically relevant timelines.

QUESTIONS SUBMITTED BY SENATOR TIM KAINE

SPACE FORCE TACTICAL SPACE LAYER

3. Senator KAINE. Lieutenant General Saltzman, last year the Space Force approved the experimentation and prototyping for a new Tactical Space Layer that would leverage commercial satellite imagery to improve battlespace awareness and bolster targeting capability for soldiers on the ground. What is the timeline for when this capability—warfighters being able to use satellite-derived images for targeting solutions—could come to fruition?

Lieutenant General SALTZMAN. The experimentation and prototyping you reference is ongoing. Through AFRL's Project Turol, which is a Joint Capability Technology Demonstration, is expected to complete in fiscal year 2024, Hybrid Architecture Demo (HAD), and Global Unifying Environment (GLUE), we are piecing together commercial imagery to provide Electro-Optical and Radar data in real time and using these capabilities during exercises to evaluate utility and refine requirements. While there is not a precise timeline, we expect these developing capabilities will inform requirements that will flow to the National Reconnaissance Office for further utilization of commercial imagery and space-based moving target indicator (MTI) programs. USSF remains actively committed to pursuing real time information to enable enhanced, precise battlefield decisions.

QUESTIONS SUBMITTED BY SENATOR ANGUS S. KING, JR.

UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

4. Senator KING. Lieutenant General Saltzman, do you support the ratification of the United Nations Convention on the Law of the Sea (UNCLOS)?

Lieutenant General SALTZMAN. Although the United States is not a party to the UNCLOS, portions are consistent with customary international law concerning maritime navigation and overflight rights. I defer to the President, with the advice and consent of the Senate, on the question of whether or not the U.S. should ratify UNCLOS.

QUESTIONS SUBMITTED BY SENATOR JACKY ROSEN

NEXT-GENERATION SPACE SYSTEMS

5. Senator ROSEN. Lieutenant General Saltzman, both Russia and China are rapidly investing in, developing, and fielding technologies to threaten how we support U.S. decisionmakers and our Joint Force servicemembers from space. These advancing threats significantly impact how we deter conflict and project force as a Nation. In the face of these threats, we must not remain stuck in old ways of thinking about our national defense space systems. In your future role in organizing, training, and equipping the Space Force, can you describe your plan to develop flexible, responsive, reusable, and multi-domain systems?

Lieutenant General SALTZMAN. If confirmed, I will utilize the Space Warfighting Analysis Center to build out force designs, and work with the Assistant Secretary of the Air Force for Space Acquisition and Integration (SAF/SQ) to ensure our future systems are flexible, resilient, and integrated with other domains to the maximum extent possible. The Space Acquisition Council, of which CSO is a member and SAF/SQ chairs, serves as a key forum to consider these important factors in development and certification of future architectures. Furthermore, with the responsibility to

serve as the DOD Integrator for Joint Space Requirements and if confirmed, I will ensure that requirements for operational systems are defined to optimize flexibility, responsiveness, reusability and operate effectively across multiple domains.

QUESTIONS SUBMITTED BY SENATOR TOM COTTON

RESPONSIVE LAUNCH

6. Senator COTTON. Lieutenant General Saltzman, as Chief of Space Operations, your mission, if confirmed, is to organize, train, and equip the combatant commander to be ready for any and all contingencies and threats we might face in the space domain. You have a deep background in ensuring the operational preparedness of our military, including our space capabilities. Are we prepared for a crisis with a peer competitor where we need to quickly replace, reconstitute or augment space assets, and what capabilities do we need to put in place to ensure we can do so rapidly and effectively?

Lieutenant General SALTZMAN. The U.S. is still the greatest space faring nation on the planet. The Space Force's capabilities underpin the combat capability of the Joint Force. The threats we see from our adversaries today are not sufficient to eliminate this advantage. However, I do not believe we have designed our current systems to operate in a conflict. The pace at which competitors are investing to close our advantage and deliver capabilities that can disrupt, degrade, and destroy our space systems is worrying.

The Space Force wakes up every single day dedicated to protecting the Joint Force and our vital interests in space. We are committed to developing the operational concepts, the on-orbit assets, the tactics, and the training necessary to remain the preeminent space nation. As I stated in the Hearing, the USSF must be guided by the idea of "exploit what we have, buy what we can, and only build what we must." As we draw on the entirety of the emerging space industrial base, we need to change to a more defensible architecture where more satellites with proliferated missions can complicate adversary targeting. Furthermore, maximizing the number of launch providers and locations that can flexibly deliver any payload to any orbit will be an essential part of augmenting and reconstituting capability in a conflict. If confirmed, I will be committed to optimizing this vital mission.

OVER-CLASSIFICATION OF CAPABILITIES

7. Senator COTTON. Lieutenant General Saltzman, if confirmed, will you commit to me to take a hard look at whether the Space Force requires as many special access programs as it has, and that you or your staff will come back and brief the Committee on some programs you're willing to move to a less compartmented classification?

Lieutenant General SALTZMAN. Yes, if confirmed, I commit to evaluating the classification of the Space Force portfolio to ensure our security posture is appropriate and sharing that with the Congress.

INTEGRATION WITH COMMERCIAL INDUSTRY

8. Senator COTTON. Lieutenant General Saltzman, one bright spot I've recently learned about is Space Command's Commercial Integration Cell. This initiative brings industry and military together to quickly share information on potential threats. Where could the Space Force implement such an arrangement?

Lieutenant General SALTZMAN. If confirmed, I will work with the Assistant Secretary of the Air Force for Space Acquisition and Integration to identify and reduce the barriers to leveraging the best available commercial technologies and services to meet warfighter requirements, and to pursue opportunities to implement innovative efforts such as U.S. Space Command's Commercial Integration Cell. An example of a mission area in which there is a growing sector of the commercial market that provides data and services is the private Space Domain Awareness (SDA) sensor networks. These SDA services augment the DOD's global space surveillance network and improve our ability to track potential threats and enhance spaceflight safety. If confirmed, I will explore opportunities to expand the contribution of commercial capabilities.

DEFENSE DEPARTMENT BUDGET PRACTICES

9. Senator COTTON. Lieutenant General Saltzman, the Department of the Air Force routinely bemoans the so-called "pass-through" money that it claims distorts

the size of its annual budget. Given that you've spent time in some organizations that receive pass-through money, what is your opinion on this arrangement?

Lieutenant General SALTZMAN. Pass-through dollars fund activities outside the Department of the Air Force (DAF) and are not for DAF requirements. If confirmed, I look forward to working with the Committee to further discuss this issue in a classified setting.

10. Senator COTTON. Lieutenant General Saltzman, should the Air Force continue to be the conduit for this funding, or should it be moved elsewhere within the Department of Defense?

Lieutenant General SALTZMAN. If confirmed, I would welcome the opportunity to work with Congress and other stakeholders to improve the budgetary processes related to pass-through.

QUESTIONS SUBMITTED BY SENATOR MIKE ROUNDS

ADVANCED BATTLE MANAGEMENT SYSTEM

11. Senator COTTON. Lieutenant General Saltzman, during your confirmation hearing, I asked for your commitment that, if confirmed, you will make sure that the Joint Requirements Oversight Council validated requirements, for the Advanced Battle Management system, are met, so that our troops on the ground are provided the capabilities they need to win on the battlefield.

General, you provided a thoughtful response, but you did not give me your commitment. Can you do so in response to this question for the record?

Lieutenant General SALTZMAN. Supporting the joint force (including troops on the ground) and ensuring they have the capabilities they need to win on the battlefield is a critical responsibility that, if confirmed as CSO, I will take seriously. If confirmed, you have my commitment that I will support efforts to meet the requirements validated by the Joint Requirements Oversight Council.

QUESTIONS SUBMITTED BY SENATOR JONI K. ERNST

COUNTERING CHINESE ATTACK

12. Senator COTTON. Lieutenant General Saltzman, a Chinese attack on Taiwan is the most stressing scenario for the joint force, in which the People's Liberation Army (PLA) is likely to suppress United States space-based communication and reconnaissance capabilities. If confirmed, would you prioritize this scenario in Space Force capability development?

Lieutenant General SALTZMAN. Yes. If confirmed, the pacing challenge from the People's Republic of China (just like the scenario you mention) will remain central to Force Design efforts and our overall capability development.

SPACE ARCHITECTURE

13. Senator COTTON. Lieutenant General Saltzman, how can the Department partner with commercial space industry to develop a more distributed space architecture that is resilient to attack?

Lieutenant General SALTZMAN. Integrating commercial capabilities into our space ecosystem results in a more diverse and proliferated architecture which increases resilience to attack. If confirmed, I will work with the Assistant Secretary of the Air Force for Space Acquisition and Integration to identify and reduce the barriers to leveraging the best available commercial technologies to meet the warfighter requirements by: 1) communicating more effectively with industry regarding our requirements; 2) addressing existing policies and processes that may hinder our ability to leverage commercial capabilities; and 3) developing a culture with the requisite skills and training to work in greater partnership with commercial companies who may be unfamiliar with the government's acquisition process.

SPACE NATIONAL GUARD

14. Senator COTTON. Lieutenant General Saltzman, will you commit to briefing this Committee, if confirmed, about the administrative requirements and associated costs of establishing a Space National Guard?

Lieutenant General SALTZMAN. Yes. The capabilities the space units in the Air National Guard provide are critical; the Space Force cannot do its mission without them. As a military leader, I am most concerned with maintaining the readiness of

these units in whatever organization is settled upon. We can do that a few ways and, if confirmed, I look forward to working with this Committee to make sure we get this important question right.

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

SPACE FORCE INVESTMENTS

15. Senator SULLIVAN. Lieutenant General Saltzman, as you are aware, Alaska is home to a significant amount of our Nation's missile defense assets and infrastructure, from Ground-Based Interceptors at Ft. Greely to the new Long-Range Discrimination Radar (LRDR) at Clear Space Force Station. What additional investments must the Space Force make to ensure our missile defense capabilities keep pace with evolving ballistic and cruise missile threats?

Lieutenant General SALTZMAN. The USSF remains committed to making the necessary investments in the appropriate combination of space-and ground-based capabilities to outpace evolving threats posed by adversary ballistic and cruise missiles. To accomplish this outcome for delivering a resilient and integrated missile defense architecture, it is important that we continue to invest in the end-to-end data networks that connect our sensors in real time to our command centers and operators. If confirmed, I look forward to working with this Committee as we develop and field missile defense capabilities, infrastructure, and data processing solutions needed to outpace evolving threats.

16. Senator SULLIVAN. Lieutenant General Saltzman, you called China's hypersonic glide vehicle tested last July, "a very forward-edge technology capability". As our adversaries continue to advance their hypersonic capabilities, what additional investments must the Space Force make to detect and address this emerging threat?

Lieutenant General SALTZMAN. China's recent Fractional Orbital Bombardment System (FOBS) demonstration with advanced hypersonic capabilities showcases their will and ability to increase strategic risk to the national security of the United States. The most pressing issue with hypersonic weapons is our ability to close the "kill chain" in operationally relevant timelines. If confirmed, I will work closely with Congress, and applicable agencies across the Department of Defense, and Intelligence Community to leverage the Space Warfighting Analysis Center's threat-informed force designs to inform investment opportunities to deliver rapid, resilient, flexible, and viable multi-domain response options to national-level decisionmakers and the joint force.

RESILIENT SPACE ARCHITECTURE

17. Senator SULLIVAN. Lieutenant General Saltzman, in your prepared testimony discussing Space Force support to U.S. Indo-Pacific Command (INDOPACOM), you wrote, "the [Space Force] must be postured to provide command and control (C2) structures and ready forces to provide space expertise, conduct space-related activities and C2 attached space capacities." In a conflict with the United States, China will likely attempt to degrade our space-based capabilities. How is the Space Force building resiliency into its force architecture to ensure the Joint Force can command and control U.S. Forces in the event of conflict?

Lieutenant General SALTZMAN. China will seek to negate our advantage in space-based command and control systems through various means. The USSF is currently evaluating multi-pronged resiliency efforts through the proliferation of C2 systems, defense of these systems and their networks, and efforts to establish rapid reconstitution capabilities in our launch enterprise. The Future Force Design is building in the ability to support the Army, Navy, Marines, and Air Force's highly distributed C2 structures by enabling resilient, multi-path communications between the command and control points, data fusion locations, and common operator picture synchronization. The Space Force is also developing resilient communication paths and distributed processing for C2 of space based platforms. These efforts complicate the adversary's calculus as they attempt to attack what have historically been operational liabilities.

18. Senator SULLIVAN. Lieutenant General Saltzman, from 2026 and beyond, the Department of Defense (DOD) expects to be moving toward more resilient space architectures. Within this same period, DOD will also be procuring space launch missions within the 3d phase of the National Security Space Launch program. In the

interest of providing more responsive and resilient space access, how should the Phase 3 launch acquisition strategy differ from that of Phase 2?

Lieutenant General SALTZMAN. Responsive, resilient, and assured access to space is critical to our national defense now more than ever. While National Security Space Launch (NSSL) Phase 2 marked the transition from legacy vehicles, NSSL Phase 3 must go further to enable the USSF's continued pivot to address potential future threats. The Phase 3 strategy must not only meet our warfighter requirements but also optimally exploit ongoing advancements in the U.S.'s ever-growing commercial launch market. If confirmed, I will work with Assistant Secretary of the Air Force for Space Acquisition and Integration, to ensure NSSL Phase 3 is focused to provide resilient and responsive space access while fostering opportunities for established and emerging launch service provider competitors.

19. Senator SULLIVAN. Lieutenant General Saltzman, DOD must factor "launch and space access requirements" into the design of new resilient space architectures to ensure both the lowest cost and most resilient posture overall. In your view, how specifically should DOD accomplish this?

Lieutenant General SALTZMAN. The growth in the commercial sector coupled with the phased approach of the National Security Space Launch (NSSL) program will provide responsive, reliable, and resilient launch capability that ensures unfettered space access. To maximize on-orbit capability, National Security Space (NSS) payloads are delivered through a combination of heavy lift capabilities and are complemented by small satellite launches that maximize responsiveness to potential adversarial threats and our own joint warfighter needs. Multi-Mission Manifests or Launch Vehicle Ridesharing is another means to maximize our on-orbit capabilities. In addition, the potential for on-orbit sustainment may significantly reduce costs for launch and payload development.

COBRA DANE

20. Senator SULLIVAN. Lieutenant General Saltzman, the Space Force owns and operates the COBRA DANE radar at Eareckson Air Station at the far western end of the Aleutian Island chain. This radar detects ballistic missile and space launches and tracks objects and debris in space. Given its geographical location, extreme weather conditions present significant challenges for infrastructure sustainment. Can you explain how the Space Force is approaching long-term sustainment of COBRA DANE and supporting infrastructure?

Lieutenant General SALTZMAN. The Space Force is looking at multiple options with respect to COBRA DANE to address potential risks to its mission, to include vulnerabilities, aging infrastructure, and technology that dates back to the 1970's. Options range from sustaining COBRA DANE for multiple years to replacement capabilities. As a priority, the USSF is pursuing modernization and resiliency of its missile warning and missile tracking architecture to address current and emerging missile threats to the United States and our allies.

21. Senator SULLIVAN. Lieutenant General Saltzman, how will this long-term approach ensure our missile defense system does not suffer any coverage gaps that would occur if weather-related events impact radar operations?

Lieutenant General SALTZMAN. The capabilities provided from our space assets are critical to U.S. interests and we cannot afford lapses in these missions, especially to those providing missile warning and missile defense information to combatant commanders from ground and space-based systems. If confirmed, as the designated Force Design Architect of space capabilities for the Armed Forces, it will be my job to ensure USSF has the right capabilities to defend our Nation that keep pace with manmade and environmental threats.

QUESTIONS SUBMITTED BY SENATOR KEVIN CRAMER

FOREIGN SUPPLY CHAIN

22. Senator CRAMER. Lieutenant General Saltzman, the United States leads the world in space exploration, research, commercial use, and launch technology and capability. We are well aware of China's determination to dominate the space domain by advancing its space program, capturing important sectors of the global commercial space industry and investing in the U.S. defense industrial base. I am concerned that Chinese exploitation of technology, components, and suppliers threatens our well-earned position of leadership, and our reliable access to and utilization of space. How will you work to protect America's preeminence in space?

Lieutenant General SALTZMAN. The U.S. Space Force remains committed to delivering resilient, offensive, and defensive space capabilities to deter and prevent a future conflict from extending into space and to protect America's leadership in space. I share your concern regarding the threats we face and, if confirmed, I will work with the Assistant Secretary for Space Acquisition and Integration and other stakeholders on measures to prevent potential adversaries from exploiting technology, components, and suppliers that threaten our space capabilities.

23. Senator CRAMER. Lieutenant General Saltzman, how are we ensuring U.S. national security is not compromised and threatened by foreign adversaries?

Lieutenant General SALTZMAN. We seek to address competition by enhancing our own capabilities, streamlining our acquisition processes, fostering a healthy U.S. industrial base, and strengthening collaboration and cooperation with our allies and partners. Specifically, guardians will be trained for the potential future high-end fight, within an enhanced range environment, and be equipped with resilient, defendable, disaggregated, distributed, and proliferated systems that are selected via rigorous, threat-informed analysis. Ultimately, our force design architecture will build a combat-credible, and thereby deterrent, force that provides a competitive advantage to stay ahead of pacing challenges.

24. Senator CRAMER. Lieutenant General Saltzman, will the Department of Defense commit to issuing a study to review the defense industrial base supply chain and investors?

Lieutenant General SALTZMAN. If confirmed, I will work with Assistant Secretary of the Air Force for Space Acquisition and Integration to review the defense industrial base supply chain and investors and develop performance measures which can be provided to DOD for consideration in mitigating risk with the overall objective of improving the health of the defense industrial base.

25. Senator CRAMER. Lieutenant General Saltzman, is there anything in place to stop or hold United States companies accountable for taking Chinese investment and succumbing to Chinese influence?

Lieutenant General SALTZMAN. I share your concern regarding investment and influence from potential adversaries and, if confirmed, I will work with the Assistant Secretary for Space Acquisition and Integration and other stakeholders and agencies to take all appropriate measures to limit such influence.

FOREIGN LAUNCHERS

26. Senator CRAMER. Lieutenant General Saltzman, foreign launch companies, who are subsidized by their governments, continually attempt to enter the U.S. national security launch market, becoming certified to launch U.S. national security missions from foreign soil. This presents both an economic and national security risk to the United States. Allied nations operate "national launch programs" and do not reciprocate with launches to U.S. launch companies, therefore eroding the U.S. launch market. Furthermore, launching critical U.S. assets from foreign soil could present unnecessary risk to our national security given the limited oversight the U.S. Government has over foreign companies once the payload is loaded onto the foreign provider. Given the United States is the only nation in the world to operate a commercial launch enterprise, and the fact that U.S. launch providers can meet the demand of DOD missions, why would DOD support foreign launch providers over the current supply of U.S. launch providers?

Lieutenant General SALTZMAN. Today the U.S. launch industrial base is the envy of the world and I believe we must build and enhance our relationships with allies and partners to ensure it remains as such. Specifically, we can benefit from our partnerships through the expanding commercial space sector, high-tech industries and the expertise, advanced technologies, and capabilities they possess. I also believe the risk posture and calculus on how to launch DOD national security payloads must equitably reflect the importance and criticality of the mission at hand. The National Security Space Launch (NSSL) Phase II contract ended our reliance on the Russian RD-180 engines for Atlas V launch vehicles, per the 2015 congressional mandate. Subsequent NSSL phases should seek to balance, bolster and solidify our national and commercial launch enterprise. If confirmed, I will work with the Assistant Secretary for Space Acquisition and Integration to maximize competition to reduce cost and ensure the U.S. Space Force continues to encourage a strong U.S. launch industrial base.

27. Senator CRAMER. Lieutenant General Saltzman, do you believe this is an attempt by foreign governments to get a foot hold in the U.S. national security launch industry?

Lieutenant General SALTZMAN. Potential adversaries use rules, regulations, or procedures through legitimate business practices to create opportunities for foreign entities to access the DOD Supply Chain, to include foreign investment into the U.S. space launch industry. There is a body of evidence to suggest that many U.S. space launch companies have foreign investors, foreign key management personnel, or foreign affiliations. The Department of the Air Force continues to grapple with understanding what level of access or intellectual property transfer occurs because of these foreign ties. The presence of foreign ownership, control, or influence in these space companies, whether direct or indirect, that affect the management or operations of a company, coupled with our understanding of how potential adversaries' access and collect information give us reason to believe that foreign governments are probably using space companies to both glean insight into DAF critical and emerging technologies and potentially access critical DOD supply chains.

28. Senator CRAMER. Lieutenant General Saltzman, does the United States maintain launch oversight of foreign launch companies today?

Lieutenant General SALTZMAN. My understanding is we only provide oversight and mission assurance over U.S.-based launch service providers (LSPs) because we only use U.S.-based LSPs to launch our national security payloads. If confirmed, I look forward to working with this Committee, the Assistant Secretary for Space Acquisition and Integration and other stakeholders to help maintain the ability for assured access to space, enhance our relationship with allies and partners, and outpace threats by near-peer competitors.

QUESTIONS SUBMITTED BY SENATOR MARSHA BLACKBURN

SPACE NATIONAL GUARD

29. Senator BLACKBURN. Lieutenant General Saltzman, in your advance policy questions, you stated that you are most concerned with maintaining the readiness of the Air National Guard units in whatever organizational structure is settled upon. If confirmed, what do you think are the most effective and efficient ways to address this issue?

Lieutenant General SALTZMAN. The U.S. Space Force relies on Air National Guard space units to provide ready, critical capabilities and expertise. I can assure you it is high on my list to make sure we have unfettered access to those capabilities, and how they are organized is central to ensuring that readiness. If confirmed, I will actively engage on this topic within the Defense Department to make sure those forces are organized appropriately such that they are as ready as possible to meet combatant commanders' requirements. I commit to working with the National Guard Bureau on this and a host of other issues and opportunities.

ARNOLD ENGINEERING DEVELOPMENT COMPLEX

30. Senator BLACKBURN. Lieutenant General Saltzman, Arnold Engineering Development Complex (AEDC) is integral to the testing enterprise and will provide invaluable expertise for the National Space Test and Training Range Complex. If confirmed, how do you foresee utilizing AEDC to streamline developmental and operational testing?

Lieutenant General SALTZMAN. I recognize the many important aerospace contributions that Arnold Engineering Development Complex (AEDC) has made to our Nation and look to leverage the expertise at the AEDC to help the Space Force field survivable and resilient space systems that provide game-changing space capabilities to counter the potential threat for our joint warfighters and allies. The Space Force actively works with AEDC to support test and evaluation activities and development of space capabilities. STARCOM has a close relationship with the space test squadron at AEDC and the two exchange personnel on a regular basis. We foresee a continued, strong relationship between the Space Force and AEDC.

31. Senator BLACKBURN. Lieutenant General Saltzman, if confirmed, what innovative contributions will you bring to defeating the hypersonic threats from Beijing and Moscow?

Lieutenant General SALTZMAN. In my opinion, China's recent demonstration of a hypersonic capability represents the most destabilizing act we've seen in some time. In essence, they successfully deployed a space to ground weapon with unlimited

range that can approach targets from unlimited directions. The USSF is taking this potential threat very seriously as we are investing heavily in missile warning and tracking capabilities that enable us to detect, track and warn against these hypersonic threats. Furthermore, we are investing in data transport capabilities that securely enable us to rapidly get this warning to decisionmakers in a timely manner. If confirmed, I would also welcome the opportunity to followup on specific details in a classified session to discuss the potential threats posed by both China and Russia.

UNIVERSITY COLLABORATIONS

32. Senator BLACKBURN. Lieutenant General Saltzman, Vanderbilt University and the University of Tennessee's Space Institute perform pioneer research to develop the next generation of space expertise. What are unexploited opportunities in university collaborations for critical cyber and electronic research and development?

Lieutenant General SALTZMAN. At this point, I have not been in a position to make a detailed assessment. If confirmed, I will be in a position and I will commit to evaluating those and other potential opportunities to address critical USSF needs for cyber and electronic R&D.

33. Senator BLACKBURN. Lieutenant General Saltzman, are we cultivating space talent through clear educational pipelines, and how can Space Force be a better partner to universities working to do so?

Lieutenant General SALTZMAN. Yes, the USSF, via both the University Partnership Program (UPP) and the University Consortium (UC), cultivates diverse STEM and space talent for future employment in the USSF. UPP Aims to establish strategic partnerships with some of the Nation's top universities that possess high academic standards and nationally ranked STEM degree programs. UPP objectives include developing a highly competent and diverse workforce; advancing strategic focus areas and pursuing critical S&T topics significant to the USSF; generating workforce development and advancing academic degree opportunities for guardians; and recruiting and developing a diverse officer, enlisted and civilian workforce with a focus on STEM and space disciplines through scholarships, internships, and mentorship programs. The purpose of the UC is to connect universities to DOD space research and transition opportunities to USSF, represent opportunities for universities to contribute to USSF's S&T priorities, communicate problem focus areas to space consortium members, and foster collaboration between universities, government, and industry.

NUCLEAR OPERATIONS

34. Senator BLACKBURN. Lieutenant General Saltzman, nuclear propulsion holds the potential for significant advantages in efficiency compared to traditional technologies. What challenges currently exist for conventional technologies like solar-powered systems?

Lieutenant General SALTZMAN. If confirmed, I look forward to reviewing the findings of an on-going Air Force Research Lab study to evaluate the potential utility of nuclear power and propulsion which aims to identify mission applications where this emerging technology may be attractive over the life of a system. Traditional known challenges in technologies include size, weight, power, resiliency, cost, and manufacturability. Space nuclear propulsion systems may provide unique advantages for spacecraft and missions, such as providing higher power levels for spacecraft propulsion or payload operation, which has to be balanced with items like cost, handling constraints, and technical maturity.

35. Senator BLACKBURN. Lieutenant General Saltzman, how would you characterize the current relationship between Space Force and Defense Advanced Research Projects Agency (DARPA) regarding nuclear operations?

Lieutenant General SALTZMAN. DARPA and the Space Force have had a good working relationship related to Space S&T—some examples include work in concept definition, contracting support, providing Government Furnished Equipment (GFE), and providing technical expertise to help inform DARPA's efforts to transition capabilities. If confirmed, I look forward to further strengthening this relationship to pursue and transition innovative space science and technology.

MODERNIZATION

36. Senator BLACKBURN. Lieutenant General Saltzman, if confirmed, how do you see your role in working with the private sector and commercial industries to bolster the defense of civil-military satellites?

Lieutenant General SALTZMAN. I am keenly aware of multiple places within the Space Force's architecture where we are relying on capability many decades old. While these systems have served us well against the threats of the past and we continue to extract maximum utility at present, I fully agree that this is an insufficient posture to enable our pivot to the potential threats of tomorrow. If confirmed, in my role as the Force Design Architect for Space Systems, I commit to working with this Committee and stakeholders across the Space enterprise—to include governmental, private sector and commercial—to ensure we have the requirements, plans, and resources necessary to develop and field resilient architectures.

[The nomination reference of Lieutenant General Bradley C. Saltzman, USSF follows:]

NOMINATION REFERENCE AND REPORT

PN2403

AS IN EXECUTIVE SESSION,
SENATE OF THE UNITED STATES,
July 27, 2022.

Ordered, That the following nomination be referred to the Committee on Armed Services:

The following named officer for appointment as Chief of Space Operations and appointment in the United States Space Force to the grade indicated while assigned to a position of importance and responsibility under title 10, U.S.C., sections 601 and 9082:

To Be General

Lt. Gen. Bradley C. Saltzman, 6377

_____, 2022.
(Date)

Reported by Mr. Reed _____
(Signature)

with the recommendation that the nomination be confirmed.

□ The nominee has agreed to respond to requests to appear and testify before any duly constituted committee of the Senate.

[The biographical sketch of Lieutenant General Bradley C. Saltzman, USSF, which was transmitted to the Committee at the time the nomination was referred, follows:]



BIOGRAPHY



UNITED STATES SPACE FORCE

B. Chance Saltzman

Lt. Gen. B. Chance Saltzman is the Deputy Chief of Space Operations for Operations, Cyber, and Nuclear, United States Space Force, the Pentagon, Arlington, Va. As the Chief Operations Officer, Lt. Gen. Saltzman has overall responsibility for Operations, Intelligence, Sustainment, Cyber, and Nuclear Operations of the United States Space Force.

Lt. Gen. Saltzman is a graduate of Boston University and was commissioned in 1991. He has operational experience with missile and space systems, as a Minuteman III launch officer, and as a satellite operator for the National Reconnaissance Office. He also served as the first Chief of Combat Plans for the Joint Space Operations Center, and later, as Chief of Combat Operations.



Lt. Gen. Saltzman has commanded at the squadron, group, and wing levels including the 614th Space Operations Squadron and 1st Space Control Squadron at Vandenberg Air Force Base, California; the 460th Operations Group at Buckley AFB, Colorado; and the Aerospace Data Facility Colorado, Aurora, Colorado. Before serving in his current assignment, Lt. Gen. Saltzman was the Deputy Commander, U.S. Air Forces Central Command; Deputy, Combined Force Air Component Commander, U.S. Central Command, Southwest Asia.

EDUCATION

1991 Bachelor of Arts, History, Boston University, Mass.
 1992 Distinguished Graduate, Undergraduate Missile Training, Vandenberg Air Force Base, Calif.
 1994 Master of Public Administration, University of Montana, Missoula
 1997 Air Assault School, Fort Belvoir, Va.
 1998 Master of Strategic Management, The George Washington University, Washington, D.C.
 1998 Distinguished Graduate, Squadron Officer School, Maxwell AFB, Ala.
 2001 Distinguished Graduate, U.S. Air Force Weapons School, Nellis AFB, Nev.
 2004 Distinguished Graduate, Air Command and Staff College, Maxwell AFB, Ala.
 2005 School of Advanced Air and Space Studies, Maxwell AFB, Ala.
 2006 Air War College, Vandenberg AFB, Calif.
 2009 Senior Developmental Education National Fellowship, John F. Kennedy School of Government, Harvard University, Cambridge, Mass.
 2010 Director of Space Forces Course, National Security Space Institute, Colorado Springs, Colo.
 2011 Leadership Enhancement Program, Center for Creative Leadership, Greensboro, N.C.
 2014 Joint and Combined Warfighting School, Joint Professional Military Education II, Norfolk, Va.
 2017 Continuous Process Improvement for Executives, Institute for Defense Business, Durham, N.C.
 2017 Enterprise Leadership Seminar, University of North Carolina at Chapel Hill

2018 Leadership Decision Making Course, John F. Kennedy School of Government,
Harvard University, Cambridge, Mass.
2018 Combined Force Air Component Commander Course, Maxwell AFB, Ala.
2021 Joint Flag Officer Warfighting Course, Maxwell AFB, Ala.

ASSIGNMENTS

1. March 1992–July 1992, Student, Undergraduate Missile Training, Vandenberg Air Force Base, Calif.
2. July 1992–June 1996, Missile Combat Crew, 10th Strategic Missile Squadron and Wing Missile Combat Crew Instructor and Evaluator, 341st Strategic Missile Wing, Malmstrom AFB, Mont.
3. July 1996–May 1998, Air Force Intern, the Pentagon, Arlington, Va.
4. June 1998–June 2001, Flight Commander, OD-Four, National Reconnaissance Office, Onizuka Air Station, Calif.
5. July 2001–June 2003, Instructor, U.S. Air Force Weapons School, Nellis AFB, Nev.
6. July 2003–June 2004, Student, Air Command and Staff College, Maxwell AFB, Ala.
7. July 2004–June 2005, Student, School of Advanced Air and Space Studies, Maxwell AFB, Ala.
8. July 2005–June 2006, Chief, Combat Plans Division, Joint Space Operations Center, Vandenberg AFB, Calif.
9. July 2006–June 2007, Commander, 614th Space Operations Squadron, Vandenberg AFB, Calif.
10. July 2007–June 2008, Commander, 1st Space Control Squadron, Vandenberg AFB, Calif.
11. July 2008–June 2009, National Security Fellow, John F. Kennedy School of Government, Harvard University, Cambridge, Mass.
12. July 2009–May 2010, Chief, Strategic Plans and Policy Division, Directorate of Operational Planning, Policy and Strategy, Headquarters Air Force, the Pentagon, Arlington, Va.
13. June 2010–June 2012, Commander, 460th Operations Group, Buckley AFB, Colo.
14. June 2012–June 2014, Commander, Aerospace Data Facility – Colorado, Buckley AFB, Colo.
15. June 2014–February 2015, Deputy Director, Plans and Programs, Headquarters Air Force Space Command, Peterson AFB, Colo.
16. March 2015–May 2016, Executive Officer to the Commander, Air Force Space Command, Peterson AFB, Colo.
17. June 2016–May 2017, Director of Future Operations, Deputy Chief of Staff for Operations, Headquarters Air Force, the Pentagon, Arlington, Va.
18. June 2017–May 2019, Director of Current Operations, Deputy Chief of Staff for Operations, Headquarters Air Force, the Pentagon, Arlington, Va.
19. May 2019–May 2020, Deputy Commander, U.S. Air Forces Central Command; Deputy, Combined Force Air Component Commander, U.S. Central Command, Southwest Asia
20. June 2020–August 2020, Special Assistant to the Vice Chief of the Air Force, the Pentagon, Arlington, Va.
21. August 2020–Present, Deputy Chief of Space Operations for Operations, Cyber, and Nuclear, United States Space Force, the Pentagon, Arlington, Va.

SUMMARY OF JOINT ASSIGNMENTS

1. July 2005–June 2006, Chief, Combat Plans Division, Joint Space Operations Center, Vandenberg Air Force Base, Calif., as a major
2. July 2006–June 2008, Chief, Combat Operations Division, Joint Space Operations Center, Vandenberg AFB, Calif., as a lieutenant colonel

MAJOR AWARDS AND DECORATIONS

Defense Superior Service Medal with oak leaf cluster
 Legion of Merit with two oak leaf clusters
 Defense Meritorious Service Medal
 Meritorious Service Medal with two oak leaf clusters
 Air Force Commendation Medal with oak leaf cluster
 Joint Service Achievement Medal
 Air Force Achievement Medal

OTHER ACHIEVEMENTS

Thomas D. White Space Award
National Reconnaissance Office Gold Medal

PUBLICATIONS

"Minimum Deterrence and Its Critics," with James Wood Forsyth Jr., Strategic Studies Quarterly, Winter 2010
"Remembrance of Things Past: The Enduring Value of Nuclear Weapons," with James Wood Forsyth Jr. and Gary Schaub Jr., Strategic Studies Quarterly, Spring 2010
"Stay Out: Why Intervention Should Not Be America's Policy," Strategic Studies Quarterly, Summer 2009
"Introduction to the United States Air Force," with Tom Searle, AFROTC Text (AS200), Airpower Research Institute, 2001

BADGES AND WEAPON SYSTEMS

Command Space Badge
Missile Operations Badge
Air Assault Badge
Weapon Systems: Minuteman III, Defense Support Program, Space Based Infrared System

EFFECTIVE DATES OF PROMOTION

Second Lieutenant May 15, 1991
First Lieutenant Oct 18, 1993
Captain Oct 18, 1995
Major Aug 1, 2002
Lieutenant Colonel Mar 1, 2006
Colonel Oct 1, 2009
Brigadier General July 3, 2016
Major General Sep 4, 2019
Lieutenant General Aug 7, 2020

(Current as of April 2022)

[The Committee on Armed Services requires certain senior military officers nominated by the President to positions requiring the advice and consent of the Senate to complete a form that details the biographical, financial, and other information of the nominee. The form executed by Lieutenant General Bradley C. Saltzman, USSF in connection with his nomination follows:]

117th CONGRESS, 2021 -- 2022
UNITED STATES SENATE
COMMITTEE ON ARMED SERVICES
ROOM SR-228
WASHINGTON, D.C. 20510-6050

SENATE ARMED SERVICES COMMITTEE QUESTIONNAIRE
INFORMATION REQUESTED OF NOMINEES
FOR CERTAIN SENIOR MILITARY POSITIONS

INSTRUCTIONS TO THE NOMINEE: Answer all questions and provide all requested information. If more space is needed, attach an additional sheet of paper to the Questionnaire and cite the part of the Questionnaire and the question number (e.g., A-9, B-4) to which the continuation of your answer applies. Unless otherwise required, an answer of "yes", "no", or "not applicable" is appropriate.

QUESTIONNAIRE, PART A

NOTE: Information furnished in this part of the Questionnaire will be made available in Committee offices for public inspection prior to the hearing, if any, and will be entered in the hearing record, also available to the public.

BIOGRAPHICAL INFORMATION TO BE MADE PUBLIC

1. **Name:** Bradley Chance Saltzman
2. **Position to which nominated:** Chief of Space Operations, United States Space Force
3. **Date of nomination:**
4. **Government experience** (List any advisory, consultative, honorary, and other part-time service or positions with Federal, State, or local governments, other than those listed in the service record extract provided to the Committee by the applicable agency/department/board): None
5. **Business relationships** (List all positions currently held as an officer, director, trustee, partner, proprietor, agent, representative, or consultant of any corporation, firm, partnership, or other business enterprise, and of any educational or other institution): None

6. **Memberships (List all memberships and offices that you currently hold, as well as any memberships and offices you have previously held, in professional, fraternal, scholarly, civic, business, charitable, and other organizations):**

Air Force Association – I enjoy no benefits because of my membership

Space Force Association – I enjoy no benefits because of my membership

Boston University Lambda Chi Alpha Fraternity (Chapter President and Alumni Chair) – I enjoy no benefits because of my membership

7. **Honors and awards (List all scholarships, fellowships, honorary degrees, honorary society memberships, and any other special recognition received for outstanding service or achievements, in addition to those listed in the service record extract and biographical provided to the Committee by the agency or department):** Thomas D. White Space Award, National Reconnaissance Office Gold Medal

COMMITMENTS IN FURTHERANCE OF CONGRESSIONAL OVERSIGHT

NOTE: In order to exercise their legislative and oversight responsibilities, it is important that this Committee, its subcommittees, and other appropriate committees of Congress timely receive testimony, briefings, reports, records—including documents and electronic communications, and other information from the executive branch. A simple “yes” or “no” response is appropriate.

8. **Do you agree, if confirmed, and on request, to appear and testify before this Committee, its subcommittees, and other appropriate Committees of Congress?** YES
9. **Do you agree, if confirmed, and when asked before this Committee, its subcommittees, or other appropriate Committees of Congress to give your personal views, even if those views differ from the position of the Administration?** YES
10. **Do you agree, if confirmed, to provide this Committee, its subcommittees, other appropriate Committees of Congress, and their respective staffs such witnesses and briefers, briefings, reports, records—including documents and electronic communications, and other information, as may be requested of you, and to do so timely?** YES
11. **Do you agree, if confirmed, to consult with this Committee, its subcommittees, other appropriate Committees of Congress, and their**

respective staffs, regarding your basis for any delay or denial in providing testimony, briefings, reports, records—including documents and electronic communications, and other information requested of you? YES

12. Do you agree, if confirmed, to keep this Committee, its subcommittees, other appropriate Committees of Congress, and their respective staffs apprised of new information that materially impacts the accuracy of testimony, briefings, reports, records—including documents and electronic communications, and other information you or your organization previously provided? YES
13. Do you agree, if confirmed, and on request, to provide this Committee and its subcommittees with records and other information within their oversight jurisdiction, even absent a formal Committee request? YES
14. Do you agree, if confirmed, to respond timely to letters to, and/or inquiries and other requests of you or your organization from individual Senators who are members of this Committee? YES
15. Do you agree, if confirmed, to ensure that you and other members of your organization protect from retaliation any military member, federal employee, or contractor employee who testifies before, or communicates with this Committee, its subcommittees, and any other appropriate committee of Congress? YES

[The nominee responded to Parts B-E of the committee questionnaire. The text of the questionnaire is set forth in the Appendix to this volume. The nominee's answers to Parts B-E are contained in the committee's executive files.]

SIGNATURE AND DATE

I hereby state that I have read and signed Parts A and B of the foregoing Senate Armed Services Committee Questionnaire, and that the information provided therein, and in any document appended thereto, is, to the best of my knowledge and belief, current, accurate, and complete.



This day of , 2022

[The nomination of Lieutenant General Bradley C. Saltzman, USSF was reported to the Senate by Chairman Reed on September 22, 2022, with the recommendation that the nomination be confirmed. The nomination was confirmed by the Senate on September 29, 2022.]

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